

From the Gavel...



Everything new is old again

Here we are at the start of another year for MARC. Our 25th "birthday" is safely behind us, so in car-

insurance terms we should look forward to some well earned premium reductions.

That is not to say that we are cutting our membership fees, but it does perhaps entitle us to look back at our history, to see what lessons we have learned to apply for our immediate future.

Digging though the papers that came with VE3SEQ's equipment were most of the MARC newsletters from 1998. It was not called "The Communicator" then, it was merely the "Newsletter".

I am heartened to see many familiar names in the executive, as well as mentioned in the pages. Reading one of Tony's (now VA3QC, then VA3AJC) editorials, I can hear him in my head, just like on a Tuesday night net. All that is missing are a couple of his trademark chuckles.

In our club's metaphorical youth we built out repeaters on multiple frequencies. Built more than one club station; then Scout hall, now Anson Dr (Thanks Danmax!), were there others? Ran "Goblin Patrol" for Halloween, and provided communication services to the Streetsville Santa Claus Parade, and many other activities.

But what do we want to be when we grow up?

Some events naturally disappear with time. Some activities will be added. Some continue and become more epic: field day in 1998 sounded like good fun, although why the CW operator wanted to transmit into his dummy load overnight is beyond me!

Unfortunately some challenges also remain the same - like staffing all the positions that it takes to run a club of any size. They were looking for a program manager then, and we are looking for one again.

So what defining projects will we have over the next 25 years? Will we branch out and try new things? Elsewhere in this issue you may read about a fox hunt being organized by the Hamilton ARC. Who has heard ARISSat-1? What other activities do we know about in other areas that we have yet to try here?

As we meet in September, I look forward to another year of informative and interesting interactions with MARC members.

Bring your ideas, bring your enthusiasm, bring your friends.

Better yet, find a house in your neighbourhood with an interesting antenna. Knock on their door and see if you know them. If not, bring them along too.

We have a storied past.

What stories will we write this year for our future selves?

Keep on radiating signals.

Scott, VA3NMI

This Month

1. From the Gavel
2. Commentary
3. Club Calendar
4. Mississauga Amateur Radio Club Awards
5. DX Desk Update
5. VE3MIS History
8. Education Update
9. Operating on the HF Bands: Part 1
11. Other ARC's Activities
12. Heathkit Educational Systems
12. Technical Web Site of The Month
13. DX Code of Conduct
13. RAC Application Form

Sunday Brunch

Sunday brunches are held on the first Sunday of each month. Time is 9:30AM at Symposium Restaurant, 6677 Meadowvale Town Centre Circle, Mississauga (at the corner of Winston Churchill Blvd and Battleford 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. 3.775 MHz +/- QRM. Contact our HF Net Manager, **Michael (VE3TKI)**, if interested in becoming a net controller.

Commentary



It is September and the club is busily preparing for the coming year.

This Sept. issue of The Communicator details some articles which you are sure to enjoy.

After much success with the MARC DX Award in the 2010-2011 club year, the Mississauga Amateur Radio Club Awards are back again for 2011-2012. See the Mississauga Amateur Radio Club Awards article for the award rules.

Each fall, MARC teaches a series of classes to assist people in obtaining their Basic Qualification. See the Education Update article by Earle Laycock, VE3XEL, for more details. The Basic Course schedule is also given in the Club Calendar.

For a little bit of MARC history see the article VE3MIS History for where our repeater callsign originated.

In this issue of The Communicator Michael Brickell, VE3TKI, starts his mutipart series with Part 1 of Operating on the HF Bands.

If you are interested in 2 Meter Contesting or Fox Hunting, see the article Other ARC;s Activity for an invite from the Hamilton ARC to participate in their events.

For the propagation enthusiasts, see the Technical Web Site of The Month for information on Steve Nichols, G0KYA, and Alan Melia, G3NYK, free online book -- *Understanding LF and HF Propagation*

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 type of articles 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.

If you change your email address, please notify both myself and Rick Brown, VE3IMG, Membership manager, of the change.

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

73, Ed Spingola (VA3TPV)

Executive Directors

President	Scott Gregory, VA3NMI
1st Vice President:	David Shilling, VE3XDS
2nd Vice President:	Stephan Bejusca, VA3AR
Treasurer:	Jim Brampton, VE3JIW
Secretary:	Robert Emerson, VE3RHE
Past President:	Jeff Stewart, VA3WXM

Club Managers

Membership Manager	Rick Brown, VE3IMG
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	John Lorenc (Sr), VA3XJL
Trustee	John Duffy, VE3DRZ
Club Station Manager	Rick Brown, VE3IMG
Assistant	Bob Hudson, VE3CWU
Assistant	Asim Zaidi, VE3XAP
Field Day Joint Chairman	David Kingsland, VE3MDX
Joint Chairman	Thomas Godden, VE3TWG
FSV Manager	Daniel Goodier, VE3NI
Assistant	John Duffy, VE3DRZ
Program Manager	TBD
Assistant	Lorne Jackson, VE3CXT
Webmaster Manager	Rick Brown, VE3IMG
Assistant	T.B.D.
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
----------------------	-----------------------

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

Special Interest Groups

Contests Manager:	Asim Zaidi, VE3XAP
Assistant	Rick Brown, VE3IMG
QSL Manager	Michael Brickell, VE3TKI
Project Group:	Michael Brickell, VE3TKI

CLUB CALENDAR FOR 2011

September, 2011

01 Thu Exec Meeting
04 Sun Sunday Brunch – Symposium Restaurant²
04 Sun HF – 75/80 Meter Net
06 Tue VHF/UHF - 2 Meter Net
08 Thu Club Meeting - Speaker's night – Trivia Night¹
09 Fri Worked All Europe DX Contest - SSB
11 Sun HF – 75/80 Meter Net
12 Mon Basic Class 1
13 Tue VHF/UHF - 2 Meter Net
15 Thu ARES Meeting⁴
17 Sat Halton County Radial Railway - Special Event
18 Sun HF – 75/80 Meter Net
19 Mon Basic Class 2
20 Tue VHF/UHF - 2 Meter Net
22 Thu Club Meeting - Members night¹
25 Sun HF – 75/80 Meter Net
26 Mon Basic Class 3
27 Tue VHF/UHF - 2 Meter Net

October, 2011

02 Sun HF - 75/80 Meter Net
02 Sun Sunday Brunch – Symposium Restaurant²
03 Mon Basic Class 4
04 Tue VHF/UHF - 2 Meter Net
06 Thu Exec Meeting
09 Sun HF - 75/80 Meter Net
11 Tue VHF/UHF - 2 Meter Net
13 Thu Club Meeting - Speaker's night¹
16 Sun HF - 75/80 Meter Net
17 Mon Basic Class 5
18 Tue VHF/UHF - 2 Meter Net
20 Thu ARES Meeting⁴
23 Sun HF - 75/80 Meter Net
24 Mon Basic Class 6
25 Tue VHF/UHF - 2 Meter Net
27 Thu Club Meeting - Member's night¹
28 Fri CQ WW DX Contest – SSB
30 Sun HF - 75/80 Meter Net
31 Mon Basic Class 7

November, 2011

01 Tue VHF/UHF - 2 Meter Net
03 Thu Exec Meeting
05 Sat ARRL Sweepstakes CW
06 Sun HF - 75/80 Meter Net
06 Sun Sunday Brunch – Symposium Restaurant²
07 Mon Basic Class 8
08 Tue VHF/UHF - 2 Meter Net
10 Thu Club Meeting -Speaker's night¹
13 Sun HF - 75/80 Meter Net
14 Mon Basic Class 9
15 Tue VHF/UHF - 2 Meter Net
17 Thu ARES Meeting⁴
20 Sun HF - 75/80 Meter Net
21 Mon Basic Class 10
22 Tue VHF/UHF - 2 Meter Net
24 Thu Club Meeting - Member's night¹
25 Fri CQ WW DX Contest - CW
27 Sun HF - 75/80 Meter Net
28 Mon Basic Class 11
29 Tue VHF/UHF - 2 Meter Net

December, 2011

01 Thu Exec Meeting
02 Fri ARRL 160M Contest
04 Sun HF - 75/80 Meter Net
04 Sun Sunday Brunch – Symposium Restaurant²
05 Mon Basic Class 12
06 Tue VHF/UHF - 2 Meter Net
08 Thu Club Meeting -Speaker's night¹
09 Fri 10 ARRL 10M Contest
11 Sun HF - 75/80 Meter Net
12 Mon Basic Class 13
13 Tue VHF/UHF - 2 Meter Net
15 Thu ARES Meeting⁴
16 Fri RAC Winter Contest
18 Sun HF - 75/80 Meter Net
20 Tue VHF/UHF - 2 Meter Net
22 Thu Club Meeting - Member's night¹
25 Sun HF - 75/80 Meter Net
27 Tue VHF/UHF - 2 Meter Net

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, Mississauga, ON.
4. ARES Meetings start at 7:30PM at the Red Cross, Ontario Zone Office (OZONE), 5700 Cancross Court, Mississauga, ON.

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

MISSISSAUGA AMATEUR RADIO CLUB AWARDS

THE MISSISSAUGA DX AWARD

RULES FOR 2011-2012

Eligibility:

Open to any member in good standing of the Mississauga Amateur Radio Club for the 2011-2012 year is eligible for this award.

Award Period:

Contacts made between 0000 UTC on September 1, 2011 and 2359 June 30, 2012 inclusive qualify for this award.

Country Contacts:

Each country worked is counted once only, regardless of band and mode used. The current ARRL DX countries list will be used to determine country eligibility.

Bands and Modes:

A participant may submit contacts for any band (including WARC bands) or mode for which he/she is licensed during the award period.

Repeater, IRLP, EchoLink, Net Contacts:

Repeater, IRLP, EchoLink, HF and VHF Net contacts are not allowed for this award.

Log Submissions:

QSL cards confirming contacts are not required. However, log extracts must be submitted showing the callsign of the station worked, the date, time in UTC, mode, and signal report sent and received. (e.g.: 59, or 599). Log extracts must be submitted by July 31, 2012 to qualify.

Log Medium:

Logs may be submitted to Ed Spingola, VA3TPV, on paper, or via email (va3tpv@rogers.com). Email submissions may be in standard ASCII text format, or as an attached MS Word, or MS Excel format file using standard MIME encoding.

Certificates and Endorsements:

A certificate and a 10 country endorsement will be awarded to any participant who submits a log extract demonstrating contacts with 10 countries during the award period. Additional endorsements will be awarded for submissions, demonstrating contacts with a total of 10, 25, 50, 75, and 100 countries during the award period.

THE WORKED ALL MISSISSAUGA AWARD

RULES FOR 2011-2012

Eligibility:

Open to all amateur radio operators anywhere in the world (whether club members or not).

Award Period:

Contacts made between 0000 UTC on September 1, 2011 and 2359 June 30, 2012 inclusive qualify for this award.

Bands and Modes:

A participant may submit contacts for any band (including WARC bands) or mode for which he/she is licensed during the award period.

Exchange:

- i) Where the contact is between two club members, they shall exchange callsigns, date of contact, time in UTC, and postal codes.
- ii) Where the contact is between a club member and a non-member, only the club member shall provide the information in subclause (i) above. The non-member does not have to provide any information other than callsign, date of contact, and time in UTC.

Repeater, IRLP, EchoLink, Net Contacts:

Repeater, IRLP, EchoLink, HF and VHF Net contacts are allowed for this award.

Log Submissions:

QSL cards confirming contacts are not required. However, log extracts must be submitted showing the 25 or 50 contacts with the Mississauga Club members setting forth for each contact the information in clause i) above. Log extracts must be submitted by July 31, 2012 to qualify.

Log Medium:

Logs may be submitted to Ed Spingola, VA3TPV, on paper, or via email (va3tpv@rogers.com). Email submissions may be in standard ASCII text format, or as an attached MS Word, or MS Excel format file using standard MIME encoding.

Certificates and Endorsements:

A certificate will be awarded to any participant who submits a log extract demonstrating contacts with 25 and 50 Mississauga Amateur Radio Club members during the award period.

DX Desk Update

By Ed Spingola, VA3TPV

Republic of South Sudan

On Thursday, July 14, 2011, the UN General Assembly unanimously admitted the Republic of South Sudan as it's 193rd member.

Now that the Republic of South Sudan is a member of the United Nations, the new country is now a DXCC entity by way of Section II, 1(a) of the DXCC rules. The DXCC Desk will begin immediately accepting QSOs for this new entity, with a start date of July 14, 2011.

According to DXCC Manager Bill Moore, NC1L, the Honor Roll numbers move from 340 to 341 for the Top of the Honor Roll, and for Honor Roll it becomes 332. "The deadline for the Honor Roll and annual listings is December 31, so you must submit the new entity to DXCC by then in order to retain your Honor Roll status," Moore explained.

"For Logbook of The World (LoTW), you may submit all your QSOs with the Republic of South Sudan stations anytime. There is no need to hold them out of your log or do anything differently from what you already have been doing. You do not need to assign country names or identifiers. After we issue certificates to the Republic of South Sudan license holders, LoTW will make matches and assign the correct entities automatically."

As of July 14, the International Telecommunication Union (ITU) has not announced a prefix block for the Republic of South Sudan.

New Russian Prefix System In Use

If you are like me, you are often curious about the prefixes

that you have heard on the ham bands. I keep my own tally of the DXCC entities that I have worked in a spreadsheet. However, it is sometimes difficult to determine due to prefix variations which prefix belongs to which DXCC entity. A specific point in question is the prefixes of the Russian Federation.

If you have been on the HF bands lately, you may have noticed that a number of new prefixes are in use by stations in the Russian Federation. Here is a summary of the changes recently adopted by the Russian telecommunication authorities. The information from a recent ARRL Web story was attributed to SRR President Roman Thomas, R5AA (ex-RZ3AA).

Russian prefixes with the numeral 2 are no longer limited to Kaliningradsk. Stations with RA2 and UA2-UI2 (with F and K as the first letter in the suffix) are in Kaliningradsk; otherwise, these prefixes will be used in European Russia.

- Stations with the following prefixes are in European Russia: R1, RA1-RZ1 (except RI1 as noted below), R2, RB2-RZ2, R3-R7, RA3-RZ7, UA1 and UA3-UI7. Also, stations with the prefixes R8, R9, RA8-RZ9 and UA8-UI9 (with F, S, T, W or X as the first letter in the suffix) are in European Russia.
- Except for those listed above, all stations with 8, 9 and 0 as the numeral are in Asiatic Russia.
- Russian Antarctic stations use temporary call signs in the series RI1ANA-RI1ANZ and RI00ANT to RI99ANT.
- Franz Jozef Land stations use temporary call signs RI1F, RI1FJ and RI1FJA-RI1FJZ.
- Malyj Visotskij island stations use temporary call signs RI1M, RI1MV and RI1MVA-RI1MVZ.

**Experience the thrill of amateur radio.
Don't Just Listen
Try Calling CQ.**

History of VE3MIS

By Ed Spingola, VA3TPV

Have you ever wondered about the history of the VE3MIS callsign, used on the MARC VHF repeater?

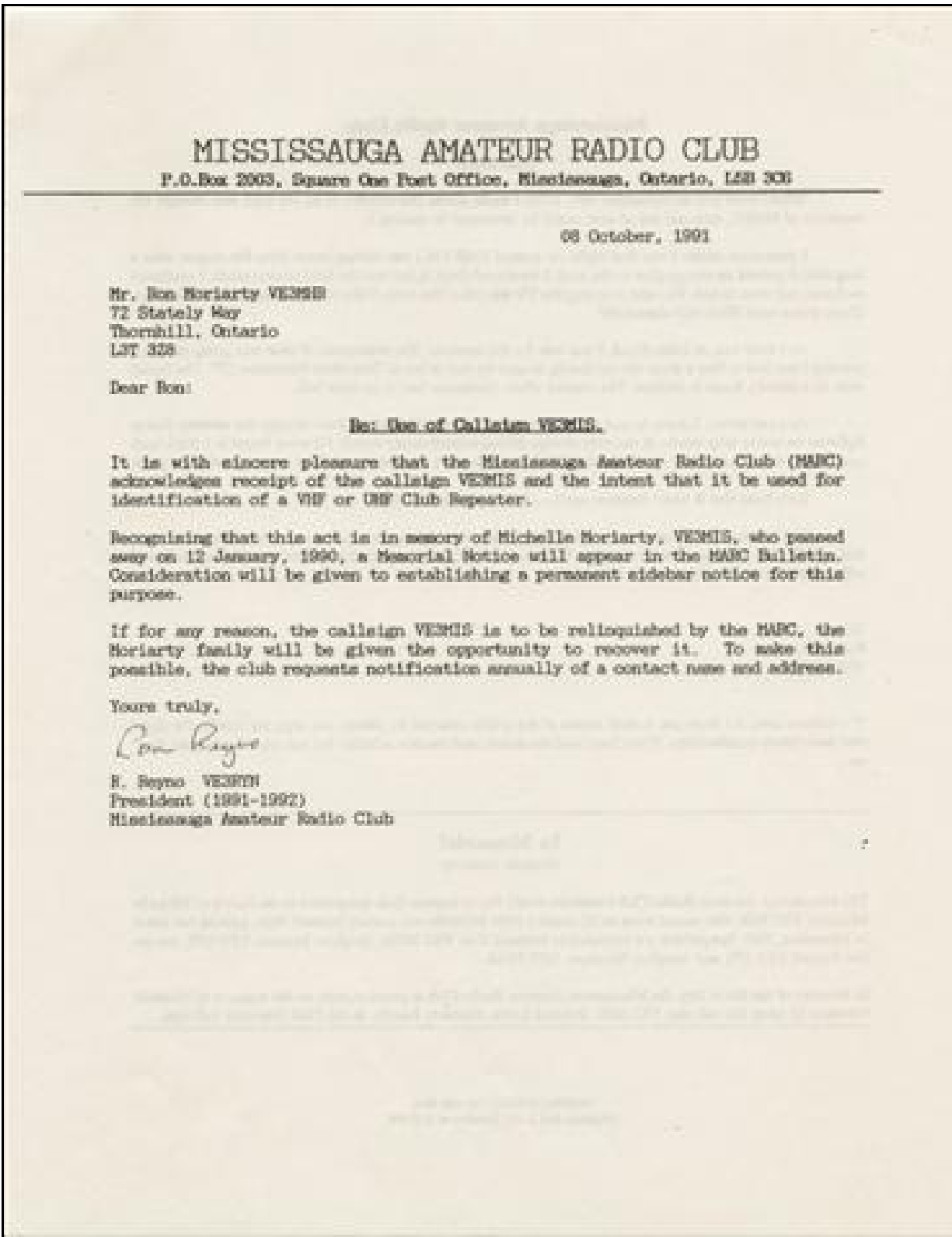
The VE3MIS callsign was donated to the Mississauga Amateur Radio Club, in 1991, by the family of Michelle Moriarity, VE3MIS, a newly licensed Ham, gaining her

ticket in December, 1989. Michelle Moriarity, had passed away on January 12, 1990 and was survived by her husband Ron, VE3MHR; daughter Suzanne, VE3SIH; son-in-law Roland, VE3SFJ; and daughter Monique, VE3PGM.

In memory of this Silent Key, the Mississauga Amateur Radio Club is proud to carry on the memory of Michelle Moriarity by

using the callsign VE3MIS, donated by the Moriarty Family, as a Club Repeater callsign. The following are two

letters from the November, 1991, issue of The Communicator.



1425 Saginaw Cres.
Mississauga
Ontario, L4M 1X4

8 October, 1991

Mississauga Amateur Radio Club
P.O.Box 2003
Square One Post Office
Mississauga, Ontario
L4R 3G5

Dear Fellow Members:

Re: VE3MIS

Ron Moriarty, VE3MR in the head of a Mississauga based Has family. Other members of the family are:

daughter Suzanne, VE3SII
son-in-law Roland, VE3RFJ
daughter Monique, VE3PGR

Michelle Moriarty (Ron's XYL) was licensed VE3MIS in December, 1969 but sadly, passed away on January 12, 1990, just a few weeks later. Ron has maintained her call sign and, several months ago offered VE3MIS to the Mississauga Amateur Radio Club as a commemorative gesture with the understanding that it would be used as the identifier of a club VHF or UHF repeater.

In return, the club was to place a Memorial Notice in the club bulletin to recognize the origin of VE3MIS and, in the event the club was to relinquish the call sign, the Moriarty family would be given the opportunity to retrieve it.

A vote taken at a club meeting confirmed the desire to accept Ron's offer and today we met at the IOC to implement the transfer of VE3MIS to the club license. In the process, our secondary call sign of VE3RGC was cancelled.

I have attached a letter of acknowledgement to Ron Moriarty for the president's signature. This should be dispatched as soon as possible.

On a happier note, Ron has remarried and lives in Thornhill. He intends to attend club meetings from time to time and is encouraging his family living in Mississauga to join the club.

T3,


Roy E. Stokes VE3RGS

Education Update

By Earle Laycock, VE3XEL

Remember the buzz when September was just around the corner and school was about to begin? Well the buzz is in the air again and it's not QRM!

The MARC Basic Course was running back in 1991 when I first took the MARC Basic course and got my license. Tony Allsop VE3FTA (SK) was the Education Manager and was assisted by a number of past MARC members. That is at least 20 years of bringing new hams into Amateur Radio. The course has changed over the years. MARC is becoming well known in the GTA for its Basic, Advanced and CW courses. Inquiries are already flowing in concerning the September Basic Course. Our excellent web site at www.marc.on.ca is now a major recruiting component along with our reputation for excellent instruction.



Photo 1: Operating Station 2010 Class

MARC has also forged a good working relationship with the Red Cross under the supervision of Susan Fitzgerald, Coordinator of Peel / Dufferin Disaster Management. The Red Cross kindly provide their Meals on Wheels classroom for our training and in return, MARC offers all Red Cross certified employees and volunteers free training. This year we have six students coming from the Red Cross. A MARC Basic graduate has even helped out in the disaster of Hurricane Katrina.

I am proud of our Basic instructors. Jody VE3ION brings her enthusiasm and encyclopedic knowledge to the class despite her heavy duties at home and work. Ed VA3TPV has an amazing technical background and a world-class collection of feedlines and baluns. Of course Basil VA3JEB brings a wealth of information and experience to the class despite his personal academic studies and teaching workload at Sheridan College.

The first night is devoted registration, hopefully spear-headed by our Membership Manager Rick VE3IMG. Another feature of the first night is to get students on the air. John VE3DRZ has done an admirable job making our new hams feel at ease talking over our 2M repeater. Thanks John. You have been the first QSO for many over the years. How exciting is that? Remember your first QSO?

An extra for our Basic class is to learn about repeaters. Dave VE3XDS has provided an excellent class for this instruction and built on the work done by Michael VE3TKI our former Repeater Manager. The repeater is an important part of MARC and deserves the extra attention this class provides to our new amateur operators.

But this year I am really excited about an extension to the Basic Course which will give our new hams some real HF and on the air experience. Michael VE3TKI has offered to teach practical classes at the club station followed by on the air lab work. The sessions will consist of lectures followed by practical on the air experience using the MARC club station. We have known that a weakness of the course was a lack of practical experience and now this initiative should address that deficiency. The focus will be on building HF and DXing skills; skills which are transferable to other aspects of amateur radio.

In addition to practical classes, we will be seeking volunteer Elmers to help the new hams become familiar with the practical aspects of putting a station together and operating. This is a good opportunity to make new friends and help someone along just as you were helped when you first became a ham. The value of being an Elmer cannot be over emphasized. To those past Elmers...a big thank you from those you have introduced to the hobby.

Lastly, I want to recognize the continued support of Radioworld and General Manager, Jack Summers, VA3XR. Jack and Radioworld have supported our education program over the years by offering a discount on books and providing gift certificates for the "top score" on the Industry Canada Basic exam. Jack has kindly offered a \$50 gift certificate to the top score again this year. Thanks Jack.

Finally, we all look forward to the graduation ceremonies aka "Pizza Nite" held in the new year at the club station. This is another opportunity for new hams to meet the club executive and learn how they can become involved in aspects of MARC that are interesting to them. It's also a great time to celebrate the achievements of the class and get on the air.

So pass the word on to your potential ham radio friends that school begins Monday September 12th.

Date: Monday September 12th 2011

Time: 7:00 PM (approximately 2 hour class every Monday night until Dec. 12th)

Place: Red Cross Meals on Wheels, 2445 Dunwin Drive, west of Glen Erin Drive and north of Dundas Street

What: Registration and first class for MARC Basic Course

Cost: \$30 plus MARC membership with a \$10 discount for students

Text Book: RAC Basic Study Guide Version 8 \$45 or thereabouts (some copies will be available and orders will be taken)

Contact: Earle VE3XEL for more information
ve3xel@rac.ca or 905-823-1345

The class schedule for this year is:

Sep. 12 Class 1 Registration, Intro. Ham Radio, Getting On the Air
Sep. 19 Class 2 Basics, DC & AC, Frequency, Wavelength
Sep. 26 Class 3 Ohms Law, Inductance, Capacitance & Impedance
Oct. 03 Class 4 Tubes, Solid State & Power Supplies
Oct. 17 Class 5 Antennas
Oct. 24 Class 6 Propagation, Transmission Lines
Oct. 31 Class 7 Transmitters & Modulation
Nov. 07 Class 8 Receivers
Nov. 14 Class 9 Set-up, Operations & Regulations
Nov. 21 Class 10 Repeaters
Nov. 28 Class 11 Interference & Safety
Dec. 05 Class 12 Review

Earle VE3XEL, Basil VA3JEB, Jody VE3ION, Ed VA3TPV
Ch 2, 5 Jody VE3ION
Ch 3, 4 Jody VE3ION
Ch 9, 10 Earle VE3XEL
Ch 8 Basil VE3JEB
Ch 6, 7 Ed VA3TPV
Ch13 Basil VE3JEB
Ch 14 Basil VE3JEB
Ch11, 12, 17, RBR-4, RIC-3 Earle VE3XEL
Dave VE3XDS
Ch 15, 16 Earle VE3XEL
All, RIC-2 & RIC-3 Basil, VE3JEB; Earle, VE3XEL;
Ed, VA3TPV; and Jody, VE3ION.

Dec. 12 Class 13 Basic IC Examination: 7 PM Meals On Wheels classroom. Bring photo id.

All, RBR-4, RIC-3 Basil VE3JEB, Earle VE3XEL

73,
Earle VE3XEL
MARC Education Manager

Operating on the HF Bands: Part 1

By Michael Brickell, VE3TKI

Introduction:

New hams who have just completed the licencing course are sometimes at a bit of a loss as to what to do next with their new hobby. There are many aspects to explore in amateur radio, such as vhf and uhf FM operation with mobile and hand held radios talking to other hams on local repeaters, or making contacts world-wide using either IRLP (Internet Repeater Linking Project) nodes or Echolink nodes. As well, it is possible to contact other hams via amateur satellites, again on vhf/uhf, or using digital modes. Another major area of ham radio is operation on the HF (high frequency) bands. This series of articles will explore various aspects of this very exciting part of the ham radio experience.

What's different on HF?

The amateur hf frequency allocations begin just above the commercial AM broadcast band, with the 160m band and extend to the 10m band. There are 9 hf bands in all. They are 160m (1.8 MHz – 2.0 MHz), 80m (3.5 MHz-4.0 MHz), 40m (7.0 – 7.3 MHz), 30m (10.1 – 10.15 MHz), 20m (14.0 – 14.35 MHz), 17m (18.068 – 18.168 MHz), 15m (21.0-21.45 MHz), 12m (24.89 – 24.99 MHz), and 10m (28.0 – 29.69 MHz).

In contrast to modes using vhf and uhf frequencies, which generally permit only line of sight (and therefore, local) over the air contacts, modes using the hf frequencies offer the opportunity for much longer range contacts, from a

range of hundreds of miles to world-wide. Communications via hf generally involve propagation via the ionosphere. Because the ionosphere is involved, solar conditions have a significant impact on what can be done on hf. Knowledge of hf propagation as it is affected by the sun is much more important in hf than in vhf/uhf operation.

Communications on the hf bands is generally much noisier than on the fm bands. As well, users often have to deal with signal fading due to changing band propagation conditions.

Each of the hf bands has a band plan, which designates parts of the particular band to the various different modes; e.g., ssb, cw, digital. The idea behind the plan is to minimize interference between users. These band plans are agreed to by members of the IARU (International Amateur Radio Union) but are voluntary. The Radio Amateurs of Canada (RAC) has published a proposed band plan for Canadian amateur operators. The band plan details are at <http://www.rac.ca/en/rac/services/bandplans/hf/hfplan-20080711.pdf>.

What Do I Need to Get on HF?

Transceiver:

The first decision is whether to buy a new or used transceiver. It's not necessary to start out with the latest and greatest offering from the various manufacturers. There are lots of reasonably priced new units, and also lots of perfectly adequate used transceivers, ranging from all tube, to hybrids with a mix of tube and solid state components, to all solid state components on the market. These are often advertised on the various swapshots, for example, the Ontario Swapshop

(<http://www.ontarioswapshop.com>). CQ and QST magazine product reviews and eham.net reviews (<http://www.eham.net>) are an excellent source of information regarding the various features available on various pieces of equipment.

Things to consider in purchasing a transceiver include the selectivity and sensitivity, whether it is a triple, double or single conversion model, the power output, the type of filtering (on board or external), whether it has digital signal processing or not.

Other considerations would be the bands and modes covered (for example does it cover 6m and perhaps vhf and uhf frequencies as well), whether or not it has two separate receivers, or a "dual watch" feature, and whether it has an internal (handy but makes the unit heavier) or external power supply (in which case you will have to get one).

A lot of units have internal antenna tuners, which is handy. If not, an external tuner is very helpful and most likely, a necessity (Ed. depending upon your antenna).

Antennas:

Antennas come in many shapes and sizes. The three general categories for antennas are wire, beam, and verticals. Antennas can be home-made, or store-bought.

The important thing to remember is that you do not need to purchase an expensive antenna and/or tower to get on the air. A simple dipole, cut to the right frequency, is all you need. Ideally, a dipole should be up high, and in the clear. However many of us do not have unlimited space to play with. Fortunately, as long as the antenna is the correct overall length, it will radiate and receive, so it is possible within reason to fit the antenna into the space available.

Wire antennas can be dipoles, for example, either half or full wave versions, which are fed at the centre of the antenna. Alternatively, there are off centre-fed antennas, such as Windom antennas. As well, long wire antennas can be used. The idea in this case is the longer the better.

Multi-band wire dipoles also work well. A commercial example is the Alpha Delta DXCC antenna. It is also possible to build your own multi-band antenna. A simple "fan dipole" is an example. This consists of several individual dipoles, say 15m, 20m, and 40m, all connected together to the transmission line at a common feed point. In such an arrangement, if you are operating on 20m, the other antenna segments are electrically "not there". This is a handy and inexpensive way to get started and to make use of available space. Theoretically dipoles are directional antennas, but this requires they be at a height of at least ½ a wavelength above ground. For most of us, this is not achievable, but nevertheless a lot of dx can be worked with very simple antennas close to the ground. The point is to get wire up somehow and not worry too much about theoretical ideals.

Various vertical antennas are available as well, for example those made by Cushcraft, GAP, MFJ and others. Again, it is possible to build your own vertical antenna.

On a larger scale, you can put up a beam antenna. However this does require a tower. Single and multi-band beams exist, in both large versions, and smaller ones. The latter use traps to accommodate the smaller space needed.

Finally there are a few very small specialty antennas out there such as the Isotron family.

Whatever you choose, you need to consider the space available, and the means of support. The latter is an important issue, especially if you are considering putting a large antenna on the top of a small mast. You need to carefully consider wind loading in such cases, to avoid buckling the mast.

The ARRL Antenna Handbook is an excellent resource on antennas.

Antenna Tuners:

Most modern transceivers are designed with a 50 ohm output impedance. Ideally, the antenna and transmission line should also have a 50 ohm impedance, to maximize power transfer to the antenna, and to avoid possible damage to the transceiver output circuits.

In general, the impedance at the transceiver end of the transmission line connecting the antenna to the transceiver is not 50 ohms. This impedance can vary greatly, and may be as high as several thousand ohms.

In such cases, an "antenna tuner" is used. This is more correctly called an antenna matching device, since what it does is electrically transform the impedance at the transmitter end of the transmission line to 50 ohms, thus keeping the transmitter happy. Antenna tuners can be internal or external to the transceiver, and can be manual or automatic. Tuners use a combination of inductors and capacitors to match the impedances as needed.

Transmission Lines:

A transmission line is used to connect the transceiver to the antenna. Transmission lines can be balanced lines, for example open wire or ladder lines, or unbalanced lines, for example, coaxial cable. Various types of coaxial cable transmission lines exist, for example RG213, RG214, LMR400, RG8X. An important consideration in choosing a transmission line is transmission losses. This is particularly important on VHF and UHF. At HF frequencies the losses are inherently lower.

Baluns:

Connecting a balanced antenna, such as a dipole, to a coaxial cable transmission line e.g., RG213, which is unbalanced, can create unwanted currents on the exterior of the coaxial cable shield. Such currents can cause interference issues. A current balun, installed at the antenna/cable connection, is used to block such shield currents. Both commercial and home-made

baluns (such as 6-8 turns of RG213 in an 8 inch diameter form) can be used.

Station Grounding:

A proper RF ground at the transceiver is desirable. Ideally this consists of a proper ground rod with a short connection to the transceiver. The ground cable ideally would be a wide flat copper braid. This is in addition to the 3 wire "U" ground on the power cable for the transceiver or power supply.

Each piece of equipment should be connected in "star" fashion to the common ground cable.

Lightning Protection:

It is important to provide proper lightning protection for your station. While this will not protect your station from a direct strike, it will provide some protection for close in strikes. Lightning protection details will be discussed in a future article.

Other Amateur Radio Clubs Activities

By Ed Spingola, VA3TPV

Occasionally other Amateur Radio Clubs may have activities which may be of interest to MARC members.

Jim Sawadski, VE3EEZ, Secretary of the Hamilton ARC has written an invite to MARC members. I quote from Jim's email as follows; "I'm writing you today in order to try and spread the word regarding a few events local to your clubs, in order that you may share them with your members if you feel so inclined, as an awareness to some local events, in which their participation would be welcome."

Jim has listed to following two upcoming events:

1) The 2meter challenge

This event is 6 hours long, from 1000Local – 1600Local, on Sunday September 25th, 2011. For more details see:

<http://www.hamiltonarc.ca/index.php?name=News&file=article&sid=94>

Here is a chance to hone your VHF contesting skills in a short sprint type contest.

The following information is from the Hamilton ARC's web site:

2 Meter Challenge

When: Sun, 25 September, 10:00 – 16:00

Where: 2 Meter Simplex Frequencies (map)

Description: An invitation to any and all VHF Ham Operators. No experience necessary. See Hamilton ARC webpage for details on logging, rules and contact information

2) Hidden Transmitter Hunt

Our 3rd successful hunt this year

Check out this article for some home brew ideas:

http://www.barriearc.com/Fox_Hunt/RDFing.pdf

The following information is found on the Hamilton ARC web site.

Club Fox Hunt -

When: Sun, 2 October, 13:00 – 15:00

Where: Start Bernie Arbour Stadium

Description: End @ Gage Park behind Tennis Courts off Lawrence road.

For more details see the Hamilton ARC web site, <http://www.hamiltonarc.ca/>

So participate and have some fun.

MARC Repeaters

VHF Repeater at 145.430 MHz (-600 kHz) (CTCSS Tone 103.5Hz)

UHF Repeater operating on 444.575 MHz (+5.0MHz) (CTCSS Tone 103.5Hz)

6M Repeater operating on 53.250 MHz (-1.0MHz) (No CTCSS Tone)

All repeaters except 6M use a CTCSS tone squelch of 103.5Hz

Heathkit Educational Systems

By <http://www.heathkit.com/>

A notice on the Heathkit website (<http://www.heathkit.com/>) announces that the venerable kit manufacturer, well-known to all Amateur Radio operators of a certain age, will be reentering the kit business in late August. The notice states, in part: "Heathkit will debut their new line of Do-it-Yourself kits for common around-the-house items. The first kit will be a Garage Parking Assistant (GPA). The Garage Parking Assistant kit lets you build your own system that uses ultrasonic sound waves to locate your car as it enters the garage. The system signals to the driver using LED lights mounted on the wall when the car is detected and in the perfect spot for parking.

"The GPA-100 kit consists of two primary assemblies -- the LED Display in kit form and the pre-assembled ultrasonic range module. The kit will include everything

you need to complete the project except a soldering iron and hand tools.

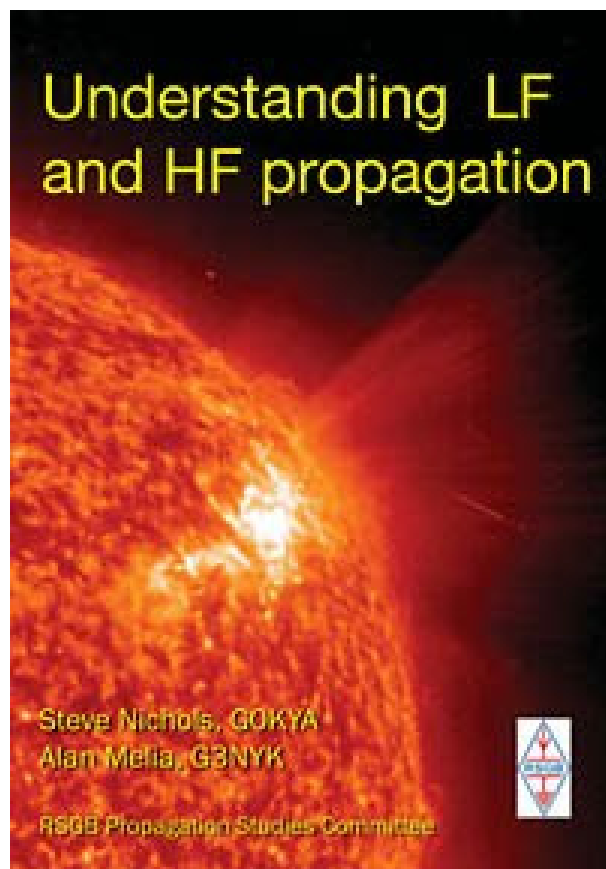
"Next on the market will be a Wireless Swimming Pool Monitor kit followed by many more. Heathkit wants to continue to bring to its customers interesting, unique Heathkit products. Heathkit is interested in learning what types of products kit builders would like to build. Kit builders can submit their suggestions through this website using the Contact Us email."

Although there's no indication that Heathkit Educational Systems is planning to reenter the Amateur Radio market, the St Joseph, Michigan-based company is actively looking for kit suggestions.

After several decades of successful kit manufacturing, Heathkit left the kit business in 1992. Heath sold Amateur Radio equipment, at first only kits and later its own line of non-kit products, from 1954 to 1992. The company has been sold a number of times since its founding back in 1912 as an aircraft company.

Technical Web Site of the Month

By Ed Spingola, VA3TPV



Every once in a while, I stumble across interesting topics on the internet. The Technical Web Site of the Month is once such stumbling.

Steve Nichols, G0KYA, and Alan Melia, G3NYK, have just published a free online book -- *Understanding LF and HF Propagation* --. The eBook written by G0KYA and G3NYK is available for download from G0KYA Amateur Radio Blog.

<http://www.g0kya.blogspot.com/>

or directly from this link:

<http://g0kya.blogspot.com/2010/11/understanding-lf-and-hf-propagation.html>

The book is a compilation of Technical Feature articles written by the authors for the RSGB's *Radcom* magazine.

But the Blog is not just about propagation. The Blog archive goes back to 2009 where you will find many other articles on antennas and ham radio topics.

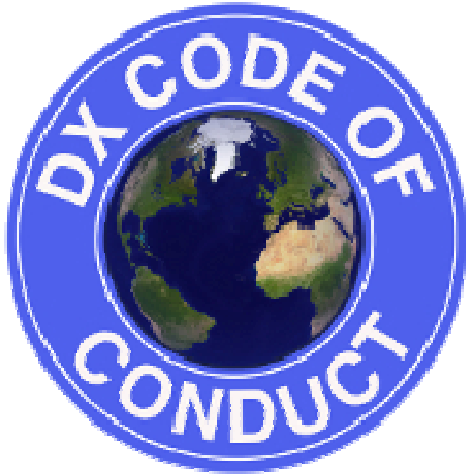
I hope that you enjoy this site. It is certainly worth a trip on the internet to investigate.

See you next month.

73, Ed, VA3TPV

DX Code of Conduct

By <http://dx-code.org/>



In today's crowded HF bands, DX etiquette is sometimes less than optimum.

Here is what you can do to improve DXEtiquette.

- I will listen, and listen, and then listen again before calling.
- I will only call if I can copy the DX station properly.
- I will not trust the DX cluster and will be sure of the DX station's call sign before calling.
- I will not interfere with the DX station nor anyone calling and will never tune up on the DX frequency or in the QSX slot.
- I will wait for the DX station to end a contact before I call.
- I will always send my full call sign.
- I will call and then listen for a reasonable interval. I will not call continuously.
- I will not transmit when the DX operator calls another call sign, not mine.
- I will not transmit when the DX operator queries a call sign not like mine.
- I will not transmit when the DX station requests geographic areas other than mine.
- When the DX operator calls me, I will not repeat my call sign unless I think he has copied it incorrectly.
- I will be thankful if and when I do make a contact.
- I will respect my fellow hams and conduct myself so as to earn their respect.

MARC Members Yahoo Group

The MARC_Members Yahoo Group is the primary way to disseminate club information about upcoming events.

Join the MARC_Members Yahoo Group to receive club related communications and to contact other club members.

http://groups.yahoo.com/group/marc_members/

On the web site click on "Join This Group!"

When all else fails, ham radio.

ARRL, Ham radio motto.

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, QC, PE, NT, NU Total \$56.50 in NL, NS, NB, ON	
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, QC, PE, NT, NU Total \$22.60 in NL, NS, NB, ON	
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 per person in AB, SK, MB, QC, PE, NT, NU Total \$22.60 per person in NL, NS, NB, ON. Total \$22.40 per person in BC.	

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