

TCA

The Canadian Amateur

IN THIS ISSUE:
Two new columns!



**SHARP-2 Team Celebrates Successful
High Altitude Robotics Project**



**Rebecca Kimoto, VA7BEC: QSO Parties –
An Insider's Perspective**



**Vanessa Leblond-Drolet, VA2VDL,
Masters ISS Contact**

Canada's Amateur Radio Magazine

La Revue des Radioamateurs Canadiens

JANUARY / FEBRUARY 2012 – JANVIER / FÉVRIER 2012

Keith Baker, VA3KSF, makes contact through AMSAT satellite



**Jimmy Howard, VE2JWH and Jacques Chauvin, VE2BP:
A 121 kilometre line-of-sight laser contact**



**RAC Introduces
New CafePress
Online Store**

RAC OFFERS BOTH BASIC QUALIFICATION STUDY GUIDES

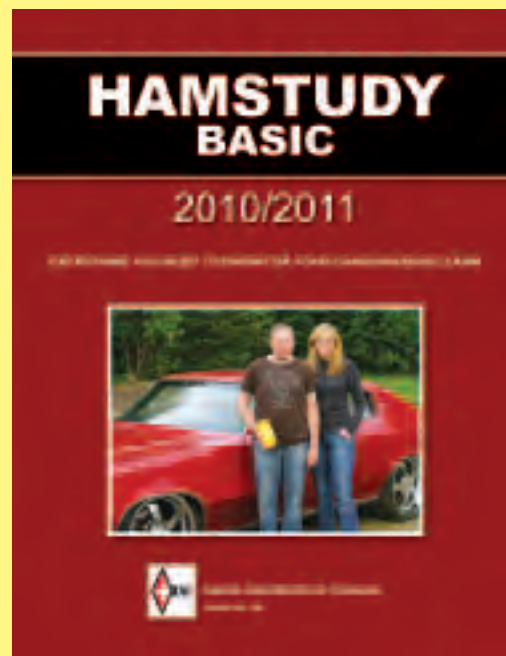


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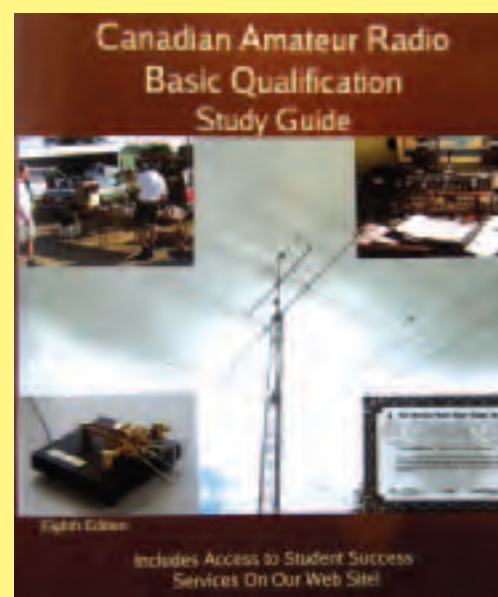
The Canadian Amateur Radio Basic Qualification Study Guide – 8th Edition / 2nd printing

Revised and Updated to 2011

RAC is pleased to offer the latest in the series of study guides. The 8th edition has been updated with the latest band plans and a number of changes to improve presentation. It is supported by **unlimited** online access to the acclaimed Student Success Pages online learning support.

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Available from the RAC store at www.rac.ca/store and at selected Amateur Radio Dealers.

TCA

The Canadian Amateur

JANVIER & FÉVRIER 2012

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WE WELCOME TWO NEW COLUMNS TO TCA!

We invite you to read our new column "Getting Started on the Amateur Radio Satellites" on pages 45, 46 and 52.

"Keith Baker, VA3KSF/KB1SF, our new columnist, uses a Kenwood TH-78A dualband HT and a lightweight Arrow Antenna (Model 146/437-10) to make a contact through an AMSAT Amateur Radio satellite from the shores of Lake Huron."

We also invite you to read "All Things Digital: Amateur Radio for the 21st Century" on pages 27-29 by our new columnist Robert C. Mazur, VA3ROM.

"Four things are needed: a computer (desktop, netbook or laptop) with a soundcard; a radio (transceiver, scanner, shortwave, HT, etc.); the appropriate digital mode software, downloaded from the Internet (often free); and an interface between the computer and radio."

Also featured on the cover: "This article records how Jimmy Howard, VE2JWH and Jacques Chauvin, VE2BP, managed a line-of-sight 121.7 kilometre (75 miles) contact on a laser beam. Robert, VA2RPL, provided encouragement on Jimmy's end, while André, VE2QAF and Germain, VE2PEP, were rooting for Jacques" (see pages 21-24).

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Articles, reviews, letters, features, suggestions, photographs and essays are welcomed. Manuscripts should be legible and include the contributor's name, call sign, phone number(s) and addresses (mail, email and packet, as applicable).

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(*Note: Method B is preferred).

Silent Keys – In Memoriam

With regret, we record the passing of these Amateur Radio operators:

ICA regrette de vous annoncer le décès des radioamateurs dont les noms suivent :

VA5MS – Michael Seebach, of Assiniboia, SK, at age 94, on September 30, 2011.
VA6IK – Vlad Juranek (VE6AYI), of Calgary, SK, at age 76, on October 21, 2011.
VA7SV – Gary McLeod, of Surrey, BC, at age 65, on October 28, 2011.
VE2III – Daniel Nadreau (VO2FF), of Fermont, QC, at age 52, on October 16, 2011.
VE3ABP – Lyman Richardson, of Thornhill, ON, at age 89, on October 21, 2011.
VE3AXM – Clif Butler, of Agincourt, ON at age 90, on August 4, 2011.
VE3BZ – Harry Mabson, of Willowdale, ON, at age 86, on October 3, 2011.
VE3CFL – Charles Leggatt, of Toronto, ON, on February 5, 2011.
VE3CFO – Alvin Brooks, of St Catharines, ON, at age 85, on November 11, 2011.
VE3CGL – Henry Ostrowski, of Oshkosh, WI, at age 72, on March 4, 2011.
VE3EGL – Ken Leighton, of Hamilton, ON, at age 93, on September 29, 2011.
VE3GRL – Rowland Burley, of Peterborough, ON, at age 85, on November 15, 2011.
VE3JNK – Derreck Poulter, of Brampton, ON, at age 85, on November 18, 2011.
VE3MKB – Dorothy Andrews, of Bridgenorth, ON, at age 89, on November 13, 2011.
VE3NPD – Paul Duguay, of Ottawa, ON, at age 87, on July 6, 2011.
VE3OMW – Olive Miller, of Mallorytown, ON, at age 77, on October 9, 2011.
VE3OQG – Fiore Manganiello, of Hamilton, ON, at age 70, on October 25, 2011.
VE3PPC* – Paul Coutts, of Nepean, ON, at age 87, on January 14, 2010.
VE3RBQ – Rod Steinman, of Kitchener, ON, at age 61, on November 10, 2010.
VE3RBQ – Rodney Steinman, of Kitchener, ON, at age 61, on November 16, 2010.
VE3RGD – Ron Goodman, of Fenwick, ON, at age 83, on August 23, 2010.
VE3XDD – Dan Doctor, of Gloucester, ON, at age 83, on November 24, 2011
VE3XYU – Don Bradley, of Palauig, Philippines, at age 77, on August 23, 2011
VE4AJR – Jim Ross, of Winnipeg, MB, at age 90, on October 17, 2011.
VE4BON – Bonnie Holder, of Beausejour, MB, at age 76, on November 7, 2011.
VE5LQ – David Lawrence, of Saskatoon, SK, at age 84, on October 10, 2011.
VE5ROD* – Rod Rutherford, of Creighton, SK, at age 68, on January 11, 2011.
VE5WV – Willis Wood, of Estevan, SK, at age 74, on July 20, 2011.
VE6BAC – Bruce Collisson (VE6NF), of St Albert, SK, at age 82, on September 9, 2011.
VE6BOY – Spence Jamison, of Edmonton, AB, at age 69, on December 2, 2011.
VE6JKJ – Jean Klassen, of Calgary, AB, at age 79, on February 17, 2011.
VE6VE – Victor Feguenne, of Edmonton, AB, at age 89, on May 31, 2011.
VE7AZS – Ray Flawith, of Savary Island, BC at age 86, on September 18, 2011.
VE7IAK – Alexander Robertson, of Abbotsford, BC, at age 77, on October 1, 2011.
VE7KLY – Michael Yarema, of Williams Lake, BC, at age 84, on October 6, 2011.
VE7VRA – Astrid Stimpson, of Port Coquitlam, BC, on July 2, 2011.

Reports on Silent Keys should be sent to RAC Headquarters at <rachq@rac.ca> and must include a letter or note of confirmation from a family member, or a copy of a newspaper obituary notice, or a copy of a death certificate, or a letter from the family lawyer or executor. Hearsay or rumours will not suffice to confirm a Silent Key. Please include the Amateur's call sign, name, address, date of death and age. Amateurs and family members might wish to remember a Silent Key with a memorial contribution to the RAC Foundation c/o RAC. Your "contribution in memory" may be designated for Scholastic, Research, Community or Emergency grants, or you may let the Directors decide where it is most needed. Tax receipts will be provided by the Community Foundation of Ottawa.

*Note: In the list of Silent Keys an * indicates that the call sign has been reissued.*



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For Section Reports
see pages 59-63.

For RAC
Membership
Inquiries and
Change of Address
please contact
RAC HQ at
<rachq@rac.ca>.
Please see the
article on
page 28 for
more information.

FEEDBACK READERS WRITE TO THE CANADIAN AMATEUR

TCA SUBMISSIONS AND EDITING POLICY

The Canadian Amateur welcomes articles, reviews, letters, features and photographs. Submissions should be of interest to Radio Amateurs.

As a general guide TCA accepts material in the following categories: Technical Articles; Technical Notes; Non-Technical articles; News Items; and Letters. Material may be submitted electronically, as a word processing file attachment to an email message, or sent by regular mail.

All submissions to *The Canadian Amateur* – including letters and articles – are eligible to be included in TCA, space permitting, at the discretion of the Editor.

Please limit letters to a few hundred words or less. Longer letters are subject to editing. Letter writers should include their name, address, call sign and phone numbers (voice and fax as applicable) and email/packet addresses (if any).

All material in TCA is subject to editing for length, clarity, style, punctuation, grammar, libel and taste.

All submissions that are approved for publication in TCA will appear in both the print version and electronic (Web) versions of TCA.

We regret that all submissions cannot be acknowledged. Please enclose a self-addressed stamped envelope if you wish pictures or diskettes returned.

For a complete Author's Guide visit www.rac.ca/tca/authors_guide.htm.

Please address correspondence to:
The Editor

720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5
TCA email address:
<tcamag@yahoo.ca>

Deadlines for TCA
March-April 2012
January 15
May-June 2012
March 15

"Ahh once again the ole SPC" – Reply from the Author

Hello Craig (Craig Howey, VE6DT, *Feedback*, page 5, July-August 2011 TCA), and many thanks for your taking the time to pen your thoughts re my article (see the article "A Homebrewed High-Frequency Tuner/Coupler for your Transmitter", pages 36-38, May-June 2011 TCA) like this – and, indeed, for your actually reading it!

The capacitor C2 that I used is not a differential type, although I agree that it does, indeed, appear to be one, looking at the photograph accompanying the piece. This is an optical illusion, if you will, due to the fact that capacitor C1 is immediately below C2 – and its plates give one the impression that it is part of C2.

"Best general tuning", as you allude to, is perhaps a more qualitative, rather than a quantitative thing. The labels marked "MAX" in the photographs merely reference that maximum capacitance is achieved with those specific knob settings, i.e., "6.4" with C2 and "10" with C1. Your "best general tuning" would be an amalgam of all three controls – specifically, C1, C2 and L1 – although a good (rough) rule of thumb for the casual SWL'er tuning above the AM BC band might be to set L1 at maximum inductance (and then "peak" any received signal with the capacitors). Similarly, when tuning up around 10 or 11 metres, it would doubtlessly be best to pre-set L1 on minimum inductance, and then (again) "peak" signals with judicious tweaking of the capacitors – "anything in between" would apply, of course, in terms of frequency as well as component settings.

I beg to differ with the statement that "idiots" adjust transmatches with power! What way is there that might tell the operator when the proverbial "sweet spot" in tuning/matching has been obtained, without making adjustments under power? The sole concession that I might make here in

agreement with you is this: *never make your initial adjustments with full power.* Start-out initially by using just that amount of RF that you can see meaningful deflections on your SWR meter / monimatch. Only when a deflection in reflected power is achieved should one proceed with more power. This is for the safety of not only the transmatch components, but the final PA active devices & components used in the transmitter as well.

And in my 40 years of Amateur radio operating with variable inductors in my transmatches, I have never experienced any of the "pitting and contact problems" that you refer to but, again, *all* initial adjustments here are conducted at the lowest possible power.

Today's hams, blessed with no-tune final RF amplifiers, may well balk at the perceived inconvenience of having to adjust a tuner: perhaps the fact that so many transmatches are now "automatic" and are transparently built right into transceivers have deluded some of us as to the "importance" or utility of these devices. Ironically, despite the universality of our "harmonicless" modern rigs (as you refer to them), the use of transmatches has probably *increased* in general, rather than abated!

In all of the different transmatch designs that I've built here over the years, I can honestly aver that I have never experienced any issue(s) whatsoever with placing an SWR sensor / monimatch inside the tuner enclosure itself. Indeed, your referencing your travails with this aspect of construction was the first such instance that I've ever been made aware of.

As for parts availability, may I suggest a peak

under the vendor tables at your next Hamfest? That's generally where the best parts are, i.e., the hidden motherlode of homebrewing!

Eddy VE3CUI/VE3XZ
Newcastle, Ontario

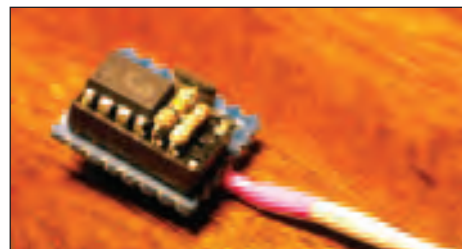
Microcontroller Projects

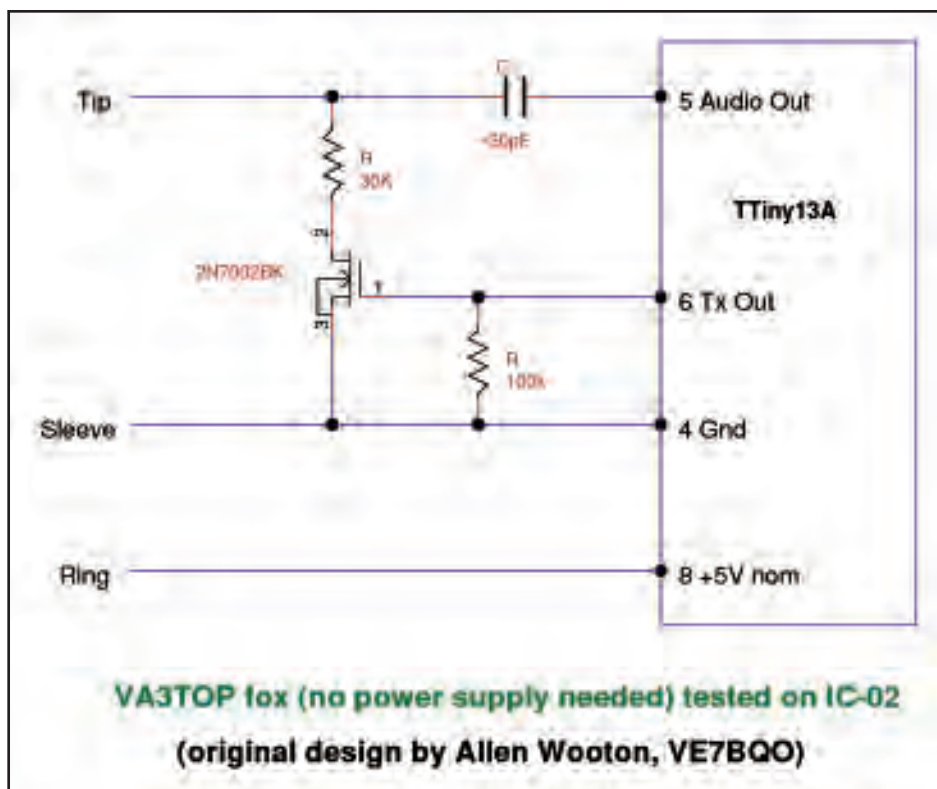
As a relatively new member to RAC (and long-time, long-ago ARRL member, licensed in 1974), I have some feedback regarding the article "Microcontroller Projects for the Radio Amateur" (May-June 2011 TCA, page 20).

First, my compliments to Alan Wootton, VE7BQO, for his clever way of encoding Morse characters into single bytes.

Next, I found that (reference Fig. 5) the C of 3.3µF caused the Icom IC-02 to go berserk. The symptom was that the transceiver dropped and reinstated the carrier every Morse character (or thereabouts). Experimentally, a value of around 33pF worked well (with a deviation of about 2.5 KHz, which ought to be good for a foxhunt).

Parenthetically, I would suggest that the software on your website have the "include 'tn13def.inc'" be changed to "include 'tn13Adef.inc'", since the device referenced IS the A version. The two files are different, although I don't know that the difference is important.





Now, The IC02 (and H16 and the Aircraft-band transceiver IC20) instructs us to use a (2.5 mm) MONO plug to attach an external microphone. This causes the Ring in the transceiver to be shorted to ground, used presumably to get the transceiver to disconnect the internal microphone (and speaker?). The short-circuit current through the Ring-to-Sleeve is 6 mA, more than enough to power the Fox! The current through the Fox is also apparently enough to satisfy the Transceiver (IC02). That gives rise to the attached modification to Alan's design, not requiring an external power pack.

When the article on the Fox was first given to me, I became quite excited, since many years ago I did a lot of machine-level coding and I really enjoy it. I invested in a programmer for the Atmel line and went to work. We had two foxhunts last month using the battery-less Fox and it performed very well (more than can be said for some of us, me included!). You may want to note that the final value of the capacitor which we used was 120pF (ceramic). I have attached a schematic and two photos of the completed Fox, all for your use as you want. This is part of the Elliot Lake ARC project.

I have now received the two copies of TCA that I hadn't received since I became a member (you have a new Office Manager in Ottawa, I understand, and he has been more than helpful.) [Thanks Frank, Ed!] Having read the first TCA – the one with the Fox in it – I am very impressed indeed at the content, especially the technical stuff (that is, of course, a personal bias).

I want you to know that I read every word (at least the English) and shall contribute to TCA whenever I can. I thank Harold Kenny, VE3HK, for promoting RAC at our General Meetings. I admire his devotion to Amateur Radio and it was his enthusiasm for RAC that caused me to join.

Keep up the standards you have!

*Terry Rowe, VE3EXV
 Elliot Lake, Ontario*

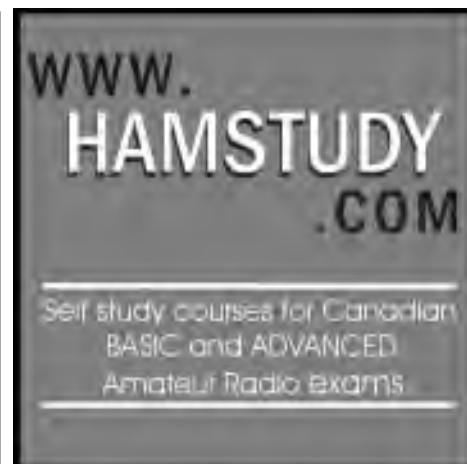
A Response from the Author

I would like to thank Terry for his comments regarding my foxhunt beacon article, and for the improvements he suggests. I am especially excited by his idea of using the Icom transceiver to power the beacon. What a great idea!

I think that Terry's comment about using a 33 uF capacitor instead of the 3.3 uF capacitor I used points out the difficulty of reverse engineering.

Even something like this beacon – transceiver interconnection that seems to be relatively simple may require some experimentation. Also, I didn't know that there is a "tn13A" include file, different from "tn13". I am pleased to have learned this from Terry's letter and I intend to make the necessary changes in my future programs. As I am sure that Terry has done, I tried this change in the foxhunt beacon program and it seems to work fine.

I must point out that I cannot take credit for the method by which Morse Code characters are sent with the foxhunt beacon program. I adapted it from the



"BASIC Stamp Programming Manual 1.8" that is available on the internet.

This programming manual is probably not the original source of this method either – after writing the article I found, for example, a reference to coding Morse characters in this way on page 124 in the book "Command" by Andy Talbot, G4JNT.

*73, Allen Wootton, VE7BQO
 Terrace, British Columbia*

In a recent Question and Answer article in a seniors magazine, they refer to an "alternating current radio tube". In the some 60 years that I have been associated with Radio, I have never heard of or been taught that term "AC Radio Tube". In the mid 40s I worked in my brother Bill's Radio Shop in Beausejour, Manitoba (the "home" of ex Governor General Ed Shreyer who was born next to my mother's Family Farm in Cromwell, just north of Beausejour). There I fixed battery operated radios for the farmers, who were still not supplied with Electric Power, and on "battery less" AC operated radios like the Rogers Majestic, developed by Ted Rogers (the old AC/DC sets simply had a rectifier to convert the AC to DC for the plates and if you reversed the input plug you could get a sizable jolt off the chassis!).

To ensure that I was on the right track, I consulted my fellow "ham" Ralph Cameron, VE3BBM (who has some involvement in Vintage Radio – I own an Atwater Kent). In an article by Jim Ross (in the *NFWA Chronicle*), Ross attributes Rogers to "perfecting" the AC operated cathode/filament "heater" to eliminate the AC hum.

On another topic, please also include the fact that The Canadian Snowbird net is functioning to Florida: Monday to Friday at 8:30 to 9 am EST on 14.160 & 14.165 (alternate if QRM). It is on every winter, from November to April and I am still nominally the Net Manager for the net.

*73, Harry H. Splett, VE3HHS
 Nepean, Ontario*

AROUND THE CORNER...

People, Places, News and Events on the Canadian Amateur Radio Scene

The following news items have been compiled from Industry Canada, RAC bulletins and the RAC website at <www.rac.ca>. To subscribe to RAC bulletins visit <http://rac.eton.ca/racbullemail.htm>. Translation is by Serge Langlois, VE2AWR. Traduction par Serge Langlois, VE2AWR.

Radio Amateurs of Canada Executive 2012-2013

It gives me great pleasure to announce your incoming Radio Amateurs of Canada Executive members for 2012-2013.

- RAC President: Geoff Bawden, VE4BAW
- First Vice-President: Ian MacFarquhar, VE9IM
- Chief Field Services Officer: Doug Mercer, VO1DM
- Chief Information and Technology Officer: James Hay, VE2VE
- International Affairs Officer: George Gorsline, VE3YV
- Regulatory Affairs Officer: Bill Gade, VE4WO
- RABC Representative Officer: Norm Rashleigh, VE3LC
- Honourary Legal Counsel: Marcel Mongeon, VA3DDD
- Corporate Secretary: Paul Burggraaf, VO1PRB

There were no candidates for Treasurer, Public Information Officer or the Member Services Officer positions. I would like to thank Nominations Committee Chairperson Ed Frazer, VE7EF and the RAC Directors for their assistance in the Executive nomination and election process. Congratulations are extended to the Executive members above and thank you for your service and willingness to step forward for the national organization.

On behalf of the Board of the Radio Amateurs of Canada, I wish to express a sincere "Thank You and Happy Retirement from the RAC" to VPIA Daniel Lamoureux, VE2KA, for his many years of dedicated service in numerous roles to the RAC. Last but not least, a sincere "Thank You" to VPRA Richard Ferch, VE3KI, for his three terms keeping the regulatory side on the forefront and to Treasurer Margaret Tidman, VA3VXN, for taking on the financial reigns the past two years.

*Paul Burggraaf, VO1PRB
RAC Corporate Secretary*

L'exécutif de Radio Amateurs du Canada pour 2012-2013

Il me fait grand plaisir de vous présenter les membres de votre nouvel exécutif de Radio Amateurs du Canada pour 2012-2013.

- Président de RAC: Geoff Bawden, VE4BAW
- Premier vice-président: Ian MacFarquhar, VE9IM
- Responsable en chef des services extérieurs: Doug Mercer, VO1DM
- Responsable en chef de l'information et de la technologie: James Hay, VE2VE
- Responsable des affaires internationales: George Gorsline, VE3YV

- Responsable des affaires réglementaires: Bill Gade, VE4WO
- Responsable représentant au CCCR: Norm Rashleigh, VE3LC
- Conseiller légal honoraire: Marcel Mongeon, VA3DDD
- Secrétaire corporatif: Paul Burggraaf, VO1PRB

Il n'y a pas eu de candidats aux postes de trésorier, de responsable de l'information au public et de responsable des services aux membres. Je voudrais remercier le président du comité des nominations Ed Frazer VE7EF et les directeurs de RAC pour leur appui dans le processus des nominations et des élections.

Nous présentons nos félicitations aux membres de l'exécutif ci-haut mentionnés et grands mercis pour votre dévouement et votre désir de vous engager pour l'organisation nationale.

Au nom du conseil d'administration de Radio Amateurs du Canada, je désire exprimer un sincère "merci et heureuse retraite de RAC" au VPAI Daniel Lamoureux, VE2KA, pour ses nombreuses années de service dévoué dans de multiples fonctions à RAC. Enfin, et non les moindres, un sincère merci au VPAR Richard Ferch, VE3KI, pour ses trois termes passés à maintenir l'aspect réglementaire en évidence, et à la trésorière Margaret Tidman, VA3VXN, pour avoir tenu les rênes des finances pendant les deux dernières années.

*Paul Burggraaf, VO1PRB
Secrétaire corporatif de RAC*

Alberta/NWT/NU Director Re-elected

Congratulations are extended to Mr. J. T. (Mitch) Mitchell, VE6OH, who was recently re-elected as the RAC Director for Alberta/NWT/NU. This nomination was unopposed, eliminating the need for a balloted election. Mr. Mitchell started as a Director in January 2010 and has been involved in numerous initiatives including the planning of a major Amateur convention to be held in Edmonton in August 2012. Mr. Mitchell's term will be extended to cover January 1, 2012 to December 31, 2013.

*Paul Burggraaf, VO1PRB
RAC Corporate Secretary*

Le directeur pour Alberta/TNO/NU réélu

Nos félicitations à M. J. T. (Mitch) Mitchell, VE6OH, qui a été récemment réélu en tant que directeur de RAC pour Alberta/NWT/NU. Il s'est présenté sans opposition, éliminant le besoin d'une élection par scrutin. M. Mitchell a débuté comme directeur en janvier 2010 et a été impliqué dans plusieurs initiatives incluant la planification d'une convention de radio amateur majeure qui doit se tenir à Edmonton en août 2012. Le terme de M. Mitchell sera prolongé pour couvrir du 1er janvier 2012 au 31 décembre 2013.

*Paul Burggraaf, VO1PRB
Secrétaire corporatif de RAC*

New Section Manager for BC/Yukon

It is indeed a pleasure for me to announce the appointment of Paul Giffin, VA7MPG, as Section Manager for British Columbia/Yukon effective today. Paul has been licensed since 1993 and has been active in emergency communications for the past 47 years, over 40 of them as an operational member of the RCMP. He is currently Emergency Coordinator for the City of Nanaimo and the southern portion of the Regional District of Nanaimo.

Paul is also President of Coast Emergency Communications Group and the mid island Assistant Regional Emergency Radio Representative for the BC Provincial Emergency Program. Paul resides in Gabriola Island, British Columbia. Welcome aboard Paul.

In making this announcement, I would like to sincerely thank outgoing Section Manager Drew Watson, VA7DR, who completed his two-year term yesterday. His service to the RAC and the BC/YT Section is very much appreciated.

Paul is eager to receive news from your area along with any ideas or suggestions that you may have. He is also in the process of establishing a BC/YT Section Bulletin service so why not drop him an email to be sure that you are included. You can email him at guppy1@shaw.ca or give him a call at 250-247-7965.

*Doug Mercer VO1DM CEC
Vice-President Field Services*

Nouveau gérant de section pour C.B./Yukon

C'est assurément un plaisir pour moi d'annoncer la nomination de Paul Giffin, VA7MPG, en tant que gérant de section pour Colombie-Britannique/Yukon, effectif immédiatement. Paul est radioamateur depuis 1993 et a été actif dans les communications d'urgence pendant les dernières 47 années, plus de 40 de celles-ci en tant que membre actif de la GRC. Il est actuellement coordinateur des urgences pour la ville de Nanaimo et pour la partie sud du district régional de Nanaimo.

Paul est également président du groupe de communications d'urgence côtières et assistant représentant régional de la radio d'urgence de la région centre de l'île pour le programme d'urgence provincial de C.-B. Paul demeure sur l'île de Gabriola, Colombie-Britannique. Bienvenue à bord Paul.

Tout en émettant ce communiqué, je voudrais remercier sincèrement le gérant de section sortant Drew Watson VA7DR qui a complété son terme de deux ans hier. Ses états de service pour RAC et la section BC/YT sont très appréciés.

Paul a hâte de recevoir des nouvelles de votre région en plus de toutes idées ou suggestions que vous pourriez avoir. Il est également en train de créer un service de bulletins pour la section BC/YT, alors pourquoi ne pas lui faire parvenir un courriel pour être sûr que vous êtes inclus. Vous pouvez communiquer avec lui par courriel à guppy1@shaw.ca ou lui donner un coup de fil à 250-247-7965.

*Doug Mercer, VO1DTM CEC
Vice-président Services extérieurs*

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New Manager of NARED, the National Amateur Radio Emergency Database

Doug Mercer, VO1DM, CEC RAC Vice-President Field Services, is pleased to announce the appointment of Pat Barrett, VE3RNH, as Manager NARED effective immediately.

Pat has an extensive management background and most recently sat on the Ontario Restructuring Commission chaired by RAC Director Bill Unger, VE3XT.

Pat is active with ARES and the Barrie Amateur Radio Club. She is looking forward to moving NARED forward, adding her knowledge and experience.

If you have ideas or suggestions I know she would like to hear from you. Please contact her at <ve3rnh@rac.ca>.

In making this announcement, I also also would like to extend a warm "thank you old friend" to Merv Halvorsen, VE3TSA, the outgoing NARED Manager. Merv, I knew I wouldn't have you for long, and sincere thanks for all of your efforts.

*Doug Mercer, VO1DM
RAC Vice-President Field Services*

Nouvelle gérante de NARED, la banque de données nationale pour la radio amateur

Doug Mercer VO1DM, CUC, responsable en chef des services extérieurs de RAC, a le plaisir d'annoncer la nomination de Pat Barrett, VE3RNH, en tant que gérante de NARED, prenant effet immédiatement.

Pat a des antécédents étendus en gestion et très récemment siégeait à la commission de restructuration de l'Ontario dirigée le directeur de RAC Bill Unger, VE3XT.

Pat est active avec l'ARES et le Barrie Amateur Radio Club. Elle est impatiente de faire progresser NARED en y ajoutant son savoir et son expérience. Si vous avez des idées ou des suggestions, je sais qu'elle aimerait entendre parler de vous. Contactez-la à <ve3rnh@rac.ca>.

En même temps que cet avis, je voudrais également offrir un chaleureux "merci vieux camarade" à Merv Halvorsen, VE3TSA, le gérant sortant de NARED. Merv, je savais que je ne t'aurais pas pour longtemps, et sincères mercis pour tous tes efforts.

*Doug Mercer, VO1DM CEC
Vice-président Services extérieurs*

Jack Belrose Appointed to Hall of Fame

The Board of Trustees of the Canadian Amateur Radio Hall of Fame has appointed John S. (Jack) Belrose, VE2CV/VE3CVV, of Ottawa, Ontario to the Hall of Fame. Jack will be presented with this award at a meeting to be arranged in Ottawa in early 2012, at which time a more detailed summary of his contributions to Amateur Radio will be published in The Canadian Amateur magazine.

Nominations for the Hall of Fame must be submitted by September 30 annually. The appointment is to recognize an Amateur for outstanding achievement for sustained service to Amateur Radio in Canada or Amateur Radio at large. The Board of Trustees consists of an Amateur Radio representative from each province of Canada.

*Ed Frazer, VE7EF
Chair, Board of Trustees
Canadian Amateur Radio Hall of Fame
Radio Amateurs of Canada*

Jack Belrose nommé au panthéon

Le conseil d'administration du panthéon canadien de la radio amateur ont nommé John S. (Jack) Belrose, VE2CV/VE3CVV d'Ottawa, Ontario au panthéon. On décernera cette décoration à Jack lors d'une rencontre qui sera organisée à Ottawa tôt en 2012, à l'occasion de laquelle une liste plus détaillée de son apport à la radio amateur sera publiée dans la revue The Canadian Amateur.

Les nominations pour le panthéon doivent être soumises avant le 30 septembre chaque année. La nomination a pour but de reconnaître un radioamateur pour un accomplissement exceptionnel en service soutenu à la radio amateur au Canada ou à la radio amateur en général. Le conseil d'administration est formé d'un représentant radioamateur de chaque province au Canada.

*Ed Frazer, VE7EF
Président du panthéon canadien de la radio amateur – Radio Amateurs du Canada*

RAC – CaféPress Site

The Radio Amateurs of Canada is pleased to announce that RAC shirts, hats, bags and other RAC merchandise are now available from CaféPress at <www.cafepress.ca/rac_radio>.

Be fashionable in your new RAC shirt, hat and go-bag. Advertise your RAC Affiliation at Field Day or other events with an outdoor RAC sign. Go to <www.cafepress.ca/rac_radio> and see for yourself.

*Geoff Bawden, VE4BAW
President, Radio Amateurs of Canada*

Site CaféPress

Radio Amateurs du Canada a le plaisir d'annoncer que les chemises, chapeaux, sacs RAC et autres marchandises de RAC sont maintenant disponibles sur le site de CaféPress <www.cafepress.ca/rac_radio>.

Soyez à la page avec votre nouvelle chemise, chapeau et sac de voyage RAC. Publicisez votre affiliation à RAC au Field Day ou lors d'autres activités avec une enseigne pour l'extérieur de RAC.

Visitez <www.cafepress.ca/rac_radio> et vérifiez par vous-même.

*Geoff Bawden, VE4BAW
Président – Radio Amateurs du Canada*

Distribution of ARES Merchandise

Now that CaféPress has been introduced, you will notice a temporary absence of many of our ARES products.

I am working on a process that will permit control over who wears ARES apparel including vests, shirts, pins, crests, shirts and so on. Items that are currently available only from the Chief Field Services Officer (VPFS) are as follows:

- ARES Safety vests
- CEC lapel pin
- 12" round ARES car magnets
- 12" round ARES decals
- ARES lapel pins
- 4" round ARES crest
- Plastic ARES ID card with clip and lanyard

I am sure you will understand the importance of managing these items in a prudent manner

In today's ever changing Emcomm environment, credentialing has become crucial, and when you present yourself as an ARES Emcomm operator, you are seen as responsible, trained, dependable, affiliated with RAC and ready to assist when called.

For all of these reasons, it's important to know who is wearing our apparel. Stay tuned!

*Doug Mercer, VO1DM CEC
Vice-President Field Services*

Distribution du matériel de l'ARES

Maintenant que le CaféPress a été instauré, vous allez constater une absence temporaire de plusieurs produits de l'ARES.

Je travaille sur un processus qui va permettre d'avoir un contrôle sur qui porte l'habillement de l'ARES, incluant vestes, chemises, épinglettes, emblèmes, etc. Les articles qui ne sont actuellement disponibles que uniquement par l'entremise du responsable en chef des services extérieurs (VPSE) sont les suivants.

- Vestes de sécurité de l'ARES
- Épinglettes du CCU
- Aimants ronds de 12" pour autos
- Décalcomanies rondes de 12" de l'ARES
- Épinglettes de l'ARES
- Emblèmes ronds de 4" de l'ARES
- Cartes d'identité en plastique de l'ARES avec attache et cordon

Je suis sûr que vous comprendrez l'importance de contrôler ces articles de façon prudente.

Dans l'environnement actuel toujours changeant des communications d'urgence l'accréditation est cruciale, et quand vous vous présentez en tant qu'opérateur des urgences de l'ARES, vous êtes perçu comme responsable, entraîné, fiable, affilié à RAC et prêt à aider quand requis.

Pour toutes ces raisons, il est important de savoir qui porte nos insignes. Demeurez à l'affût!

*Doug Mercer VO1DTM CEC
Vice-président Services extérieurs*





Geoff Bawden, VE4BAW
85 Barrington Avenue
Winnipeg, MB R2M 2A6
Tel. 204-295-0714
Email: ve4baw@rac.ca

It has been a busy quarter for RAC. We have had elections, a planning session for 2012/2013, a new online store and a new electronic version of TCA.

I want to thank all those volunteer Directors and Executive that served their terms for 2010/2011.

I want to especially recognize those who have moved on:

- Daniel Lamoureux, VE2KA, our long-serving Vice-President International Affairs and a former RAC President
- Richard Ferch, VE3KI, our VP Regulatory Affairs
- Margaret Tidman, VA3VXN, our Treasurer
- James Keep, VE2KHC, Quebec Director

Few Amateurs understand how much work is put in by volunteers and how much of their time and treasure is spent on helping their fellow Amateurs.

I would also like to welcome the following new members to the RAC Management Team:

- International Affairs Officer: George Gorsline, VE3YV
- Regulatory Affairs Officer: Bill Gade, VE4WO

We still have a few positions to fill: we need a Treasurer, a Public Relations guru, a person to help with member services and relations (read "marketing and customer service") and a new Quebec Director. If any of these jobs tickle your fancy (or if there is anything else that you would like to help with) please send Paul Burgraaf and myself an email (Paul at vo1@rac.ca, Geoff at ve4baw@rac.ca). I am also available by phone at 204-295-0715.

I view planning sessions as critical. At the end of October 2010 we assembled in Ottawa for a session to plan for 2011/2012. At that meeting we agreed upon starting the The RAC Report: A TCA Supplement newsletter in 2011, we set a Vision, we determined to establish an electronic TCA (coming in 2012), we set the budget for 2011 and much more as reported previously in TCA. For 2012/2013 we are looking at ensuring a budget surplus and enhancing our website and member services. We will provide more on our goals after we have completed our planning task.

RAC as a Public Service?

I was told by an irate non-member that RAC was a public service and we were obligated to provide free services to all Canadian Amateurs including the Outgoing QSL Bureau (and postage to [not within] provinces for the Incoming Bureau), RAC email Alias and Bulletin Services.

A MESSAGE FROM THE PRESIDENT UN MESSAGE DU PRÉSIDENT

RAC vient de vivre un trimestre occupé. Nous avons eu des élections, planifié nos activités pour 2012/2013, ouvert un magasin en ligne et expérimenté à l'interne une plateforme électronique pour la publication de TCA (mise en service au premier trimestre de 2012).

Je veux remercier les bénévoles du Conseil d'administration et de l'Exécutif qui ont complété leur mandat en 2010 - 2011.

Je veux plus particulièrement attirer votre attention sur ceux qui laissent leur place :

- Daniel Lamoureux, VE2KA, notre vice-président aux Affaires internationales depuis longtemps et ancien président de RAC
- Richard Ferch, VE3KI, notre vice-président aux Affaires réglementaires
- Margaret Tidman, VA3VXN, notre trésorière
- James Keep, VE2KHC, directeur du Québec

Peu d'amateurs savent évaluer la somme de travail, de temps et d'argent investie par nos bénévoles pour aider leurs compagnons amateurs.

J'aimerais aussi souhaiter la bienvenue aux membres suivants dans l'équipe administrative de RAC :

- Responsable des affaires internationales: George Gorsline, VE3YV
- Responsable des affaires réglementaires: Bill Gade, VE4WO

Nous avons encore quelques postes à combler. Nous avons besoin d'un trésorier, d'un responsable des relations publiques, d'une personne capable d'aider aux relations et aux services aux membres (marketing et service aux clients) et d'un nouveau directeur pour le Québec. Si un de ces postes vous « amuse » (ou si vous aimeriez nous aider de quelque façon que ce soit) s.v.p. faites le savoir à Paul Burgraaf ou à moi-même en envoyant un courriel à Paul à vo1@rac.ca, Geoff à ve4baw@rac.ca). Vous pouvez aussi me joindre par téléphone au 204-295-0715.

Une planification critique. À la fin d'octobre 2010 nous nous sommes réunis à Ottawa pour y tenir une session de planification de nos activités pour 2011-2012. Au cours de la réunion nous nous sommes mis d'accord pour lancer "RAC en bref" en 2011, un supplément d'informations à TCA sous forme de newsletter, nous avons convenu d'une stratégie de développement et de faire de TCA une publication électronique en 2012, nous avons établi le budget pour 2011 et beaucoup plus tel que déjà mentionné dans TCA. En 2012-2013 nous visons un surplus budgétaire et une amélioration de notre site web et des services à nos membres. Nous vous en dirons plus à propos de nos objectifs lorsque nous aurons terminé notre travail de planification.

RAC, un service publique?

Un non membre de RAC à l'allure agressive m'a dit dernièrement que RAC était un service public et qu'à cet effet, nous étions dans l'obligation de fournir des services gratuits à tous les amateurs canadiens incluant ceux du bureau des QSL sortants (et les frais de poste vers les autres provinces pour le bureau des QSL entrants) et les services du courriel « alias » de RAC et du bulletin.

Je lui ai posé la question suivante : pourquoi les membres de RAC et ses bénévoles fourniraient-ils des services aux non membres? RAC est une organisation sans but lucratif mise sur pied pour servir les intérêts

My question to him is: Why should RAC members and volunteers provide services to non-RAC members?

RAC is a non-profit corporation established to further the interests of Amateur Radio. It is funded by membership fees and the hidden subsidies (time and money) of volunteers.

Where RAC advocates for spectrum protection and expansion, all Amateurs benefit whether they are members or not.

Where services are provided, members can no longer pay to support non-members. RAC is not a public service.

It receives no public money. It is funded 100% by members.

Electronic TCA is Here!

RAC is pleased to announce the launch of the new electronic TCA which is available to you in full colour from the RAC website at <www.rac.ca>. We are pleased to offer this service to our members and look forward to your feedback.

CafePress Online Store: A new service

The CafePress online store is now open and we have customers! Turn your browser to <www.cafepress.ca/rac_radio>. Please be precise – do not use a search engine. Check it out!

We are currently offering only one book on that site (Hamstudy Basic). For all other books and CDs please contact our office at 1-877-273-8304 or visit our the old RAC Online Store at <www.rac.ca/store>. Our plan is to move all books to CafePress as soon as possible. Please let us know what your service was like at CafePress.

Another New Service

The Affiliated Club Insurance Program will increase its coverage to \$5 million without an increase in price to our affiliated club members. We will also be offering home/office and travel insurance for individual members... stay tuned.

A Reminder

Please watch the membership expiry date on your TCA label and remember to renew your membership early. Important services will be disrupted if your membership lapses.

Please remember to tell the RAC office (rachq@rac.ca) if you move. Don't forget that the RAC email alias is now only available to RAC members who are in good standing.

Welcome to 2012. It is going to be a great year for Amateur Radio and an exciting year for RAC.

– 73, Geoff, VE4BAW

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du radioamateurisme. Le fonctionnement de RAC est possible grâce aux coûts du membership et à des dons en argent et en temps de ses bénévoles. Le travail accompli par RAC pour la protection et l'expansion du spectre bénéficie à tous, membres ou non membres.

Quant aux services dispensés, les membres ne peuvent plus payer pour les non membres. RAC n'est pas un service public. Il ne reçoit pas d'argent du trésor public. Il est soutenu par ses membres à 100%.

Voici TCA en version électronique !

RAC est heureux de vous annoncer le lancement de la nouvelle version électronique de TCA, laquelle vous est accessible en totalité sur le site de RAC à <www.rac.ca>. Il nous fait plaisir d'offrir ce service à nos membres. Nous attendons vos commentaires.

Le magasin en ligne "CafePress" : Un nouveau service

Le magasin en ligne "CafePress" est maintenant ouvert et nous avons des clients ! Demandez à votre fureteur d'aller à <www.cafepress.ca/rac_radio>. Soyez précis – n'utilisez pas de moteur de recherche. Il faut aller voir!

Nous offrons actuellement un seul livre sur le site, Hamstudy Basic. Pour les autres livres et CD, s.v.p. communiquez avec notre bureau au 1-877-273-8304 ou visitez notre « vénérable » magasin RAC en ligne à <www.rac.ca/store>. Nous projetons « déménager » tous nos livres à CafePress aussitôt que possible. S.v.p. nous laisser savoir comment vous avez été servi à CafePress.

Un autre nouveau service

Le programme d'assurances pour les clubs affiliés portera sa couverture à 5 millions \$ sans accroissement du prix pour les membres de nos clubs affiliés. Nous offrirons bientôt une assurance pour les voyages et pour le "bureau à la maison" aux membres individuellement... demeurez attentifs.

Un rappel

Veuillez s.v.p. vérifier la date d'expiration de votre carte de membre sur l'étiquette de votre TCA et n'oubliez pas de renouveler votre membership rapidement. D'importants services seront interrompus si votre membership est suspendu. Rappelez-vous d'avertir le bureau de RAC (rachq@rac.ca) si vous déménagez. N'oubliez pas que le courriel « alias » de RAC n'est maintenant accessible qu'aux membres en règle de RAC.

Bienvenue en 2012! Je suis sûr que ce sera une année formidable pour le radioamateurisme et une année trépidante pour RAC.

– 73, Geoff, VE4BAW



Traduction par Claude Lalande, VE2LCF. Merci Claude!



SIX METRES AND DOWN

SOLAR CYCLE 24 – MUF HITS 50 MHZ!!!

Well it looks like Canadians from coast to coast have been treated to some of the opening glimmers of F2 DX on 50 MHz with the start of Solar Cycle 24 DX! Interestingly, the guys on the west coast appear to have the lion's share of the DX so far! This is very interesting as Cycle 24 appears to not only be atypical, but also it may just be a big one!

FIRST TRANS-PACIFIC F2 CYCLE 24 ARRIVES IN VE7!

Surprised is exactly what the VE7s are as they were the first Canadian stations to work F2 during the start of Solar Cycle 24 on 50 MHz. In prior cycles the band has typically seen the VE1/VE9/VO1 groups working the early DX. So this cycle is "different" in a good way!

John, VE7DAY, passed along the following regarding the fun that the guys have had in October 2011.

"As well as our neighbours to the South, some of 'our guys' worked the South Pacific on F2, for the start of Cycle 24! On October 26 at 02:01 VA7FC worked FK8CP in RG37, followed by Steve, VE7SL! At the same time, VE7CC worked VK4MA in QG64, and 5 minutes later VE7SV worked him. At 02:13 VE7SL also worked VK4MA. Steve also worked VK4WTN and VK4BG."

John writes that his first F2 contact was on November 1, 2011 with ZL1RS in RF64 at 23:13 UTC with 5x7 reports! John comments that Bob, ZL1RS, was heard for 15 minutes in British Columbia that day!

CANADIAN MAKES FIRST TRANSCONTINENTAL F2 OF CYCLE 24

On November 12, 2011 VE1YX worked W7EW for the opening salvo of the Transcontinental F2 DX of Cycle 24. On November 13, VE6TA worked VE9AA at 17:40 UTC and VE3EN worked VE7DAY at 1745 UTC. John writes that he worked 32 stations that day across the east. Signals reported between the left and right coasts were upwards of 20 over S9 at times on 50 MHz!

At 1810 that same day, VE3KU worked VE7DAY followed by VE7SL and N7CW. Signals were typically 559 here over a rather short 3760 kilometre path. More DX was worked on November 16 with a good opening to W6 from VE2XK, VE9AA and the guys on the coast. We did manage to snag WA6KLK in CM89 at 1732, but once again the MUF and path were marginal from FN03.

CANADIAN MAKES FIRST TRANS-ATLANTIC F2 OF CYCLE 24

In the east, with the Solar Flux running at 161, (A1, K0) the first Transatlantic F2 contact of Solar Cycle 24 was made by yours truly, VE3KU, in a very brief contact with EI7IX in Ireland on November 15, 2011 at 1551 UTC.

What was really amazing about this day, was how the various propagation beacons across the Northern path "lit up" that morning. The OY6BEC beacon on 50.035 (10 watts) was 30 – 40 dB over S9 in Toronto at the time of the contact with Dermott in Ireland! Additionally, the TF1SIX and VY0SNO beacons were all copied with very strong signals over a 1½ hour period.

As F2 propagation paths change rapidly, I was also able to make a partial into France with Olie, F6KHM and MM0AMW. However, N8JX in EN63 and VE2XK in FN07 were better positioned to take advantage of the propagation and both made their first F2 contacts ever at approximately 16:00 UTC.

Needless to say this was a very exciting day with many stations listening on both sides of the Atlantic and a lot of people scratching their heads about the beacons being so loud; yet no humans were heard from those exotic spots.

We also had reports of African beacons being heard by N8JX, but to date the path has not yet opened on F2. This despite a lot of listening and calling between South Africa and Canada/US.

Well more DX is coming, I will wager that December to April will be good as the flux levels should continue to trend upward.

Be warned, the fall of 2012 will likely see high sustained solar activity and global DX on 50 MHz! So be ready come next October.

CANADIAN 50 MHZ DXCC HOLDERS

Two guys join the ranks of Canadian DXCC holders bringing the total now to 7! I'm sure we will see more with the F2 starting and even via EME!



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VE3FF 50 MHZ DXCC

Dragan, VE3FF, of Mississauga sends along this picture of his DXCC on 50 MHz.

We were so pleased to see VA3FF make the grade as he was in the pileups during Cycle 23 in a big way!

Congratulations Dragan!

VA3DX DXCC 50 MHZ Sporadic E only

Below is a shot of Glenn, VA3DX, with his new 50 MHz DXCC.

Note that he did this all on Sporadic E skip so we figure with F2 he will hit 200 in no time!

Congratulations to Glenn for an absolutely stellar job of doing this the hard way!



ANTENNAS & TRANSMISSION LINES

TRANSMITTING ANTENNAS FOR 500 KHZ (PART 2 OF 2)

Note: This article uses TCA hotlinks to provide access to enriched media from the RAC website.
For more information, please go to: <www.rac.ca/tca>.

INTRODUCTION

Part 1 of this series introduced the main issues associated with the performance of small antennas for operation at 500 kHz. The article focused mainly on the radiation resistance of several antenna types and their expected efficiency. This part goes on to discuss another extremely important aspect of these small antennas: **bandwidth**.

Unfortunately, as the antenna size approaches zero, the bandwidth and efficiency also approach zero making the antenna useless even if it is possible to supply enough current to radiate some power. It has been shown that the antenna length should be larger than 0.025 wavelengths, 15 metres at 500 kHz, for effective operation. This is only a rule of thumb which depends on the antenna type and ground losses.

BACKGROUND/REVIEW

Short vertical monopoles (see Figure 1) come in two major flavours: with and without a top hat. These and other antenna types were discussed in Part 1 of this series.

A typical antenna with a top hat (see Figure 2) is usually base fed with an isolated vertical element and a large top hat that increases the radiation resistance and antenna capacitance. These increases translate into greater antenna efficiency and increased bandwidth.

The radiation resistance of several vertical monopoles (see Figure 3) increases as the square of the antenna length.

For a short monopole, the radiation resistance is given by:

$$R_r = 40\pi^2 \left(\frac{L}{\lambda} \right)^2 \Omega$$

Note that the radiation resistance for a vertical monopole with a length of 0.05λ is only 1.0 Ohms.

The radiation efficiency is given by:

$$\epsilon = \frac{R_{rad}}{R_{rad} + R_{loss}}$$

If an antenna has a radiation resistance of 1 Ohm and a loss resistance of 9 Ohms, then the efficiency is 1/10 (-10 dB). This means that the antenna gain will be 10 dB less than the same antenna with zero losses (ground plus copper).

The main design issues with 600 metre antennas are:

- The radiation resistance
- Resistive losses caused by non-perfect ground and wire resistance in the antenna and its matching structures

- The operating bandwidth
- The design of matching structures
- The antenna gain

ANTENNA BANDWIDTH

Definition of Bandwidth

There are several ways to define the bandwidth of any circuit including antennas. The most common method is the 3 dB bandwidth which is commonly used for amplifiers and filters.

A low frequency amplifier that responds from zero Hz to 1 MHz has a 3 dB bandwidth of 1 MHz if the power gain is down 3 dB at 1 MHz.

For antenna systems where we commonly measure performance in terms of SWR or Return Loss, it is more meaningful to define the bandwidth in terms of SWR or Return Loss.

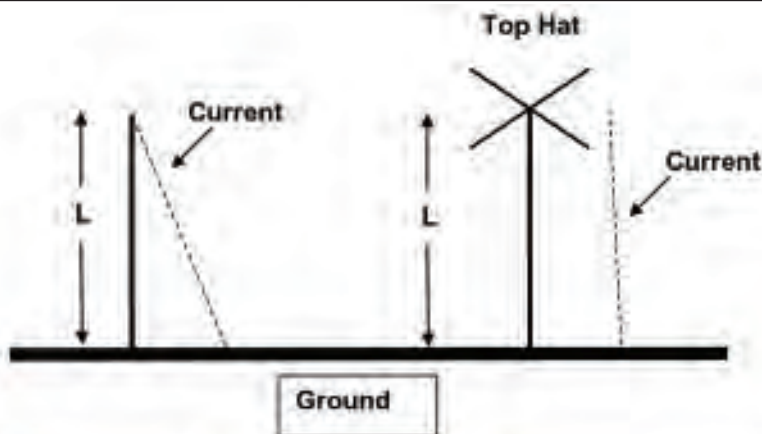
I use the SWR method for most of my work. The SWR bandwidth is defined as the frequency range between frequencies where the SWR reaches a certain limit such as 1.5:1 or other appropriate value. Most solid state transceivers operate well without an antenna tuner for an SWR up to 1.5:1.



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Figure 1: Short Vertical Monopole Antennas

Short Vertical Monopole Antennas
Transmitter Connected to Base of Antenna
Ground Radials Usually Employed



Short Vertical Monopoles with and without a Top Hat.
Top Hat forces current to be nearly uniform along antenna.
Radiation resistance increased with a Top Hat.

Figure 2: Photo of 500 kHz Antenna

**SM6BGP
Height = 30 metres
Insulated Base
Large Top Hat**



Here it is assumed that the antenna is matched to an SWR of 1:1 at the centre frequency. See TCA hotlink 2 for the derivation of the formula for the SWR bandwidth which is given below.

$$B = \frac{SWR - 1}{\sqrt{SWR}} \frac{R}{X_o} f_o$$

Where:

- B is the bandwidth in Hz
- SWR is the maximum Standing Wave Ratio allowed by the system
- R is the total resistance at the antenna terminals including radiation and loss resistances
- X_o is the reactive component of the antenna impedance as measured at its terminals. Here we assume that the antenna is not resonant and can be seen as a resistance in series with a capacitance.
- f_o is the centre frequency in Hz

For example: if f_o = 500 kHz, R = 25 Ohms and X_o (magnitude) = 3000 Ohms, then:

B = 0.93 kHz for an SWR limit of 1.25:1

To understand the above formula refer to Figures 4 and 5 on the next page. As shown in Figure 4, a short vertical antenna can be modelled as a capacitance in series with two resistors. The resistors include both the radiation and loss resistors. The antenna itself is therefore not resonant (there is no inductive component).

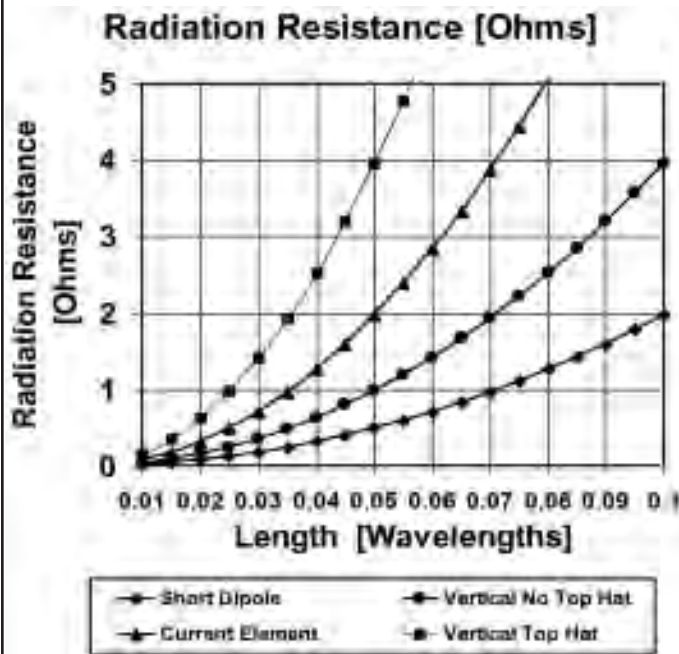
Figure 5 shows the complete circuit including the antenna, a tuning coil used to resonant the circuit and a Transmatch which is used to set the input impedance to 50 Ohms. Hence, the SWR at the resonant frequency equals 1:1.

Antenna Capacitance

In order to calculate the bandwidth of the antenna, It is necessary to find the capacitance as well as the total resistance.

Figure 3: Radiation Resistance

**Short Dipole
Vertical No Top Hat
Ideal Current Element
Vertical Top Hat**



The capacitance of a vertical monopole with no top hat is given by the following formula:

$$C_v = \frac{24L}{\log\left(\frac{1.15L}{d}\right)}$$

Where:

- C_v is the capacitance in pF
- L is the length of the antenna in metres
- d is the diameter of the antenna in metres

As an example, consider the following:

L = 30 metres, d = 0.001m, then:

C_v = 158 pF and X = 1/(2πf_oC_v) = 2015 Ohms

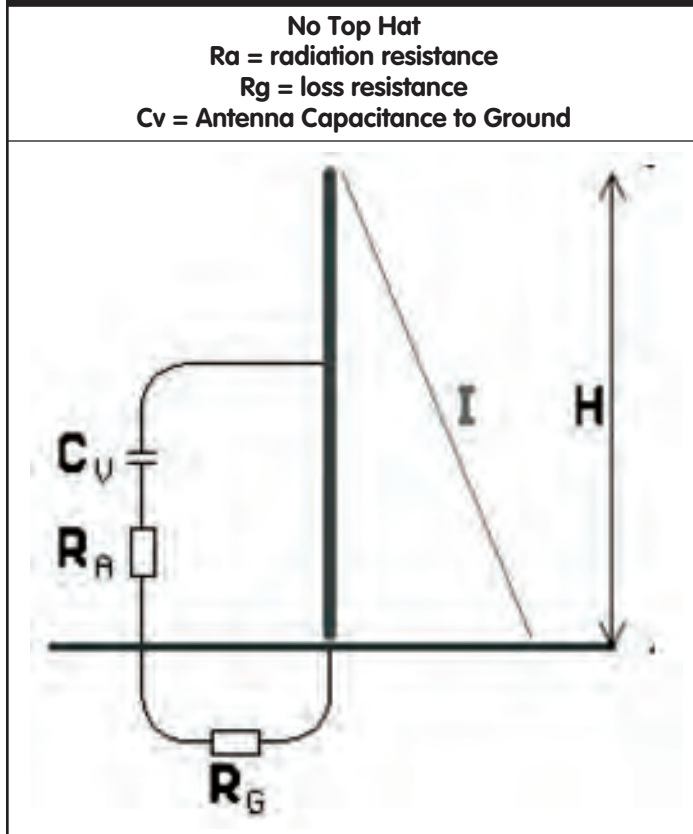
The capacitance of other antenna types can be calculated using similar formulas (see TCA hotlink 2).

UNIVERSAL GRAPH FOR ANTENNA BANDWIDTH

For a given operating frequency, in this case 500 kHz, the bandwidth depends only on the resistance and the reactance of the capacitor at the operating frequency. This is shown in Figure 6 where the bandwidth is plotted as a function of R/X_o for the special case of 500 kHz operating frequency. For example, consider the case of a simple vertical monopole where the total resistance is 20 Ohms and the reactance is 2000, then the system bandwidth equals 5 KHz for an allowable SWR of 2.5:1

As shown on the graph in Figure 6, the bandwidth increases as the ratio of R/X_o increases and also increases as the allowable SWR is increased. The goal of most antenna designers is to increase the radiation resistance and reduce the capacitive reactance (X_o) by using top hats and other configurations as discussed in the first part of this series.

Figure 4: Simple Circuit Model for Vertical Antenna



Please note that for the 500 kHz band, a significant bandwidth is not needed. Typically, the whole band may be only 5 kHz wide. The bandwidths shown in Figure 6 are far greater than would be necessary for operation in this band except for values of R/X_o less than 0.01 for a VSWR equal to 1.5. However, the trends show that an antenna can be made quite small at the expense of bandwidth and antenna efficiency.

CASE STUDY: A SHORT VERTICAL MONOPOLE SIMULATION

In addition to studying the basic formulas given above, I also performed a simulation using EZNEC (NEC-4) software which can handle buried radials. Simulation methods can handle specific structural details which the formulas do not but simulation methods give little insight into the basic performance. The antenna that was simulated is given below:

- Length/ λ = 0.05
- Number of radials = 16
- Radial Length/ λ = 0.05
- Average ground conditions

The simulation was scaled to 14 MHz by adjusting the dimensions so that the length-to-wavelength ratio remained constant. This is a common simulation technique that is reasonably accurate and eases the simulation problems associated with very small dimensions that occur with buried radials. In a final design it is best to use the actual operating frequency before building and testing.

The antenna (see Figure 7) has the following characteristics:

- The antenna gain = -8.45 dBi
- Take-off angle = 30 degrees

- Input impedance = $7.1 - j1329$ Ohms at 500 kHz for a 30 metre high antenna
- Bandwidth = 2.53 kHz for an SWR of 2.5:1 at 500 kHz

Figure 5: Circuit Model Including Tuning Coil and Transmatch

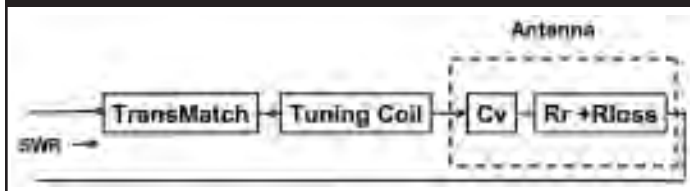


Figure 6: Antenna Bandwidth Plot

Antenna Bandwidth vs R/X_o
 Typical $R/X_o = 0.01$ for Small Antennas
 Frequency = 500 kHz

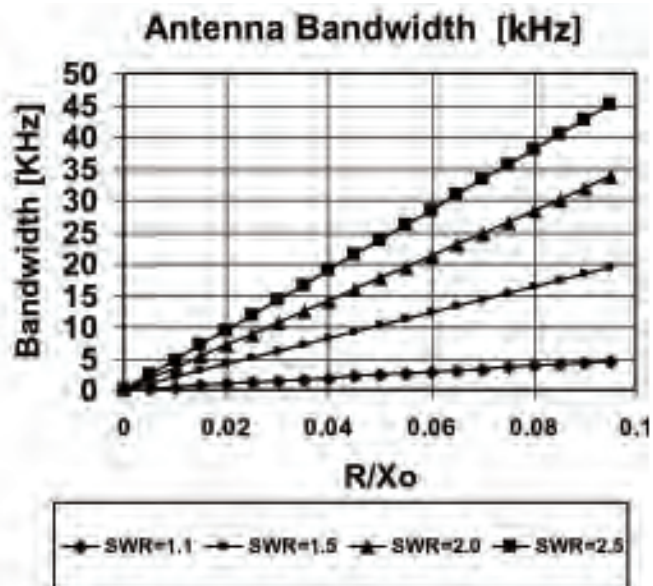
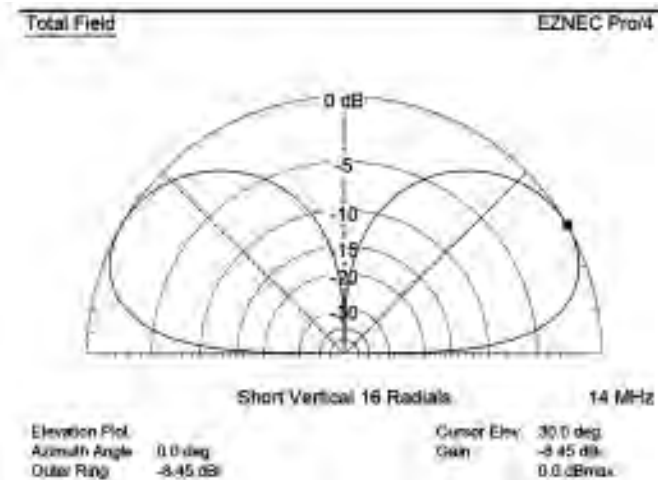


Figure 7: Antenna Pattern Plot

Short Vertical Antenna Pattern
16 Radials
Height = 0.05 λ
Radial Length = 0.05 λ
Z_{in} $\approx 7.1 - j1329$ @ 500 kHz



CONCLUSIONS

Part 1 of this series focused on the issues of achieving a large radiation resistance which will aid in producing a reasonable efficiency and operating bandwidth. Part 2 of this series focused on the bandwidth of these small antennas. The four main design parameters of these antennas (radiation resistance, efficiency, bandwidth and gain) were covered in the series.

The main contribution from Part 2 is the bandwidth analysis of small non-resonant antennas which show how small the operation bandwidth can be for these antennas.

The universal graph covers the range of most practical antennas.

There has been a great deal of work done (see TCA hotlinks 1, 2, 3, 4, 5 and 6) on Low-Band antennas. The most significant work to date on Broadcast antennas was done by Star-H Corporation, TCA hotlink 1, where they developed a low profile cage type antenna that was described in this series. TCA hotlink 2 by ON7YD is highly recommended. It contains a complete discussion of many antenna types such as helical antennas, spiral top loaded antennas, capacitive top loading on a single tower antenna and much more.

The classic book by ON4UN (see TCA hotlink 5) is indispensable for antenna designers who are interested in Low-Band antennas and systems. It also covers many of the basic concepts such as the effective height of an antenna.

It is well worth looking at the very impressive 500 kHz antenna of Gunnar Ivarsson, SM6BGP and his website (see TCA hotlink 4). Gunnar uses a base insulated tower that is 24 metres high. It is insulated at the base with four precision machined Delrin insulators. There is a beautiful photograph of the antenna on his website which was taken at sunset in December. Gunnar reported to me that the impedance of the antenna at its base before matching is 22 Ohms. Under some conditions, he uses the transmitter as a beacon at 501.4 kHz.

There are many other considerations to explore with these antennas including input impedance, bandwidth, efficiency and the design of matching structures. Ordinary methods of matching these antennas are not very practical for Amateurs and we must devise simple, low cost methods. For example, it is quite common to employ quarter wavelength lines to match impedances but in this case the lines would have to be extremely long.

Although this series concentrated on vertical antennas, there are several others that are well worth considering, especially if you have enough land to erect one since they are usually one-quarter wavelengths long.

FURTHER STUDY USING TCA HOTLINKS

Further information is provided with TCA hotlinks which are easily accessed via the RAC website at <www.rac.ca/tca>. Hotlinks make it unnecessary to type URL addresses into your computer and provide you with calculators and other support that demonstrates the ideas presented in the articles. The following hotlinks for this article are available on the RAC website.

TCA hotlink 1: "A Novel Short AM Monopole Antenna with Low-Loss Matching System" – www.kintron.com/resources/technicalPapers/2.pdf

TCA hotlink 2: "Antennas for 136 kHz" by ON7YD – www.strobbe.eu/on7yd/136ant/

TCA hotlink 3: "Symmetrical Top Hats" by L.B. Cebik – <http://cebik.com/content/gp/hatp.html>

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TCA hotlink 4: "500 kHz by SM6BGP" – <http://500khz.se/>

TCA hotlink 5: ON4UN's Low-Band Dxing – www.arrl.org/shop/ON4UN-s-Low-Band-DXing

TCA hotlink 6: "All-Band Inverted L" by L.B. Cebik – www.antennex.com/preview/archive3/ltv.htm

ACKNOWLEDGEMENTS

The author wishes to thank Justine Sider, P.Eng., of Industry Canada for allowing me to use the NEC-4 software at her facility for the study of Amateur Radio antennas that use buried radials.

Thanks are also due to the STAR-H corporation for sharing information on their novel small broadcast antenna and to Radio Amateurs Canada for encouraging my research into this area.

CORRECTION

My September/October 2010 column on "Ferrites and Filters" stated that capacitors used in these circuits should be able to withstand 600 Volts to account for powerline surges.

A reader of the New Zealand Amateur Radio magazine, *Break-In*, where the article was republished, pointed out that 600 Volts was not sufficiently high for either 230 Volt or 115 Volt power systems. After some research into this issue, I agree with him. I would also recommend that you purchase an approved powerline suppressor rather than build one if you are not an expert in this area. I have purchased a Tyco product (10VB1) for my 115 Volt system. It is rated at 10 Amps and has common mode rejection 45 dB at 10 MHz. Further information on this subject can be found at <<http://www.ce-mag.com/archive/02/09/lamothe.html>>.

The following is a summary of the readers comments:

"I think it must be emphasized that for areas of the world that use 230 Volt power systems, ONLY capacitors rated '250V AC' or '400V AC' should be used; further for applications that put them between Phase and Neutral they must be rated X1 and for applications across insulation where failure could give rise to electric-shock hazard they MUST be rated Y2. Some are rated for both uses, e.g., 'X1Y2'. Such capacitors ALWAYS have these details marked on them, plus the logos of every Approvals agency you can think of!

The main issue with capacitors in the 'X' (across-mains) mode is a long history of eventually catching fire, hence the robust standards requirements which include flammability testing.

For testing purposes, for 230V AC mains a 10/50 microsecond impulse of 2.5 kV initial charge voltage is used. The X2 and Y4 types for USA/Canada are subject to 1.5 kV."

– Until later, David, VE3KL



29 MHZ AND UP

"73 AND QRT..."

Over the past dozen years we have explored the bands above 29 MHz together and travelled this great country together through my occasional travelogs that many of you say you have enjoyed so much.

Make no mistake about it – it has been a fantastic trip and you have all been a wonderful audience for my ramblings.

Together we have travelled from coast to coast and explored not just radio – but also this wondrous country we call home. From VY1 to VY2, from 29 MHz to 10 GHz and beyond, it has been my pleasure to host this exploration.

There is nothing I have enjoyed more than working many of the regular readers of this column through the magic thing we call Amateur Radio. I know at least a few of the columns through the years have had a real impact on some of you. When somebody writes me about or mentions one of my columns from five or 10 years ago, I know the words have struck a chord. That has been the greatest compliment a scribe can ever ask for.

Also make no mistake about it, the travels and my love for this great hobby of ours will never dim and I will continue to run the roads with my radio close at hand. However, in the end it has always been about the people that make up Amateur Radio.

This column has not been so much about the technical aspects of ham radio – though we have also ventured there – but more about the culture and the everyday experiences we all have. Sometimes we have complained together, other times we have suggested ways to make things better. It is all part of making Amateur Radio even more fun than it already is.

Many years ago I mentioned an article from *Broadcaster Magazine* – a journal for those in the commercial end of radio. I don't remember the author or the issue, but what struck me about the piece was the way he described the wonder of radio and how it touched people. It was entitled "My Favorite Minute."

He spoke of sitting in the studio, just before the morning sign-on and contemplating the equipment and the peace of the moment. The transmitter and the audio gear quietly humming in the background. He wrote about knowing that in just a few moments the transmitters would come alive and his voice would reach out and touch the lives of so many people. He spoke of the mailman with his transistor radio – just about to start his rounds. The housewife, in that moment, in the kitchen starting to make breakfast for her family before they all rose to start their day. He mentioned the truck driver warming up his truck before heading out on his long trip.

It was a just a moment in time...

As he turned on the plates of the transmitter, he could almost feel the waves spreading out from the tower high above – waves reaching out to connect him with those few people. Touching their lives in some small way.

The switch went down and the radios came alive. "O Canada" began to play with the station sign-on, reaching out over the town, and hills beyond, touching people as they went by. "My favourite minute is over"... was his final line.



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I guess that article defined what I love most about radio – whether it is the commercial radio where I make my living or on the Amateur bands where I choose to spend the little free time I have. It is that magic that keeps me coming back for more. I hope you can find the same magic in radio – that magic of reaching out and touching someone. As I said many times here, all the technology in the world is useless without something to communicate and someone to reach out to.

All of that will never change until they finally put my ashes under the radio tower. What will change is that someone else will be sharing this space in TCA with you. The time has come for me to put down my pen for now and let someone else have a chance to share their ideas and experiences with you.

I would like to take this opportunity to thank Alan, the editor of TCA, for his expert spelling and grammar checking and his forbearance. To the former editor, Rob Ludlow, VE3YE, whom I have the greatest respect for and have kept in touch with professionally, thank you for your guidance in helping this column take the direction it did.

To the board, management and staff of RAC, you have a tough job that most don't appreciate. Keep up the necessary good work that you do.

And most of all to the regular readers of this column, thank you for being there with your encouragement, suggestions and constructive criticism. Without you, this column would not have been nearly as much fun. In fact it would not have been worth doing. You will always be on my mind and I will miss you.

So, for the final time...see you on the bands.

73 de VE3YYY at Glasgow Station – QRT

Peter, it has been an absolute pleasure working with you these past 12 years! I hope you enjoy your extra "free time" without my nagging emails. I will be happy to "find a corner to include (your) ramblings again" sometime in the future. Thanks for everything! Alan (Ed.)



FlexRadio Systems Appoints Radioworld as Distributor for Canadian Market

FlexRadio Systems, the leader in Software Defined Radios (SDR) for the Amateur Radio community, announced the appointment of Radioworld as their distributor for the Canadian marketplace effective November 1, 2011.

"It was extremely important for FlexRadio Systems to appoint a partner that shares the same views as FlexRadio and has the ability to provide our customers with a first class service and distribution network", said Greg Jurrens, VP of Sales and Marketing for FlexRadio Systems. "Radioworld clearly fits the stringent criteria we identified to promote our FLEX line of Amateur radios and accessories and to allow us to move our business forward in this key market."

"Radioworld is excited to have secured the rights to distribute the prestigious FlexRadio Systems product line in Canada", said Jack Summers, General Manager for Radioworld. "The brand perfectly complements our existing portfolio of high quality products for the discerning Amateur Radio operator and will be available to our customer immediately".

DX'ING WITH HAMMOND

FINALLY! FINI! FINISHED! 200 AND 200!

This month's column is about setting, and most importantly, achieving goals. *[Which will explain the multitude of exclamation points throughout this story, hi! XN]* Before my morning ablutions, whenever possible, this retired oldtimer has a ritual of checking 160 and 80 metres around sunrise, from September through March. Other Low Frequency DX'ers do. Maybe, you, too?

Over the years there have been quite a few pleasant surprises to keep me coming back. But, on this particular morning, 160 seemed "dead" so I clicked my mouse on the Outlook Express icon and brought up my email. Good! There was an in-box message from "Ed" and "Re: 160" in the subject column.

Ed H. Poppe is also KH2L. His message confirmed receipt of my QSL at his Yona, Guam QTH. That was fast! I had worked Ed on 160m at 1152 UTC on March 17, 2011. XN had just sent for the card a week earlier. In spite of what I sometimes think, postal people and air services were really synchronized to get the mail through efficiently, this time.

YOU DO SET GOALS FOR YOURSELF DON'T YOU?

It's nice to get some good news. And, to realize, that a 25-year goal had been reached. I'll explain...this is Part 1 of a two-part story.

Thanks to the recent (since October 10, 2010) rulings regarding the PJ2, PJ4, PJ5 and 6, and PJ7 DXCC counters to the ARRL DXCC list, VE3XN had #196, 197, 198 and 199.

The KH2L card at right confirmed my **200th** country on 160 metres / 1.8 MHz or "Top Band".

As the saying goes, "Beauty is in the eye of the beholder." In spite of its simplistic, functional blue on white design, the KH2L card was a "beauty" to this oldtimer.

As it turned out, Guam in the Mariana Islands is in CQ Zone 27. A new one, again, his was my 35th zone confirmed on 160.

Do you keep track of WAZ? XN thinks of WAZ as the ultimate of awards since you really do have to work "A-L-L" around the world, to get ALL 40 zones.

I am pleased that my request for a photo and bio was answered by Ed. KH2L writes, "I have been a ham for more than 53 years. In New York I was K2QGC and in Japan, KA2EP." My memory is not what it used to be, but upon seeing that KA2EP call, I thought I should look back in my QSL files – yes, it was worth it!



Here is the KA2EP card from Ed Poppe from his Tokyo, Japan station confirming a May 20, 1967 QSO at 1055 UTC. Yours truly was using the centennial call, 3C3GCO, and a borrowed Johnson Viking Valiant belonging to my "Elmer"/"Doc" Konrad Hollatz, VE3FHO.

My TH3-JR beam had been up about eight months. Ed confirmed my 56 report on AM. Yes, **Amplitude Modulation**. That was just before I became the proud owner of my first transceiver to get on SSB, with a Swan 350.

Yes, the 350 drifted because of cold solder joints in the VFO circuitry, but those 6HF5 finals put out 300 watts, and as VE3GCO a lot of DX was worked on CW and SSB.

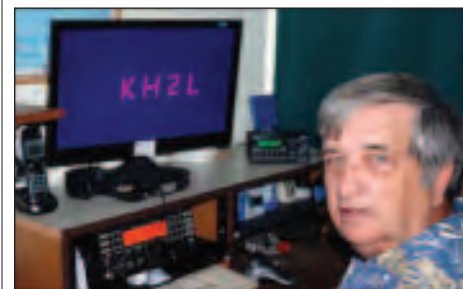
Ed Poppe's other calls have included KG6ARH, AH2BV, AH2L and now KH2L.



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Ed goes on:

"In the early 1960s I was K2QGC/KG6. Although I have chased DX over the years, it was casual and I never bothered to 'keep score'. For the last 3 or 4 years I have become more serious. I work mainly 20 CW and have enjoyed giving many their 1st Guam QSO. After I got bit by the 160m 'DX bug' I have been concentrating on the other bands as well. In the past three years I have done 9 Band DXCC, have 1,600+ confirmed for the Challenge award with more than 1,800 worked. I have 319/316 for DXCC with 12 deletions."



Ed, KH2L, above, uses a K3 Elecraft transceiver and an AL 1200 Ameritron amplifier. His directional antenna is a 3-element SteppIR with a 30/40 loop. His low band antenna is a 20 metre vertical with 120 short radials. It is base loaded for 160 metres. Ed uses a short reversible beverage antenna for listening on the low bands.

Most of us have had "Elmers" in our past. I will always be grateful for the friendship and help received from Dave Quail, VE3MDQ. It was Dave who researched and built a coaxial inverted "L" antenna for 160 metres for VE3XN in 1986. We used 126 feet of copper wire, 88 feet of RG8X; 37 feet of Twin Lead; and five 130 feet radials. Twenty-five years later that simple inverted "L" had worked and confirmed #200 on 160m. TU Dave!

Let's continue with the second story of the second 200...

We're leaving a "dead" 160m band and our look at emails. XN changes bands from 1.8 to 3.5 MHz on my venerable 20-year old, FT-1000D. One punch on the 3.5 Band button and the memory VFO

brought up 3.514.4 MHz. The first dits and dahs I heard through my Heil headset spell "7ACY K". A strong stateside station/old friend, N8BJQ (WPX manager for *CQ Magazine*) made a contact with an exchange and I heard the confirmation. The band frequency goes quiet and then I hear a CQ from XU7ACY. "Oh my goodness!" (or something similar!) XU7ACY's CW was a clear 569. Cambodia is rare at this QTH on ANY band or mode, let alone 80m CW. I am sure my mind was in a state of shock as I realized this was the one zone, zone 26, I needed to complete 5 Band WAZ and the **200th zone!**

With the FT-1000D's sub/second VFO offset by 5 kHz, my AL-82 Ameritron amplifier was quickly peaked/tuned at a kW. After another USA station made his contact I mentally apologized for sending my call four times and "K" at about 15 wpm. In spite of an even longer caller I clearly heard my call and a 569 report. I came back and gave my report, I heard XU7ACY confirm everything for VE3XN. I listened some more. A couple of other stations gave their calls, and Peter worked them too.

There was another CQ and I was nervy enough to call a second time with our Kitchener-Waterloo Club call VE3IC. IC got in the log too, with a 569. Others began calling after another CQ from Peter.

I reached for the landline to call Glenn, VA3DX, an old DX friend who has helped me with many DX related things over the years. I'm sorry to say that Glenn could not copy XU7ACY when he listened at his more easterly, St. Catharine's station. Within just a couple of minutes I too had lost XU7ACY in the noise of the 80 metre band.

While sitting there in a state of disbelief, I received a phone call back from VA3DX. Glenn is one of the top masters of DX'ing in Canada. For example, he had already worked and confirmed zone 26, years earlier, when George Collins, VE3FXT, was active from Thailand as HS4AMI. VA3DX got his 5BWAZ in 1991. Here was I, some 20 years later, very happy that after 31 years, VE3XN had finally "finished" his own 5 Band WAZ!

VA3DX often has a few windows open on his computer monitor at any one time. On this morning, VA3DX mentioned that XU7ACY was on the ON4KST Chat Server. After a couple of exchanges, Glenn confirmed that he had exchanged emails with XU7ACY. He sent a copy to me via the Internet and I've copied a couple of lines for use in this column:

"XU7ACY Peter Yes Glenn, worked VE3XN at 11:29Z on 80 metres tonight, cu tomorrow 2011-03-25 11:59:17Z and XU7ACY Peter Glenn, also worked VE3IC on 80 a few minutes later so band was jumping 2011-03-25 12:05:16Z."

It is not too often that you can get a confirmation within such a short time that it sets your mind at ease that your QSO was 100% OK. Occasionally it has happened on Club Log (that wonderful log site begun by G7VJR and 5B4AWN) shortly after logs have been posted and you can check for your contacts. Club Log is becoming more and more popular and I hope you are checking your progress as the DXpedition possibly posts its log there.

I am pleased to report that VA3DX did work XU7ACY the following morning for a new one on 80 metres. XN checked the Internet for the ARRL's 80 metre Challenge award on September 8, 2011 and found VE1ZZ with 356 DXCC credits; VE7SV with 316; VA3DX with 314. VE3XN shows at a mere 287, compared to these lofty totals, hi.

Why is zone 26 a tough one to QSO for many eastern and central Canadian stations? Location, location, location... it's a L - O - N - G way away! Many local residents run barefoot and are often less than enthusiastic about working the low bands with the need for bigger antennas and a good working knowledge of sunrise and sunset to various parts of the world. Yeah, I know there are other factors also. Go ahead, tell yourself!



XU7ACY is located in Sihanoukville. This city of about 200,000 gets its name from King Norodom Sihanouk, the father of the nation, because he was the principal advocate of independence from France. It is also known as Kampong Som. That's the place name you find on most maps.

It is about 185 kilometres or 115 miles southwest of the Cambodian capital city, Phnom Penh, on the coast of the Gulf of Siam. Sihanoukville's beaches have made it a popular tourist destination. No doubt NO2R, the operator of XU7ACY, appreciates the natural beauty and beaches of the area when he is not low band DX'ing.



Take a look on YouTube for Sihanoukville, Cambodia. It is worthwhile watching the 3:37 minute video showing Serendipity Beach, downtown, the central market, the local traffic and school getting out. XN is thankful to rid his mind of scenes from "The Killing Fields". That was the shocking 1984 award winning film with Sam

Waterston playing real life photographer Sydney Schanberg, who was trapped in tyrant Pol Pot's cleansing campaign of some 2 million Cambodian civilians.

The front side of XU7ACY shows a traditional stone carving that is most closely associated with Cambodian pagodas.

The back side of the QSL gives vital information about the QSO. Peter Pellack, XU7ACY, operates from a guest house in Sihanoukville in Kampuchea (Cambodia). Its QTH is in CQ Zone 26 and its Grid is OK10. An ICOM IC-756 Pro to an 80 metre vertical ground plane was used. XN is not in favour of a

logging program that shows automatic 599's instead of the real report sent/rcvd.

I am thankful to Doug Rue, W2EN, for taking the time to send some information about Peter, XU7ACY.

"Peter started travelling to XU7 in 2004 for vacations and operated out of a hotel or guest house. In 2009 he retired as the Radio Manager for the Somerset County, New Jersey radio system and basically moved to Cambodia where he is now living. Once or twice a year he travels back home to stateside. Peter is a very competent and serious DX'er as well as an excellent CW operator. He has concentrated on 80 and

160 metre operations. During our summer here it is the rainy season over there and due to constant storms and static, he takes down the 80 and 160 metre antennas until the dry season returns. Peter has rented his own house which has room for antennas including beverage wires. He had his tower built by the local Don Bosco Vocational High School based on drawings that he made, since there was no place to purchase a tower there."

From Peter, XU7ACY, himself, come these additional comments.

"I know only too well how difficult it is to achieve being an avid low band DX'er myself. I spent many long hours in front of my NO2R rig in New Jersey to work and confirm 247 countries on 160m from 1999 through 2007. I now get as much enjoyment working you guys in North America on the low bands as you do working me. My beam is a C3 Force 12 tribander yagi at 55 feet. I also had a 40 metre delta loop up but it recently fell down after an insect attack to the 35-foot tall bamboo mast. I hope to meet you and other Canadians on top band when I reinstall the lowband antennas in September 2011."

5 BAND WORKED ALL ZONES (ALL 200)

In order to get my 5 Band WAZ plaque I sent my last QSL from XU7ACY, plus an international money order for \$120 USD, to cover its preparation and postal fees via air mail to the CQ Magazine WAZ Checkpoint, N5FG, Mr. Floyd Gerald, PO Box 449, Wiggins, Mississippi, USA, 39577-0449.



Here are some comments from the 5BWAZ manager:

"Floyd Gerald got into ham radio in 1959 as a novice. But, I met some girls when I was 15 years old and gave up ham radio, hi. In 1972 I became a general (WB5HVV); then passed the advanced, and finally extra class in 1978, when I got my initial call of N5FG. My first major award was WAS, as a novice. Then came WAC, and DXCC and the CQ DX awards. I achieved 5B WAZ in 1995 and have the DXCC Challenge award with 2,700+ country credits. My 5BDXCC came in 1979 and I now have a 9B DXCC. I am a member

of the A-1 operator Club and hold a DXCC Honour Roll for Mixed, CW, SSB and digital. I need just P5 to have them all on CW. Only three are needed on digital for all countries: KP1, HK0 Malpelo and BS7. N5FG is a DXCC card checker and is on the DXAC (DX Advisory Committee) as the Delta Division representative. I was former manager of the ARRL W5 QSL Bureau."

Floyd Gerald worked in large resort hotels when he was younger and then later in Public Housing, until his retirement in 1991. N5FG is a married man of 45 years and has two daughters and one grandson. Because they live in the country and love dogs, they have two Cavalier King Charles Spaniels and one Maltese. Floyd is a baseball fan, too. In his shack photo are his two main radios: a Yaesu FT-1000D and a Yaesu FT-1000MP. His amp is an Alpha 8410. Two towers are at N5FG. The one has a C31XLR Force 12 and A3WS WARC band tribander. On the second are Hygain antennas consisting of a 2-element 40m and 5-element 30m beam.

As a checkpoint for CQ awards for Canada, I appreciate the dedication Floyd gives to his WAZ award responsibilities for CQ Magazine.



Yes, the 844th 5BWAZ plaque shown above now has a comfortable place in VE3XN's shack. I was the 10th Amateur in Canada to get this difficult award.

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The table below shows the other Canadian Amateurs who have 5BWAZ.

My good friend Dave, VE3MDQ, helped me to engineer and construct the full wave Delta Loop for 80 metres that did the job for the 200th and last zone for 5BWAZ. Thank you Dave. I couldn't have done it without your generous help and advice!

So there you have it, the story of how two of my major ham radio goals were achieved.

An interesting footnote to this whole affair is that the confirmation of my 200th country and my contact with the 200th zone came on the same day – March 25, 2011. It was a banner day indeed!

I wish you a Happy New Year and hope you achieve your goals in life.

73, GL...Garry, VE3XN



Canadian Stations with 200 Zones Confirmed for the 5 Band WAZ Award

Rank #	Callsign and Name	Award #	Plaque #	Achieved
1st	VE7IG-Reg	136	53	1-Feb-83
2nd	VE1NG-Rick (now VO1SA)	619	246	30-Oct-89
3rd	VE3EJ-John	666	302	5-Jan-91
4th	VE3ICR-Glenn (now VA3DX)	716	314	24-Apr-91
5th	VE7DX-Mikko	244	396	1-Sep-94
6th	VE1AST-Eric	924	418	26-May-95
7th	VE3XO-Steve	1,090	593	16-Mar-02
8th	VO1CV-Max	1,437	698	1-May-06
9th	VE7AHA-Andy	286	732	13-Jun-07
10th	VE3XN-Garry	12	844	2-May-11

A 121 KILOMETRE LASER CONTACT UN CONTACT DE 121 KILOMETRES SUR RAYON LASER

François Daigneault, VE2AAY

This article was published recently in RAQI's Radioamateur du Québec magazine and is being used with their permission. Thanks Guy!

Cet article est paru récemment dans le magazine Radioamateur du Québec (RAQI). Nous le reprenons ici avec leur permission. Merci à Guy, VE2LGL.

This article records how Jimmy Howard, VE2JWH and Jacques Chauvin, VE2BP, managed a line-of-sight 121.7 kilometre (75 miles) contact on a laser beam. Robert, VA2RPL, provided encouragement on Jimmy's end, while André, VE2QAF and Germain, VE2PEP, were rooting for Jacques.

Back in 2005, interest peaked and the team started building equipment using a K3PGP receiver design (John Yurek, K3PGP) which consists of an 11-inch Fresnel lens focusing light on a very sensitive photodiode whose output is then amplified to an audible level for a loudspeaker.

The homebrew "radio" was made of audio amplifiers for receive, an audio filter, a microphone amp, a CW oscillator and muting circuitry. The laser is modulated in amplitude and sound quality is excellent with a nearly flat response from 10 Hz to 15 kHz.

On the first attempt, a 3-km contact was completed easily; it was quickly followed by a 13-km contact (November 2006). Both contacts were carried on a corner-store variety 1 mW laser. A more serious 5 mW unit was used to establish contacts over 43 and 69 kilometre distances (August 2010).

Finally, on September 17, 2011, a 121 kilometre distance was bridged first with a 100 mW unit but, in true Amateur spirit, that same contact was duplicated within minutes on a 5 mW laser. This distance is presumed to be a Canadian record.

PLANNING

Since the intended exchange requires a true line of sight (not a cloud bounce), effort must be expanded to select suitable locations. *Radio Mobile for Windows*, an incredible freeware application by Roger Coudé, VE2DBE, permits picking candidate locations through its display of maps with coloured elevation. Then the program can plot the path in between two points and present a slice of the Earth's contour along that line. With some additional help from *Google Earth*, this surveying can be conducted without leaving your chair. François, VE2AAY, helped with that phase of the project.



Upper right corner, laser beam from Hereford to Cherry River. The distant red dot is the laser in Cherry River.

En haut à droite, rayon laser de Hereford vers Cherry River. Le point rouge distant est issu du laser à Cherry River. Photo Robert, VA2RPL (2011).

L'article qui suit détaille comment Jimmy Howard, VE2JWH, et Jacques Chauvin, VE2BP, ont réussi un contact de 121.7 kilomètres en ligne directe sur rayon laser. Robert, VA2RPL, a assisté Jimmy à une extrémité, tandis que André, VE2QAF, et Germain, VE2PEP, ont donné un coup de main à Jacques.

En 2005, l'intérêt pour ce projet a pris de l'ampleur au sein de l'équipe et le bricolage a débuté. L'équipement est inspiré des idées de John Yurek, K3PGP, et utilise une lentille de type Fresnel de 11 pouces qui concentre la lumière sur une photodiode dont la sortie est amplifiée en un signal audible.

Les « émetteurs/récepteurs » de fabrication maison comprennent un amplificateur audio, un filtre audio, un amplificateur microphonique, un oscillateur audio et un circuit de commutation. Le laser est modulé en amplitude et la fidélité est excellente comme en fait foi une réponse quasi linéaire de 10 Hz à 15 kHz.

Un premier contact sur une distance de 3 km a pu être fait sans difficulté; la distance suivante a été de 13 km (novembre 2006). Ces deux contacts ont été établis sur des lasers, d'une puissance de 1 mW, que l'on trouve partout. Les contacts suivants sur des distances de 43 et 69 km (août 2010) ont requis des lasers de 5 mW.

Et finalement, dans la soirée du 17 septembre 2011, un contact de 121 km a été réalisé d'abord avec un laser de 100 mW, puis repris dans les minutes suivantes avec seulement 5 mW. Tous ces contacts sont présumés être des records de distance canadiens.

LA PRÉPARATION

Comme le contact visé en est un de propagation à vue (et non par dispersion sur un nuage), l'aventure débute par le choix d'endroits appropriés. L'incroyable gratuit « *Radio Mobile pour Windows* » de Roger Coudé, VE2DBE, permet de vérifier si une visibilité directe existe entre deux points, sans même se lever de sa chaise. François, VE2AAY, travaille à des simulations avec cet outil.

Jimmy, VE2JWH and Jacques, VE2BP, aligning their instruments on targets. Visible on the stepladder is a small laser used to illuminate the target.

Jimmy, VE2JWH et Jacques, VE2BP, procèdent à des réglages sur une cible. Une source laser sur l'escalabeau illumine la cible. Photo François, VE2AAY (2011).





Jimmy, VE2JWH, on mount Hereford.

Jimmy, VE2JWH, sur le mont Hereford.

Photo Robert, VA2RPL (2011).

With an eye towards a possible VUCC certificate (ARRL's VHF/UHF Century Club Award), contacts with different grid squares are planned. Given one convenient location at Mount Hereford (Grid FN45eb, southeast of Sherbrooke, Quebec), hills north of Thetford Mines, Quebec in FN46id looked promising.

Germain, VE2PEP, of Thetford Mines, drove to the selected field-lined country road to verify that some farm building or unfortunate tree did not block the view along the required axis. Germain welcomed Jacques and André on the evening of the successful contact.

ALIGNMENT, A CRITICAL ISSUE

The laser apparatus is a "three-eyed beast" (a triclope): a sight telescope, a receiving optical system (lens/photodiode) and a laser. It is very easy for all three to point in slightly different directions. The laser beamwidth is less than one degree, accuracy is paramount. Jimmy and Jacques spent several hours in brisk fall weather ensuring that all three subsystems were aimed on parallel axes, both in azimuth and elevation.

To that end, Jimmy drafted a "target" on cardboard for each transceiver. The target shows the position of the receive sweet spot (those plastic Fresnel lenses exhibit skew) plus the positions of the scope and laser. With the target some 140 metres away (470 feet), several sightings and careful adjustments are carried out to visually align the subsystems.

Truth be told, each station comprises a five milliwatt and 100 milliwatt laser so four variables need to be collimated.

MAKING THE CONTACT

First wait for a clear day. To simplify aiming, contacts are carried out after sunset. Arrive at your location ahead of darkness to identify landmarks that will give you an approximate bearing: distant trees, communication towers or easily recognized hills may serve that purpose.

If you have computed precise bearings to other recognizable landmarks before going out – e.g., an unmistakable mountain top – you will be able to confirm that your compass readings are accurate.

Before turning on the lasers, each operator aims a spotlight rated at a few million candelas (formerly, candlepower) towards the other station. The other team can then find you with binoculars

Une habitude héritée des concours VHF suppose l'établissement de contacts avec des « grilles » différentes. Le Mont Hereford (grille FN45eb, sud-est de Sherbrooke), servant de point d'origine, les environs de Thetford Mines adossés à des collines dans FN46id semblent prometteurs.

Germain, VE2PEP, déjà du coin, est allé confirmer de visu que Hereford était visible depuis les coordonnées choisies le long d'une route de campagne bordée de champs au nord de Thetford Mines. Il était l'hôte de Jacques et d'André le soir du contact.

LES DERNIERS RÉGLAGES

L'appareillage laser est une « bête à trois yeux » (un triclope): un télescope de visée, un système optique agissant comme récepteur et un laser. Si l'on ne prend garde, les trois peuvent aisément pointer dans trois directions légèrement différentes.

La largeur du faisceau est inférieure à un degré; la précision est de mise. Jimmy et Jacques ont dû préalablement passer de longues heures en soirée pour s'assurer que les trois sous-systèmes de leurs deux appareils soient bien réglés sur des axes parallèles, autant en azimut qu'en élévation.

À cette fin, Jimmy a préparé une cible spécifique à chaque appareil sur du carton ondulé. Une cible montre l'endroit où le récepteur est le plus sensible ainsi que la position du télescope et du laser. De multiples visées sur ces cibles disposées à quelque 140 mètres (470 pieds) et de minutieux ajustements auront été nécessaires.

En fait, chaque station est équipée de 2 lasers, un de 5 mW et un de 100 mW; c'est donc quatre variables qui devaient être accordées. La puissance accrue aurait été utilisée si les conditions avaient été mauvaises; faire 121 km sur 5 mW est beaucoup plus satisfaisant!

L'EXÉCUTION

Il faut bien sûr attendre une journée sans humidité. Pour faciliter la visée, les contacts sont menés en soirée. Il est donc sage de se rendre aux endroits choisis avant le coucher du Soleil et d'y noter des repères que l'on pourra discerner le soir tombé : des épinettes solitaires, un bâtiment de ferme lointain, des collines aisément reconnaissables, une tour de communication et ses clignotants, etc.

Si vous avez également en main des azimuts vers d'autres éléments à l'horizon (par ex., une montagne rapprochée que l'on ne saurait méprendre), vous pourrez valider que vos visées à la boussole soient justes.

Avant d'activer les rayons laser, chaque opérateur allume d'abord un projecteur (du type apprécié des chasseurs) dont l'intensité lumineuse est de plusieurs millions de candelas pour permettre à l'autre équipe de le repérer avec des jumelles et faire une visée avec le télescope. Ces ajustements se mesurent en fractions de degrés, ne pensez pas à tapoter sur le côté du récepteur pour centrer la source de lumière distante dans le réticule du télescope de visée : un système de moteurs électriques décommandés permet le réglage de précision. À propos, les équipes coordonnent leurs gestes sur 2m FM.



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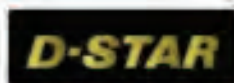
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and work to put that white dot in the crosshairs of the sight telescope on the transceiver. Such adjustments entail fractions of a degree so tapping on the side of the transceiver is out of the question: fine motorized adjustments are needed in both azimuth and elevation. By the way, voice coordination is managed over 2 metres.

As the sight scope and lasers were rigorously aligned on parallel axes, the red laser dot should now be within the field of view and the amplitude-modulated CW audible in the receiver.

Turbulence in the atmosphere muddles the normally crystal clear audio superimposed on the laser beam, amplitude-modulated voice is impossible, very slow speed telegraphy saves the day at the cost of several long minutes to complete an exchange.

With that 121 kilometre record in the logbook, Jacques and André packed up and moved to another location on the side of Mount Orford (Cherry River, in Grid FN35wh) to conduct an "easy" 49 kilometre contact. Adding to QSOs from 2010, this is now the third grid confirmed by the team; two more would be needed for a VUCC certificate – perhaps next summer. The team continues planning for a cross-border contact with the US or possibly a greater distance.

A note in closing: if you are tempted by such experiments, remember that laser light presents serious risks for your eyesight; do not look directly at the beam or a reflection at a short distance.



Comme le télescope de visée et le laser ont été ajustés sur des axes rigoureusement parallèles, le laser devrait maintenant être visible dans le champ du télescope et se faire entendre dans le récepteur.

Des turbulences dans l'atmosphère brouillent la tonalité normalement cristalline superposée sur le rayon et seule de la télégraphie à très basse vitesse permet un échange. De longues minutes sont nécessaires à un échange.

Une fois ce contact consigné au journal de bord, Jacques et André se sont déplacés vers Cherry River sur le flanc du mont Orford (grille FN35wh) pour un contact « facile » de 49 km. En incluant les contacts faits en 2010, ce dernier endroit compte pour une troisième grille; il en faut cinq pour un certificat VUCC (VHF/UHF Century Club). L'équipe continue de faire des plans pour établir des contacts entre le Canada et les États-Unis ou sur de plus grandes distances.

P.-S. Si vous êtes tentés par ces expériences, ne laissez jamais vos yeux croiser un rayon laser ou une réflexion directe à proche distance : le risque pour la vue est réel!



WELCOME / BIENVENUE

We wish to welcome the following new members of Radio Amateurs of Canada for October and November.

Nous souhaitons la bienvenue aux nouveaux membres suivants de Radio Amateurs du Canada pour octobre et novembre.

Almonte Library
Lloyd Pedersen, VE7LGP
Thamesville Library
Ralph Ackerman, VE3CSU
Louise Ainsworth, VE3LJA
Terry Ainsworth, VE3TLC
Emmanuel Amadio, VA2AFH
Cumberland Regional Library –
Amherst Branch
Walter Arsenault, VE6WAA
David Banning, VE3XYX
Gary Bazdell
Ron Bickle, VE1BIC
Patrik Boghosian, VE2UNO
Steve Brady, VA3SRV
Ronald O. Brook, VE4RON
Bob Brown, VE7MIH
Robert Bryce, VA6TRB
Lorenzo Caterini, VE1LVC
Saint Andrews Community Center
Alan Chandler, VE3BZC
Adam Clark, VA7AQD
Wayne Clarke
James Cloney, VE5CNB
Leigh Coates, VE5LEE
Bruce Coates, VE5BNC
Dean B. Dalrymple, VA3DBD
James Dawe, VE6FD
W Fred de Wind, VE3WFN
Kelvin Denike, VE6HA
Penny Driscoll-Raithby, VE9PEN
Randy Elliott, VE1ADV
Kevin Fisher, VE6DO
Al Fugelsang
Peter P. Grabosky
Gregory A. Grant
Phillip Grawert, VE3DRO
John Andrew Grice, VE7CKG
Bruno Hachey, VE9BRU
Kevin Hamilton, VA3YHM
Alex Hansen, OZ7AM
Wayne Harrison, VA3NWH
Douglas Hollands, VA3HOL
David W Jones, VE9DWJ
Georges S. Khoury, VE2GSK
Christian Latovlovici, VA7LCD
Glenn Leeson, VE7FHZ
Sylvain Legare, VE2ATP
Barry Leibner, VE3LBL
Barry Levy, VE3ZZL
Matthew James Lewis, VA7MJL
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Powell River Public Library
Oakville Public Library
Okanagan Regional Library
James Longley, VE7JMS
Greg Lynn, VE7GGL
Brian MacDonald, VE1BSD
Alex Malikov, VE3MA
Lois Marlatt, VE3CME
Ian Mason, VE3INM
Kyle Matheson, VE7KYM
John McNally, VE3ISE
Wayne McLean, VE3WWM
Paul Meise, VE7TKC
Ralph Melville, VE7RAL
Fortunato Michelizzi, VE3MCZ
Jason Miles, VE3TYG
Lyle Moulton, VE6EMF
Brian Mulder, KF4VOO
Bhim Sen Nair, VA7BIM
George Nethery, VE7CZH
Randy Noble, VE3RGN
Istvan Nyul, VE3USP
Philip Ouellette, VE7ABX
Robert A. (Bob) Parker, VE3OIP
Derek Poole, VA7JJE
Capt. John K. Profit, VY2JPK
Karl Renter, VE7ILM
Jay Ritchie, VE3EMP
Barbara Rocheleau, VE2ZBB
Cameron W Rogers, VE3YCR
Frank Schilder, VA3FJS
Paul Kane High School
Mario Sergi, VA7WOP
Gerald K. Sherman, VE4GKS
H. Ian Smuck, VE3NAI
Roberts Bank Lifeboat Society, VA7CGR
Drue Spackman, VA7SPN
Claude Squire, VO1ACS
Perry Stadnyk
Michelle Stoetzel
Andrew Stott, VA6AWS
Crystal Szajkowski, VA3LMO
Peter Tonge, VA4PAT
William Turnbull
Stephen Van Klink, VA3MOD
James Weston, VE3RNG
Donna B. Whitford, VA7HIP
H. Art Whitford, VA7HAW
Paul Whitman, VE1PEW
Faye Wickenden, VA3YOY
Stan Wiczorek, VE7TTC

FRESH ON THE AIR

— ADVENTURES FOR THE NEW AND BEGINNING HAM

DOOM, GLOOM, AND TECHNICAL STUFF

Assuming we will be around after December 21, 2011, due to the end of the Mayan calendar and existence itself, let's talk some tech stuff. Newer Amateurs understand the basic concepts of two-way radio operation. But there are some aspects that seem a bit confusing, as I've had few newcomers to the hobby ask if I can further clarify CTCSS and DCS enhanced squelch. So I'll try to explain them here.

CTCSS/DCS

A normal squelch circuit keeps the audio of your radio quiet until it detects a signal that is stronger than the squelch threshold, at which point the radio opens the audio and you hear the signal. By enabling CTCSS or DCS, you ensure that only transmissions that are specifically designed for you are allowed to come through.

There are two basic types of enhanced squelch. The first type is called CTCSS, or Continuous Tone-Coded Squelch System. This method uses a sub-audible tone sent along with the signal. Any receiver with CTCSS enabled, such as another radio or a repeater, will ignore the signal if the wrong CTCSS tone, or no tone, is sent along with the signal. If it does detect the proper tone, it will open the receiver and let the audio pass through.

The second type is DCS, or Digital Coded Squelch. DCS does the same thing CTCSS does, but instead of a tone, it uses a three digit digital code. If the receiver detects the proper code, it will pass the signal through. No code or the wrong code, and it ignores the signal.

Enhanced squelch is used on the input frequency of many repeaters to prevent accidental triggering of the repeater by nearby transmitters or other repeaters. So to access a repeater with enhanced squelch enabled, you must program your radio's transmit frequency, which is the repeater's input frequency, to not only send the tone, but to send the right tone.

The terms used are Encoding (sending the tone or code when you transmit) and Decoding (receiving the proper tone or code from the other station's transmit frequency). Some repeaters may also transmit the tone on the output frequency, allowing you to set your radio so that only that particular repeater will open the squelch on your radio.

As an example, I want to operate on a couple of local repeaters. One of the several online or print repeater directories lists these repeaters as such:

VE3### Anywhereville, ON 147.000+ 156.7

VE3### Anywhereville ON 146.835- 3310

I would program in the first repeater for the repeater's output frequency (the frequency I will receive on) of 147.000 and set a positive offset. Then I would enable CTCSS encode (the tone alone tells me it's for the input frequency only) for a tone of 156.7 Hz. So now, when I transmit on the repeater's input frequency of 147.600, the tone of 156.7 is sent along with my signal and I trigger the repeater. If I had programmed in a tone of 203.5 Hz, or did not enable CTCSS encode, then I would never be able to key up the repeater.

Now for the second repeater I program in the repeater's output frequency of 146.835 and set a negative offset. Again I would enable encode for DCS, but will also enable decode as well, as the small o after the code means that both the input and output frequencies are using the code. Then I set the DCS code to 331. What happens here is when I transmit on 146.235, the repeater will detect the DCS code on my signal and key up. Additionally, when I unkey, the radio will listen for signals with the DCS code of 331 on it. I will never hear any other signal except for the repeater when it keys up and sends the DCS code to my radio (and of course, I will hear any other transmission on that frequency that has the same DCS code on it).

So when I operate on the first repeater, I can key it up, and will hear the repeater and any other signal on the same frequency if it is strong enough to break the squelch. For the second repeater, I can key it up, and I will never hear another signal on that frequency no matter how loud it is unless it is transmitting the same code.

Enhanced squelch can be confusing, but if you take your time and read over your owner's manual, you will be able to set up and use enhanced squelch communications effectively both in repeater and simplex operations.

POWER OR BATTERY SAVER CIRCUITS

Your battery-powered radio, like a handheld, may have a battery saver circuit, either automatically or manually



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activated, that will extend the operational time of your battery. This particular feature should always be enabled as it can extend operational time by up to thirty percent. There are two different types of battery saver circuits; receive battery savers, and transmit battery savers.

Receive circuits turn your radio receiver off and only power it on at a selected interval. Since the receiver is not on all the time, the battery is not loaded as much and therefore is not drained as much. For example, if you set your receive bather saver feature for 200ms, the radio will turn off the receiver and only turn it on every 200ms, or five times per minute. At 500ms, it will turn it on twice a second. At 1 sec, it will check for a signal every second, and so on.

Just be aware that the longer time setting between checks, the more chance there will be that you will miss a portion of or even the entire transmission.

The second type is the Transmit battery saver feature. In this feature, the radio monitors the strength of the incoming signal. If it detects a strong signal, it will automatically reduce the output power of the radio the next time you key up. This reduces the drain on the battery and extends its operation time.

If you have both types of circuits enabled, you should get close to the maximum amount of operational time from your handheld battery. And in a precarious situation, like an emergency, you may need all the battery life you can get.

Transmission Tidbit:

Got a short humorous Ham related joke? Send it in!

Want to get in touch with me...

Comments, questions, kudos, and complaints (if you must) are all welcome.

Have a Transmission Tidbit you want to submit? Write me at *The Canadian Amateur* c/o RAC, email me at [<ve3boc@rac.ca>](mailto:ve3boc@rac.ca) or [<phillipboucher@gmail.com>](mailto:phillipboucher@gmail.com), or via my website at [<http://phillipboucher.tripod.com>](http://phillipboucher.tripod.com).



REPORT ON PREPARATORY MEETINGS FOR WRC-2012

GENEVA, SWITZERLAND NOVEMBER 8 TO 18, 2011

Bryan Rawlings, VE3QN
Special Advisor – WRC-12
Radio Amateurs of Canada

ITU Radiocommunication (ITU-R) Working Parties meet on average twice a year in Geneva, Switzerland. While much of the work done is related to an upcoming World Radiocommunication Conference (WRC), many of the issues handled are ongoing "Questions" which are independent of the WRC. Amateur Radio's stake in these meetings lies in part with Agenda Items for the upcoming WRC and in part with several ITU-R Reports on Amateur Radio issues which require periodic updating or with ongoing "Questions" relating in part or wholly to Amateur Radio.

Such was the case for the meetings of ITU-R Working Parties 5A and 5B which took place between the 8th and the 18th of November 2011.

Let's start with the issues to be decided upon at the upcoming WRC which will begin on January 23...

Preparations for Agenda Item 1.23 seeking a new Amateur Service allocation somewhere in the range 415 – 526.5 kHz reached a milestone with the approval of a Report on Amateur experimental operations in the above frequency range. To the Preliminary Draft New Report carried forward from the June meeting, which described Amateur experimental operations in Canada and in the United States, has been added new material from the United States as well as material from Regions 1 and 3 – specifically, from the United Kingdom and from Australia.

Now, along with the two previous ITU-R Reports – those on *Characteristics of Amateur Radio Stations for Sharing Studies* and on *Compatibility of Amateur Service Stations with Existing Services* – we ought to be as well positioned as possible when the delegates consider this Agenda Item at WRC-2012.

Although scheduling constraints prevented us from attending all of the subgroup meetings dealing with Agenda Item 1.15, the proposal to authorize spectrum in the 3 to 50 MHz range for Surface-Wave (Oceanographic) Radar, we continue to note that the proposed ranges for this service do not overlap any Amateur HF band. (The 5 MHz (60 metre) band is not covered by the foregoing statement; however, it is not an international allocation and has been authorized in certain countries –



Ken Pulfer, VE3PU, at work at the ITU Preparatory Meetings.

not currently including Canada – on a "cause no interference/accept interference" basis). There continues to be considerable ongoing discussion – among the services on whose frequencies the radar is actually proposed to operate and the proponents of this surface-wave radar – about compatibility.

As noted in previous reports, the proposal for an allocation for a high-power radiolocation radar in Regions 1 and 3 no longer seeks 142 to 144 MHz as an allocation and hence should cause no grief to Amateurs using the two-metre band.

In the November meeting several Amateur Radio issues – not specifically part of the WRC-2012 agenda – were dealt with and updated. The following is a brief summary.

A comprehensive ITU-R Recommendation, on the characteristics of Amateur Radio signals intended for use in sharing studies, was modified to extend the upper limit of frequencies covered by the Recommendation from the current 47.2 GHz to 81.5 GHz. While seemingly academic and perhaps even boring, documents such as this – officially part of the ITU documentation – provide the basis for our arguments for or against competing proposals for access to our frequency allocations.

A proposed ITU-R Recommendation, originated by the American delegation, is documenting the Varicode encoding system used with PSK digital modes.

Not only will this form a reference source but will, in a formal way, ensure the status of Varicode as an encoding scheme in the public domain. This document has been retained for one more WP 5A cycle so as to incorporate any further refinements.

Two Amateur Radio reports on file with ITU-R – and relating to Amateur capabilities and experience in emergencies and disaster communications – were brought up to date and in their revised form were approved.

A proposal to extend existing arrangements for Radio Amateurs to operate in countries other than their country of licence – for example, in emergencies among other reasons – to a general protocol covering all participating countries was withdrawn pending a review of how this objective might best be achieved.

The work of the Amateur Radio Working Group at this series of meetings was – as it has been at past meetings – disciplined, efficient and characterized by good will. I mention this now because I understand that the current Chairman, Dr. Ken Pulfer, VE3PU, will be retiring following this cycle of meetings and the upcoming WRC. Amateur Radio owes a debt of gratitude to Ken for his many years of service with the ITU. We in Canada have been honoured by his service and I, for one, have been a particular beneficiary of his mentoring and his patience. Thanks Ken!



All Things Digital

Amateur Radio for the 21st Century 001

Robert C. Mazur, VA3ROM

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W: <http://my.thaytel.net/va3rom>



Happy New Year, and welcome to my first TCA column! As you can see by my picture, I have the face for radio. A middle-aged and spectacled male; greying, balding, and carrying a few extra pounds. In short, the typical Amateur Radio operator of the 21st century.

Many thanks to Bill Unger, VE3XT (RAC Ontario North/East Regional Director) for convincing Alan Griffin (TCA editor) and me to write a TCA column (or at least try), and you've probably guessed that it's not about talking! Sure, I like to ragchew with the best of them (ask anyone who knows me), but for emergency communications (EMCOMM) and passing formal messages, emails, images or other data, voice just can't compare to digital, in my opinion. Even Morse Code is still very handy, especially with language barriers.

ABOUT ME

I've always had a passion for radio and electronics, but I never had much ability in either. The Air Cadet program provided my basic electronics training at CFB Trenton. After high school, Transport Canada hired and trained me as a Radio Operator. I learned Morse Code, typing, weather observing, electronic navigation aids, air and marine radio procedures, etc., at the Transport Canada Training Centre in Ottawa. Graduating from RO class 76-7 and near the bottom, my course instructor told me that while I wasn't a "natural", if I worked hard at it I'd do "okay". Well, after 35 years and near the end of my professional RO career, I guess that he was right; I did do "okay".

MY GENERATION

Before I get into the specific topic, here's what I have to say about we "Baby Boomers". Attempts are always being made to target a younger generation and expose them to Amateur Radio in order to keep the hobby growing. Well, I say that that's probably the wrong approach! My eyes were opened after being involved with the restoration and rebuilding of the NWO Senior Citizen's ARC (VE3SAO), located at the 55+ Centre in Thunder Bay.

Every day, hundreds of Boomers, who use the Centre's facilities, walk past the Amateur Radio room and they often stop, look and listen. Many are taking various computer and digital photography courses and expanding their interests because they have the extra time and money. According to the American Radio Relay League (ARRL), most new Amateurs are coming from among retirees and also various groups interested in emergency communications. The Boomers grew up before computers, the Internet, iPhones, et al. My generation remembers the "magic" of radio with those glowing tubes, and listening to shortwave radio stations, late at night. Many lost interest when they started careers and families, and put radio on the back burner, but they only need a little spark to fire things up again!

Having an active Amateur Radio station at our 55+ Centre certainly makes it a lot easier to target this fastest growing segment of the population. A New Horizons grant made it possible for a dedicated group of 55+ hams to resurrect the station, after it had been QRT for 10 years.

LET'S TALK DIGITAL

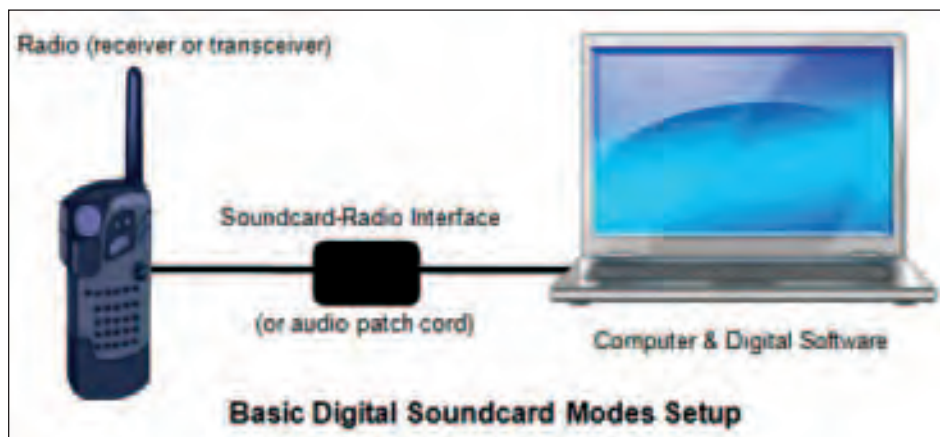
Pardon the pun, but I suspect that many readers are already working the digital modes so I may be "preaching to the choir" when I start to talk about how to get started. I'm not an expert, by any means, and with my Grade 12 diploma, I'm probably not at the same educational level of many of you either. This column is aimed at

exposing the new or veteran Amateur Radio operator who has heard the strange beeps, burps and musical tones when tuning across the dial. They often know that these have something to do with computers and digital, but aren't quite certain how to go about getting into this fascinating and very useful aspect of our hobby. So, I'm hoping that my column will appeal to you, the digital newcomer.

With these modes, you can send and receive radio emails, position report beacons, pictures, data files, etc., all from the middle of nowhere! You don't need Wi-Fi, the Internet, landlines or anything else, except your Ham Radio digital gear. As a Boomer, I'm constantly learning about new things and this column won't be limited to just digital radio. There will be articles on computer programming, special use antennas, electronic circuits, kits, how-to tips and techniques, and whatever else seems to be related to the topic, even if a bit off tangent – just no voice stuff. But, we do have to start somewhere, and here we go!

WHAT DO I NEED?

Four things are needed: a computer (desktop, netbook or laptop) with a soundcard; a radio (transceiver, scanner, shortwave, HT, etc.); the appropriate digital mode software, downloaded from the Internet (often free); and an interface between the computer and radio. Most Amateurs already have the first two and I'll provide the links to the software.



Almost any computer that runs Windows XP and later versions can be pressed into the digital radio modes service. Radios must be solid-state and have good frequency stability for HF (a TCXO certainly helps).

So that leaves the interface, and we have a few options depending on if you just want to monitor and decode signals, to see if you are interested, or if you if you want to jump right in and be able to transmit and receive. From my own experience, I suggest that you begin with the first option; your start-up cost will be low, and if the digital modes don't interest you, it's no big loss. All you need is an audio patch cord (stereo or mono) with the proper type and size of plugs at each end.

The basic equipment and techniques will always remain the same, no matter what digital mode you choose; master one and you've mastered them all! The software is the only thing that will change, but you may also buy (or make) a more sophisticated (more expensive) soundcard-to-radio interface. There are many Amateur Radio companies selling interfaces ranging from the very basic to the very sophisticated. The digital modes use software with a visual display of both the signal (called a waterfall) and the decoded data (whether images or text), so good hearing isn't required and you don't have to talk. Digital is perfect for those with disabilities and who may be self-conscious about them.

THE FIRST DIGITAL MODE: APRS (PACKET RADIO)

Tune your VHF FM receiver to 144.390 MHz; this is the common North American simplex frequency for APRS (Automated Packet [or Position] Reporting System). Listen to see if you can hear some distinctive bursts of audio tones or (for those hard of hearing) point your web browser to <http://aprs.fi> and enter your call sign. The site will generate an APRS graphical map of any stations in your area. Unless you are in an isolated location, you should have some VHF APRS activity. If not, there are several worldwide HF frequencies and they are 14103 kHz (LSB) and 10147.60 kHz (USB). Note: 20m uses lower side band for Net14 APRS/packet radio frequencies!

What is APRS or packet radio, you ask? Well, it's a radio transmission mode that uses binary packets (bundles) of data. It dates back to the 1970s, when Canadian Amateurs created and built the world's first Amateur Radio packet radio network.

A REMINDER: CHANGES TO RAC MEMBERSHIP INFORMATION

Mailing Address/Phone Numbers/Email



Every month RAC sends out renewal notices to members whose membership is about to expire within the month. Every two months, The Canadian Amateur magazine is distributed to RAC members by mail. Unfortunately, many RAC members move and do not send a change of address notice to RAC Headquarters or do not update their information (including telephone numbers and email addresses) online via the RAC website.

As a result we are unable to deliver TCA to these RAC members and they do not receive their renewal notices. In addition, Canada Post charges RAC a fee for returned mail and for the attempted delivery of their TCA magazine.

This is a reminder to please send a change of address notice to headquarters or update your information online via the RAC website by signing in to the RAC Members' Section and clicking on "My Profile" in the box on the left. Please be sure to include your telephone number and email address so that we can notify you of new services including The RAC Report newsletter and the new electronic version of TCA. You can also send changes of address directly to the RAC Office Manager, Frank Greene at racgm@rac.ca.

If you know a RAC member who has moved in the last year please remind them to make these changes.

On VHF, packet radio transmits binary data (1 and 0), in a specific format (AX.25), by AFSK (audio frequency shift keying) using two audio tones (1200 and 2200 Hz). The old teletype terms mark (1) and space (0) are commonly used, with the low tone for the mark and the high tone for the space. The VHF data rate is a blazing 1200 Baud (roughly 1,000 words per minute). Don't laugh, but that's fast enough to move text-based emails or small files and I certainly can't type or read that fast!

Packet radio provides 100% error free copy so you'll know if the other side has got the message or not. You receive and decode the signal or you don't. Amateurs used packet radio, before the modern Internet, to move text-based emails and other data around the world and had direct texting (keyboarding) chats between stations. Today, it's still alive and kicking, along with its APRS super packet variant.

Bob Bruninga, WB4APR, a packet radio pioneer, combined the then new GPS technology (late 1980s) with packet radio, mixed in graphics and maps, and created "APRS". It does everything that packet radio could and can do, but with GPS you can track and be tracked by others, use maps to display other APRS stations, use graphics to display colours and shapes, send text emails or SMS messages, transmit weather station info, etc., via radio alone, or you can also use the Internet, or cell service, if available. It's used in Search and Rescue, onboard the International Space Station (ISS) and for public services events. APRS was essential at the Atlanta summer Olympics (1996) to track ground events and align

airborne cameras with those events. The list is endless. Bob is now a senior research engineer at the US Naval Academy (see www.aprs.org/).

COMPUTER SOFTWARE

To decode APRS or packet radio signals (VHF/HF), download the free UZ7HO SC (soundcard) MODEM and help files from my website.

Installation EXE: <http://tinyurl.com/7z5372m>
PDF help: <http://tinyurl.com/7vg6lfx>

"MODEM" is the acronym for MODulator-DEModulator and your Internet DSL box is a MODEM. It converts information into a binary data transmission stream, and converts a received binary data stream back to information, to allow communication between you and the Internet. Back in the day, Amateurs bought hardware MODEMs called TNCs (Terminal Node Controllers) to go with their very expensive computers and built a global packet radio Amateur Radio network, or an Internet.

THE UZ7HO SC (SOUNDCARD) MODEM

Andrei Kopanchuk, UZ7HO, wrote his program as a direct replacement for the older AGW Packet Engine MODEM, written by George Rossopoylos, SV2AGW. It's easier for novices to set up and use, especially when operating HF APRS or packet radio. For some reason, the HF tone pairs were never standardized, as they are for VHF, so there's confusion about how to set the correct HF dial frequency. The UZ7HO SC MODEM is still in the early beta (testing) stage, but it's evolving very rapidly.

VHF,UHF HF ANTENNAS



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LET'S DSP SOMETHING!

Download, install and run the UZ7HO SC MODEM program. The PDF help file is a must read, and explains how to properly configure the SC MODEM, so I'll only give you a quick VHF and HF APRS setup.

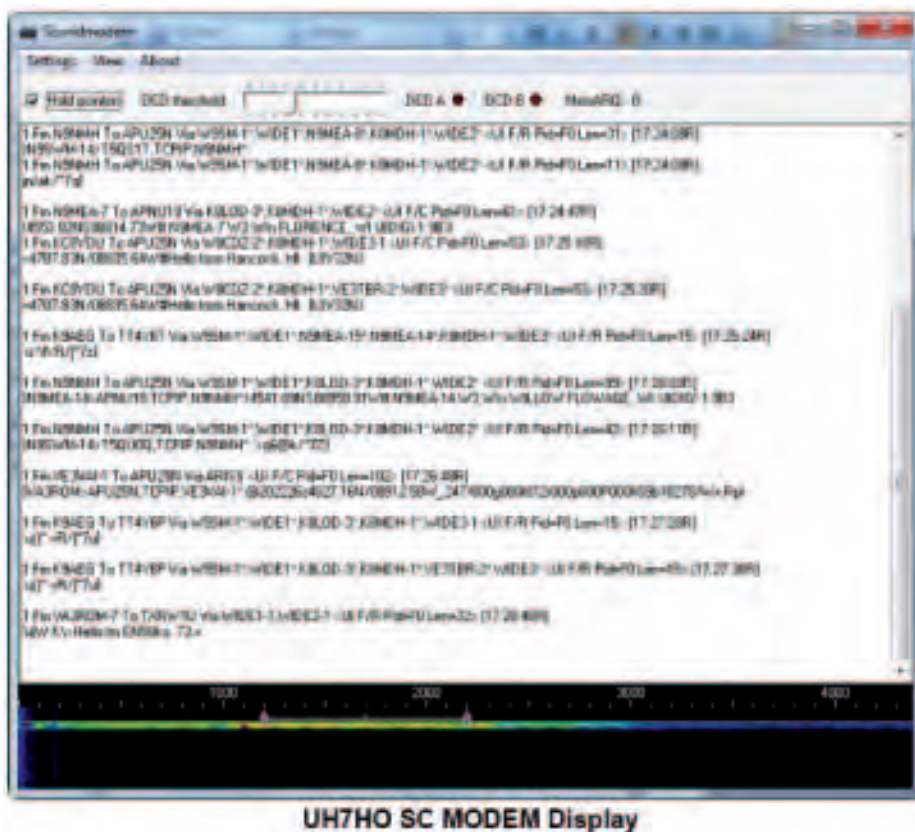
I've installed and configured the program on several computers and versions of Windows, with no major problems.

Tune your VHF receiver to 144.390 MHz; adjust the squelch and volume as you would for voice monitoring; plug one end of an audio patch cord into the speaker or AF (tape or fixed level audio) out jack and the other end into your computer's line in (for desktops) or microphone in (for laptops/netbooks).

USING THE SC MODEM

Assuming that you've already read the PDF help file, set up is a breeze.

1. If you have more than one soundcard, use the Settings|Devices menu and pick the soundcard that you've connected to your audio patch cord. Leave the other settings at their defaults. Click Okay.
2. To select the proper Baud rate, use the Settings|Modems menu and set channel A to 1200 Baud, by using the drop down data box. You should see the waterfall pointers move and sit on 1200 and 2200 Hz (1000 Hz shift). The standard tones for VHF packet.
3. For HF, you'd select 300 Baud, and the pointers would move and sit on 1600 and 1800 Hz (200 Hz shift). The standard tones for HF packet.
4. Click on the Hold pointers checkbox so you don't accidentally move off frequency.
5. From the View menu, you can uncheck the Second Waterfall menu option, to unclutter the display as we are only monitoring one signal source.



Depending on what soundcard input you use, adjust the levels so that you aren't over-driving the MODEM program. If the level is too high, the waterfall signal traces will be bright red. If you've done everything right, and you have APRS activity, you should see the decoded radio packets displayed in the white text window. Congratulations, you're decoding APRS!

If you can't decode anything, check for a bad audio patch cord (use an ohmmeter). Ensure that you're plugged into the right computer input and have selected it as the default recording device, via the Windows soundcard control panel. Turn up the radio volume, a bit more, and see if this helps. Reread the PDF help file.

If you don't have any local VHF APRS activity, try one of the HF frequencies (<http://net14.org.uk>). Remember to select 300 Baud for the data rate (channel A). The default AFSK tones are called the Kam (1600/1800) pair and it has become the *de facto* standard for listing HF APRS and packet radio dial frequencies. Other pairs used are: PK-232 (2110/2310), TM-1 (1100/1300) and AGW PE (2100/2300). These ones require you to add or subtract from the listed dial frequency to correctly centre your mark/space signals.

However, with the new SC MODEM you can just slide the tone pointers up and down the waterfall display. You can see where any APRS or packet radio activity is and reposition the pointers, without changing your radio's dial frequency! In addition, this method allows you to use whatever tone pairs work best with your radio's filters. For those who are already familiar with PSK, you'll wonder why it took so long to have packet radio waterfall tuning!

MY FINAL

To transmit digital signals, you'll need to make or buy a soundcard interface. There is an acoustic coupling method but it's mainly for emergency use when other options aren't available.

There are several types of interfaces on many websites that you can build. If you have the parts on hand, then by all means build one!

I'll cover interfaces and more in the next column. Please email any questions, comments, critiques or suggestions to <va3rom@rac.ca>.

73, Robert, VA3ROM



Visit the RAC website (www.rac.ca) for a new full colour e-version of TCA!

SHARP-2: THE SHAFTESBURY HIGH ALTITUDE ROBOTICS PROJECT

Robert Striemer, VE4SHS
Teacher – Shaftesbury High School

The Shaftesbury High Altitude Robotics Project (SHARP) is an ongoing engineering club at Shaftesbury High School in Winnipeg, Manitoba. For the past three years students have been learning about electronics and Amateur Radio in the context of building payloads that fly on high altitude weather balloons (HABs).

SHARP-1 flew in October 2010. The balloon carried a simple payload consisting of a Byonics MT-8000 (www.byonics.com/mt-8000) APRS (automatic packet reporting system) transmitter (144.390 MHz) connected to a Garmin 18x GPS sensor, a battery pack and a flight termination circuit. There was also a digital camera shooting video in a horizontal orientation.

The goal of SHARP-1 was to take pictures of the Earth from the edge of space. The students succeeded in building, launching, tracking and recovering SHARP-1. The experiences provided by SHARP-1 were unforgettable (see page 50 of the January-February 2011 issue of TCA).

Planning for the more ambitious SHARP-2 mission started in January 2011. Shaftesbury students launched SHARP-2 on October 28, 2011 from the par 3 golf course at Elkhorn resort in Wasagaming, Manitoba. The resort provided us with a great place to stay and WiFi which allowed some Internet savvy students to

blog, tweet, FaceBook and update the SHARP website (<http://shsballoonproject.pbworks.com>) as pre-launch activities proceeded.

The APRS beacon in SHARP-2 was started well before launch, but because the transmitter was on the ground and not near a repeater, SHARP-2 could not be “seen or heard” by Amateurs until it actually achieved flight. Once the balloon was airborne this was not a problem.

In fact, SHARP-2 packets were received by Bruce Coates, VE5BNC, in Saskatoon, Saskatchewan, over 500 kilometres away. SHARP-2 (VE4SHS-9) latitude, longitude,

Figure 1: Launch Countdown



altitude and airspeed were monitored by many Amateurs in Manitoba and parents of the students via the website <aprs.fi> as shown on the left.

There were only two Radio Amateurs at the launch: a Grade 10 student (VE4NIR) and myself (VE4SHS). We lose certified students each year as they graduate from Shaftesbury. Therefore, one aspect of SHARP is to help students in becoming certified Amateur Radio operators. Some of our grads go on to study engineering at university and so we had some former Shaftesbury students tracking the flight from the University of Manitoba Amateur Radio Society's (UMARS) satellite tracking station.

The flight track prediction on October 28 for SHARP-2 was for a short flight of about 100 kilometres with a burst at about 120,000 feet near Plumas, Manitoba and a descent to a landing between Gladstone and Lake Manitoba, near highway 16, our route home to Winnipeg. The flight duration was expected to be between



Figure 2: The Flight Path (aprs.fi)

<h2 style="text-align: center;">THE CANADIAN AMATEUR RADIO BASIC QUALIFICATION STUDY GUIDE</h2> <p style="text-align: center;">Canada's Most Widely Used Amateur Radio Study Guide</p>	<h2 style="text-align: center;">NOW AVAILABLE! UNLIMITED ACCESS TO OUR ONLINE STUDENT SUCCESS PAGES LEARNING AID</h2>
<ul style="list-style-type: none"> • 8th Edition/2nd Printing – Revised and Updated to 2011 • Includes unlimited Access to our acclaimed Student Success Pages online learning support! • Updated with most recent band allocations and Canadian Band Plans • Lie Flat binding for convenient classroom use • 320 8.5" by 11" pages; 17 Chapters and 3 Appendices • Orders Shipped next business day 	<p>For students who wish to study both the Basic and Advanced Qualifications on their own, or using another publisher's material, we now offer <i>unlimited</i> time access to the Student Success Pages on our web site without the purchase of our Basic Qualification Study Guide!</p>
<p style="text-align: center;">Only \$44.95 + Shipping and Taxes Instructors' Guide CD-ROM available: \$13.99 + tax</p>	<p style="text-align: center;">Only \$14 + tax</p>
<p style="text-align: center;">Club Discounts Available – See our web site for details! Special Store/Dealer Pricing on our web site.</p>	<p>The Student Success Pages include:</p> <ul style="list-style-type: none"> • Interactive topic-specific questionnaires, based on the Industry Canada Question Bank • Sample random examinations of 25, 50, 75 or full-length 100 questions • Ask The Professor analysis of all mathematical questions. If you don't know the answer, see how we would approach the question! • reformatted .pdf versions of both the Basic and Advanced IC Question Banks sorted by topic • IC documents related to the Amateur service available for .pdf format download
<p style="text-align: center;">COAX Publications Publications for the Radio Amateur</p>	<p style="text-align: center;">Order From Our Secure Web Site: http://www.coaxpublications.ca or e-mail: coaxpublications@iliffe.ca</p>

3.0 and 3.5 hours. The actual flight path was pretty close to the predicted path.

Whereas SHARP-1 used a 1,500 gram balloon, SHARP-2 used a larger 3,000 gram balloon. We underestimated how long it would take to fill the larger balloon and our pre-launch procedures were upset. The SHARP-2 payload included a Geiger counter, two cameras, a SPOT 2 satellite messenger, two temperature sensors providing precise temperatures inside and outside the payload, and two chemistry experiments and a biology experiment, in addition to the cut-down circuit and the transmitter and GPS.



Figure 3: The Science and Photo Modules

The electronics needed to be turned on in sequence relative to the predicted end of the flight so as not to prematurely drain the batteries and fill the memory cards. There were several mistakes made by our young crew. For example, a Grade 9 student turned off the SPOT Tracker before the launch. As a result, there was no backup to the APRS radio for locating the payload on the ground. Fortunately, backup was not needed.

Now that we have the payload back at school, much work must still be done. The chemistry students are completing their chemical analysis of the samples that were returned and the biologists are sprouting seeds looking for the effects of the near space environment. The temperature data reveals the structure of the atmosphere. A W-shaped graph was obtained showing clearly how atmospheric temperature drops as the balloon ascends in the troposphere, then rises as it ascends in the stratosphere.

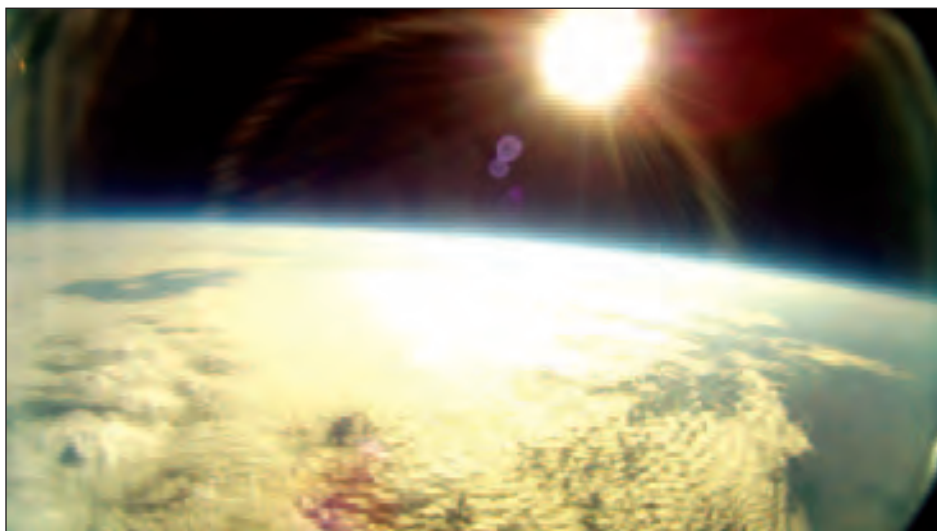


Figure 4: Sunny Manitoba from 126,000 feet

At the highest altitude (over 126,000 feet), the temperature was about +6°C or about 5°C warmer than the temperature at Elkhorn Resort at launch.

Once the balloon burst, our payload began its 38.6 kilometre descent and the temperature readings again fall and then reverse one more time upon entering the troposphere.

On October 28, 2011 we determined that the tropopause was at an altitude of 41,000 feet (12.5 kilometres).

The radiation experiment did not go as well. We are still not sure but the Geiger counter may have been damaged by the force of the burst. However, we should be able to retrieve the radiation counts from our video as it recorded each count as an audible click. Students will count the clicks for each minute of the two-hour video to obtain the background radiation at a given altitude. We may also be able to determine if the failure of the Geiger counter coincided with the burst.

SHARP-2 provided some adventure and surprises. Just prior to the burst, the balloon had all but stopped its ascent. It refused to climb higher than 126,600 feet. SHARP-2 had become neutrally buoyant and its airspeed was down to about 20 kilometres/hour. This point was reached about six kilometres southwest of

Gladstone. The crew suspended the chase to watch and wait for the burst.

We observed SHARP-2 drift slowly overhead. We watched the small white disk of the now enormous balloon from



Figure 5: SHARP-2 Recovered

a distance of over 40 kilometres for about 20 minutes before getting back on the road. Our school principal, who stayed behind, actually saw the balloon burst. We have no idea why the balloon stopped ascending, but it certainly added some extra excitement to the flight.

The shock of the burst caused the communications system to shut down. We lost contact with SHARP-2 for about 10 minutes while the payload tumbled from space. Then, to our great relief, the transmitter restarted and we were again getting position reports. The payload made a very rapid descent and a parachute landing. The recovery was made in a farmer's field just like SHARP-1. By late October the farmers in southern Manitoba have groomed their fields in preparation for spring planting. We raced to MacGregor and located our parachute and payload a few kilometres southeast of the town in a bare field.

Thanks to RAC and the local Amateurs in Manitoba, we have received invaluable support for our projects. We hope to increase our profile and thereby involve more schools in Amateur Radio through HABs, radio controlled aircraft, Amateur Radio Direction Finding (ARDF) and satellite communications.

If you have any suggestions for experiments in radio communications or other science that might be included in future SHARP flights, please contact me at <rstriemer@pembinatrails.ca>.

Night flights are a possibility.

– 73, Robert Strierner, VE4SHS

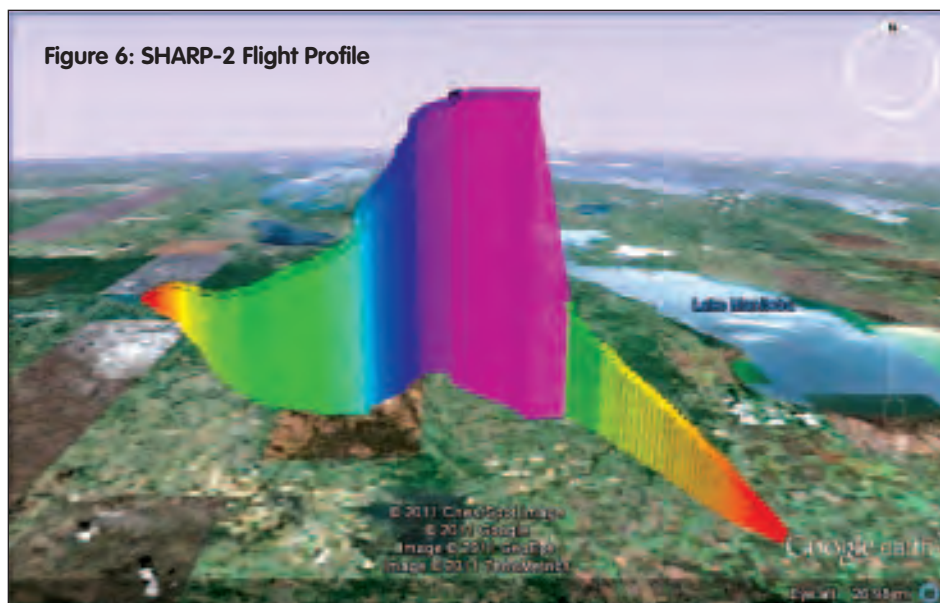


Figure 6: SHARP-2 Flight Profile

QUA — A TOPICAL DIGEST

DROITWICH 198 KHZ TX TO CLOSE DOWN?

A not very accurate story in *The Guardian* says that the famous high power BBC transmitter on 198 kHz will have to be closed down because the tubes used in the final stage are no longer manufactured and there are few spares. The BBC is quoted as saying it would cost millions of pounds to replace the whole transmitter.

In recent years, Droitwich has been invaluable for special BBC Radio 4 programs like, for example cricket Test Match commentaries, which run for long periods for several days. During WWII it was the main vehicle for the coded messages sent to resistance movements in the countries occupied by Germany (but it is said that some of the messages were actually generated by German agents in Britain, to serve *their* purpose!). The “long wave” band, with very high power, was the most reliable means of broadcast signals.

Droitwich was held to very strict frequency accuracy and stability, and 200 kHz was a very useful frequency for use as the basic frequency for a frequency meter. There was some concern in Amateur Radio circles when the frequency was changed from the original 200 kHz to 198 kHz to accommodate the change to 9 kHz channel spacing in Europe.

THE RIFE MACHINE

Following up on the Droitwich story, I came across a reference to Dr Royal Rife and his inventions, which included an electronic device with “one million healing frequencies (HZ)” [sic, I must add in self-defence]. I am a sucker for such threads and had never heard of the Rife Machine, which was invented in the 1930s and resuscitated decades later. If you are curious and have the time, do a Google on “Rife Machine” and take it from there.

RG-6U

There is lots of support for the use of RG6-U cable. K9UWA says he has been using Garden Variety RG6 on his 160 array for well over 20 years. He tested a single run of it with a pair of Heathkit dummy loads. The test piece of cable was 10 feet long with F connectors to F-UHF adapters. Brick on the key on the amp until the dummy loads started to

smoke. Amp off and grabbed the coax. No heating observed in the coax or the F connectors.

He says:

“Antenna system here is what you would call a K8UR version of a 4-square array. Each feedline is 3/4 wavelength electrical length of plain Garden Variety RG-6. It uses F connectors crimped at the Phasing Box end with adapters to PL-259 to get into the box. The box and all is inside an enclosure so weather isn’t a consideration inside that box. The antenna end of these feedlines is just pigtailed out with added copper wire to the shield side. Connections to the antenna wires are done with Wire Nuts. I do put NoAlox inside the wire nuts before they are screwed onto the connections. I live in Northern Indiana in what is often referred to as ‘The Black Hole’.

I hold the first all 40 zones on 160 award issued from the USA. My present 160 metre DXCC total is 306. I too would nearly kill for an additional 1/4 dB of receive ability or transmit ability on 160.”

USE OF PREAMPLIFIERS

G3NOQ considers that preamps with a gain of more than about 6 dB can cause problems so they need careful consideration. He says:

“It’s interesting that an attenuator leaves the dynamic range unchanged while shifting it upwards in signal strength, but a pre-amplifier reduces the dynamic range because it moves the IP3 ceiling down by an amount equal to the gain of the preamplifier, while the noise floor reduces but not by so much, if the preamplifier has a non-zero noise figure.”

HAMCALC

For those who are not on the immense mailing list of George, VE3ERP, I pass on this message that came in from Mark, VA2MKE, George’s stepson.

“George has asked me to send an email on his behalf as he is going to be out of the house for a few weeks. This is in reference to the program HAMCALC that he has been working on for a number of years now... He asked me to send it to everyone in his address book. George is officially retiring from working on HAMCALC anymore as he is now unable to continue devoting the time needed to



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the program. He is doing well and is in good spirits but he feels it is finally time to hang up the keyboard and step back from this ongoing project that has kept him occupied for many years. To all of you who have helped and supported him in the development of the program over the years, many thanks to you. This email address (ve3erp@rogers.com) will still be active and from time to time George will still be checking his emails.”

I (VE7BS) have been a “subscriber” to HAMCALC for at least 15 years, during which time George provided hundreds of Amateur Radio oriented programs and updates or revisions to them – in the early years written in BASIC. It was a great service and must have consumed a lot of time. But everything has to come to an end and maybe someone will take up the cudgel.

Thanks George. Enjoy your “retirement”.

ARISSAT-1

In the September-October 2011 issue of *Break-In*, ZL2BX gives a nice summary of the features of the latest Amateur Radio satellite, which was launched in August by two members of the Russian crew of the International Space Station (ISS). It was thrown out and is slowly drifting ahead of the ISS. The purpose is: “To promote Science, Technology, Engineering and Mathematics (STEM) around the world.”

There is a 70cm to 2m transponder and a 2m FM downlink transmitting prerecorded messages, voice announcements of satellite operational parameters and slow scan TV. A separate 2m channel transmits operating parameters in CW and a BPSK-100 data stream. Having low battery capacity, ARISsat-1 switches to a “low power” mode when in eclipse, transmitting for 40 seconds every 2 minutes. When the battery has charged enough, the switch is made back to continuous “high power”. The 70cm uplink antenna was damaged while passing through the airlock so you

need some power and antenna gain on your end, but it works.

The 145.950 MHz FM channel can be received easily and cycles through several activities. There are greetings from children in 15 languages, ending with a "secret word"; sending it to AMSAT brings a certificate. There is a short recording of Yuri Gagarin talking to ground control during the first manned space mission. A computer-generated voice sends data on temperatures, battery voltage and current values. The end sequence is an SSTV image from each of the four cameras. The BPSK-100 telemetry channel 145.920 MHz also sends a CW carrier 1 kHz lower.

Using software available from AMSAT at <www.amsat.org>, the telemetry can be placed close to the centre of the passband by adjusting the CW tone to 500 Hz; the software can also decode the CW. If you select "Passes" on the title bar of the AMSAT website and enter your location, you can see which times are the best for you to listen.

INTRUDERS

ZL1GWE (john.martin@nz1.ibm.com) is the Monitoring Service Coordinator for NZART. He says the HF bands have been inundated with OTHR signals.

A Chinese system spreads up to 7020 kHz, North Korean CODAR is (it may be clear by the time you see this) on 10140-10170 daily. If you hear a 50-pulses-per-sec signal on 21 MHz, it is the Australian Jindalese Operational Radar Network.

FOR YOUR INFORMATION

I get lots of help from readers in finding things that I was not aware of. This short tip came in while I was preparing the column and I pass it on without comment for your enjoyment. The message said: "When I saw this <http://sugru.com/>... I thought of you and your TCA column. It turns out you can homebrew your own – <http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/>"

SOCIETY FOR THE PRESERVATION OF ANTIQUE RADIO IN CANADA

The Society for the Preservation of Antique Radio in Canada (SPARC) maintains a museum in Coquitlam, British Columbia. The Fall 2011 issue of their newsletter has a detailed description of the procedure for rebuilding "Aerovox" type paper capacitors (extracting the innards of the

old waxed cardboard component and hiding a modern capacitor in the cylinder). It is a "true amateur" effort, with a "capacitor cooking oven" made by inserting a "Campbell Soup sized" steel can into a "Habitant Soup sized" one (the oven sits on a controllably hot surface and is used for melting the wax). By the way, have you noticed how strong the steel is on Habitant cans? It is a lot stronger than the beer cans we used to solder together to produce vertical antenna elements.

SPARC's website <www3.telus.net/radiomuseum/projects/index.html> has lots of model-specific information on restoring and repairing old radios (not written by the same author as the capacitor rebuild article) and much more; and it mentions that most past issues of the newsletter are available online.

Coquitlam is a suburb of Vancouver and the museum is open on Sundays. The museum's home page is <www3.telus.net/radiomuseum> and their email address is <radiomuseum@telus.net>; for \$20 a year you can support the effort, it is a registered charity. The museum is on the grounds of the Riverview Hospital. Take exit 44 from Highway 1 onto the Lougheed Highway or from Coquitlam Centre, travel South on the Lougheed, turn on to the Grounds at the Colony Farm Road traffic light. Follow Holly Drive and then turn up the hill at Oak Crescent.

EARLY DAYS OF TELEGRAPH

James Maxwell, W6CF, long ago gave me a wonderful selection of articles from American periodicals of the 19th and early 20th century. Among them is one from the January 1862 issue of *Harper's Magazine*. In the winter of 1837-38, the author, James Wynne, was present at a demonstration by Samuel F.B. Morse in Washington DC of the newly invented telegraph. The apparatus included two coils of cotton insulated wire each five miles long, a battery, and the recording instrument for which Morse was seeking a patent. He was bringing his device to the attention of members of the two Houses of Congress to get an appropriation of funds for the construction of an actual practical system connecting Baltimore and Washington DC. Although the demo was successful, many considered the whole project a dream; but the committee members present produced a favourable report, and in the course of time (five years!) the House of Representatives, by a vote of 89-83 authorized an

appropriation of \$30,000. Many members were nervous of being recorded as in favour of such a scheme, and one proposed "that one half of the appropriation should be given to try mesmeric experiments" (electricity, magnetism and mesmerism were regarded by the lay public as realms of near magic).

John Quincy Adams was against the whole idea, disliking Morse because of a dispute many years before about the display of paintings in the Capitol (Morse was an accomplished artist). Adams later came to respect Morse and is quoted as saying: "I had rather be a Fulton or a Morse than a hundred Presidents!" Having been approved by the House, the Bill still had to pass through the Senate, and on the last day of the session the Bill was one of 119 still on the Order Paper, and Morse, disappointed and tired, left the spectators' gallery prepared to return to New York. But in the morning, at the breakfast table, he was greeted by Annie Ellsworth, daughter of the Commissioner of Patents, with the news that the bill had passed, the very last one acted upon. (Another account, by Lossing in *Scribner's* in March 1883, says it was the last Bill but one).

That is how Annie Ellsworth became the first person to send a formal message, "What Hath God Wrought" over the system, for Morse had promised:

"For being the first bearer of this news, you shall send over the telegraph the first message it conveys."

The original plan was to lay the wires between the two cities enclosed in lead pipes, but this was abandoned in favour of wires on poles, and the project was completed in time to cover the Democratic Convention, a spectacular PR success.

The *Harper's* article goes on to explain the early difficulties encountered in getting enough revenue to pay for the maintenance of the system, in getting assent to a telegraph monopoly, in getting a patent in the UK, Morse's friendship with Humboldt, who was also an artist, his relationship with kings, ministers and diplomats.

A bit off topic? I find it interesting that some of the things we take for granted almost didn't happen, and that if you invent a new mousetrap the world doesn't necessarily beat a path to your door.



QUEBEC YOUTH MASTERS ISS CONTACT

Maurice-André Vigneault, VE3VIG

Vanessa Leblond-Drolet is a 14 year-old, Third Year High School student in Thetford Mines, Québec. While visiting with her father at the Kennedy Space Center in Florida, she inquired about the ARISS program, gathering information for her secret project that only her father and her teacher at the A.S. Johnson Memorial High School knew about. For six months, she had been working on a project to have her school complete an Amateur Radio contact with the astronauts aboard the International Space Station.

She obtained her Amateur Radio certificate and was granted the VA2VDL call sign. She contacted me via email and asked about the requirements for applying for an ARISS contact. I sent her an application form and instructions and directed her to the ARISS website for additional information.

We exchanged several emails regarding equipment and procedures and I helped her to complete her application. Vanessa is a Francophone but all of her emails were written in English as the school's objective is to do as much work in English as possible.

In July 2011, we finalized her application and I forwarded it to the Education Outreach/ School Selection Committee for the ARISS program, who in turn passed it on to be added to the NASA waiting list.

When her school got on the waiting list, our Operations Team took over and contacted her regarding the state of the equipment, its functionality, orientation, synchronization and operating procedures.

I have to mention that in addition to initiating the project and completing the application, Vanessa managed everything. She coordinated the date and time, the venue and the setup with the help of her school and the implementation of an Educational Proposal (EP), which is required by NASA for all schools. The EP was accomplished mostly through a Space Club.

She recruited the assistance of her father, Luc Drolet, VE2LUQ, and her local Amateur Radio Club for acquiring and building a satellite station. She participated in the testing of the station, which necessitated the guidance of our Ops Team here in Ottawa. In addition, she was also the main operator during the contact, using her own call sign VA2VDL. Quite a lot of responsibility.

Vanessa, VA2VDL and her father Luc, VE2LUQ.

Photo courtesy of Ian Bussi res of the journal *Le Soleil*.



There were questions about the Doppler effect, the satellite elevation, time synchronization, interface of computer and rotor, software for tracking, and so on. Vanessa put it all together in a very confident fashion.

In October, she was advised that the contact would take place in the third week of November. NASA presented a window of opportunity over a few days in order to accommodate the school's schedule. Monday, November 14 was chosen and the contact was set to take place at 10:40 in the morning.

Vanessa alerted the media and invited local dignitaries and she was asked to be interviewed at a local radio station. You can hear the interview by visiting the website that she started for her project at <www.ve2cva.com/vanessa.htm>.

The antennas, main and backup needed to be placed on the roof of the school and the radios installed in the gym where the whole school could attend. A further test of the equipment at the school location also needed to take place on the day before the contact. Vanessa coordinated all these tasks and reported to our Ops Team.

"NA1SS this is VA2VDL..." were the first words heard on the calling frequency and on the gym speakers shortly after 10:40 on November 14 at the A.S. Johnson Memorial High School. A moment of silence and then another call. Finally, astronaut Mike Fossum came in loud and clear. During the 9-minute pass, he answered all of the 12 questions that had been selected in advance.

It was a complete success for the ARISS Group, for the A.S. Johnson Memorial High School, for the Club Radioamateur de la Vall e de l'Amiante VE2CVA, and for the spark that ignited it all and the continued effort provided by Vanessa, VA2VDL.

After the event, Vanessa's teacher, Philip Thivierge, had this to say:

"Well, everything was exceptional! First, I'd like to thank Vanessa and her father for everything they did over the past year!"

It was very impressive to live this unique moment! This is a day that will be remembered forever by all students, staff and other members of the community who were present: City Mayor Luc Berthold, Deputy and Minister Laurent Lessard, Director General of our School Board Marielle Stewart as well as parents and visitors.

When we first received an answer from the astronaut, Vanessa's reaction was something to see! All the students felt like clapping, but they respected the silence that was asked. However, they showed their appreciation at the end when they offered a very well deserved STANDING OVATION to Vanessa!

It's an experience I will never forget! Congratulations to all!"

Vanessa and her team were invited to the Assembl e Nationale in Qu bec City by Mr. Laurent Lessard (Minister of Municipal Affairs, Regions and Land Occupancy) who said during an interview after the contact that Vanessa would be recognized as "Personnalit  de l'Ann e" for the region.

Here is how Vanessa relates the event.

"Everyone in the gym had 'frissons'. This afternoon, I went to see M. Laurent Lessard (Provincial Deputy) to tell him thank you for his presence and he wants us (the students, the principal, M. Thivierge, and the ham radio team) to go to the Quebec Parliament to symbolize this event. He was WOWED by the event!"

Thanks and great appreciation go to Steve, VE3TBD, our Ops Team mentor, for advising and getting everything ready, along with Claude Lacasse, our Sound Engineer.

Vanessa initiated, coordinated, conducted an ARISS contact at the age of 14. This is a first for our ARISS Group. She is the youngest student to have done so.

Congratulations to all!

For complete video and interviews see:

<http://www.ve2cva.com/vanessa.htm>

Maurice-Andr  Vigneault, VE3VIG
AMSAT Canada Delegate
ARISS International Working Group
and School Selection Committee
ve3vig@amsat.org



YL NEWS AND VIEWS

OUR YL PROFILE: KATHY STEELE, VE3GYL



Kathy Steele, VE3GYL,
with her DXCC Award

Hello everyone, and welcome to 2012. Wow another year has gone by so quickly. Now that Christmas and New Year's is over we can start looking forward to spring. Hopefully, it won't be as hot and dry as it was in 2011.

The YL that I am going to write this time has been interested in Amateur Radio since she was a small child and has been active in the hobby now since she was 16. Ladies and gentlemen, I present Kathy Steele, VE3GYL.

Kathy's interest in Amateur Radio began during WWII, thanks to her father who was in the Signal Corps. She has many fond memories of herself as a very young child sitting on her father's lap while he taught her Morse Code.

Her father's best friend was an Amateur Radio operator, Norm, VE3EJQ, and he tried to involve Kathy's dad in the hobby but unfortunately he was not interested. Whenever Kathy and her sister were at Norm's house he would show them the equipment and let them listen to the radio. Kathy's dad passed away when she was 13 years old and she and her sister spent a lot of time with Norm and his family. At that point Norm started taking the girls to Amateur Radio meetings and signed them up to take classes learning Morse Code, Rules and Regulations as well as the workings of radio.

One summer Kathy worked at the VE3CNE station at the Canadian National Exhibition in Toronto. She was thrilled as she got into the exhibition for free and back in the day, free was a very good thing! She also remembers while working at the station that she was put to work building a Heathkit. After her shift, she was able to go and check out the other good things at the exhibition.

In 1976, when Kathy was 16 she obtained her Amateur Class licence. Back then one had to send and receive Morse Code at 10 wpm to pass the exam. In addition, one had to learn how to draw schematics of equipment and explain exactly how everything worked and also had to answer regulation questions verbally to a Department of Communication's Examiner. It was much more difficult to obtain your licence in those days – there were no multiple choice questions.



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As her life became more complicated by schooling, marriage and children, Kathy slowly moved away from Amateur Radio.

It wasn't until 1991 that Kathy decided to take the hobby up again. She saw a vehicle with personalized VE3 licence plates and she spoke to the gentleman. She explained that she had her Amateur Radio licence, but had moved away from the hobby and had decided that it was time for her to start it up again. This gentleman told her where and when the local club meetings were held and he also encouraged her to come to a meeting. Kathy unfortunately did not attend that meeting or any others for many years afterwards, but it did motivate her to contact Industry Canada and reactivate her licence as she had let it lapse by not paying the \$25 annual renewal fee.

Getting back into the hobby was largely due to Bob Morden, VE6RI (formally VE3EIM), who helped Kathy obtain a radio and antenna. He installed the antenna for her and she was ready to go! Bob introduced Kathy to David Steele, VE3UZ, who also helped her greatly in the hobby. In 2006, Kathy and David got married. David is Kathy's personal DX Summit as she often hears him hollering from the radio room, "Hey Kathy, do you want to work a new one?"



Kathy, VE3GYL & David, VE3UZ

Kathy has obtained her Worked all States Award, Worked all Zones Award and a DXCC Certificate. Kathy has worked 235 countries so far and has confirmed 213. The latest was Nepal recently on her first try. Kathy says that was a very exciting time because there was a huge pileup. Of course it helps to have a female voice as it certainly helps getting through those pileups.

Kathy loves working contests and you won't hear her on the radio ragchewing very often. Her favourite modes are RTTY and PSK. She also collects stamps and has tried to frame her WAZ Certificate from the stamps she has collected from each zone. However, she says that she really can't get all of the stamps from each of the zones due to some countries being confirmed on Logbook of the World, but she does try her best. Kathy is also a member of the Canadian Ladies Amateur Radio Association (CLARA).

So ends our story on Kathy.

She told me the best compliment a gal can get – and she got it while working a station.



A gentleman once said to her: "No Offence or anything, but I think there is something wrong with your radio because you sound like a girl!"

Thank you Kathy, for a lovely story.

That's all for this time folks. Thank you for taking the time to read about YLs from Canada and coming soon watch for YLs from around the world. Amateur radio is such a wonderful hobby. We get to meet the most interesting people from far and wide and no two stories are ever the same.

If you have an interesting story you would like to share, please don't be shy, get hold of me by at the address provided above or contact me at <ve5aq@sasktel.net>.



Garry Hammond, VE3XN, checks Kathy's cards for a DXCC endorsement.

GUIDES ON THE AIR

Saturday, February 18 & Sunday, February 19

Guides On The Air (GOTA) is an opportunity for Girl Guides, from Sparks to Guiders, to talk to other members of Girl Guides and Girl Scouts all over the world via Amateur radio. Outside Canada, GOTA is known as Thinking Day on the Air (TDOTA). GOTA and TDOTA are held every year on the third full weekend in February. This is a weekend close to Thinking Day – the day when Girl Guides and Girl Scouts around the world remember the founders of Guiding and Scouting as well as their sisters in the World Association of Girl Guides and Girl Scouts (WAGGGS). GOTA/TDOTA is a fun way to reach out to some WAGGGS sisters during Guide-Scout week!

For additional information on GOTA please visit <www3.ns.sympatico.ca/hfarchibald/hainfo.htm>.

Don't forget to check out the CLARA website at <www.claranet.ca> for more articles, pictures and other interesting articles.

Also don't forget the YL nets, which can also be found on the website. Some of the YLs that I write about are CLARA members and others are not; if you want to become a member, the membership form is also available on the website.

CLARA & FAMILY CONTEST

The CLARA & Family Contest will be held on Tuesday, March 20 and Saturday March 24, 2012.

Time: Log 24 hours only, from Tuesday 1700 UTC to 1700 UTC Wednesday, and on Saturday 1700 UTC to 1700 UTC on Sunday.

Please go to <www.claranet.ca> for more information on rules and suggested frequencies.

So if you have a YL who is not sure if she wants to get into contesting, this is an easy contest to start with. Please join us and have some fun.

One last thing before I sign off, please don't forget about GOTA (Guides on the Air) which will be held on the weekend of February 18 and 19. If you know of any Girl Guides, Brownies or Rangers why not invite them into the shack and let's see if we can get more young ladies interested in Amateur Radio.

For more information on GOTA 2012 please see the box at the top right or visit <www3.ns.sympatico.ca/hfarchibald/> or check out the CLARA website.

33, 73, 88 as the case may be... Val



MEMORY LANE: "MY FIRST TIME..."

Please share your memories by sending your stories to <tcamag@yahoo.ca>

David Phillip Bennett, VE7YJ



A National NC-183D receiver

Photo courtesy of Jay Rusgrove, W1VD

Everything looks like it's set and ready to go. Except for me. My hands and fingers are sweating and shaking. I can feel sweat trickling down my sides. My stomach is so tense it hurts, and it's churning. I have to pee...again.

Back from the bathroom, I turn a knob. That looks like a good place. I turn another knob and hear a relay clank into place. Good. I touch the key and it stutters as my hand shakes. I clamp down on my nerves and press it down.



A Johnson Ranger transmitter

Photo courtesy of Joe Tyburczy, W1GFH

Finished, I turn the last knob back. Uh-oh. Now what.

Thousand-cycle tones assault my ears. What do they mean? Vee ... okay. I understand that. Eee. Seven. Aaa. Zed. Gee. Urk...that's me. Somebody's sending my call letters.

Then there's a Double-U and a Four and then an EI, and a Cee, and finally a Vee, sent in Morse Code. Yes. Whoever it is, is calling me.

It's April 1968, and my very first contact as a ham radio operator. I stumble through the other person's call letters and tell him my name and location and give him a signal report.

He comes back to me with the same information from his end. He's Oscar, from Cape Hatteras. We're using the 15 metre band. We exchange messages for a few minutes and I sign off.

It's done. I'm now officially a ham radio operator. I resume breathing and turn off the receiver and transmitter and slump back in my chair. I wipe my hands on my jeans and drag a handkerchief over my forehead.

Forty-odd years later that contact would be so routine I wouldn't even remember doing it unless there was something unique about it. But in 1968, it was a momentous occasion and I can still feel the butterflies in my stomach from that afternoon so long ago.

Things change. I move around in British Columbia, from Richmond to Surrey to Langley to Mission and back to Langley. The equipment I used in 1968 (a Johnson Ranger transmitter and National NC-183D receiver) is long gone, replaced by a small black box half the size of the receiver (Icom IC-745 transceiver). It both receives and transmits and covers more frequencies (nobody had ever heard of the WARC bands then!).

I've talked to thousands of people in a hundred plus countries over the years. Some have become lifelong friends, and others I never hear of again, including Oscar, whose call letters don't seem to be in use anymore. And, of course, I'm now using VE7YJ instead of VE7AZG.



Photo of the author by his daughter, Amy Bennett.

Some highlights stand out...

Talking to the USSR's long-gone space station *Mir*, an oh-so-brief contact as it passed by high overhead. That short window of opportunity lasted only about 15 minutes, and I think I was the last contact on that pass, after trying every day for the previous two weeks. And talking to a fellow ham in the middle of the Indian Ocean, literally halfway around the world.

After 40 odd years, ham radio is still one of the most important and enjoyable aspects of my life. I'm on the air almost every day and I am the Wednesday net control station for the BC Public Service Net.

This is the current station setup. On the left is a Toshiba laptop; on the right, the speakers for the computer, an MFJ MFJ-948 tuner, Icom IC-745. Beside the transceiver is an indoor-outdoor thermometer atop an old Motorola speaker. Down below you can just see the Yaesu power supply for the radio.



THE RAC AFFILIATED CLUB PROGRAM

Len Morgan, VE9MY
National Affiliated Club Coordinator

The RAC Affiliated Club Program was established to encourage support of Radio Amateurs of Canada by Canadian Amateur Radio Clubs, through the provision of valuable services and benefits by RAC, which enhance the Amateur Radio experience of the Club's members.

Club affiliation is open to the following club categories: Local, Regional, School/Youth Amateur Radio Clubs and Club Councils.

Club requirements for RAC Affiliation are as follows:

- That the Club be incorporated or at least have a club constitution. RAC will periodically ask for the clubs constitution to ensure this requirement is being followed.
- That the club's policies not conflict in any way with those of Radio Amateurs of Canada.
- That 51% of members be certified Amateurs (licensed). This requirement is relaxed for School/Youth Clubs and for Club Councils.
- That a payment of \$25 plus GST/HST is received annually by Radio Amateurs of Canada.

For supporting Radio Amateurs of Canada by club affiliation, RAC provides the following benefits and services:

1) The opportunity to participate in the RAC Liability Insurance Program, which provides liability insurance for club activities such as Field Day, Repeater Installations, Community Events, to name a few. RAC members, who are members of a RAC Affiliated Club, also have liability insurance for their homes and portable operations within Canada at no additional cost to the member. Club equipment insurance is available for RAC Affiliated Clubs at very competitive rates. RAC is currently negotiating travel, home and auto insurance with the same insurance provider and details will be available on the RAC website as soon as they are finalized.

2) A library or school of the club's choice will receive a complimentary copy of TCA magazine while affiliation is active.

3) Affiliated Club's will be recognized periodically in TCA and on the RAC website, with a link to the club's website.

Details of the other benefits and services – such as select discounts at the RAC online store (CafePress), the National QSL Bureau, support for clubs with tower and antenna restrictions, the availability of the VE RAC call signs for RAC contests and events, and access to publications on the RAC website – are all available on the RAC website (www.rac.ca/en/rac/programmes/affiliated-clubs/).

Radio Amateurs of Canada will continue to enhance the benefits and services offered to Affiliated Clubs and changes will be updated on the RAC website. RAC encourages clubs and RAC members to forward any suggestions for benefits and services to the Affiliated Club Coordinator at affiliatedclubs@rac.ca.

It is important that the affiliation application be submitted with each renewal so that the club's information and contact information is up to date. This will ensure that renewal notices are received promptly by the club.

Failure of a club to renew by March 31 will result in the club being placed on an "inactive" status and any benefits and services provided to the club will cease. Clubs will be placed back on "active" status once RAC receives the renewal application and the annual fee (including GST/HST).

The application form can be found at: www.rac.ca/en/rac/programmes/affiliated-clubs/2012-application-form.pdf

A list of currently affiliated clubs can be found at: www.rac.ca/en/rac/programmes/affiliated-clubs/listing/

Complete details of the RAC Liability Insurance Program can be found at: www.rac.ca/en/rac/services/insurance/

Canadian Clubs wishing to have their club information updated on the Canadian Club's webpages should continue to send updates to cdnclubs@gmail.com and **not** to affiliatedclubs@rac.ca.

Due to an oversight, several affiliated clubs were omitted from the list of RAC Affiliated Clubs which was published in "The RAC Report" newsletter in October 2011. The list below includes those clubs omitted plus new applications received up to the time this article was submitted to TCA. They have also been included in the December issue of "The RAC Report".

- Almonte Amateur Radio Club
- Festival City Amateur Radio Club
- Lambton County Radio Club, Inc.
- Moncton Area Amateur Radio Club
- North Central Alberta Amateur Radio Club
- Oakville Amateur Radio Club
- Rose City Amateur Radio Club
- Toronto FM Communication Society
- Vancouver Emergency Community Telecom Organization (VECTOR)
- Victoria Haliburton Amateur Radio Association
- Halifax Amateur Radio Club
- Powell River Amateur Repeater Society
- Calgary Amateur Radio Association
- Maritime Contest Club

Welcome aboard!



PLEASE SUPPORT OUR ADVERTISERS!

We would like to take this opportunity to thank our amazing advertisers for their continued support of The Canadian Amateur magazine, Radio Amateurs of Canada – and, of course, Amateur Radio in Canada and internationally. Many of our advertisers have supported TCA for over 10 years! Please let them know how much you appreciate their contributions by purchasing their products and services – and please tell that you have seen their ads in TCA!

CLUB CORNER

— NEWS FROM AND ABOUT CLUBS

It is difficult to think that we're already into 2012! It seems like only yesterday we were playing with our first radio and we had such a long future ahead of us. While we still have a future, it might not be so long. We should try and enjoy every day as it comes along. I'd like to take this opportunity to welcome the new Amateurs to our fraternity, and trust that they will be mentored as I was during my fledgling years as an Amateur. There is a great movement for more sophisticated electronics these days, with newer and fancier equipment, smaller and more complex radios, but the basics remain the same. Generate some RF, modulate it, and get it out into the "ether". Having someone return your call is a thrill indeed.

There are many Amateur classes going on across the country. I wish the instructors many successes and hope that, once the newly minted Amateurs get set loose, they will be welcomed and mentored into an enjoyable hobby.

One of the things that a number of new Amateurs don't realize is that we, as a group, do assist Civil Power in times of emergency or need. Not only will individuals set up a station at home — which would be primarily used at home — we also do have an opportunity to invest time and effort into creating a somewhat portable station that could be used to assist the general public and emergency services when other forms of communication fail.

As a group, we are distinguished by the ability to operate independent of any support. We can operate efficiently without any supporting infrastructure, such as repeaters and host servers, and we operate point-to-point. We are all familiar with the Amateur with an HT or other small radio pressed against the ear, who has the ability to communicate with other Amateurs or to a central command post. With the reduction in size of other radios, it is now possible to put a complete HF and VHF station into a small box or container which could be deployed to a city park or hilltop. These portable stations fall into the category of "Grab and Go Kits". These kits take many forms and can be very sophisticated or simple depending on their purpose.

Whether they are for a club or emergency response group, just for yourself, to take out to a club event or outing, or to deploy during an emergency or drill, they all must meet similar guidelines. The Halifax (NS) "Reflector" had a good summary of what those guidelines were, written by Bill Elliot, VE1MR. Bill points out that there hasn't been a major natural disaster in many years. He referred to the Halifax Explosion as being perhaps the worst disaster in his area, but there have been wind storms, ice storms and other events since then. His description of what he considers "being ready" includes having all your portable gear equipped with Anderson Powerpole connectors so they may interface with power sources from others. Don't forget that even if you have Andersons on your equipment, they must be the same configuration as the others. You should have a "Go" kit or be able to quickly put together equipment such as a radio, earphones, power supply, antenna and everything else that is needed to make up an operating station.

The most important point that Bill makes is the need for Emergency Measures Organization (EMO) training. All the equipment in the world is worthless if the operator hasn't been trained to use it and also knows how to interface with the procedures used in your area. The procedures differ from place to place, but generally the operator should be able to send and receive messages in the standard format that is being used. They should be familiar with directed net procedure and what net frequencies are in use. The operator should be able to check in and where he/she might be deployed. Should the operator just get to where they "think" they are needed or wait until being directed there by the EMO staff?



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So you can see that there is more to emergency preparedness than simply having a radio and antenna that can be taken to the local Field Day or club radio outing. As part of "being ready", Bill also includes having survival gear and other equipment that will support you in the field. In addition, Bill says that you also have a responsibility to your family. They should be looked after first before you set off with your radios to support others. Having a personal emergency plan is as important as supporting the community emergency plan!

There is a lot of coordination that goes on behind the scenes and all who participate in emergency communications should be aware of all of it. Last, but not least, the radios and other equipment should be in a "ready to operate" state. That doesn't mean that the "they worked on Field Day, they should work now" attitude should be taken, but rather the equipment should be operated often and hard. In an emergency situation a radio might be needed to be on and running for hours — even for days at a time. You should ensure that any equipment that you commit to your "Go Kit" is regularly used and kept in operating condition at all times. After all, you never know when it will be called into action!

Speaking of "infrastructure" and "being ready", the Surrey (BC) ARC, in the recent edition of their newsletter, "Communicator", Gary Skett, VE7AS, contributed a very detailed article on how to complete the standard (RAC/ARRL) Message Form. He detailed all the fields that need to be completed to ensure the proper delivery of the message. This form, the tried and true National Traffic System (NTS) format, has become, at least here in BC, the standard messaging format used by the British Columbia Emergency Program. The good thing about this is that the same format is used whether formatting messages dealing with emergency services or messages for the general public, whether sent on the NTS or not. Gary pointed out that a message form (the paper) need not be used, but rather any message that is formatted in the way the form reads is all that is necessary. A station familiar with the format would be expecting certain things in a certain order, which speeds up both the transmission and the clean copy of the message.

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As noted in the Winnipeg (MB) ARC "Newscaster", the HF bands seem to be regaining some strength including 10 metres. Adam Romanchuk, VE4SN, reported that conditions are improving and that a number of DXpeditions are ongoing: one in Antarctica and the other in the South Pacific. It is heartening to hear the bands becoming very active again, particularly on the higher frequencies which remain quite quiet most of the time. It is only when the sunspots become more prevalent, that 10 metres and other bands become quite useable.

This OM has worked a number of new countries (for me) that although they were not really that distant, they were certainly

less populated so working them, particularly on the higher bands, was a pleasant surprise.

Speaking of sunspot cycles, the reports from NASA and other sources show that while this cycle might not be as high as others, it may be a bit broader which will allow a longer peak and perhaps better HF operating conditions for a longer time. This will in turn allow us to work some of those rare DX stations with minimal equipment and antennas. Great for the mobile and QRP operators!

Thanks to ICOM, the Winnipeg Amateurs have a new D-Star repeater in town. As reported in a picture story in the

club's newsletter, "Newscaster", the UHF repeater was installed, tested and it seems to be working well. It was installed on top of a building in Winnipeg and can be heard over 80 kilometres away. For the Amateurs mobiling through Winnipeg, the repeater is VE4WDR on 444.575.

I think that's everything for this time. I do hope that this winter will be a time for thought when it comes to putting together a "Grab and Go" or other portable kit that will ease your mind and possibly be of assistance should it be needed.

All the best for now.

73, Ralph, VE7OM



JACK BELROSE APPOINTED TO HALL OF FAME

The Board of Trustees of the Canadian Amateur Radio Hall of Fame has appointed John S. (Jack) Belrose, VE2CV/VE3CVV, of Ottawa, Ontario to the Hall of Fame. Jack was nominated to the Hall by Chapter 70, National Capital Region, Ottawa, of the Quarter Century Wireless Association. Jack has had a long and distinguished career as a radio pioneer in Canada, both as a professional and as a Radio Amateur.

Jack's early years were spent in Alberta and British Columbia. He graduated from the University of British Columbia in 1950, in Electrical Engineering, and was admitted to the Degree of Doctor of Philosophy, University of Cambridge, UK, in 1958. He began his career at Defense Research Telecommunications Establishment in 1951, which became the Communications Research Centre in Ottawa. He retired from CRC in 1998 but continues personal research at CRC in computational electromagnetics in antenna and near-field problems.

He was first licensed as a Radio Amateur in Vancouver with the call sign VE7QH. He now holds call signs VE2CV and VE3CVV and is sponsor of the CRC Amateur Radio station VY9CRC and of repeater VE2KPG.

His extensive research in antennas and propagation at CRC led to many applications in Amateur Radio. He has written over 150 papers that have appeared in professional publications and books, and a multitude of articles in *QST*, *QEX*, *RadCom*, *Ham Radio* and *Communications Quarterly*, and in the *ARRL Antenna Compendium* series. Since 1981, Jack has been a Technical Advisor to the American Radio Relay League.

Jack Belrose was a founding member of the Saint Lawrence Valley Repeater Council and continued for many years as the Secretary and Technical



Advisor. The Council has been in regular operation for over 30 years as the coordinator of repeaters in northern New York State, eastern Ontario, and western Quebec. He was one of the founding members (1982) of The Trans Canada Pow Wow Club, acting as a control station until 2007 for the Saturday midnight sessions. The Club meets nightly, on LSB, October to April, on 3750 kHz, beginning at local midnight ET.

Jack is a member of Radio Amateurs of Canada and several related radio societies. He is a Fellow, a member of the Board of Directors, and Technical Editor of The Proceedings of The Radio Club of America.

He was awarded the RCA Armstrong Medal for his contributions to the art and science of communications. He is a member of the Quarter Century Wireless Association and a member of Chapter 70 Ottawa.

He gave a presentation on Electrically Small Antennas to the QCWA International Convention in 2004, as well as presentations to his own Chapter.

Jack is also a member and strong supporter of The Antique Wireless Association, a global society dedicated to the history of wireless and radio communication.

Radio Amateurs of Canada congratulates Jack Belrose on his appointment to the Canadian Amateur Radio Hall of Fame.

The award will be presented to him on February 21, 2012 at the lunch meeting of QCWA Chapter 70 in Ottawa.

*Ed Frazer, VE7EF
Chair, Board of Trustees
Canadian Amateur Radio Hall of Fame
Radio Amateurs of Canada*

Central Arizona DX Association Special Event Operation – K7UGA

The Central Arizona DX Association is very pleased to announce our Special Event Operation in celebration of the Arizona Centennial during the week of February 13-19. We will be using the call sign of the late Senior Senator, and Arizona native son, Barry M. Goldwater, K7UGA. Individual CADXA members will be operating from their home stations located throughout Arizona during that week using the call K7UGA. However, only special operating locations from Tucson, Prescott and Phoenix will be on the air celebrating the 100th anniversary on Tuesday, February 14.

Operations will be on all Amateur Bands (160 – 2 metres); and will be using SSB, CW, RTTY, PSK31 and Satellite modes.

This CADXA Special Event Operation has proudly received recognition from the 2012 Arizona Centennial Foundation as a sanctioned "Special Event"; and from the Arizona Historical Advisory Commission as an official "Centennial Legacy Project".

All QSL requests go to Bob Davies, K7BHM (QRZ.com) with an SASE.

For more details, please go to our website at <www.cadxa.org>.

2012 Orlando HamCation® Amateur Radio and Computer Show

The 66th annual Orlando HamCation® Amateur Radio and Computer Show will take place on February 10-12 at the Central Florida Fairgrounds, presented by the Orlando Amateur Radio Club.

HamCation® is the premier Ham Radio event in the Southeastern US, annually bringing together vendors of radio equipment, Amateur Radio organizations and over 10,000 Amateurs from around the world in a three-day gathering.

HamCation® 2012 will feature over 150 commercial vendor booths in the main Fairgrounds building offering a wide variety of radios, antennas, accessories, test equipment, tools, software and books. There will also be over 400 swap (private) vendors in the other buildings and a large tailgating (outdoor vendor) area offering a wide variety of radio and computer hardware, software, parts and accessories.

The show will also feature a series of forums on various topics of interest, hourly raffles, testing sessions for those wishing to enter the hobby. There will be RV camping, a "Special Event" guest Amateur station, and Ladies' Programs. This year's show is also honored to host the ARRL's Northern Florida Section Convention.

Venue Address: Central Florida Fairgrounds, 4603 West Colonial Drive (SR-50), Orlando FL 32808.

PUBLIC SERVICE / ARES

The Yukon Amateur Radio Association (YARA) have displayed how cooperating with the local EMO and city authorities can bring about great things. For a decade a simmering idea finally comes to fruition all because of the persistence and cooperation of club members and the local authorities, who persevered for a good cause in the community.

And speaking of good causes – a number of New Brunswick Amateur Radio operators have proven their worth by giving back to the community in this annual fundraiser for the Canadian Breast Cancer Foundation. There is no better way to polish up on one's communication skills than to volunteer for a good cause. What will it be next? Please consider doing your share in giving back to the community.

I can certainly attest to Paul Giffin, VA7MPG's observations and facts when it comes to communication problems, either during exercises and or real disasters. When I was EC for the city of Calgary, during one of our simulated exercises the Commander could not even access the EOC via his cellphone – and this was during a small scale exercise! You can only imagine what happens during the "big one". Again – Amateur Radio to the rescue and as Paul said, "...yes you will be there, BUT". Constant training and participating in exercises will definitely shape you for being part of the solution.

Ken Oelke, VE6AFO – RAC National Emergency Coordinator (NEC)



Doug Mercer, VO1DTM
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Goulds NL A1S 1H2
T. 709-364-4741
E: vo1dtm@rac.ca

In the new station we have a Hy-Gain TH11DX, a 64-foot Trylon Tower, a Yaesu FT-767GX and a DCU Computer controller Hy-Gain Tail twister rotor.

The SWR on the antenna at 14.200 is 1:1 – wow! The first contact was made by VY1RM to Lithuania.

So where did we get the tower...

A representative of the Yukon Government called Ron, VY1RM and said they had a property that needed to be cleared immediately and that YARA could have the tower sections: four 48-foot Delhi towers and one brand new Trylon 64, with legs, a climb guard and also a fall arrest.

Quick as a bunny we set up a work party and collected all of the material and stored it at a YARA site. It was quite some time before all the plans came into fruition at the Fire Hall but everything has been now completed.

The City of Whitehorse donated a 13 cubic foot concrete tower base and YARA supplied the tower. A brand new rotor cable was bought at Ham Radio Outlet in Anaheim, California and Jeff, VY1JN, brought it back in his suitcase – we were unable to find any cable in Canada.

Jeff, VY1JS and Don, VY1DI, assisted with 250 feet of LMR-400 RF cable. Nick, a City of Whitehorse firefighter, and Stephen, a computer specialist with the City, assisted VY1RM in pulling the cable 200 feet to the Fire Hall training room where our gear was set up.

YARA would like to thank the following individuals for their assistance with the project: Blaine Rapp, City of Whitehorse EMO Coordinator; Clive Sparks, City of Whitehorse Fire Chief; and Vern Marshall, Yukon Government Wild Land Fire Management Supervisor.

Thanks most of all to the members of YARA, who worked hard in cold weather to finish the project. Special Thanks to Scott, VY1SW and Malcolm, VY1FC, who endured some very cold weather in high winds on a really cold day to get the antenna on the tower.

We hope RAC members will be on the lookout for the big signal from the Yukon VY1WFD. Soon you will be able to call us on node 1500 IRLP. EchoLink (VY1RM) is off the air until we get some new solar panels at the Mount Sima ski site.

YARA FIRE HALL AMATEUR ANTENNA PROJECT

Ron McFadyen, VY1RM
RAC Yukon Assistant
Director

The new Fire Hall Amateur Antenna Project came from an idea stemming back to September 11, 2001 (9/11).

On that fateful day, two Korean Air Jets – both Boeing Model 747-400 series; one a passenger aircraft and the other a freighter aircraft – landed at the City of Whitehorse in the Yukon. Both were nearly out of fuel and the US didn't want them to land in Alaska because they "were transmitting a hijack 'squawk' (a satellite code that can be discreetly set by a pilot to alert authorities on the ground of a hostile takeover)" – quote courtesy of CBC news.

Ron McFadyen, VY1RM, was on his way to the Emergency Measures Organization centre located at the then-Whitehorse International Airport.

Access was denied to the jets and there was an RCMP SWAT Team sniper on the roof with his weapon pointed at the Captain of the passenger 747 jet.

The crew in front of Rescue One with plate VY1WFD: Terry, VY1AK, Tom, VY1TL and Ron, VY1RM.



Photo by Ron, VY1RM

Ron was a witness to all of these events. Thankfully, everything was sorted out without incident.

The Yukon Amateur Radio Association passed Health and Welfare traffic on FM locally for three days during the crisis. YARA also discussed the idea of a secondary City of Whitehorse EMO-YARA station.

This goal was completed this past summer at the brand new Fire Hall Number 2.

The new station was a club effort which was approved by YARA President Scott Williamson, VY1SW. Ron, VY1RM, former YARA Charter President (1976), was the Project Manager.



MUSINGS OF AN EMERGENCY COORDINATOR

Paul Giffin, VA7MPG
Emergency Coordinator
City of Nanaimo, British Columbia

Paul Giffin, VA7MPG, is Emergency Coordinator for the City of Nanaimo, British Columbia and has been licensed as a Ham since 1993. Paul knows of which he speaks having been involved in emergency communications for the last 47 years with ambulance and police services. Paul is President of the Coast Emergency Communications Group and is currently the Assistant Regional Emergency Radio Representative for the Provincial Emergency Program (PEP). Paul resides in Gabriola Island, British Columbia.

The last little while has seen some attention to our part of the world with earthquakes off the west coast of Vancouver Island. This quake was enough to get media attention and to some degree the attention of the public. Initial media reports were not complete and certainly raised the level of concern of the general public.

There always seems to be an issue of communication during a crisis. In my 40+ plus years of being exposed to and involved with emergency communications, I have noted that in every debriefing there is the mention of communications. How it either failed or did not live up to expectations. The failure of the cellular phone system during the recent Stanley Cup events in Vancouver is one such example. In today's world if you turn off cellphones and social media, you can then stand back and watch as things grind to a halt followed by confusion and anger. I mention these items not to make a case for Amateur Radio emergency communication. That case has been made more than enough times already. I only mention them to illustrate how much today's society demands instant information. Communication is critical.

In my travels I have yet to meet an Emergency Coordinator who said:

- 1) I have enough volunteers; or
- 2) I have enough equipment; or
- 3) Everyone that is part of the emergency response system is on the same page.

Over the years I have often heard Amateurs say: "I don't need to join an emergency group; when something happens I'll be there."

Although I rarely say it I often think: yes you will be there, BUT

- 1) Will you have the appropriate training?
- 2) Will you know where to report?
- 3) Will you know what the expectations/ protocols are of the group to whom you are providing the service?

NEW BRUNSWICK AMATEUR RADIO OPERATORS PROVIDE SUPPORT

Amateur Radio operators in New Brunswick once again provided support for this year's Canadian Breast Cancer Foundation CIBC Run for the Cure. Run for the Cure is Canada's largest single day, volunteer-led fundraising event dedicated to raising funds for breast cancer research and education and awareness programs.

In Fredericton the event started and finished at Government House, while in Bathurst the event started and finished at the Promenade Waterfront. Each event consisted of a 5K run and a 1K walk on Sunday, October 2.

The photo at the top right shows Amateurs who took part in the event in Bathurst (from left): Len, VE9LBN, Mitch, VE1MLS, Sue, VE9MLR, Moe, VE9MOE, Alain, VE9ACL, and Francis, VE9FCP – photo by Junior, VE9ZZ.

The next photo shows the Fredericton group which consisted of (clockwise from the left): Jon, VE9JTD, Heath, VE9NHS, Julia Searle (RFTC Director), Frank, VE1VN, Gord, VE9GB, Vern, VE9VS, Dana, VE9DOR, Don (Amateur student), Sterling, VE9SK, Laurie, VE9IBM, and on the extreme right Al, VE1AKT – photo by Evans, KF5DNI.



- 4) Will you be familiar with the local emergency management protocols?
- 5) Will you meet the criteria set out by the local government to even be able to access the appropriate areas?
- 6) Will you remember that you are a radio operator and not someone who makes operational or administrative decisions? Will you remember that you are part of the wheel and not the centre of the wheel?
- 7) How do you respond under stress? Do you even really know?
- 8) Will you know how to operate the equipment?

In essence, you will be part of the problem, not part of the solution.

Time spent with an emergency communication group does not have to be excessive. If you are fortunate enough to have a weekly Net then combine that time with a monthly meeting and it could work out to roughly two hours a month. Of course, Simulated Emergency Exercises would add more time.

In speaking with emergency communication volunteers they say that the more realistic the Simulated Emergency Exercise,

the more they like it. The exercise is a time to learn, both how you will react and what your job is. Some folks say that sitting at home and checking into a Net is nothing compared to attending a realistic simulated exercise and trying to remember everything from the logging process, to setting up the Grab and Go Kit, to the phonetic alphabet. Some even forget their own Grab and Go Kits – you know, things like food, water, medications (if required) and so on.

They soon realize that the statement "if you can't take care of yourself, how you can expect to help others" is a very valid statement. They also realize that they respond differently when under stress. Having been exposed to the stress and being debriefed after an exercise lets people learn they are not alone when their stress reactions kick in. It also provides each person with the opportunity to learn and think about how they did, what they would do differently next time, and how they can improve their performance.

Not every Amateur operator needs to be involved in emergency communications, but we need enough of them to do the job and right now we are sorely lacking.

– continued on page 51

GETTING STARTED ON THE AMATEUR RADIO SATELLITES



Keith Baker, VA3KSF/KB1SF, our new columnist, uses a Kenwood TH-78A dualband HT and a lightweight Arrow Antenna (Model 146/437-10) to make a contact through an AMSAT Amateur Radio satellite from the shores of Lake Huron. When used with a 5 watt, full-duplex handheld in an open location free of foliage, such as a beach or a field, the antenna provides enough uplink and downlink gain to successfully work the FM birds, even on passes close to the horizon. (VA3OGF Photo)

One of the great features of Amateur Radio is that it is really several hobbies rolled into one. If you become bored with one aspect of the hobby, there is always something new and different to try.

For the last 40 years or so, using the fleet of Amateur Radio satellites to communicate has always been one of the more interesting aspects of Amateur Radio. However, if you are new to Amateur satellites (or the "birds" as we satellite operators often call them) it's important to establish a general understanding about how to find and track these modern day wonders *before* you make your first attempts at using them.

My goal in this column will be to provide beginners with a general introduction to the basic concepts of tracking and operating Amateur Radio satellites, to provide an insight into the customs currently in use, and to give you some practical, "hands-on" tips on how you too can get started in this wonderful aspect of Amateur Radio.

In future columns I'll start by using one of the relatively easier-to-operate satellites (AMSAT-Oscar-27, one of our so-called "EZ sats") as an example for you to try out your newfound knowledge.

OVERCOMING THE "FEAR FACTOR"

Indeed, for most of us, the thought of using our own radio equipment to hear or talk through a satellite conjures up a sense of mystery and awe. At the same time, it creates a certain amount of fear – fear of doing something wrong or of not ever being successful no matter how hard we try. In years past, when only one or two Amateur satellites were in orbit, Amateurs had to really work hard to even *hear* one of the OSCARs (Orbiting Satellites Carrying Amateur Radio) as they whizzed overhead.

As of this writing, there are some 20 or so active satellites up there, and that's not even counting the crew of the International Space Station (ISS) who use the Amateur Radio equipment installed aboard that permanent orbiting laboratory. So, it's safe to say your chances of at least hearing one of them (or, if you have a Canadian Basic ticket, actually *communicating* through one or more of them with your current equipment) is far better now than at any time in the recent past. All it takes is a little knowledge and some basic equipment and antennas – some of which you may already have or that you can build for just a few dollars.

So let's get started...

Keith Baker, VA3KSF/KB1SF
377 Bentinck Street, PO Box 33
Corunna, ON N0N 1G0

(Portions of this column were previously published as "Working Your First Amateur Radio Satellite: It's Easier Than You Think" in Monitoring Times magazine, Brasstown, NC 28902.) Thank you MT!

TRACKING THE BIRDS

In order to listen for, or communicate through, an Amateur Radio satellite you first have to find out when it will be within range of your station. Fortunately, most of us now have a computer in our ham shacks with access to the Internet so tracking satellites has become much easier than it used to be.

Today, several satellite-tracking programs are available in shareware form or for purchase, as well as in a variety of different computer formats. What's more, a number of websites related to Amateur satellite operation now have online tracking programs that make rough tracking a snap. But, if you're really serious about satellite tracking, you should also become familiar with how to use sets of orbital data called *Keplerian Elements*.

Known to veteran satellite operators simply as "Keps", these data are derived from observations of each satellite's orbital motion. (Kepler, you may recall, discovered some interesting things about planetary motion back in the 17th century!)

Today, NORAD, the North American Aerospace Defense Command, keeps track of almost everything in Earth orbit.



Mark Kanawati, N4TPY, poses with the full-size engineering mockup of EYESAT, which later became known as AMRAD OSCAR 27 (AO-27) in orbit. (AMSAT Photo)

Periodically, they issue orbital information on non-classified satellites to the USA's National Aeronautics and Space Administration (NASA) for release to the general public. The information is listed by individual catalogue number of the satellite and contains numeric data that describes, in a mathematical way, how the satellite is moving around the Earth.

Without getting into the complex details of orbital mechanics (or Kepler's laws!), suffice it to say this data is what your computer software uses to plot the predicted paths of satellites. That is, once you've loaded your location (latitude and longitude), the current time and the Keplerian element files into your satellite tracking software, the computer then solves the complex orbital math to make a prediction as to where a selected satellite should be at the current (or a future) time.

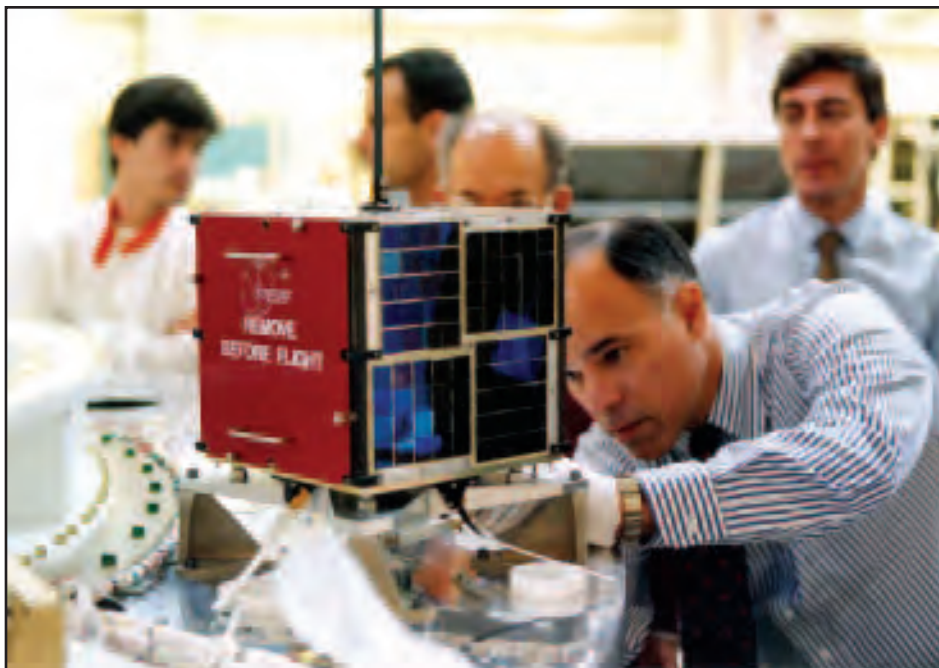
Since they are such a vital ingredient to this part of our hobby (and because they age over time), finding a reliable source for the latest Keplerian Elements for Amateur Radio satellites should be high on your list of things to do as you get started in satellite work. Keps are often listed on many Amateur Radio Internet websites. The AMSAT-North America website lists the latest Keps in a variety of downloadable formats at <www.amsat.org/amsat-new/tools/keps.php>. And, as I said earlier, for the so-called "easy FM birds" like AO-27 and the International Space Station, the AMSAT website even sports an embedded online tracking feature which allows you to simply plug in your latitude and longitude (or your Maidenhead Grid Square) to find out when those satellites of interest will next be in range of your location.

BEACONS

Probably one of the first things you will learn to do – after you find out when a particular satellite will be within range of your station – is to listen for the satellite's beacon. Most satellite beacons consist of one or more transmissions coming from the satellite that will assist you in your search and also tell you other things about the satellite's health and the nature of its transponders.

Satellite beacons operate in many modes, from Morse Code to a variety of digital

The author's wife, Kate Baker, VA3OGF/KB1OGF, makes a contact through an AMSAT satellite from the shores of Lake Huron with her Kenwood TH-78A dualband HT. The extended "rubber duck" (MFJ Model 1717 from MFJ Enterprises) antenna and about 5 watts of uplink power provides just enough gain on the uplink and downlink to briefly work the satellite on near overhead passes. (VA3KSF Photo)



Dino Lorenzini, KC4YMG, performs a "fit check" of the EYESAT engineering model to its Ariane 4 rocket carrying structure while Arianespace officials look on. AO-27 was later successfully launched on September 26, 1993 from Kourou, French Guyana and remains "semi operational" to this day. (AMSAT Photo)

formats, and can usually be found on frequencies immediately above and/or below the satellite's other downlink frequencies. In addition, since most satellite beacons transmit with a fixed amount of output power, they can also serve as a superb reference point for setting up and calibrating your station antennas and other equipment.

Most satellite telemetry signals, which consist primarily of transmissions about the health of the satellite, are also sent to ground controllers by way of the beacon.



What's more, some satellites even provide information regarding their transponder schedules, along with other items of interest to satellite operators, using their beacons. However, in the case of AO-27 and most of our other FM satellites, the single channel downlink is, itself, the beacon.

TRANSPONDERS

Now that you have a reliable way to know when the satellite is within range of your station and you've become familiar with its beacon, you next have to learn how to use its *transponder*. A transponder is the circuit that receives your uplink signal and then retransmits what it hears via its downlink transmitter, much like an FM repeater does. However, unlike a terrestrial FM repeater, which has a specific input and output frequency in the same band, most Amateur satellite transponders receive and then retransmit what they hear on another frequency (or frequencies) on another Amateur band entirely. In short, most Amateur satellites act much like crossband "repeaters in the sky".

What's more, as a satellite is a moving target, signals being passed through it will exhibit a pronounced Doppler shift, just like the changing pitch of a train whistle as it approaches and then passes. During a satellite contact, as the satellite approaches you, both uplink and downlink frequencies will appear higher than those published.

– continued on page 52

RAC CANADA DAY CONTEST 2011 RESULTS

Bart Ritchie, VE5CPU and Sam Ferris, VE5SF

The RAC Canada Day Contest presents unique challenges to participants as our national holiday is held on July 1 and varies as to what day of the week it falls on. This year, our national holiday fell on a Friday giving those in Canada a very nice long weekend and a way to contest without giving up the whole weekend. Turns out it was a pretty good day for others around the world as we saw participation up almost 20%, although there were a large number of part-time entrants. With 472 logs received, it was one of the better levels of participation in the last few years despite the many, many comments on the relatively poor conditions, propagation wise.

The relatively poor conditions are reflected in the fact that we did not have any new records set this year, even in the relatively new categories of the Phone and CW only categories. With that bit of introduction, on with the detailed results!

SINGLE OP ALL BANDS HIGH POWER

Allen Singer, N2KW, takes the SOABHP plaque, sponsored by Radioworld, with a score of 337,818. Allen also takes the Larry Kayser, VA3LK Memorial Plaque sponsored by Alan Goodacre, VE3HX, for the Top Scoring Single Operator's Foreign Entry – any authorized power. John Laney, K4BAI, takes 2nd place this year with a score of 268,128 and Jim Brown, K9YC, takes 3rd place finish this year with a score of 250,356. All of our top three were new this year. Completing the top five is Jerry Spring, VE6TL, with a score of 225,922 taking 4th place and Larry Brockman, N6AR, taking 5th place with a score of 200,640. All of the top scores were noticeably lower than the last couple of years, a further reinforcement of the Soap Box comments.

SINGLE OP ALL BANDS LOW POWER

Sylvan Katz, VE5ZX, piloted his station to a 1st place finish in the SOABLP category and takes the plaque sponsored by Contest Club Ontario with a score of 246,996. Hal Offutt, W1NN, takes 2nd place this year with a score of 244,566. Third place goes to Ed Henderson, VE4YU, with a score of 166,498. Rounding out the top five is Mitch Mason, K7RL, with a score of 136,440 and Al Law, VE3FZ, with a score of 128,544. These scores followed the same trend as noted in the SOABHP results.

SINGLE OP – QRP

Thomas Warren, K3TW, captures the 1st place plaque in the SOABQRP category, sponsored by QRP Canada, with a score of 81,576. Second place goes to Ante Laurijssen, VA2BBW with a score of

47,348. Third place goes to Ron Duncan, W4UT, with his score of 40,712 points. Richard Ferch, VE3KI and Robert MacKenzie, VA3RKM, round out the top five with 4th and 5th place finishes and scores of 40,680 and 39,812 respectively.

SINGLE OP ALL BAND PHONE

Igor Slakva, VE3ZF, moved into 1st place this year capturing the SOABPH plaque, sponsored by the Saskatchewan Contest Club, with a score of 169,760. Ed Richardson, VE4EAR, was bumped into 2nd place with a score of 163,380 versus his 1st place finish last year. Daniel Fiechter, VE7ZZF, takes 3rd place with a score of 74,566. Nazaire Simon, VO2NS, captures 4th place with a score of 71,320 and Rene Raimbault, VE4TV, rounds out the top five with a score of 66,234.

SINGLE OP ALL BAND CW

For the third year in a row Victor Androssov, using his contest call VA2WA, takes 1st place with a score of 165,440, capturing the SOABCW plaque sponsored by the Maritime Contest Club. Another three in a row is Bill O'Kain, K4LTA, with a score of 154,960, nudging his score by 100 points.

A FEW STATISTICS

Logs submitted:	472
Canada:	202
US:	148
Other countries:	115
Total QSOs:	77,892
Email entries:	445 or 94%

Great job both of you! William Hendrick, N0AC, wraps up the top three this year with a score of 153,288. Rounding out the top five are Yuri Onipko, VE3DZ and Jay Corriveau, W1UJ, taking 4th and 5th place scores of 113,316 and 112,280 respectively.

SINGLE OP SINGLE BAND

Solar conditions are such that 20 metres was once again the most used in the single band category. Unlike last year where 80 metres was the winning band, 20 metres produced the top three scores in the single band category. Tom Haavisto, VE3CX, piloted his station to a 1st place finish taking the SOSB plaque, sponsored by Elkel Products, with a score of 140,742. Wayne Smith, VO1TA, takes 2nd place overall with a score of 106,168 and

PLAQUE WINNERS

Single Operator All Bands High Power
Sponsored by Radioworld
Allen Singer, N2KW

Single Operator All Bands Low Power
Sponsored by Contest Club Ontario
Sylvan Katz, VE5ZX

Single Operator All Bands – QRP
Sponsored by QRP Canada
Thomas J. Warren, K3TW

Single Operator All Band Any Authorized Power Phone
Sponsored by Saskatchewan Contest Club
Igor Slakva, VE3ZF

Single Operator All Band Any Authorized Power CW
Sponsored by Maritime Contest Club
Victor Androssov, VA2WA

Single Operator Single Band Any Authorized Power Level
Sponsored by Produits Electronique Elkel Ltee
Tom Haavisto, VE3CX

Multi-Operator Single Transmitter High Power
Sponsored by Alfa Radio
Gordon Kosmenko, VE6SV
Ops: VE6SV VE6RST VE6LDX

Multi-Operator Single Transmitter Low Power
Tony Allsop, VE3FTA Memorial Sponsored by Mississauga ARC
Moncton Area Amateur Radio Club, VC9M
Ops: of VE9BK, and VE9ML

Multi-Operator Multi Transmitter Any Authorized Power Level
Sponsored by Radioworld
Robert Nash, VE3KZ, running VA3RAC
Ops: VE3KZ

Top Scoring Single Operator Foreign Entry
Larry Kayser, VA3LK Memorial Sponsored by Alan Goodacre, VE3HX
Allen Singer, N2KW

John Boudreau, VE8EV, using the VE8RAC call sign, takes 3rd place in the category with a 96,288 point tally. All the top three were new this year.

We would like to acknowledge the single band efforts and list the high score band by band in this category. Adam Clark, VA7AQD, takes the 2m high score with 10 points. Joanne Desrosiers Raimbault, VE4JDR, was the 6m high score with 46 points. Lionel Fauconnier, F6DRP, was the 15m winner with a score of 184. As noted above, Tom Haavisto, VE3CX, was the 20m winner with a score of 140,742. Alexey Yushin, VE2XAA, was the 40m high score with 60,360 points. Vladimir Ziabrov, VA2TTA, was our 80m leader with 6,156 points and in 160m the high score was taken Ken Keeler, N6RO, with 2,394 points.

The complete listing also shows power levels for those who like to keep track of that element of SOSB even though it is not an official part of the contest format.

This category was our most popular one for a second year running attracting 145 entries, almost 50% more than last year. This represents 32% of all logs.

MULTI-OPERATOR SINGLE-TRANSMITTER HIGH POWER

Gord Kosmenko, VE6SV and the Sierra Victor Contest Team repeat their win from last year taking first place in the MOSTHP category. They capture the Alfa Radio sponsored plaque with a score of 434,010. The team was made up of VE6SV, VE6RST and VE6LDX. Nice job lads! The Monkey Lovers Radio Consortium, K6MMM, moves into second place with a score of 314,526 piloted in between banana breaks by KE1B and W6NN. David Weiner, VE3RTU, moves into 3rd place this year with a score of 230,218.

MULTI-OPERATOR SINGLE-TRANSMITTER LOW POWER

The Moncton Area Amateur Radio Club, using the special event call sign VC9M, takes 1st place this year with a score of 247,428 capturing the MOSTLP Tony Allsop – VE3FTA Memorial plaque. The team this year was made up of VE9BK, and VE9ML. Cy Stanway, VE3IFS/W2, with a team of three – including his daughter KC2PVX and KC2OMZ – takes 2nd place this year with a score of 128,398. Lastly, the Kamloops Amateur Radio Club, VE7UT – piloted by VE7WWW, VE7ALN, VE7NI, VE7PR, VE7VGO and VE7JMN – takes 3rd place with a score of 103,730.

MULTI-OPERATOR MULTI-TRANSMITTER

Robert Nash, VE3KZ and “the Internet”, running the VA3RAC call sign, takes 1st place this year in the MOMT category, taking the plaque sponsored by Radioworld, with a score of 582,552.

RAC CANADA DAY CONTEST RECORDS (updated with 2011 results)

CANADIAN RECORD SCORES

Call	Category	QSOs	Mults	Score	Year
VE3EJ	SOABHP	1513	118	1,243,956	2008
VE5SF	SOABLP	884	95	658,540	1999
VE3KZ	SOABQRP	468	79	309,048	2002
VA7RR	SOSB*	1531	25	233,150	1999
VE6JY	SOABPH	906	55	421,850	2007
VA2WDQ	SOABCW	820	48	189,216	2010
VE6AO	MOSTHP	1092	76	526,984	2008
VE3MIS	MOSTLP	867	73	379,200	2007
VE6JY	MOMT*	2671	119	1,898,764	1999

*The official category does not have a power class designator.

*No new records in 2011

CANADIAN SINGLE BAND RECORD SCORES

Call	Category	QSOs	Mults	Score	Year
VE3VZ	SOSB – 144	66	3	2,046	2005
VE3FIT	SOSB – 50	43	6	2,364	1998
VE1CZ	SOSB – 28	183	9	7,128	1997
VE6JY(opVE5MX)	SOSB – 21	957	20	72,800	2001
VA7RR	SOSB – 14	1531	25	233,150	1999
VE3TA	SOSB – 7	612	20	68,800	2009
VE3BY	SOSB – 3.5	447	15	64,800	1997
VE3DO	SOSB – 1.8	82	18	11,412	1996

No new single band records in 2011

The Hamilton Amateur Radio Club Contest Group, VE3DC, wrap up 2nd place with 360,726 points. Our 3rd place finish goes to the Sask Alta Contesters hosted at VE5FN using the VE5RAC call sign. The team had a score of 270,000.

TOP SCORING SINGLE OPERATOR – FOREIGN ENTRY

As noted in the SOSBHP results, Allen Singer, N2KW, piloted his station to the highest placing single operator from outside Canada with a score of 337,818. This earns him the Larry Kayser, VA3LK Memorial plaque sponsored by Alan Goodacre, VE3HX.

We appreciate all the Cabrillo formatted logs, but encourage you all to check to make sure all the pertinent information is correct in the Cabrillo headers. Not all of you are getting the correct entry classes entered in the header due to limitations in your software. Please make sure you are using the most current version available.

The RAC Contest Management Team continues to get the results out as quickly as possible with as much accuracy as we can. In the event we have let any errors in, please accept our apologies and be assured we will be happy to correct any problems that are identified and publish any updates on the RAC website.

CANADA DAY CONTEST 2012

The Contest Managers look forward to the contest and hope to see increased participation during the 2012 running of the Canada Day Contest, which is scheduled for July 1, 2012, a Sunday this year – a great way to spend part of the Canada Day holiday weekend... at least for those of us in Canada!

The RAC website (www.rac.ca/opsinfo/infocont.htm) has all the contest rules and entry forms.

Please note that there have been some changes to the rules that took effect in 2011 so please review them if you have not looked at the rules in recent times.

There are many commercial and other free programs that support the RAC contests. With at least two free programs to do the logging, we encourage you all to take advantage of this and submit electronic entries.

A Cabrillo formatted electronic log submission really helps to manage the work to compile the contest results. Although we encourage electronic logs, we will continue to accept paper logs for small entries (less than 100 contacts).

If you are not submitting a Cabrillo log, we ask that those entrants include a summary sheet providing the required information and, where possible, a breakdown of VE, RAC and DX contacts as well as the multiplier total. This will make compiling and checking of logs a bit easier and aids to a quicker turnaround of the results.

As a reminder, when submitting email entries, please make the subject line meaningful. Our preference is: Call – Category – RAC Canada Day. For example: VE5CPU – SOABHP – RAC Canada Day.

To those who participated in 2011, THANKS and we hope you enjoyed the event! Good luck in the 2012 RAC contests.

73, Bart, VE5CPU and Sam, VE5SF

SINGLE OP ALL BANDS HIGH POWER (SOABHP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
N2KW	337,818	374	16	349	739	71	**
K4BAI	268,128	372	15	384	771	56	*
K9YC	250,356	337	14	194	545	62	*
VE6TL	225,922	374	12	637	1023	43	*
N6AR/W4	200,640	297	12	155	464	57	
VE3JM	182,784	237	11	337	585	56	*
K6SRZ	114,906	292	6	221	519	33	
VO1MP	104,346	255	7	338	600	31	*
VO2FF	88,276	213	7	387	607	29	
K3MD	67,828	173	4	189	366	31	*
VO1U	59,400	156	10	20	33	33	
K0JPL	58,292	124	10	47	181	38	*
SP9LJD	56,668	132	4	214	350	31	*
VA7IR	55,120	198	8	308	514	20	*
VO1HP	53,568	124	5	167	296	32	
K0HB	50,706	149	8	114	271	27	
WA2JQK	47,736	105	9	87	201	34	
VE7NA	45,372	79	16	42	137	38	
WA6URY	35,420	130	4	115	249	22	
VE3TW	34,204	74	8	53	135	34	
W9WLX	31,050	81	9	80	170	27	*
VY2LI	30,336	143	3	203	349	16	*
A65CA	15,998	38	6	171	215	19	*
VA3AJV	15,680	77	4	65	146	16	
WA8KAN	14,880	52	5	0	57	24	*
KD5J	14,720	49	6	15	70	23	*
K7IA	13,684	50	3	31	84	22	
W7GKF	13,650	44	3	23	70	25	*
K7ABV	10,404	45	6	21	72	17	
W6TK	9,538	42	4	1	47	19	
VA6MM	8,064	35	5	27	67	16	
W6GJB	6,400	28	2	0	30	20	
EW1BA	5,270	25	3	0	28	17	*
VE6RL	4,384	21	2	12	35	16	
AI4WW	4,264	25	1	29	55	13	
WB3JGP	3,936	26	2	14	42	12	
N2SQW	3,190	23	3	0	26	11	
KA6BIM	184,690	271	15	174	460	55	

(#) Top Scoring Single Operators Foreign Entry – any authorized power
Larry Kayser, VA3LK Memorial Plaque sponsored by Alan Goodacre VE3HX

SINGLE OP ALL BANDS LOW POWER (SOABLP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE5ZX	246,996	365	12	342	719	54	**
W1NN	244,566	295	15	316	626	63	*
VE4YU	166,498	210	21	151	382	59	*
K7RL	136,440	242	11	196	449	45	*
VE3FZ	128,544	207	9	214	430	48	*
VE6NL	114,400	218	9	120	347	44	*
VA3KAI	102,608	180	11	156	347	44	
NA4K	77,688	159	6	141	306	39	*
VE3CES	75,264	121	8	99	228	38	*
VE2AWR	68,544	144	5	182	331	46	*
VE1ZA	66,000	168	5	210	383	30	*
NW2K	60,800	117	11	105	233	38	*
W8TM	59,328	124	8	124	256	36	
VA5LF	58,560	137	8	150	295	32	
VO1GO	57,304	113	8	109	230	38	*
VE3GFN	56,980	107	18	99	224	35	
VE2QY	54,432	104	6	68	178	42	
VA3YT	52,128	108	9	94	211	36	
VE3USP	51,136	121	7	124	252	32	
N0UV	43,712	106	9	63	178	32	*
VE3VZ	43,092	122	10	88	220	27	
VE7DXG	40,610	94	6	125	225	31	*
VE3IAE	37,450	104	4	189	297	25	
VE4SN	32,280	92	5	28	125	30	
VE3NCQ	25,152	59	7	28	94	32	
VO1BQ	23,244	63	3	102	168	26	
K5DHY	22,976	117	8	53	178	16	*
WA0WWW	22,204	50	13	47	110	26	
VE9OA	19,068	68	6	54	128	21	*
K9BTQ	17,388	61	4	33	98	23	*
N7VS	16,400	60	3	80	143	20	
VE1LS	15,972	63	4	8	75	22	
K4UK	13,752	64	2	42	108	18	
VE3DMR	13,314	51	5	12	68	21	
VE2CJR	12,192	58	4	51	113	16	
VE3SPF	11,220	62	4	24	90	15	
VA3AAS	9,180	39	6	0	45	18	
VE3TLY	9,000	39	5	5	49	18	
KD6WKY	8,702	32	3	39	74	19	*
VA3WET	8,268	49	5	23	77	13	
W0VX	7,310	32	4	15	51	17	
VE3SB	6,450	33	2	30	65	15	

VE2ESU	6,270	28	6	9	43	15
VE2BIA	5,184	44	6	8	58	9
W9ZRX	4,480	28	2	0	30	14
VE6SQ	4,334	15	5	72	92	11
VE3EMB	4,238	25	3	8	36	13
KK6L	3,540	29	2	12	43	10
WR9Y	2,990	21	1	0	22	13
VE1RR	2,904	16	4	1	21	12
VE2DC	2,496	15	1	11	27	13
DL1NKS	2,430	20	1	25	46	9
VA3YY	1,584	19	0	4	23	8
VE2EGN	1,368	8	3	6	17	9
VE3NR	1,278	9	2	6	17	9
W1PL	800	13	1	5	19	5
SF3A	300	3	0	60	63	2
VE7SJW	144	2	1	4	7	3
SM4DQE	52	1	0	21	22	1

SINGLE OP ALL BANDS QRP (SOABQRP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
K3TW	81,576	145	8	122	275	44	**
VA2BBW	47,348	98	7	63	168	38	*
W4UT	40,712	112	11	57	180	28	
VE3KI	40,680	88	3	95	186	36	*
VA3RKM	39,812	94	3	38	135	37	
VE3GTC	39,060	85	6	145	236	31	
VE3PYG	30,682	86	5	49	140	29	
VA3SB	24,654	83	2	152	237	21	
VE3/VE6BIR	24,300	54	7	65	126	30	
VA3WVP	23,374	63	3	58	124	29	
VE7BQO	16,440	57	7	56	120	20	*
VE6ZC	13,572	53	7	42	102	18	*
VA3WR	13,024	43	6	21	70	22	
K3HX	8,096	59	2	53	114	11	*
VE3GNU	7,230	42	3	1	46	15	
VE3LC	7,112	41	1	39	81	14	
ND3D	4,776	28	1	49	78	12	
N2JNZ	4,316	29	0	21	50	13	*
IV3AOL	2,178	16	1	31	48	9	*

SINGLE OP ALL BANDS SSB ONLY (SOABPH)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VE3ZF	169,760	300	12	502	814	40	**
VE4EAR	163,380	410	12	553	975	30	*
VE7ZZF	74,566	252	12	241	505	23	*
VO2NS	71,320	271	8	348	627	20	*
VE4TV	66,234	275	10	268	553	19	
VA3SWG	62,520	143	9	237	389	30	
KM2O	61,152	215	6	139	360	24	*
VE9RAC	49,080	191	8	192	391	20	*
VA6UK	38,380	164	7	120	291	19	*
EA3ELZ	32,550	152	2	305	459	15	*
VE3GBY	30,222	110	7	37	154	23	
G3VAO	28,944	132	6	84	222	18	*
VA3ZDX	28,204	71	8	206	285	22	
VE3NB	21,252	72	9	33	114	22	
VE3IQZ	20,064	67	7	13	87	24	
VE3XRC	17,034	83	7	16	106	17	
KS4X	16,308	68	9	23	100	18	*
VA3TPS	15,800	60	5	45	110	20	
NT2I	15,228	65	6	38	109	18	
VE6KG	14,760	42	11	49	102	20	
VE9REB	13,650	74	6	25	105	15	
VE3ZUO	12,360	49	5	14	68	20	
VE3AR	11,400	43	4	30	77	20	
VE1SQ	11,160	52	7	42	101	15	*
VE5DLM	10,400	75	3	115	193	10	*
YO3CZW	9,320	59	3	141	203	10	*
VA3TPV	8,512	38	9	24	71	14	
VE3WMJ	8,262	38	4	13	55	17	
VE2FAB	8,120	40	5	40	85	14	*
VE2POU	8,100	39	5	25	69	15	
W6DPD	7,644	42	8	4	54	13	*
K7XE	6,720	44	6	0	50	12	
VE3NPC	6,244	36	4	3	43	14	
VA3GD	6,100	43	5	40	88	10	
VE3MEW	5,910	30	2	27	59	15	
K2DSL	5,832	33	6	18	57	12	
WB3BSA	5,746	32	4	21	57	13	*
KR9E	5,616	27	7	11	45	13	*
W5/K0JCC	5,136	39	3	96	138	8	*
VE6CMV	4,446	29	5	52	86	9	
VA3DZ	4,238	22	4	13	39	13	
VA2RIO	4,026	22	5	23	50	11	
NX8G	3,652	25	2	21	48	11	*
VE3AJ	3,140	20	4	17	41	10	
KC2WUF	3,100	22	3	15	40	10	

VE7IHL	2,700	19	3	10	32	10			N3NZ	3,718	25	3	14	42	11		
VE3MCF	1,918	19	3	12	34	7			VE3CH	3,410	25	0	30	55	11		
VA7HZ	1,552	9	4	12	25	8			WB5BKL	3,312	22	1	18	41	12		
VE7BC	1,188	14	1	19	34	6			OK2KFK	3,168	21	1	29	51	11	*	
VE3RKS	1,168	11	1	8	20	8			AI6O	2,826	25	0	32	57	9		
AF6RR	876	8	3	3	14	6			VE5BCS	2,656	25	2	21	48	8	*	
EA2DT	710	6	2	21	29	5			VE3VCF	2,480	20	0	24	44	10		
VE3LM	636	9	0	8	17	6			NA2M	2,340	14	2	0	16	13		
OK2ILD	550	3	3	10	16	5	*		K1NEF	2,214	21	0	18	39	9		
VE3DSH	350	4	1	5	10	5			VA3RJ	2,080	17	2	25	44	8		
PG1R	168	2	2	12	16	2	*		NE8J	1,962	18	0	19	37	9		
K7JKM	150	2	1	5	8	3	*		VE2JCW	1,824	16	0	34	50	8		
RN4ACX	16	0	0	8	8	1	*		KE0G	1,764	0	0	63	63	14		
SINGLE OP ALL BANDS CW ONLY (SOABCW)									N5WLA	1,664	17	0	19	36	8		
Call	Score	CDN	RAC	DX	QSOs	Mult			VE9AA	1,248	14	0	34	48	6	*	
VA2WA	165,440	238	8	610	856	44	**		EA4DRV	1,236	12	0	43	55	6		
K4LTA	154,960	298	8	367	673	40	*		SN5J	1,164	14	1	17	32	6	*	
NOAC	153,288	317	9	454	780	36	*		LZ1IKY	1,080	12	1	38	51	5	*	
VE3DZ	113,316	207	7	386	600	38	*		4Z5TK	940	6	1	54	61	5	*	
W1UJ	112,280	223	9	399	631	35	*		W1TO	792	8	1	16	25	6		
VE7XF	109,060	215	8	403	626	35	*		KD2MX	750	14	0	5	19	5		
VE1RGB	80,920	164	7	300	471	34	*		VE3XAT	708	10	0	9	19	6		
VE3KAO	77,112	164	6	254	424	34			EA5CP	632	5	1	44	50	4		
VA3AR	75,328	160	7	307	474	32			DL1AZK	552	9	0	1	10	6		
VE1DT	65,136	187	5	372	564	24			PA3ANN	284	5	0	46	51	2	*	
VE3GSI	62,698	149	5	286	440	29			YO9AGI	272	3	1	43	47	2	*	
K9MMS	62,640	168	6	180	354	29	*		OK1FCA	192	3	0	33	36	2		
VE3OSZ	60,736	142	5	189	336	32			DL2TR	64	0	0	32	32	1		
N4DW	52,722	143	2	174	319	29			SINGLE OP SINGLE BAND (SOSB)								
N4GG	50,568	139	2	188	329	28			Call	Score	CDN	RAC	DX	QSOs	Mult	Band	Pwr
F5IN	50,250	147	4	230	381	25	*		VE3CX	140,742	467	21	926	1402	21	20M	HP
K8MP	48,000	141	6	195	342	25	*		VO1TA	106,168	370	23	378	756	23	20M	HP
VA7ST	46,748	127	5	214	346	26			VE8RAC	96,288	281	24	531	819	24	20M	HP
VA1MM	46,080	140	3	230	373	24			BAND BY BAND BREAKDOWN								
VE7JKZ	45,714	165	4	338	507	19			Call	Score	CDN	RAC	DX	QSOs	Mult	Band	Pwr
W4YE	35,984	106	5	112	223	26			VA7AQD	10	1	1	0	1	1	2M	LP
WA3AAN	35,568	117	3	126	246	24	*		VE4JDR	46	0	1	23	23	1	6M	LP
NS9I	35,074	144	5	153	302	19			J68HS	16	0	1	8	8	1	6M	LP
K1GU	31,768	119	2	107	228	22			NR6O	14	1	1	2	3	1	6M	HP
VE1AL	30,770	121	3	270	394	17			F6DRP	184	4	2	16	21	2	15M	LP
VE2EZD	29,682	120	4	233	357	17			PY7OJ	168	3	3	3	7	3	15M	LP
VE3KL	29,240	106	3	171	280	20			VE3CX	140,742	467	21	926	1402	21	20M	HP
W6SX	29,150	92	0	123	215	25	*		VO1TA	106,168	370	23	378	756	23	20M	HP
VE3UTT	28,644	93	4	177	274	21			VE8RAC	96,288	281	24	531	819	24	20M	HP
K4ORD	28,160	105	3	85	193	22			VE5MX	65,868	209	22	392	607	22	20M	HP
KN4Y	22,608	98	4	98	200	18			VE9HF	45,324	163	18	354	526	18	20M	HP
VA2OP	21,780	69	3	120	192	22			N7DR	36,498	131	21	124	264	21	20M	HP
VE3FH	21,648	65	4	86	155	24			W6AFA	32,520	208	12	255	469	12	20M	HP
VA1GE	20,916	82	3	58	143	21			WX7P	26,712	190	12	103	299	12	20M	HP
VA3EC	20,706	74	2	103	179	21			VA6RQ	21,546	195	9	192	390	9	20M	HP
W9RE	20,540	73	3	0	76	26			VA7JW	18,876	138	11	98	243	11	20M	HP
VA3ATT	20,026	80	4	87	171	19			VE3XN	18,202	75	19	54	134	19	20M	LP
VE3FJ	19,200	83	3	155	241	16			VA3GUY	17,446	99	11	228	334	11	20M	LP
EA5YU	17,172	64	2	137	203	18	*		DL6FBL	16,060	100	11	210	312	11	20M	HP
N9AUG	15,466	65	4	42	111	19			VE7MID	15,848	82	14	116	202	14	20M	LP
AF4OX	15,164	79	1	41	121	17			W6RLI	15,402	74	17	43	121	17	20M	HP
W7GB	14,700	62	4	0	66	21	*		W4SVO	11,778	78	13	33	114	13	20M	HP
K9JWI	13,050	66	3	75	144	15			VA3ATW	10,846	70	11	83	159	11	20M	LP
VE3ZY	12,352	58	2	76	136	16			VY1RAC	8,992	79	8	117	201	8	20M	HP
K1IB	12,096	69	2	67	138	14			PI4DX	7,506	62	9	87	151	9	20M	HP
XE2WWWW	11,956	64	2	87	153	14	*		KR2AA	7,360	50	10	108	159	10	20M	HP
VA6XDX	11,730	50	4	101	155	15	*		K6MM	7,272	48	12	53	102	12	20M	LP
VE3XB	10,846	77	2	88	167	11			W5ASP	7,184	70	8	99	169	8	20M	HP
K2MK	10,640	50	3	0	53	19	*		HC1JQ	7,180	54	10	29	89	10	20M	HP*
W2LE	10,590	58	1	53	112	15			DF1IAQ	6,804	54	9	98	153	9	20M	HP
W7YS	10,030	48	1	45	94	17			W6SZN	6,200	51	10	45	97	10	20M	HP
N1NN	9,156	50	3	47	100	14			VA3OR	6,112	26	16	41	69	16	20M	LP
AA4FU	8,652	47	2	54	103	14			VY2RB	5,616	43	9	47	95	9	20M	LP
N5KWN	8,400	57	4	95	156	10	*		K6GHA	5,562	48	9	9	63	9	20M	LP
W1END	8,288	43	2	61	106	14			VE4GWN	4,760	33	10	23	61	10	20M	Any
WC7Q	8,280	43	3	31	77	15			VE3CVG	4,620	27	11	15	48	11	20M	LP
K9JM	7,808	38	1	44	83	16			Y03APJ	4,554	29	11	52	82	11	20M	HP
VE3OM	7,650	39	2	40	81	15			AL1G	4,320	35	9	65	100	9	20M	HP
W6KY	7,470	39	3	24	66	15			YU7KM	4,192	24	8	132	157	8	20M	LP
G3LIK	7,216	36	2	128	166	11	*		IZ3DBA	4,018	32	7	117	150	7	20M	HP*
NA4C	6,890	43	1	40	84	13			WB2DVE	3,600	26	9	20	51	9	20M	LP
NF8M	6,300	32	2	30	64	15			VE3AUO	3,600	21	12	15	39	12	20M	LP
K6CSL	5,628	30	1	41	72	14			EA8DA	3,536	27	8	76	104	8	20M	LP
VE2GHI	5,600	30	0	50	80	14			VE3HG	3,132	24	9	24	51	9	20M	QRP
K22C	5,540	42	1	57	100	10			DL2DXA	3,060	21	10	18	42	10	20M	HP
DF6RI	5,364	40	1	88	129	9	*		YU7LS	3,048	22	6	134	157	6	20M	LP
VE7IO	5,280	33	0	75	108	11			OK2QX	2,702	20	7	93	113	7	20M	LP
AI4SV	4,788	34	0	1	35	14			VE6PLC	2,556	15	9	17	37	9	20M	LP
YT7IM	4,664	26	2	62	90	11	*		PA30LOU	2,352	19	8	32	53	8	20M	HP
LY5O	4,224	25	1	57	83	11	*										
K0LDS	3,744	29	1	1	31	12											

VA2LPQ	2,352	20	8	17	40	8	20M	LP	*
VA2CO	2,292	26	6	21	51	6	20M	Any	
KF0IQ	2,200	20	10	0	21	10	20M	LP	
OK2ABU	2,198	22	7	37	60	7	20M	HP	
K8GT	2,040	16	12	5	21	12	20M	LP	*
UA9FGJ	2,016	13	8	31	47	8	20M	HP	*
W4SY	1,980	14	9	0	18	9	20M	LP	
NA2X	1,920	18	8	10	30	8	20M	LP	
LU5FF	1,870	12	11	5	19	11	20M	LP	*
A61BK	1,860	7	6	100	109	6	20M	HP	*
SM5CSS	1,848	17	7	37	55	7	20M	LP	*
S51DX	1,834	15	7	46	62	7	20M	HP	*
NQ7R	1,824	17	8	19	37	8	20M	LP	
WA4JA	1,760	17	8	5	24	8	20M	LP	
LY2TS	1,708	13	7	37	52	7	20M	LP	*
VE3NQK	1,638	16	9	1	18	9	20M	LP	
9A7R	1,620	16	6	45	62	6	20M	HP	*
VE3CNA	1,568	15	7	17	34	7	20M	LP	
VE3FU	1,560	14	6	50	65	6	20M	HP	
YO2RR	1,554	8	7	51	61	7	20M	HP	
VE3EEU	1,536	18	6	8	29	6	20M	LP	
G4ERW	1,512	15	6	51	66	6	20M	LP	*
VE2AXO	1,498	13	7	12	28	7	20M	LP	
UA1AFT	1,430	23	5	28	51	5	20M	LP	*
SP1MHZ	1,370	17	5	42	60	5	20M	LP	*
VE2QV	1,246	13	7	24	37	7	20M	LP	
PD5T	1,236	12	6	33	46	6	20M	LP	
VE30XX	1,152	12	8	2	15	8	20M	LP	
SC3N	1,090	11	5	44	56	5	20M	LP	
AB5XZ	1,032	11	6	1	15	6	20M	HP*	
G3LHJ	1,020	15	5	17	33	5	20M	LP	
UA0ZC	924	10	7	6	17	7	20M	LP	
ROQA	924	8	6	17	27	6	20M	HP	
N9GC/WO	924	9	7	11	21	7	20M	LP	
WD7K	910	11	7	0	12	7	20M	HP	
JA7KY	840	8	7	0	10	7	20M	HP	*
N2ULF	810	13	5	6	20	5	20M	HP*	*
SK6HD	784	8	4	48	57	4	20M	LP	*
EU2MM	696	7	4	42	50	4	20M	LP	*
WA1N	680	9	5	3	14	5	20M	LP	
N3CZ	660	7	6	10	18	6	20M	QRP	
VE6SKY	640	5	5	9	17	5	20M	QRP	
VE9VAR	624	10	4	18	29	4	20M	LOW	
DL9LM	608	7	4	31	39	4	20M	LP	
DH2URF	570	7	5	12	20	5	20M	LP	
VE2WMA	500	5	5	5	12	5	20M	HP	
RN2FQ	488	4	4	31	36	4	20M	LP	*
EW8OW	474	5	3	54	59	3	20M	LP	
W5MPC	464	8	4	8	17	4	20M	LP	
VK4TT	460	6	5	16	22	5	20M	LP	*
K0VBU	456	8	4	17	25	4	20M	LP	
SM5ACQ	444	9	3	19	29	3	20M	LP	
VE6GPM	440	7	4	10	18	4	20M	LP	
K0KOC	430	6	5	3	10	5	20M	LP	*
SM5QU	424	5	4	18	24	4	20M	HP	
KD2MU	400	6	5	0	7	5	20M	LP	
PD6W	392	6	4	9	16	4	20M	LP	
UN5C	352	5	4	9	15	4	20M	HP*	*
ON5SV	336	6	3	26	32	3	20M	LP	*
EU6AA	312	2	3	32	35	3	20M	LP	
N1EVK	282	16	1	1	23	1	20M	LP	
S52WW	256	3	2	49	52	2	20M	HP	
OH1BOI	246	3	3	16	20	3	20M	LP	*
VE7FKY	216	5	4	2	7	4	20M	LP	
SP3AZO	184	4	2	16	21	2	20M	LP	
K6MI	180	6	3	0	6	3	20M	QRP	
G6CSY	156	2	3	6	9	3	20M	QRP	
EI7CC	114	3	3	4	7	3	20M	HP	*
JK1LUY	92	2	2	3	6	2	20M	HP	
RX3AD	56	2	2	4	6	2	20M	HP	
SE5E	46	2	1	3	6	1	20M	LP	
PA2REH	30	2	1	5	7	1	20M	LP	
SN10ISO	30	1	1	10	11	1	20M	HP*	
UA4NE	22	0	1	11	11	1	20M	LP	
EW1IP	12	1	1	1	2	1	20M	LP	
RW3AI	12	0	1	6	6	1	20M	QRP	
HB0/DJ2IA	12	0	1	6	6	1	20M	LP	*
OK2BEN	10	0	1	5	5	1	20M	LP	
DL3YDY	6	0	1	3	3	1	20M	QRP	
F4FNT/P	6	0	1	3	3	1	20M	LP	*
VE2PIJ	2	0	1	1	1	1	20M	HP*	
F4GFT	2	0	1	1	1	1	20M	LP	
VE2XAA	60,360	231	20	294	531	20	40M	HP	*
VA3KUG	7,596	81	9	7	89	9	40M	LP	*
VE3PYJ	4,068	38	9	6	47	9	40M	LP	
UA3MIF	2,324	24	7	36	61	7	40M	HP	*

HA3MU	1,920	24	6	30	55	6	40M	LP	*
K9WX	1,806	23	7	14	37	7	40M	LP	*
W9QL	642	16	3	17	34	3	40M	LP	
VA3FN	464	10	4	8	18	4	40M	LP	
JE1TSD	26	2	1	3	5	1	40M	LP	*
RV3ZN	8	0	1	4	4	1	40M	LP	
VA2TTA	6,156	55	9	57	113	9	80M	HP	*
VE9RLW	1,280	29	4	5	35	4	80M	LP	*
KC7H	100	5	2	0	5	2	80M	LP	*
N6RO	2,394	25	7	26	53	7	160M	HP	*

MULTI OPERATOR SINGLE TRANSMITTER HIGH POWER (MOSTHP)

Call	Score	CDN	RAC	DX	QSOs	Mults	
VE6SV	434,010	431	24	750	1205	69	**
K6MMM	314,526	420	20	459	899	57	*
VE3RTU	230,218	271	11	486	768	59	*
VE1LD	212,268	408	10	387	805	42	*
WB0TEV	97,334	190	11	127	328	41	*
N2BJ	84,888	245	6	287	538	27	*
VE6AO	41,584	126	8	194	328	23	
VE7XS	21,840	112	4	128	244	15	*
W7CT	16,380	74	2	0	76	21	*
WW7CA	7,960	59	5	53	117	10	
S59T	1,952	18	0	32	50	8	*

MULTI OPERATOR SINGLE TRANSMITTER LOW POWER (MOSTLP)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VC9M	247,428	318	14	403	735	58	**
W2-VE3IFS	128,398	241	7	218	466	43	*
VE7UT	103,730	204	9	155	368	41	*
VE6KDD	81,224	154	9	63	226	44	*
NK6A	68,680	157	12	105	274	34	*
VE3LA	62,832	104	9	138	251	42	*
VA3TVW	32,844	124	9	72	205	21	
G8APB	28,896	79	2	101	182	28	*
N0BK	22,680	66	9	0	75	27	*
HK3Q	22,600	66	9	32	107	25	*
VE3WBT	20,776	105	9	127	241	14	
VE4RAC	19,624	140	4	152	296	11	*
AB1OD	15,340	51	4	0	55	26	*
VE7OGO	14,498	96	2	159	257	11	
VE2FK	14,112	61	2	67	130	18	*
AA5JG	13,000	48	4	45	97	20	*
W1MAT	9,870	34	4	25	63	21	
DK4WF	1,960	10	3	18	31	10	*
VE7SCC	952	7	3	3	13	7	
VE7SUN	948	10	2	9	21	6	
VE5MCV	840	12	2	4	18	5	*
VE7RAW	804	4	4	7	15	6	
WA6HZT	600	10	0	0	10	6	
EW6GF	20	0	0	10	10	1	*

MULTI OPERATOR MULTIPLE TRANSMITTER (MOMT)

Call	Score	CDN	RAC	DX	QSOs	Mult	
VA3RAC	582,552	564	14	636	1214	81	**
VE3DC	360,726	476	12	557	1045	59	
VE5RAC	270,000	410	16	790	1216	45	*
VE6RAC	207,416	375	8	402	785	44	*
VA7MM	25,114	69	2	68	139	29	*
N8OO	19,920	70	2	128	200	20	*

"Musings of an Emergency Coordinator", continued from page 44

I once read an article which said a good Amateur has a motto: "Preparation, Education and Service to the Community". When you think about it most Amateurs would probably agree with that statement. "Service to the Community" is an interesting topic in itself.

We are fortunate in this country not to have the volume of serious events that occur south of the border. Nevertheless we need to be prepared. The first step in that preparation is to get people thinking. After you have made your decision whether or not to be involved in emergency communications then stick to it. Get involved or stay out of the way of those who are trying to do the job. If you do that you will be serving your community.

I could go on but the purpose of this article is not to anger anyone, not to frustrate anyone and certainly not to take sides. The sole purpose is to make Amateurs think seriously for a moment or two about how they would react in a critical situation, keeping in mind the points I previously mentioned.

Can you spare a couple of hours a month?



RAC CANADA DAY CONTEST 2011 MULTI OP LIST AND CHECK LOGS

CALL SIGN	OPERATORS
MOMT	
N8OO	N8OO, W5W/MU
VA7MM	VA7MM VA7MAY & VA7MM
VE5RAC	VA5BCB, VA6GWS, VE5CMA, VE5FF, VE5FN, VE5WI & VE5ZZZ
VE6RAC	VE6OH, VA6GCT, VE6STE, VE6EC, VE6AMT, VA7BB, VE6HEP, VE6MIC, VE6AQ, VE6JY & VA6AW
VA3RAC	VE3KZ
VE3DC	VA3DJ, VE3BK, VE3QU, VE3EEZ, VE3RIA & VE3OZO
MOSTHP	
K6MMM	KE1B, W6NN
N2BJ	N2BJ
S59T	S59T
VE1LD	VE1LD
VE3RTU	VE3RTU
VE6SV	VE6SV, VE6RST & VE6LDX
VE7XS	VE7XS
W7CT	W7CT
WB0TEV	WB0TEV
WW7CA	WW7CA & WW7DD
MOSTLP	
AA5JG	AA5IG
AB1OD	AB1OD
DK4WF	DK4WF
EW6GF	EW6GF
G8APB	G8APB VE6TC
HK3Q	HK3Q
N0BK	N0BK
NK6A	NK6A
VA3TVW	VA3TVW & VA3CDU
VC9M	VE9BK & VE9ML
VE2FK	VE2FK
VE3LA	VE3LA & VE3MWA
VE3WBT	VE3WBT
VE4RAC	@VE4GWB & VE4MAB
VE6KDD	@VE6KDD, VE5PFL & VA6RF
VE7OGO	VE7OGO
VE7SCC	VE7TL & VE7DUI
VE7SUN	VE7FKY, VA7QLT, VE7CDQ & VE7TJF
VE7UT	VE7WWW, VE7ALN, VE7NI, VE7PR, VE7VGO & VE7JMN
W1MAT	W1MAT
W2-VE3IFS	VE3IFS/W2, KC2PVX & KC2OMZ
WA6HZZ	WA6HZZ

Check logs **

Thanks also to VE7TG, CO8ZZ, VA3LUK, VE9SAP, HA2MN, R9UT, EA1AW, DL2HWI, VE6PLC, YL3DX, OE6IMD, VA7SYD and VA2TTA.

DARF IS THE DEFENCE OF AMATEUR RADIO FUND

It is a Trust Fund established in the early 90s by the Canadian Radio Relay League to provide financial support for research, and to defray travel expenses of a delegate to World Radio Conferences to defend the Amateur Radio bands.



The Fund is maintained by Donations from individual Canadian Amateurs and from Canadian Amateur Radio Clubs. Donations are deposited in the trust fund account and the fund is administered by the three DARF Trustees. The trust is entirely separate from, and cannot be used for, RAC financial transactions. Donations may be made by cheque only.

Cheques should be made out to "The Defence of Amateur Radio Fund" and may be sent by mail to:

"Defence of Amateur Radio Fund", 720 Belfast Road, Suite 217, Ottawa K1G 0Z5

Visit <www.rac.ca/~darf/> for more information.

"Getting Started on the Amateur Radio Satellites", continued from page 46

As the satellite passes overhead, both the uplink and downlink frequencies will then appear to slowly drop in frequency than those published. And, as if that weren't confusing enough, this apparent frequency shift will seem to be more pronounced on the higher frequency (shorter wavelength) Amateur bands than on the lower ones.

Our example satellite, AO-27, uses what's called a "bent pipe" transponder. That is, whatever form of radio communication is sent up to the satellite on the uplink is simply "sent through the pipe" back down on the downlink.

OPERATING MODES

One of the terms you will soon come across in satellite work will be a reference to the mode of a satellite's transponder. A satellite's operating mode is nothing more than a shorthand way veteran satellite operators identify the various combinations of uplink and downlink frequencies available for use.

Back in the old days of satellite operating, one or more letters of the alphabet were used to designate satellite transponder modes. For example, if a satellite's uplink frequency was on 2 metres and its downlink frequency was on 70 cm, the satellite was said to be operating in "Mode J". An uplink on 70 cm with a downlink on 2 meters was called "Mode B", and so on.

Today, because so many satellites with different uplink and downlink transponder combinations are now in orbit, a more simplified system that includes the first letter of the band in use (VHF, UHF, SHF, and so on) has emerged. As a result, the old "Mode B" has now been renamed "Mode U/V" because the satellite's uplink transponder is tuned to UHF and its downlink transmitter is set for the VHF bands. Likewise, the old "Mode J" has now been dubbed "Mode V/U" and so on. For this column, the AO-27 transponder I'll be talking about is the one for Mode V/U – or the old Mode J – with uplinks in the 2m band and downlinks in the 70 cm band.

That's all for this time, folks. But, please stay tuned. In subsequent columns, I'll be showing you how easy it is for you to become active on the "birds". See you then!

ABOUT THE NEW COLUMNIST

First licensed in 1976, Keith Baker, VA3KSF/KB1SF, holds a Canadian Advanced Certificate of Proficiency in Amateur Radio in Canada as well as a US Extra Class License. He is a Past-President and the current Treasurer of the Radio Amateur Satellite Corporation (AMSAT-North America). His Amateur satellite-related articles and photos have appeared in *The ARRL Handbook*, *The ARRL Satellite Anthology*, *QST Magazine*, *CQ Magazine*, *CQ VHF*, *Satellite Times Magazine*, *CQ Ham Radio* (Japan), *The AMSAT Journal* (USA) and *OSCAR News* (UK).

Currently, Keith writes the quarterly "Sky Surfing" column about Amateur satellites for *Monitoring Times* magazine. Some of his other more recent creative projects include writing portions of the AMSAT-NA publication *AMSAT: The First Forty Years*, as well as serving as an editor for the ARRL's new *Satellite Handbook*.

Keith currently makes his home in Corunna, Ontario with his wife, Kate, VA3OGF/KB1OGF and daughter Emily.



THE SPORTS PAGE

— THE CANADIAN CONTEST SCENE

In this edition of TCA I am pleased to turn to Rebecca Kimoto, VA7BEC, as guest columnist. Rebecca has been licensed since 2003. Initially she got into Amateur Radio for a very practical reason: calling for help if she and her husband, Koji, VA7KO got stuck on a logging road. Rebecca and Koji live in Delta, BC. As you will see Rebecca is very interested in QSO Parties, providing publicity for the BC QSO Party as well as acting as one of the Lower Mainland Directors for the ORCA DX and Contest Club. 73, Bob, VE3KZ

QSO PARTIES: AN INSIDER'S PERSPECTIVE

QSO parties (QPs) don't seem to garner much attention, except perhaps among people who make the effort to get on the air to support such events or those who work tirelessly behind the scenes. I have never seen an article in TCA about QPs, and I think if I had I might have been better prepared, not only to participate but to contribute in an administrative capacity. I'd like to share my insider's perspective with those of you sitting on the QP fence because I've been there, done that, and I know firsthand that highlight moments exist in QPs just as they do in the big contests.

THE BEGINNING

My introduction to QPs was back in 2005, when the local Amateur Radio club I belong to launched one – the BC QSO Challenge. At the time, I was relatively new to the hobby. I had participated in a few RAC contests and Field Day – nothing bigger – and figured a QP was something along those lines.

I suppose it can be, if it attracts enough attention and participation. Sadly, that first year, the BC QSO Challenge did neither. I called CQ for hours and my log did not show much for the effort. I was disappointed. I had wanted to practise my radio skills.

The event was eventually renamed the BC QSO Party – probably because “party” is the more recognized term – and has gradually acquired a higher profile and a slow but definite increase in participation.

My role has morphed from simple support to substantial involvement. Now I understand and truly appreciate all the time and effort that contest organizers put into their events, big or small, local or international.



JUMPING ON THE QSO PARTY BANDWAGON

I have to admit, I wasn't initially a fan of QPs nor was I all that interested in doing anything more than calling CQ for a few hours in support of a club-sponsored activity. My experience in 2005 with the forerunner of the BCQP was memorable for all the wrong reasons, and by 2010 my passion was chasing DX and tackling contests with significant pileup potential. But somehow or another, I ended up on the BCQP contest committee.

I had no idea how much work was involved in the organization and eventual upkeep of a QP. What a lot of administrative details! From rules and promotion pre-QP to log checking, updating the website and sending off certificates post-QP. And just as the desktop finally gets cleared, it's time to start the process all over again. Establishing and maintaining a QP requires a serious commitment and the results are not necessarily commensurate with the time and effort expended.

I have learned that a successful QP needs three things: 1) a good organizing committee, with enough people to carry out various duties so that no one individual is left wearing too many hats and inevitably so stressed out that what



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Contest results courtesy
of the Maritime Contest
Club team

should be a fun activity becomes torture instead; 2) enthusiastic participation that snowballs into so much fun that people look forward to the next year; and 3) a sustained effort to raise the QP's profile and keep it high.

FABULOUS NO-PRESSURE GET-ON-THE-AIR OPPORTUNITY

I can imagine all sorts of reasons why QPs in general and the BCQP in particular are not big blips on contest radar. I think serious testers view small contests as too novice or too casual. They want a high run rate and no chit-chat between contacts, and a QP doesn't necessarily lend itself to that.

However, QPs offer opportunities that the high-stakes, cut-throat, got-to-beat-the-world kind of contests cannot. The slower pace allows newcomers to ease into the world of contesting, to polish operating skills and try out contesting strategies without irritating operators who are only interested in a high score. QPs are great for practising different modes without the pressure of an impatient pileup and for acquiring familiarity with new logging software or remote operations.

QP MANAGEMENT

A QP may start off with a few people who have a vision, but often ends up under a club with a deeper reservoir of resources to realize this vision – essentially, a sizeable group of avid testers with the requisite experience and knowledge to achieve the snowball effect.

In Canada, a popular event for VE3s is the Ontario QSO Party, managed by Contest Club Ontario. The apparent success of the OQP may well have kindled the idea for a similar event for VE7s. The BCQP, originally sponsored by the Delta Amateur Radio Society, was recently picked up by the Orca DX and Contest Club. Again, the shift is to a club with a contesting focus.

SPONSOR STATION

A sponsor station should ensure that it has enough operators on the air to run the sponsor call sign, especially if a QSO with that call sign gives bonus points. A dedicated crew and/or a schedule of shifts is vital.



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TIMING

In planning a QP, event timing is important. It is almost impossible to avoid overlap with other on-air events and, while some people may disagree, I think trying to find a date without anything else going on could be self-defeating because the pool of potential contacts is dramatically reduced. That said, care should be taken to schedule around weekends when major, well-established international contests are taking place.

The BCQP usually coincides with a few parties in the United States including the Minnesota QP, the Vermont QP and the FYBO Field Day. BC stations can take advantage of the on-air activity. Whoever is calling CQ is in control of the QSO and its required exchange. But there's nothing wrong with trading a QSO. If a BC station is responding to a CQ from a station in one of the other parties, the operator can give the CQer the exchange his/her log requires and then ask for a reciprocal QSO.

In the 2011 event, I ran the sponsor station call, VE7SUN, on phone, and I traded QSOs countless times. VE7SUN was on SSB, CW and RTTY for about 12 hours and ended with 400 QSOs in the log. Not bad for a QP. Contacts with operators in the QPs taking place in the United States accounted for the bulk of non-BC QSOs in the VE7SUN log, underlining the benefits of having several QPs occurring on the same day.

MOBILE OPERATIONS

One aspect of QPs that the BCQP has not embraced but perhaps should, or could, in the future is mobile operations. For us in BC, early February is not necessarily ideal for roaming around to activate different districts. But in warmer climates – and seasons! – mobile operations are a fun and participation-boosting component of successful QPs.

CHECKING LOGS

Log submission is a tangible indicator of interest. I'm sure QP organizers like to see electronic logs popping into their inboxes, but the content has to conform to the requirements set forth in the rules for each QP or log checking becomes a nightmare.

Successful QPs garner hundreds of submitted logs with hundreds of QSOs in each. Can you imagine manually checking all those logs?

Thankfully, log checking software is available and some organizers are able to create their own programs. In either case, the software usually requires logs in Cabrillo format. This is where contest-supporting logging software comes in.

Getting the writers of logging software, such as N1MM, to recognize a QP and have the appropriate log form available is a very big advantage, not only to contesters but to the log checking team as well.

PROMOTION

A QP has to be promoted, wherever it happens to take place. This can be done through emails to clubs in the host state or province and also further afield, within the country and also across the border, and through newsletters, online groups, forums and reflectors, nightly and/or weekly nets, and printed and online calendars. There are many ways to spread the word, but it doesn't matter how much information gets put out if the right people don't hear it or read it. Hence, this article. I'm hoping that this insider's perspective might raise awareness of QPs and encourage more people to participate, wherever they may be.

A THANK YOU NEVER HURTS

On behalf of the BCQP organizing committee, past and present, let me say a big, big thank you to everyone who got on the air in 2011, whether it was a full-time

effort or just an hour or so to listen for VE7/VA7s and boost the points and spirits of lonely operators calling CQ, CQ, CQ. Your support, on air and off, is instrumental to the future of this event.

MARK YOUR CALENDARS

BCQP 2012 is scheduled for 1600z February 4 to 0400z February 5. Remember, the BCQP has a new sponsor – Orca DXCC – so the sponsor call sign will be different: listen for VA7ODX. The objective is still the same though: to get BC stations on the air. BC stations can work anyone anywhere and non-BC stations have to work BC.

The results for Canadian participants in 2011 are at the bottom of this page.

CONCLUSION

Because of the challenges I encountered in running the BCQP, I now have a soft spot for QPs in general, whether it's the OQP or the Maritime QSO Party or the state-run QPs. When I can, I support events outside BC in the hope that this will eventually be returned in the BCQP. It's a win-win situation for radiosport and for Amateur Radio in general, providing an excellent opportunity to hone operating and Elmering skills. There is no hobby tomorrow if there is no one to follow those on the air today.

73 and happy contesting,

Rebecca Kimoto, VA7BEC

.....

Thanks Rebecca. Just a couple of other notes of interest coming up: note that there is now a Multi-Single Low Power category in the ARRL DX contests. Also check <www.beru.org.uk/> for information on a draw for an SDR radio from among participants in the 2012 Commonwealth Contest.

See you next month.

73 Bob, VE3KZ



BRITISH COLUMBIA QSO PARTY 2011

Call	QSO	Mult	Score	Category
VE7SUN*	400	130	134,940	MULTI AB LP MIXED
VE7WEB	170	70	32,800	SOAB L MIXED
VA7ODX	116	68	31,612	SOAB HP CW
VE7CV	129	88	31,368	SOAB LP MIXED
VE7FO	82	66	20,084	SOAB LP MIXED
VE7IO	77	58	16,956	SOAB LP MIXED
VE7JR	68	37	5,052	MULTI AB LP SSB
VE7HRA	62	25	3,140	MULTI AB LP SSB
VE7FKY	17	15	510	SOAB HP MIXED
VE7RSV	19	12	456	SOAB LP SSB
VE7IDN	16	10	320	MULTI AB HP SSB
VE3KZ	7	6	164	SOAB HP MIXED
VE7NI	6	6	108	SOAB QRP MIXED
VE1ZA	3	2	44	SOAB LP CW
VA3GKO	1	1	22	SOAB LP SSB
VA7ST	1	1	8	SOAB LP CW

* Sponsor station

MINNESOTA QSO PARTY 2011

Call	CW QSO	SSB QSO	Mult	Score	Category
VE3CX	133	0	71	18,886	SOLP CW
VE4EAR	42	9	31	3,162	SO HP
VE7NI	20	5	19	950	SOLP CW
VE3TU	0	22	14	616	SOLP SSB
VA3GKO	0	17	13	442	SOLP SSB
VE7RSV	0	5	5	50	SOLP SSB

HUNGARIAN DX CONTEST 2011

Call	QSO	Mult	Score	Category
VE1DT	133	40	23,000	SOAB HP CW
VE9HF	85	31	10,943	SOAB HP CW
VE2AWR	55	15	3,255	SOAB LP MIXED
VE3OM	31	15	2,790	SOAB LP CW
VE1ZA	58	13	2,730	SOAB LP MIXED
VE3FH	39	15	2,325	SOAB LP CW
VA3GKO	35	12	1,872	SINGLE-OP, 20M, LOW, SSB
VA3PL	22	7	609	SO 40M LP MIXED
VE1OP	19	7	532	SO 40M LP CW
VA3GUY	11	8	528	SINGLE-OP, 20M, LOW, CW
VA3RKM	9	2	50	SOAB QRP MIXED

CQ WW RTTY WPX CONTEST 2011

Call	QSO	PFX	Score	Class
VC2SU	1,925	724	5,068,724	M/S
VY2SS	1,854	664	4,684,520	SOAB HP
VE7CC	2,122	727	4,641,895	SOAB HP
VE7UF	2,478	646	4,629,882	M/M
VE3UTT	1,626	699	4,286,967	SOAB HP
VA3DX	1,577	676	3,785,600	SOAB HP
VA2AM	1,266	587	2,406,113	SOAB HP
N2WQ/VE3	925	504	2,147,040	SOAB HP
VE4EAR	1,290	559	2,133,144	SOAB HP
VE3FJB	1,141	506	1,998,700	M/S
VE2FK	1,111	477	1,818,324	SOAB HP
VE2FXL	999	481	1,636,843	SOAB HP
VA7KO	1,124	481	1,534,871	SOAB HP
VE5RI	1,093	423	1,223,739	M/M
VE2AXO	881	437	1,179,026	SOAB LP
VA7ST	827	320	786,560	SO40 LP
VE1OP	682	410	781,870	SOAB HP
VE3KAO	623	352	753,984	SOAB LP
VE1ZD	638	374	709,104	SOAB LP
VA2WA (VA2WDQ)	636	336	699,888	SOAB HP
VE3FH	615	327	662,175	SOAB LP
VA7AM	787	328	661,576	SOAB LP
VE3GLA	555	292	549,836	SOAB HP
VA3PC	504	354	493,122	SOAB HP
VE7CF	599	306	428,400	SOAB HP
VE2XAA	453	300	404,400	SOAB LP
VE3IAE	371	244	388,936	SOAB LP
VY2MGY (VE3MGY)	504	237	360,951	SO20 LP
VE9MY	362	284	359,260	SOAB HP
VE7BSM	455	244	282,064	SOAB LP
VE6SQ	425	212	270,512	SOAB LP
VE2EZD	366	217	262,570	SOAB HP
VA3PL	392	245	260,925	SOAB HP
VE3XAT	332	234	236,574	SOAB LP
VE3CX	323	218	223,886	SOAB HP
VE3AJ	315	200	203,200	SOAB LP
VE3EK	292	199	199,398	SO15 LP
VE7TG	225	178	179,780	SO20 HP
VE6AO	392	216	179,496	M/S
VE5MX	269	158	160,528	SO40 HP
VE6RRD	361	195	159,510	SOAB HP
VE2LX	291	192	152,832	SOAB LP
VE3KI	184	184	89,608	SOAB LP
VE9HF	173	131	63,404	SOAB LP
VA6MM	188	119	54,621	SOAB LP
VE3FJ	156	129	45,666	SOAB LP
VE3RCN	124	94	36,472	SOAB LP
VA7CPC	127	91	26,117	SOAB LP
VA2SG	90	61	21,594	SOAB LP
VE6MO	97	64	16,320	SOAB LP
VE7BGP	85	69	15,663	SOAB LP
VE6CMV	77	63	12,789	SOAB LP
VA3FN	72	56	11,144	SOAB LP
VE2QV (VE2FFE)	61	54	9,072	SOAB LP
VE7NSR (VA7JMO)	68	56	7,392	SOAB HP
VE3FDT	18	17	850	SOAB LP
VE3SS	10	10	210	SOAB HP

ARRL RTTY ROUNDUP 2011

Call	QSO	Mult	Score	Category	Power
VE7CC	1,869	110	203,610	Single Op	High
VA2UP	1,435	119	169,813	Single Op	Low
VA7KO	987	96	93,120	Single Op	High
VE3KAO	692	103	70,246	Single Op	Low
VE4EAR	635	95	59,565	Single Op	Low
VA3SB	613	97	58,685	Single Op	Low
VA3PC	554	104	57,096	Multi Op	High
VA7AM	767	74	55,722	Single Op	Low
VA3XH	613	92	55,568	Single Op	High
VE3DZ	520	93	47,988	Single Op	Low
VA7RY	599	77	45,892	Multi Op	Low
VE3FJB	554	82	44,608	Multi Op	High
VE3CV	515	88	44,352	Single Op	Low
VE1ZD	524	84	42,924	Single Op	Low
VE3GLA	446	92	40,848	Single Op	High
VE7CF	529	71	37,346	Single Op	High
VE3MGY	491	70	33,460	Multi Op	Low
VA3DX	360	87	30,798	Multi Op	High
VA7ST	435	69	29,946	Single Op	Low
VE3FH	393	71	27,761	Single Op	Low
VE3IAE	331	81	26,325	Single Op	Low
VA7FC	435	61	26,047	Single Op	Low
VE3XAT	324	79	25,438	Multi Op	Low
VE7NSR	365	69	24,909	Multi Op	High
VE6SQ	394	63	24,318	Single Op	Low
VE2FK	315	68	21,216	Single Op	High
VE6AO	392	55	21,065	Multi Op	High
VE7IO	347	61	20,557	Single Op	Low
VE7AX	322	62	19,840	Single Op	High
VE7OGO	345	52	17,472	Multi Op	Low
VE2SG	260	64	16,576	Single Op	Low
VE2FXL	239	62	14,694	Single Op	High
VE7HBS	243	48	11,472	Single Op	High
VE1BZI	201	58	11,310	Single Op	Low
N6QEK/VY1	225	45	9,765	Single Op	High
VE6AX	174	50	8,700	Single Op	Low
VE6RRD	173	45	7,695	Single Op	Low
VE5CPU	143	46	6,486	Single Op	High
VA7GP	146	41	5,740	Single Op	Low
VA7CPC	141	41	5,699	Single Op	Low
VE3RCN	118	47	5,452	Single Op	Low
VE3GYL	109	49	5,292	Single Op	Low
VE9HF	113	39	4,407	Single Op	Low
VE7FCO	98	45	4,320	Single Op	Low
VE5SF	112	36	3,996	Single Op	Low
VA3FN	104	37	3,811	Single Op	Low
VE3FJ	98	39	3,783	Single Op	Low
VA3PL	97	39	3,705	Single Op	High
VE3AJ	92	33	2,937	Single Op	Low
VE9MY	67	39	2,613	Single Op	High
VA7MM	70	29	1,972	Single Op	Low
FG1PP	50	32	1,568	Single Op	Low
VA7HZ	42	30	1,260	Single Op	High
VE6VS	46	24	1,080	Single Op	Low
VE2QV (VE2FFE, op)	36	17	578	Single Op	Low
VA3TPV	30	20	560	Single Op	Low
VE6SKY	26	17	425	Single Op	Low
VO1BQ	27	17	408	Single Op	High
VE7BGP	20	14	280	Single Op	Low

RAC IS ON THE SOCIAL MEDIA CHANNELS

To further "Push" the RAC message to membership and interested Canadians, Radio Amateurs of Canada has created accounts on Facebook and Twitter social media sites.



If you have Twitter and Facebook accounts, you will be able to follow RAC for the latest official bulletins and RAC promotional material and general Amateur Radio news.

For Twitter, tune in on "RACTWEETS". For Facebook, tune in on <www.facebook.com> and search for "Radio Amateurs of Canada". In addition, RAC has established a blog for another channel of communications at <http://blog.rac.ca/>.

The blog and social media sites will complement the existing RAC website (www.rac.ca) with timely news and event notifications for Canadian Amateurs.

ARRL INTERNATIONAL DX CONTEST CW 2011

Call	QSO	Mult	Score	Class	Call	QSO	Mult	Score	Class
VY2ZM (K1ZM, op)	4,123	483	5,942,349	SOAB HP	VE3KAO	113	78	26,442	SOAB LP
VC3E (VE3AT, op)	3,131	464	4,336,080	SOAB HP	VE7AX	149	62	26,412	SOAB LP
VY2TT (K6LA, op)	3,383	414	4,152,006	SOAB HP	VE2QV (VE2FFE, op)	121	70	25,200	SOAB LP
VE3YAA	2,950	441	3,815,532	M2X	VA7CPC	148	56	24,528	SOAB
VE1OP	2,119	404	2,542,776	SOAB HP	VE9QRP	106	77	22,869	SOAB QRP
VA2WA (VA2WDQ, op)	1,951	393	2,288,439	SOAB HP	VE3EJ	98	72	20,952	SOAB HP
VE7CC	2,037	351	2,128,113	SOAB HP	VE3FU	105	67	20,703	SOAB HP
VE3RTU	1,734	409	2,083,446	SOAB HP	VE6SQ	109	58	18,792	SOAB LP
VE3MMQ	1,634	432	2,074,896	SOAB HP	VE3CV	77	65	14,625	SOAB LP
VE3CX	1,227	407	1,492,062	SOAB HP	VE3IAE	125	38	13,680	SO 40
VE3RZ	1,096	392	1,280,664	SOAB HP	VE3IQ	79	48	10,656	SOAB HP
VE2XAA	1,143	346	1,181,244	SOAB LP	VE4SN	65	53	9,540	SOAB LP
VE3JM	1,543	256	1,173,504	SOAB HP	VE7NI	72	43	8,772	SO 20
VA2AM	891	399	1,038,996	SOAB HP	VE7BGP	74	39	8,190	SOAB LP
VE1RGB	957	315	898,695	SOAB LP	VE6EX	57	41	6,888	SO 40
VE9MCC (VE9HF, op)	910	277	752,886	SOAB HP	VY2LI	53	42	6,678	SOAB LP
VA1MM	889	276	722,016	SOAB HP	VE3RER	65	33	6,336	SO 80
VE3EK	814	283	686,841	SOAB LP	VE3WDM	61	34	6,222	SO 20
VA3DF	843	264	662,904	SOAB	VE3FDT	64	29	5,481	SO 10
QRP					VE3FJ	51	33	4,950	SO 15
VE4EAR	642	292	557,136	SOAB HP	VA3RJ	42	30	3,780	SO 15
VE3NR	613	279	511,407	SOAB HP	VE4WSC	37	31	3,255	SOAB LP
VE2AWR	669	224	446,880	SOAB LP	VA7ZM	32	25	2,325	SOAB LP
VE7TG	610	247	446,082	SOAB HP	VE4DET	30	25	2,175	SO 20
VE1RSM	623	222	408,258	SOAB LP	VE7DXG	45	15	1,935	SOAB LP
VA7ST	654	207	403,650	SOAB LP	VO1BQ	30	18	1,566	SO 40
VE3FH	562	239	400,803	SOAB LP	VE3IGJ	24	18	1,296	SO 20
VA7KO	674	197	388,287	SOAB HP	VO1TA	24	16	1,152	SO 40
VE1MC	590	215	377,970	SOAB HP	VE3CUI	21	16	1,008	SO 160
VE3XB	566	220	370,920	SOAB HP	VA3WPV	20	15	810	SO 10
VE3GFN	523	207	321,057	SOAB LP	VE3HUR	12	12	432	SOAB LP
VE6WQ	981	109	315,228	SO 20	VA7MM	20	7	420	SO 10
VA7DZ	603	177	312,759	M/S	VA3PL	10	8	240	SO 10
VY2SS	638	162	301,806	SOAB HP	VE2GLA	7	5	105	SOAB LP
VE6TL	454	214	290,184	SOAB HP	VA3FN	5	5	75	SO 20
VE3TW	468	207	288,144	SOAB LP	NORTH AMERICAN QSO PARTY, CW JAN 2011				
VE6BBP	512	189	287,469	SOAB HP	Call	QSO	Mult	Score	
VE3TG	526	183	287,127	SOAB LP	VE3DZ	925	209	193,325	
VE7WEB	528	168	263,088	SOAB LP	VE5SF	746	189	140,994	
VE2EZD	420	207	257,715	SOAB HP	VA7ST	699	186	130,014	
VA3ATT	443	197	257,085	SOAB LP	VE3KI (@VE3FU)	669	194	129,786	
N2WQ/VE3	808	105	252,000	SO 40	VE5ZX	746	167	124,582	
VE7CV	450	183	244,305	SOAB LP	VE3RZ	667	180	120,060	
VE3OM	408	177	216,117	SOAB LP	VE3KZ	611	195	119,145	
VE1ZA	357	190	197,790	SOAB LP	VE3EY	652	178	116,056	
VA3DX	339	191	190,809	SOAB HP	VE2XAA	632	169	106,808	
VE5SF	416	152	185,136	SOAB LP	VA2WDQ	606	170	103,020	
VE3HG	276	219	179,361	SOAB LP	VE3GFN	490	148	72,520	
VE5ZX	383	156	170,820	SOAB LP	VA1MM	443	149	66,007	
VE7JKZ	380	150	169,200	SOAB HP	VE3XB	420	141	59,220	
VE7BZR	376	145	161,820	SOAB LP	VA2OP	415	136	56,440	
VE3XAT	306	176	161,568	SOAB LP	VE3EJ	361	146	52,706	
VE3GTC	326	167	159,318	SOAB	VA3DF/QRP	385	131	50,435	
QRP					VE2AWR	346	127	43,942	
VE9ML	277	190	152,190	SOAB LP	VE3TW	296	126	37,296	
VE3MGY	380	138	149,454	SOAB LP	VE7WEB	334	100	33,400	
VE3OI	314	154	143,220	SOAB HP	VE3EK	325	97	31,525	
VE3KZ	496	98	142,884	SO 15	VE4EAR	221	120	26,520	
VE2AXO	277	118	94,518	SOAB LP	VE2JCW	250	99	24,750	
VE4YU	241	128	92,160	SOAB LP	VE3GSI	324	76	24,624	
VE7MID	308	92	82,800	SOAB LP	VA6AM	245	88	21,560	
VA6AM	222	123	81,180	SOAB LP	VE9HF	225	92	20,700	
VA7RN	234	97	66,930	SOAB LP	VE1ZA	191	92	17,572	
VE7XF	323	63	60,858	SO 15	VE3CX	180	95	17,100	
VE3FWA	175	105	54,810	SOAB LP	VE3FJ	192	88	16,896	
VA2SG	195	93	53,010	SOAB LP	VE1RSM	171	90	15,390	
VE2BWL	216	82	51,414	SOAB LP	VE2EZD	195	78	15,210	
VE3RCN	172	99	50,490	SOAB LP	VA2SG	203	70	14,210	
VE3OSZ	229	70	47,250	SO 80	VE3RCN	149	86	12,814	
VA3WR	147	99	42,471	SOAB	VA3WR/QRP	138	77	10,626	
QRP					VE7JKZ	144	64	9,216	
VA3AR	150	98	42,336	SOAB HP	VE3HG	109	68	7,412	
VA3RKM	135	93	37,386	SOAB	VA3RKM/QRP	107	58	6,206	
QRP					VA3RJ	79	40	3,160	
VA3GUY	206	63	36,288	SO 20	VE3WDM/QRP	65	38	2,470	
VE3BVA	148	83	35,607	SOAB LP	VA3GUY	70	26	1,820	
VE7IO	177	61	32,208	SOAB HP	VE3OM	55	28	1,540	
VA7DER (VE6BIR, op)	132	79	31,284	SOAB	VE7BGP	40	29	1,160	
QRP					VE3OI	15	14	210	

NORTH AMERICAN QSO PARTY, SSB JAN 2011

Call	QSO	Mult	Score
VE3OI	651	163	106,113
VE5ZX	800	128	102,400
VE3KZ	569	164	93,316
VE4EAR	533	144	76,752
VE5SF	596	126	75,096
VE2XAA	495	126	62,370
VA2OP	486	110	53,460
VE3TW	388	132	51,216
VE1ZA	350	135	47,250
VE1SKY	294	131	38,514
VA7IR	366	102	37,332
VA7BEC	380	98	37,240
VA3DF/QRP	310	112	34,720
VE3CX	320	99	31,680
VA3GKO	304	100	30,400
VE3EK	340	86	29,240
VE3KPP	286	94	26,884
VE3RCN	203	99	20,097
VE3HG	214	92	19,688
VA2WDQ	202	81	16,362
VE3AD	185	83	15,355
VA7ST	191	79	15,089
VA3GGF	146	75	10,950
VE2AWR	150	66	9,900
VE2JCW	175	56	9,800
VO1KVT	141	67	9,447
VE2EZD	116	63	7,308
VE2FXL	116	60	6,960
VE9ML	106	60	6,360
VE3IKT	119	40	4,760
VO1TA	100	43	4,300
VA3OV	76	46	3,496
VE3WBT	99	35	3,465
VE3IAE	99	30	2,970
VE2QY	67	43	2,881
VE8GER	75	36	2,700
VE3TU	72	37	2,664
VE3RYC	63	35	2,205
VE7IR	57	31	1,767
VE7NA (VE7BGP)	52	32	1,664
VA2LGQ (VE3AV)	48	33	1,584
VE3OBU	44	33	1,452
VE3PYJ	56	25	1,400
VA2UTC	47	28	1,316
VA3RKM/QRP	40	28	1,120
VA3GUY	43	13	559
VA3DLJ	20	14	280
VA7ZM	10	8	80
VE6SKY/QRP	11	7	77
VE9HF	6	6	36

NORTH AMERICAN QSO PARTY, RTTY FEB 2011

Call	QSO	Mult	Score
VA7ST	520	150	78,000
VA3DX	397	130	51,610
VE6AO (VE6TC)	423	105	44,415
VE6SQ	331	116	38,396
VE7BC	350	108	37,800
VE7TG	256	127	32,512
VE2FXL	291	104	30,264
VY2SS	270	103	27,810
VE7BSM	260	100	26,000
VE7DXH	154	74	11,396
VE2FK	151	72	10,872
VE3GSI	172	62	10,664
VE3CX	159	66	10,494
VA3PL	159	65	10,335
VA3PC	122	65	7,930
VE7FCO	113	59	6,667
VE3AJ	139	46	6,394
VA2SG	127	41	5,207
VE4EAR	103	44	4,532
VA5SAM	73	58	4,234
VE3FJ	98	38	3,724
VE7BGP	67	42	2,814
VE3EK	73	38	2,774
VE3KAO	63	37	2,331
VA3FN	61	38	2,318
VE2EZD	44	31	1,364
VA6NJK	43	30	1,290
VA3WR/QRP	39	31	1,209
VE3RCN	37	27	999
VE1MEA/QRP	43	22	946

CQ 160-METER CONTEST, CW 2011

Call	QSO	Mult	Score	Countries	Category
VY2ZM	2032	59	2,124,754	80	SOHP
VE3JUM	1347	59	971,388	62	SOHP
VE3AT	1331	58	912,340	63	SOHP
VA2EW	1321	59	910,112	60	SOHP
VE2OJ	1316	60	755,810	50	Multi-Op
VE3RZ	1114	58	666,216	56	SOHP A
VE3NE	1066	59	590,314	47	SOLP
VY2SS	823	56	564,630	54	SOHP
VE3YAA	923	59	463,716	40	Multi-Op
VA3DX	801	59	433,115	44	SOHP A
VE6SV	910	59	382,879	24	SOHP A
VO1HP	500	55	361,939	58	SOHP
VE1ZA	632	55	352,308	47	SOLP
VA2WA	709	58	332,028	34	SOHP
VE7CC	744	59	319,718	23	SOHP
VE7IRU	717	58	300,996	23	SOHP A
VE5UF	808	57	294,750	18	SOHP
VE6BBP	762	58	258,370	12	SOHP
VE3OSZ	538	57	227,420	26	SOLP
VE3CX	609	56	223,875	19	SOHP A
VA1MM	445	51	194,820	34	SOHP
VE3XB	404	56	177,205	27	SOHP
VA2AM	263	52	169,478	49	SOHP A
VE3RER	387	53	141,109	20	SOHP
VE7SCC	482	53	135,430	5	SOHP A
VE3CV	268	51	113,967	30	SOLP A
VE3FH	336	54	110,818	13	SOLP
VE3TW	354	49	94,864	7	SOLP
VE3MGY	375	48	92,300	4	QRP
VE7TG	272	50	88,263	13	SOLP A
VE3CUI	337	50	85,330	3	SOHP
VA3YT	311	48	76,596	4	QRP
VE4EAR	253	53	73,322	8	SOLP
VE2EZD	220	51	71,955	14	SOHP
VE3GFN	287	49	71,604	3	SOLP
VE3UZ	261	49	64,260	2	SOLP
VE3KZ	200	52	59,396	10	SOLP
VE1OP	156	45	51,008	19	SOHP A
VE6TL	172	44	43,299	7	SOHP
VE7JKZ	203	40	41,160	2	SOHP
VE3OBU	166	44	37,680	4	SOLP
VE6BF	156	42	33,704	2	SOLP
VE2SB	127	37	26,664	7	QRP
VA7MM	145	32	24,174	2	SOLP
VE3RCN	112	37	23,048	6	SOLP
VE2FK	128	31	23,028	7	SOLP A
VE2AWR	135	31	21,590	3	SOLP
VE3DZ	103	33	18,696	5	SOLP
VA3WR	101	37	17,974	1	QRP
VA2OP	125	28	17,429	1	SOLP
VE2HLS	110	31	15,779	0	SOLP
VE4YU	88	38	15,466	0	SOLP
VE3MO	106	30	14,910	0	QRP
VA3RKM	104	30	14,250	0	QRP
VE7WU	67	35	13,407	6	SOHP
VA3EC	59	28	8,820	2	SOLP
VE3HG	78	25	8,320	1	SOLP
VA7RN	60	26	7,695	1	SOLP
VA7ST	67	22	7,040	0	SOLP
VE4MR	48	27	5,454	0	SOLP
VA5SAM	31	17	3,772	6	SOHP
VE3XAT	28	16	2,091	1	SOLP
VE1NB	16	11	1,330	3	SOLP
VA7ZM	23	10	1,030	0	SOLP
VE9ML	10	7	287	0	SOLP
VE6JY	6	0	225	5	SOHP

DO YOU HAVE QUESTIONS ABOUT EXAMINATIONS, CALL SIGNS?

Industry Canada Amateur Radio Service Centre
PO Box 9654, Postal Station "T",
Ottawa, ON, K1G 6K9
<spectrum.amateur@ic.gc.ca>
1-888-780-3333 (Toll free)
Fax: 1-613-991-5575

CONTEST CALENDAR FOR JANUARY, FEBRUARY AND EARLY MARCH 2012

Contest Name	Start	End	Web Address
SARTG New Years RTTY	0800z Jan 1	1100z Jan 1	http://www.sartg.com/
ARRL RTTY Roundup	1800z Jan 7	2400z Jan 8	http://www.arrl.org/contest-rules
NA QSO Party CW	1800z Jan 14	0600z Jan 15	http://www.ncjweb.com/
UK DX RTTY Contest	1200z Jan 14	1200z Jan 15	http://www.ukdx.srars.org/
NAQCC Sprint	0000z Jan 19	0400z Jan 19	http://naqcc.info/
Hungarian DX Contest	1200z Jan 21	1200z Jan 22	http://www.mrasz.hu/
NA QSO Party SSB	1800z Jan 21	0600z Jan 22	http://www.ncjweb.com/
ARRL VHF Sweepstakes	1900z Jan 21	0359z Jan 23	http://www.arrl.org/contest-rules
BARTG Sprint RTTY	1200z Jan 28	1200z Jan 29	http://www.bartg.org.uk/sprintcontest.asp
CQ 160m CW	2200z Jan 27	2200z Jan 29	http://www.cq160.com/
REF Contest CW	0600z Jan 28	1800z Jan 29	http://concours.ref-union.org/contest/
UBA DX SSB	1300z Jan 28	1300z Jan 29	http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules
NCJ Sprint CW	0000z Feb 5	0400z Feb 5	http://www.ncjweb.com/
ARCI SSB Fireside Sprint	2000z Feb 5	2359z Feb 5	http://www.qrparci.org/
MN QSO Party	1400z Feb 4	2400z Feb 4	http://www.w0aa.org/
Delaware QSO Party (Part 1)	1700z Feb 4	2400z Feb 5	http://www.fsarc.org/DEQSO.html
10-10 Int. Winter SSB	0001z Feb 4	2400z Feb 5	http://www.ten-ten.org/
Mexico Int. Contest RTTY	1800z Feb 4	1800z Feb 5	http://www.fmre.org.mx/
BC QSO Party	1600z Feb 4	0359z Feb 5	http://www.orcadxccc.org/
Louisiana QSO Party	1500z Feb 11	0300z Feb 12	http://www.w5yl.org/
NCJ Sprint SSB	0000z Feb 12	0400z Feb 12	http://www.ncjweb.com/
Dutch PACC Contest	1200z Feb 11	1200z Feb 12	http://www.dutchpacc.com/
FISTS Winter Sprint CW	1700z Feb 11	2100z Feb 11	http://www.fists.org/sprints.html
CQ WW WPX RTTY	0000z Feb 11	2400z Feb 12	http://www.cqwxrtty.com/rules.htm
NAQCC Sprint	0000z Feb 15	0400z Feb 15	http://naqcc.info/
ARRL Int. DX CW	0000z Feb 18	2400z Feb 19	http://www.arrl.org/contest-rules
CQ 160m SSB	2200z Feb 24	2159z Feb 26	http://www.cq160.com/
REF Contest SSB	0600z Feb 25	1800z Feb 26	http://concours.ref-union.org/contest/
UBA DX CW	1300z Feb 25	1300z Feb 26	http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules
NA QSO Party RTTY	1800z Feb 25	0600z Feb 26	http://www.ncjweb.com/
NC QSO Party	1700z Feb 26	0300z Feb 27	http://www.w4nc.com/2012ncqsoparty.html
ARRL Int. DX SSB	0000z Mar 3	2400z Mar 4	http://www.arrl.org/contest-rules
NCJ Sprint RTTY	0000z Mar 11	0400z Mar 11	http://www.ncjweb.com/

Check these online sites for more contest information: <www.hornucopia.com/contestcal/weeklycont.html>; <www.contesting.com>; <www.sk3bg.se/contest/>; <www.arrl.org/contests/calendar.html>; <www.arrl.org/contests/rate-sheet/about.html>; and <www.cq-amateur-radio.com/awards.html>.

* The "Contest Calendar" is presented as a guide only. RAC and TCA do not necessarily endorse or support any of the above contests or the accuracy of the information. Bands: The 30, 17 and 12m bands are never used in any contest.

CQ 160-METER CONTEST, SSB 2011

Call	QSO	Mult	Score	Countries	Category	VA3XH	133	41	31,605	8	SOHP
VE3PN	582	54	357,136	50	SOHP	VE6DDD	128	45	29,700	5	SOLP
VE3NE	796	57	355,901	34	SOLP	VE2DC	117	37	25,530	9	SOHP
VE3MMQ	578	56	229,190	26	SOHP A	VE2XAA	132	36	23,907	3	SOLP A
VA3DX	513	55	220,371	32	SOHP A	VE3TW	142	35	23,832	1	SOLP
VE3RZ	468	57	184,960	23	SOHP A	VE3NQM	128	37	21,682	0	SOLP
VE6BBP	581	55	182,952	11	SOHP A	VE3CUI	132	31	21,216	3	SOHP
VE3DC	581	54	160,500	6	Multi-Op	VA3YT	138	33	20,988	0	QRP
VE3MIS	562	52	151,612	6	Multi-Op	VE2HAY	86	34	14,070	1	SOLP
VA3YOJ	419	55	151,088	21	Multi-Op	VE2EZD	73	33	12,005	2	SOHP
VE3MGY	468	56	150,212	12	SOLP	VA3GKO	87	30	11,190	0	SOLP
VE2UMS	439	47	130,014	15	Multi-Op	VA3WR	73	31	10,571	0	QRP
VE6JY	394	55	126,094	12	SOHP A	VO1TA	58	25	10,197	8	SOHP
VE3CX	444	51	116,964	6	SOHP	VE3TU	67	30	9,060	0	SOLP
VA3CCO	336	47	81,588	5	SOHP	VE4RA	48	38	8,778	0	SOLP
VA7FC	306	45	78,948	9	SOHP	VE3XAT	55	25	6,275	0	SOLP A
VE3CR	249	49	69,856	10	SOLP	VE6TL	45	25	5,250	0	SOHP
VE7SCC	302	44	67,920	4	Multi-Op	VE3RCN	48	18	4,050	0	SOLP
VE3EJ	176	37	48,235	18	SOHP	VE5ZX	36	19	3,021	0	SOLP
VE1ZA	181	32	46,256	17	SOLP	VE9ML	27	14	1,722	0	SOLP
VA6ZZZ	200	47	45,276	2	SOHP A	VE7TG	22	13	1,515	2	SOHP A
VA7IR	193	49	43,962	2	SOHP	VE3VZ	20	16	1,424	0	SOLP
VE4TV	174	51	41,340	1	SOLP	VE2AWR	15	9	648	0	SOLP
VA3WU	165	39	40,425	10	SOLP	VA3RKM	15	9	621	0	QRP
VE4EAR	151	48	36,363	3	SOLP	VE2FXL	13	10	530	0	SOLP
VA2WA	197	36	34,770	2	SOHP	VE1OP	11	8	416	0	SOHP
VE3RER	159	43	32,490	2	SOHP	VA7ST	11	8	392	0	SOLP
						VA7HZ	7	4	104	0	SOHP

SECTION NEWS

THE RAC FIELD ORGANIZATION FORUM

MESSAGE FROM THE RAC CHIEF FIELD SERVICES OFFICER

I hope that your Christmas was all that you had hoped for and that the coming year is a special one for you and your family. As the years go by, isn't it amazing how time flies.

The Field Organization Review Project is chugging along with a team of volunteers setting and reaching milestones regularly.

Right now we are focused on developing a "training specification" for ARES that will pave the way to achieve "standardized" training requirements from coast to coast.

Calling all Club Presidents: Volunteer Appreciation

Our volunteers are crucial to the future of the RAC and we would like to properly recognize folks who give of their own time to make our hobby better.

I am calling on Club Presidents everywhere to send me a nomination or two from your Club.

These folks are the lifeblood of your Club and give selflessly of their

time on a regular basis. So please let me know who they are.

Ontario Restructuring Commission

As a result of the report received from the Ontario Restructuring Commission, nominations are requested for our new Section Managers for the various new Sections.

If you would like to be considered yourself please send me your CV.

If you are an Ontario Club President and know of a member in your area that should be nominated, please let me know.

Cafe Press

With the rolling out of our new venue to purchase RAC/ARES items, you will notice a shortage of ARES items previously offered from the RAC Store.

All of these items are under review, but now that the store is no longer in-house some method of control must be achieved.

The ARES logo, when worn, signifies that the individuals wearing the

clothing are "qualified and trained" EMCOMM folks who live by standards that surpass what is normally acceptable. It is therefore unacceptable for non-ARES members to wear such items.

Items such as the ARES safety vest, ARES ID cards, pins, crests and so on are available by contacting me, but please be patient while we work out a method to make ARES apparel available to ARES members.

ARES ID cards

Many of you have been waiting a long time for cards to be sent to you. As a result of supplier frustrations and non-competitive pricing, we will be doing the cards in-house in the future with no increase in cost to you and much quicker turnaround. Thank you for your patience.

Please keep the news items coming!

Doug, VO1DTM CEC
Chief Field Services Officer



British Columbia Emergency Management and RAC are currently reviewing the Amateur Radio program within emergency management. Meetings are underway and conversations are ongoing. Further information will be forthcoming in upcoming reports.

If you are interested in handling NTS traffic Mike Hale, VE7DXD, continues to maintain and update his handbook, which can be viewed at <www.members.shaw.ca/brasskey>. In addition Allan Ross, VE7WJ, our Section Traffic Manager, has held NTS training sessions in the Lower Mainland. He is willing to assist any clubs in the lower mainland with further training. If your group is interested in this training please contact Allan at <ve7ccy@telus.bc>.

In late October a meeting of mid-Vancouver Island emergency coordinators was held in Port Alberni. This meeting is held twice a year and provides a forum for coordinators to update others in their immediate areas. In addition, common problems are raised and while not always resolved they are at least brought forward.

If you have any information on club or emergency activities that you would like to see reported in this column please let me know at <va7mpg@rac.ca> and I will ensure the information is included. In addition there is a new website at <va7mpg.ca>. This will be the BC Section's website so if you have anything you would like posted please let me know.

BC Public Service Honour Roll October 2011:
VE7GB0 90, VE7WJ 100, VE7DXD 162 and VE7MPG 242 – 73, Paul, VA7MPG

ALBERTA:

SM: Garry Jacobs, VE6CIA
SEC: Curtis Bidulock, VE6AEW
STM: Jack Humphries, VE6JRH
OOs: Tom Martens, VE6TRM
Don Momen, VE6JY

SEPTEMBER-OCTOBER 2011 SM REPORT:

Hooray, the Alberta Distracted Driving Bylaw was enacted



CHIEF FIELD SERVICES OFFICER

Doug Mercer, VO1DTM
Box 1042
84 Main Road
Goulds NL A1S 1H2
Tel. 709-364-4741
Email: vo1dtm@rac.ca

with regulations attached which provide full exemption for Licensed Amateurs. In Red Deer we took part in The Canadian Simulated Emergency Test on October 15. Also in Red Deer I provided a Basic Amateur Class and ended up with 28 registrations. There was a pass mark from 22 of the participants. Stay tuned for a complete report in an upcoming issue of TCA.

A big thank you to the fellows who put the new repeater on air in Vermillion VE6YVG on 147.315. It has future linking possibilities to VE5RI and also to the Southern Alberta Repeater Association system.

Keep safe.

73, Garry Jacobs, VE6CIA

MANITOBA:

SM: Jan Schippers, VE4JS
STM: Jan Schippers, VE4JS
SEC: Vacant
DECs: Jeff Dovyak, VE4MBQ (Capital Region and CanWarn); Gord Snarr, VE4GLS (South-East Central Region / South-West Region); Wayne Warren, VE4WR (North Region and Special Projects); Vacant (North-Eastern Region); Vacant (North-West Region).
EC Ron Willis, VE4QE (Selkirk and District)

SEPTEMBER-OCTOBER 2011 SM REPORT:

Thank you to Jeff Dovyak for accepting the SEC position on an interim basis. This will give us until the spring floods to find a suitable candidate for the SEC position.

Report on Winnipeg ARES Jeff Dovyak, VE4MBQ

Ten Winnipeg ARES members and affiliates provided volunteer Amateur Radio communications on Saturday, September 10 for the Parkinson SuperWalk that started and ended at

BRITISH COLUMBIA:

SM Paul Giffin, VA7MPG
A/SM Ron McFadyen, YT1RM
A/SM Neil King, VA7DX
STM Al Ross, VE7WJ
OBM Bill Foster, VE7WWW

SEPTEMBER-OCTOBER 2011 SM REPORT:

I would like to thank Drew Watson, VA7DR, for his service as Section Manager in the last two years.

I would also like to thank the Assistant Section Managers, the Section Traffic Manager, and the Official Bulletin Manager for accepting these positions. Their support is very much appreciated.

Thanks also to Chief Field Services Officer Doug Mercer, VO1DTM and BC Director Bill Gippis, VE7ISV,

for their support in getting me started in this position.

The Yukon Amateur Radio Association completed their backup ECC station in one of the Whitehorse fire halls in late October early November. A lot of work was done and testing began in early November. An overview of this project is provided in the Public Service / ARES column on page 43.

In mid-October the British Columbia government conducted the second earthquake drill this year. Known as "The Great BC Shakeout", the October event was billed as having the largest number of participants in any earthquake drill in North America with over half a million people registered.

British Columbia has had two of these drills in 2011 as the government continues to try to make the population aware of how best to handle an earthquake situation.

As part of the drill several Amateur Radio clubs took the time to participate by activating nets or opening ECCs. Registration included 10 Amateur Radio clubs with a total of over 200 participants.

Our Official Bulletin Manager is working hard to compile a list of 2m nets around the Province of BC and in the Yukon. If you have information about a 2m net you are asked to forward the name of the net and the net manager to Bill Foster at <ve7www@rac.ca>.

the Franco Manitoban Cultural Centre on Provencher Boulevard. Thanks to our volunteers VE4s: GKS, GWN, YYL, DJS, BOY, HK, VID, STS, MMG and VA4IAM. Special thanks to John, VE4JAH, for moving our Boler trailer back and forth and to Dick, VE4HK, for coordinating the event for ARES.

On-call staffing for VE4WWO in the Prairie & Arctic Storm Prediction Centre ended on Sunday, September 11 for this season. We ran six Severe Weather Nets between May 27 and August 18. Those nets ranged from 1 to 6 hours. Our 17 weeks of daytime 0930-1730h and 16 weeks of evening 1730-2130h on-call shifts were filled by the following 12 ARES members: VE4s AJO, ALW, GKS, GWN, CDM, HAZ, DWG, BN, KEH, EH, ESX and MBQ.

Each of the above ARES members were on-call for an average of three weeks each over the course of the season. We really need additional CanWarn Net Controllers. If you are interested please get in touch soon so that we can give you an idea of what to expect and perhaps do some "Elmering" over the winter. Ellis, VE4AJO, could probably find other things to do in the summer besides being on-call for five weeks (not all at once) and Bill, VE4ALW and Gerry, VE4GKS, could also probably find other activities besides taking four weeks each of on-call duties.

Our outline document of "Reportable" Winter Weather for CanWarn Spotters was recently verified with PASPC Severe Weather Program Manager James Cummine.

Our September general meeting featured Randy Hull from the City of Winnipeg. Randy gave us a great presentation on "Why Plans Fail". I still heard people who were at the meeting talking about the presentation a week later. Randy distributed "Thank You" letters to the 46 ARES members and affiliates that supported the City of Winnipeg Flood Operations this past spring. If that wasn't enough, Randy also provided some door prizes for the meeting.

Our general meeting on Tuesday, October 18 featured Manitoba EMO Interlake Regional Emergency Manager Shelley Napier who reprised her presentation from the 2011 Manitoba Disaster Management Conference "Exercise Shooting Star".

At least four South-Central ARES members were ready to be deployed in SE Manitoba to support Manitoba EMO for significant wildfires on Sunday, October 9. Thanks to VE4s DDW, VID, MHZ and GLS. If the ARES GO Teams had been deployed they would have needed someone

SECTION MANAGER ELECTION NOTICE: MANITOBA AND QUEBEC

You are hereby solicited for nominating petitions pursuant to an election for Section Manager. The name of the incumbent appears on **page 4 of this issue of *The Canadian Amateur***. A petition, to be valid, must carry the signatures of five or more full members of RAC residing in the Section concerned. It is advisable to have more than five. Photocopied signatures are not acceptable. Signatures must be on the petition. Petition forms are available from RAC Headquarters but are not required.

The form below is acceptable:

To all RAC members in the Manitoba and Quebec Sections

(place & date)

RAC Vice-President Field Services
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5

We, the undersigned RAC Full members residing in the **Manitoba Section** or the **Quebec Section**, hereby nominate

(name & call sign)

as Section Manager for this Section for the next two-year term of office.

(signatures & call signs)

(addresses with postal codes)

A Section Manager must be a resident of his or her Section, a licensed Radio Amateur holding an Amateur operator's Certificate (or equivalent as stipulated by the *Radiocommunication Regulations*) and should always operate radio equipment only within the limits and privileges of the certificate and qualification held, and have been a RAC Full Member for a continuous term of two years at the time of nomination.

Petitions will be received at the RAC Headquarters office until 1600E on March 10, 2012. If only one valid petition is received, the person nominated will be declared elected. If more than one valid petition is received, a balloted election will take place. Ballots will be mailed from RAC Headquarters on or about April 1, 2012. Return of ballots by 1600E May 20, 2012 and will be counted after May 21, 2012.

A Section Manager elected thus will serve a two-year term which begins on July 1, 2012. If no valid petition is received, the Section will be resolicited in *The Canadian Amateur*.

on the other end of the HF circuit to communicate with.

Several Winnipeg ARES VE4EMO Team members were on standby for VE4EMO from approximately noon until 2200h on Sunday, October 9 and then daily from October 10-12 from 0800-2200h "just in case". The GO TEAMS were not deployed so the Winnipeg members did not have to staff VE4EMO. Thanks to VE4s SE, GWN, BN, HAZ, JNF, ESX and MAQ.

Susan Collings, VE4SYM, did an outstanding job organizing the Winnipeg ARES Silent Auction at the recent WARC Fleamarket. Special thanks to Sue's friend Fern Hiller who came out to the Fleamarket and sold Silent Auction tickets; and also to Mariska, VE4MMG and Rosi, VE4YYL, for their assistance helping set up and distributing the prizes.

On behalf of the Executive and members of Winnipeg ARES, I would like to thank all the individuals and businesses for their generous donations to our Silent Auction: Environment Canada (by Kent, VE4KEH); Terry Fox Foundation; Manitoba Marathon; Prairie Battery; Royal Bank; Cary's Ltd (by Cary, VE4EA and Marion Rubenfeld); Myers Norris Penny (by Richard, VE4KAZ); Wood Wyant (by Gordon, VE4OK), the Napady Family (Glen, VE4GWN

and Rosi, VE4YYL); the Mills Family (Tom, VE4SE and Ruth, VE4XYL); the Collings Family (Fred, VE4TRO and Susan, VE4SYM); David Rosner, VE4DAR; Christine XYL of Dave, VE4FH; Ruthie Maman, VE4CRS; the Maguire Family (Dick, VE4HK and Mariska, VE4MMG); the Mushmanskis Family; and the Bartram Family.

A question was asked at the end of a recent WARC meeting with regard to "the D-STAR Repeater". With regard to the VA4DIG repeater, a recommended parts list (that includes particular VHF/UHF duplexers, specific antennas for each of three bands and three runs of half-inch Heliex) is at Manitoba EMO for action.

Don Gerrard, VE4DWG, completed his term as Section Emergency Coordinator on September 30. VE4MBQ is Acting SEC in addition to being Winnipeg EC and Capital Region DEC.

Traffic Totals
September: 8
October: 13

ONTARIO:

SM: Allan Boyd, VE3AJB
Email: ve3ajb@vianet.ca
SEC: Vacant
ASM: Michael Hickey VE3IPC
Email: ve3ipc@aol.com
STM: Glenn Killam, VE3GNA
Email: ve3gna@xplornet.ca

SEPTEMBER-OCTOBER 2011 SM REPORT:

A new committee led by RAC Northern Ontario Director, Bill Unger, VE3XT, was formed to review a new structure of Field Services for Ontario. This new structure will see the addition of more Section Managers for the province. I believe this new format, which I have had the opportunity to oversee, will be a benefit to all Ontario Amateurs. It will mean having a Section Manager in your area that you can meet with and discuss issues as that person is the face of RAC. This is extremely important to moving the organization forward. I thank you all for your patience and understanding while this transition takes place.

ACTIVITIES

GTA District (GTA West – Grand North): This year's Simulated Emergency Test featured a scenario by George, VE3OGP, which involved bad weather, a major transportation accident and severe flooding.

The following Amateurs took part in the event: VA3PRE, VA3WXA, VE3GXM, VA3DDA, VA3JDA, VA3EGG, VA3PRS, VE3RHF, VA3NV, VE3OGP, VA3BL, VE3JUZ, VE3ROR, VE3ITM, VA3CQC and VE3DDL.

We operated stations at the Milton Red Cross, Glen Abbey Recreation Centre, Loyola High School, and we had a mock station representing the Oakville Red Cross. The radio station in the Region of Halton's Emergency Operations Centre was on the air for this event. In addition, both of the Region's Community Emergency Management Coordinators were in attendance at one time or another.

Here are some statistics:

- 1) there were 16 Oakville ARES members active for the event
 - 2) 28 formal NTS-style messages were sent or received
 - 3) we operated on several different repeaters (VE3OAK VHF and UHF, VE3PDX, VE3SKY, VE3PRC and VE3MIS) although we were unable to contact anyone on the last two repeaters despite repeated attempts
 - 4) packet radio operations took place on the Oakville LAN frequency of 145.750 MHz
 - 5) digital messages were sent between the Regional EOC and the Milton Red Cross stations
 - 6) messages were sent to or from three agencies: the Region of Halton, the Red Cross and the system to the William Osler Hospital in Etobicoke
 - 7) we contacted served agencies in Oakville, Milton, Burlington, Georgetown and Etobicoke
 - 8) VE3RHF and VA3BL experimented with D-STAR technology between the Halton EOC and Milton and it worked quite well
 - 9) pictures of the mock disaster scene were sent into the Halton EOC by slow scan TV on 2 metres courtesy of George, VE3OGP. One of the Region's CEMCs was quite impressed with SSTV and is considering writing us into their next disaster exercise to make use of it.
 - 10) thanks to the efforts of Peter, VA3PRE and John, VA3BL, a press release was issued and a related article appeared in the Oakville newspaper
 - 11) Milton Town Councillor, Colin Best, dropped by the Milton Red Cross during the SET to see what we were up to
 - 12) at the Oakville ARES meeting on October 16 at the 2 District HQ of the Halton Regional Police Service a large part of this meeting was used as a debrief of the previous day's SET
- Twenty-one Peel ARC ARES members participated in the Simulated Emergency Test on October 15.

On Wednesday, October 5, Mississauga ARES held a Packet SET with the intention of testing the capacity of the VE3MIS Packet BBS to handle higher than expected volume and simultaneous users. The participants were Bob, VE3CWU, Daniel, VE3NI, John, VA3XJL and Michael, VE3TKI.

The SET lasted 30 minutes and there were 58 messages passed during that period with no messages lost. We were satisfied with the result of the SET.

On Saturday, October 15, the following members of the Mississauga ARES participated in the SET: Basil, VE3JEB, Bob, VE3CWU, Bob, VE3XBB, Daniel, VE3NI, Ed, VA3TPV, Emanuel, VE3JJI, John, VA3XJL, John, VE3DRZ, Lorne, VE3CXT, Michael, VE3TKI, Paul, VE3TA, Robert, VE3RHE and Thomas, VA3TMB.

The scenario that we used was:

"Mississauga has been struck by a major tornado that has tracked through the GTA West impacting the communities of Oakville, Mississauga, Brampton and Etobicoke. There have casualties and basic infrastructure has been impacted."

We activated the following locations: Region of Peel AEOC; Credit Valley Hospital; Red Cross Meals on Wheels; Red Cross OZONE; and a Simulated Shelter.

In addition we had two operators acting as rovers who were given assignments to assess water levels around the City of Mississauga.

Communication was VHF/UHF simplex as no repeater was used during the exercise.

Packet communication was used extensively and each location was equipped with the Packet capability.

Bruce County:

The monthly ARES meeting was held on Tuesday, September 20 in Port Elgin. This was a planning session for the October SET. Four Amateurs attended. There are still three registered ARES members. The group continues to participate in the weekly Port Elgin ARC net.

Grey County:

Responding to the RAC request for letters of support for ARES, for presentation to the Ontario Minister of Transportation regarding the Distracted Driving Exemption for Amateur Radio operators, Bob VE3LKD (EC Grey County) sent out 11 letters to local municipalities and organizations asking for an acknowledgement of the role ARES has played, or is prepared to play, in assisting with emergency response or public service. Letters were sent to the Grey County

HAMILTON ARC PARTICIPATES IN SANTA CLAUS PARADE

On Saturday November 12, 2011, the Hamilton Amateur Radio Club (HARC) participated in the Hamilton Santa Claus Parade with a float of our own.

Our Club Executive decided to ask the city if we could have a float in the parade and they readily agreed. So Tom Vanwort, VA3TVW and Tracy Vanwort, VA3CDU, did a great job and got the trailer all decked out with an inflatable snowman running on a generator to keep it inflated. Music also accompanied the snowman.



The parade started at around 2:30 pm and while it was going through the route, we had Mark Proctor, VE3RYI, running on the side of the road with a handheld radio going up to the children asking if they would like to talk to "Mr. Jingles". Mr Jingles was Rick Danby, VE3BK, riding shotgun in the truck and he would give the children updates and tell them that Santa was not too far behind us.

Sherry Goeller, VE3DCU, Tom and Tracy's mother and Mother-in-law Gail, and Sue and children Aspen and Erin were walking – more like running – beside our float and handing out candy canes to the children. We also distributed pamphlets to the adults that described our club and what we do.

A great time was had by all! We plan on doing it again next year to get the word out that the HARC is alive and well and to see if there are any potential Amateurs out there who would like to join our club and have a great time.

CEMC, the Owen Sound Fire Department, the Hanover Fire Department, the West Grey Fire Department, the Town of the Blue Mountains CEMC, the Red Cross, St. John Ambulance, the MS Society, the Markdale Ice Cream Festival, the Winter Special Olympics and the Saugeen Shores Safety Festival.

Killarney District:

Manitoulin and North Shore:

The following ARES members from the Manitoulin ARC were involved with the communications net provided to the Gore Bay Airport as a public service to assist with the Snowbirds Air Show on September 14: Al, VE3AJB, Larry, VE3LXV, Archie, VE3ACZ, Hilda, VE3QWE, Clara, VA3NSH, Paula, VA3PCZ, Patric, VA3HZQ, Ken, VE3KFD, Jim, VE3LJM, Lorraine, VE3LMJ, Dave, VA3DYM, Bob, VE3TKH, Bill, VE3BEK, Faye, VA3YOY and Jerry, VA3GWK.

The following ARES members from the Manitoulin ARC assisted with the annual Terry Fox Run in Little Current on Sunday September 18: Al, VE3AJB, Archie, VE3ACZ, Ken, VE3KFD, Patric, VE3HZQ, Jim, VE3LJM, Lorraine, VE3LMJ, Bob, VE3TKH, John, VE3BB and Rusty, VE3WVA.

MARC ARES members also assisted with the implementation of the Manitoulin Emergency Plan following a 911 outage that lasted for several hours on Sunday, September 25. They were as follows: Al, VE3AJB, Jim, VE3LJM, Lorraine, VE3LMJ, Dave, VA3DYM, Bob, VE3TKH, Rusty, VE3WVA, Archie, VE3ACZ and Harri, VE3TEI.

During a special session of the Simulated Emergency Test held on Wednesday, October 12 to accommodate all Emergency Operations Centres in Ontario, Manitoulin had 100% compliance from all the municipalities involved in the SET. Listed below are the participating municipalities and their respective Amateur Radio operators that checked into the PEOC: NEMI and Manitoulin OPP – Al Boyd, VE3AJB; Assiginack – Bob Playter, VE3TKH; Billings – Katherine McDonald, VA3KKM; Misery Bay Park – Jim McLean, VE3LJM. Congratulations to all the participants for a job well done!

Sudbury:

Members of Sudbury ARES and the Sudbury ARC once again participated in the Halloween

Goblin Patrol to help ensure the safety of our young trick-or-treaters. Many thanks to all who gave their time and participated.

Sudbury ARES holds monthly meetings to discuss everything about emergency communications and preparedness and to keep skills honed. All Amateurs are welcome to come and join us, especially if you have an interest in emergency preparedness and communications. Talk to a local ARES member or club member for details or the Sudbury EC Alan, VA3AJV. We would be happy to talk with you!

Chapleau:

Chapleau's sole Amateur Radio operator, Les Arnott, VE3UCW, has provided the following update.

"The latest news is that the building that houses the Town's Emergency command post (Chapleau Public School) has been condemned due to roof leakage and mould. The students have been moved to the High School, but I'm not sure on the plans for the ECC. The present ECC has an Emergency FM Broadcast Transmitter and that will have to be moved as well. The high school is on a hill with better radio coverage and is almost next door to the hospital, but has no backup power. I have two locals interested in getting licensed and have provided them with some materials for study. I took part in the latest SET but only for a short time. I checked in with Shawn, VE3PSV, on the Ontario Phone Net; no traffic was passed as they were busy relaying traffic and dealing with real power outages due to the windstorm."

73, Allan Boyd, VE3AJB
Ontario Section Manager

DECs reporting:

VE3s: FAL, FOX, IPC, JX, LBX and WOW.

ECs reporting:

VE3s: BQP, DPG, HCB, HEG, ILA, JSQ, LJM, SLQ, SUT, RXE, RQR, TLT, UNJ, UR, VAC, VI, YX and ZDG.
VA3s: AJV, KRA, KU, MED, NV, OV, OW, PB and SPT.

Ontario Traffic Total

STM Glenn Killam, VE3GNA

September 2011

VE3NDJ 0, VA3QV 0, VE3HMS 0, VE3KII 13, VE3GNA 957, VE3PSV 41, VE3RHJ 5, VE3WKJ 0, VE3TPZ 21, VA3PB 44 and VE3ESX 0. Total 1081.

October 2011

VE3NDJ 0, VA3QV 0, VE3HMS 0, VE3KII 9, VE3GNA 913, VE3PSV 69, VE3RHJ 15, VE3WKJ 12, VE3TPZ 47, VA3PB 60 and VE3ESX 0.

Official Observer Report:

Norm Bell, VE3XRC

September:

of hours monitoring = 10
of Advisory Notices sent = 0
of Good Op Notices sent = 0

October:

of hours monitoring = 14
of Advisory Notices sent = 0
of Good Op Notices sent = 0

Official Bulletin Stations

September/October 2011:

VA3BIX, VA3KRV, VA3RRG, VA3STG,

VE3GIO, VE3JDK, VE3JUJ, VE3KII, VE3SHM, VE3VBR, VE3VY and VE3XTA.

Ontario Public Service Honour Roll September 2011

VE3GNA 110, VA3PB 98, VE3TPZ 60, VA3PM 0 and VE3RHJ 64.

October 2011

VE3GNA 110, VA3PB 120, VE3TPZ 160, VA3PM 0 and VE3RHJ 108.

MARITIMES

SM: Jim Langille, VE1JBL

ASM: Al Thurber, VE1AKT

SEPTEMBER-OCTOBER 2011 SM REPORT:

A beautiful sunny day in Shediac was the backdrop for the Moncton and Area Fleamarket held on Saturday September 17. There was a great turnout with many Amateurs from around the Maritimes coming out to help celebrate the MAARC 75th anniversary. There were many tables with lots of goodies and other tables that included the Canadian Red Cross, the Tri-County ARC, CanWarn/ARES, the Old Timers Club, Radio Amateurs of Canada, the International Repeater Group (IRG), the Bob Sherwood Memorial VE9-VY2 QSL Bureau, Monroe Electronics, HC MacFarlane Electronics (from Battersea Ontario), Truro ARC and Elkel Electronics (from Quebec). For pictures and a nice writeup from Jim Cleveland, VE1CHI, go to <www.oldtimersclub.byethost31.com/Fleamarkets/Shediac_2011.html>.

Interested in Emergency Communications?

A new EMMCOMM Net has started on the IRG New Brunswick repeaters. The net is to promote and practise good emergency communications for Amateur Radio operators and to test the operation of the IRG repeater system. It is a structured net rather than a social net, but all are welcome to listen or participate.

The purpose of the net is as follows: a) to promote and practise emergency communications for Amateur Radio operators; and b) to test the IRG repeaters in a structured format.

The net is held weekly on Thursday evenings starting at 21:00 hrs. The anticipated duration is 30 minutes or less depending on the training topic, if any.

Topics will be determined by the Net Controller who will accept topical ideas that are related to Amateur Radio emergency communications and emergency preparedness, partners with EMO NB and CanWarn NB. For more information about the International Repeater Group visit the IRG website at <www.irc73.net>.

The last Maritime fleamarket for 2011 came to an end on a beautiful Saturday afternoon in Greenwood,

NEW RAC ONLINE STORE: RAC – CAFÉPRESS SITE

http://www.cafepress.ca/rac_radio



The Radio Amateurs of Canada is pleased to announce that RAC shirts, hats, bags and other RAC merchandise are now available from CaféPress at:

http://www.cafepress.ca/rac_radio

Be fashionable in your new RAC shirt, hat and go-bag. Advertise your RAC Affiliation at Field Day or other events with an outdoor RAC sign. Go to http://www.cafepress.ca/rac_radio and see for yourself.

Geoff Bawden, VE4BAW

President, Radio Amateurs of Canada

Nova Scotia. There were many Amateurs and clubs taking part including the Halifax ARC, Kings County ARC, Lunenburg ARC and Truro ARC. Other tables included the 2 Metre Wake Up Net, the Bob Sherwood Memorial VE9-VY2 QSL Bureau, the Brit Fader Memorial VE1 QSL Bureau, Radio Amateurs of Canada, the Old Timers Club, the Nova Scotia Amateur Radio Association (NSARA) and others.

I would like to thank the following Amateurs who stopped by to say hello at the RAC table: Red Holmes, VE1XLY, George Richards, VE1XP, Martin Thomas, VE1AUZ, Wayne Gillcash, VE1RR, Bruce Bernard, VE1TIN, Art Hamilton, VE1ART, Bernie Bonnar, VE1UT, Claude Bourque, VE1CB, Claude D'Entremont, VE1CD, Dave Vail, VE1GM, David Cochrane, VE9QED, Marty Raine, VE1AE, William Steeves, VE9WRS and Peter Whalen, VE1PJW.

This was my final fleamarket as RAC Section Manager for the Maritimes and I would like to thank all the Amateurs who have stopped by over the past four years and also to the clubs hosting these events for making me feel welcomed.

For pictures of the fleamarket, go to the Photo Gallery on the MA website and click on "Greenwood Fleamarket 2011". Thanks to Lorne Anderson, VE1BXX, for the photos.

Amateur Radio operators in New Brunswick once again provided support for this year's Canadian Breast Cancer Foundation CIBC Run for the Cure. The Run for the Cure is Canada's largest single day, volunteer-led fundraising event dedicated to raising funds for breast cancer research and education and awareness programs. In Fredericton the event started and finished at Government House, while in Bathurst the event started and finished at the Promenade Waterfront. Each event consisted of a 5K run and a 1K walk on Sunday, October 2.

The following Amateurs in Bathurst took part in the event: Len, VE9LBN, Mitch, VE1MLS, Sue, VE9MLR, Moe, VE9MOE, Alain, VE9ACL and Francis, VE9FCP.

The Fredericton group consisted of: Jon, VE9JTD, Heath, VE9NHS, Julia Searle (RFTC Director), Frank, VE1VN, Gord, VE9GB, Vern, VE9VS, Dana, VE9DOR, Don (an Amateur student), Sterling, VE9SK), Laurie, VE9IBM and Al, VE1AKT. For photos of the event see the Public Service/ARES column on page 44.

Lorne, VE1BXX and Brad, VE1ZX, visited the VE1BHS Repeater Site on Thursday, October 27 to do some replacement work. Lorne wrote up a good article on this work complete with photos. Very much appreciated, Lorne! You can see what the boys were up to on the Westcumb ARC website at <www.westcumb.ca>.

Notice from Eric, VE1JW:

I have noticed that many Nova Scotia clubs do not have websites to advertise their club and its activities. I have space rented on the internet. Since I only use a small portion of my space I would like to offer space to any club that would like to have a website. There will be no cost to the clubs. I am also willing to help with the creation/setup of a site if your club does not have anyone that can do it for you. If your club would like to take advantage of this offer please contact me at <ve1cfy@rac.ca>.

On the Maritime Amateur website under "CanWarn", scroll down to see a video presentation of Amateur Radio here in the Maritimes and Environment Canada from the Weather Network. Congratulations to Matt, VE9MDB and Bob Robichaud, VE1MBR, for a job well done.

Results of the first annual Maritime QSO Party (held on June 4-5) presented by the Maritime Contest Club are available at <www.maritimecontestclub.com/maritimeqsoparty.html>. Congratulations to all the winners.

Jim, VE1CHI, has written an article with photos called "The Treeless Antenna Project". He discusses how he was able to erect an 80 metre dipole as well as a Carolina Windom without using trees as attachment points. Lorne, VE1BXX and Brad, VE1ZX, did some work on the VE1SPR (Springhill) Repeater. Lorne put together a

photo and text document of this visit and about what they did while there. To read both of these articles go to the Westcumb ARC website at <www.westcumb.ca>.

Halifax ARC: Amateur Radio is alive and well if one can judge from the turnout in this year's course: six men and five ladies. This is the largest number of potential new "YL" operators in any recent course. The higher registration this year is comprised of 11 students sitting for the instructed course and three students taking self-study. Two of the self-study individuals could not commit to sitting in the class and plan to self-study at their own pace and prepare over a longer period of time. Three of the students in our class indicated their interest at last spring's Shearwater Hobby Show. Some students found out about the course from the HARC website, others heard about it via PSAs on CBC radio, plus other advertisements. Three others are returning to the course after taking a previous course in the past. There are a few students who were encouraged to take the course from licensed Amateurs in our club.

The students are encouraged to use the excellent ExHammer program, written by VE2AAY and donated as downloadable freeware to RAC. It has helped all of the classes prepare for their exam.

One of the more rewarding tasks in Amateur Radio is assisting new individuals, young or old to obtain their Amateur Radio licence and call sign. In this light anyone who has encouraged students to take the course, mentored or assisted new Amateurs, or shared their passion for the hobby and other outreach activities deserve a thank you.

Thank you to the instructors and the HARC examiners for this year's 2011 Basic Course.

On October 15, HARC participated in the 54th Jamboree-On-The-Air from Camp Harris in Minesville, Nova Scotia. It was a sunny, but windy Saturday, when we set up the EMO trailer outside the main dining hall, the highest point around. For the complete story and pictures, go to <www.halifax-arc.org/newsletter>.

—73 Jim, VE1JBL

NEWFOUNDLAND-LABRADOR

SM: Charles Marsh, VO1VZ
ASM: Wayne Smith, VO1TA
SEC: Rendyl Godwin, VO1RYL
A/SEC: Dave McLennan, VO1LM
OBM: Ira Stacey, VO1IRA
STM: Joe Earles, VO1BQ

SEPTEMBER-OCTOBER 2011 SM REPORT:

I just finished checking in on the NL Evening Traffic Net on this the 15th of November so I had better

get at the latest installment of the NL SM report as it's due today and I don't want Editor Alan on my case. My compliments to him for the job he's doing; let's all get behind him, make his job easier by providing him with material to fill the TCA. It's a great magazine.

Once again, I'd like to give a big thank you to all the net controllers on the NL Nets: the Cod Jigger Net (the morning social net at 9:30 am local NL time on 3740), the Evening Traffic Net (traffic and social net at 7 pm also on 3740) and the evening VHF Caribou Traffic Net at 9 pm on the linked repeater system. The VHF net is also available by Echolink to anyone outside the range of the linked repeaters. Just look for the Argentia repeater, VO1ARG, in the station listing. Thank you net controllers! These nets would be non-existent without you and some of you are so active doing not only your turn but filling in for others. That's commitment and it is appreciated by all Amateurs in the Section. Thanks Cal, Ken, Lester, Daisy, Carl, Harold, Bill, Wayne, Dave, Doug, George, Chris, Rendyl, Stan and Melvin. I hope I haven't forgotten anyone.

Ed Crane, VO1UM, has announced that he has a couple of IRLP nodes up and running in the Metro and CBN areas: VO1UM, node 2262, 146.300 simplex, in St. John's and VO1ECH, node 2011, 447.100 simplex, in Bay Roberts. Thank you for taking that initiative Ed. I'm happy to assist in the radio programming.

I would like to welcome Audrey Levesque to her post as the new Parks Canada Signal Hill Manager. I had the opportunity, along with Doug Mercer (SONRA President and RAC Chief Field Services Officer), to sit and have a chat over a cup of coffee with her at Coffee Matters. Great coffee! She is a very friendly lady and no doubt is good at her job. Her enthusiasm is quite evident. I can say quite certainly that my use of French didn't impress her, ha!

I also had a chat over coffee with Joe Craig, VO1NA, last week at a local Tim's. Joe is presently doing experimentation on a new 600 metre band and has a CW signal transmitting on 508 kHz. Have a listen occasionally and drop him an email with respect to what you hear or don't hear. He also needs some support with respect to building receivers to test propagation on this band so if you can help him out, please get in touch with him (for more information see the article on page 16 of the November-December 2011 TCA). Any initiative to get more bands in the Amateur spectrum has to be supported.

RAC Field Organization Reports National Traffic System (NTS) Net Reports September 2011:

Net (Manager)	Sessions	QNI	QTC
BCYTN (VE7WJ)	30	591	44
CECA (VA7CIP)	4	41	10
MEPN (VE4LB)	23	260	4
MMWXN (VA4GD)	30	461	1
MRS (VE4HK)	9	268	0
MSMN (VE4AEW)	22	567	0
OLN (VE3SHM)	30	340	31
OPN (VE3TPZ)	30	98	63

October 2011:

Net (Manager)	Sessions	QNI	QTC
BCYTN (VE7WJ)	31	649	103
CECA (VA7CIP)	4	42	16
MEPN (VE4LB)	26	366	7
MMWXN (VA4GD)	31	530	0
MRS (VE4HK)	9	259	0
MSMN (VE4AEW)	21	451	0
OLN (VE3SHM)	31	319	34
OPN (VE3TPZ)	34	210	95

Service & Specialized Nets:

September 2011:

Net (Manager)	Sessions	QNI	QTC
COMSONT (VE3KII)	30	766	11
LN (VE3PSV)	30	543	0
Maritime Net (VE1PJS)	30	964	0
KWARC	4	26	0
Peel ARC (VA3RMU)	4	45	5
Sask ARES (VE5HAE)	4	93	0

October 2011:

Net (Manager)	Sessions	QNI	QTC
COMSONT (VE3KII)	31	734	7
LN (VE3PSV)	31	626	0
Maritime Net (VE1PJS)	31	1087	0
Peel ARC (VA3RMU)	4	37	1
Sask ARES (VE5HAE)	5	79	1

I want to thank Cal, VO1CAL and Ed, VO1EB, for the initiative they are putting in to helping us get a repeater in the Eastport area. They've done signal checks with respect to area coverage and have found a site to house the repeater. We should have 147.385+ in place by early December. It will certainly be helpful with respect to the ARES program providing coverage in an area that seems to be a magnet for powerful weather storms not only during winter but all seasons of the year.

In the next couple of days a number of us will be participating in a mock ice storm disaster called Ice Storm 2010A. It was supposed to occur last year but Hurricane Igor brought the REAL thing. During this tabletop exercise, our ability to provide emergency communication under the ARES banner will be scrutinized. It's our duty, whether you agree or not, to help fill the communication gap if an emergency should occur. It's the nature of the hobby. Therefore, I ask you again to let your municipal officials or fire departments know that you do have communication gear that can be used should normal communication be lost. The chance of anything happening is slim, but we MUST be prepared.

No formal agreement needs to be signed; just casual contact with the emergency officials so they know you exist and may be able to help. It's your civic duty!

The Bonavista area is often affected weather-wise. It's a magnet for what we Newfoundlanders call "dirty weather". Regrettably, there are no Amateurs living in this area. If you know any CBers or anyone else who resides in the Bonavista area, please encourage them to work toward an Amateur licence. The repeater we are planning for Eastport will most likely cover Bonavista and we may be able to assist any new Amateur in that area with some equipment.

That's it for now. I hope you have a safe and happy Christmas and New Year. Take care. This is a hobby, have fun with it.

— 73, Charlie, VO1VZ

ECs Reporting:

VO1IRA, VO1DTM and VO1LM.

Nets

Thanks to OBM Ira, VO1IRA:

September:
Cod Jigger 212
Evening Net 351



COMING EVENTS

THE HAMFEST AND FLEAMARKET CALENDAR

The following events are listed by date. Some dates and details are tentative.

BURLINGTON SPRING FLEAMARKET

Sponsored by the Burlington ARC

Date: Saturday, February 25.

Time: Vendors: 7 am; Public: 9 am to 12 noon.

Place: Burlington, Ontario; Royal Canadian Legion, 828 Legion Road.

Description: Breakfast available at Legion; Free Bottomless Coffee Pot.

Cost: Admission: \$6; Tables: \$10.

Talkin: VE3RSB - 147.210+; t = 131.8 (required).

Information: See website for latest info, flyer and table reservation form. Mail table reservations to: BARC Spring Flea Market Tables, Attn: Jeff Rishea, VA3CQC, 2214 Belgrave Court, Burlington, ON L7P 3R5 <va3cqc@rac.ca> or <barc@cogeco.ca> or call 905-541-1576.

Website: www.barc.ca

BURNABY ARC FLEAMARKET

Sponsored by the Burnaby ARC

Date: February 26.

Time: Vendors 9 am; Public: 10 am to 1:30 pm.

Place: Surrey, BC; Sullivan Community Centre, 6306 - 152nd Street.

Description: Door prizes, raffle prizes, commercial exhibits, QSL Bureau, 50/50 Draw, food and refreshments. A wide selection of Amateur Radio and electronic equipment bargains. Free parking at the Sullivan Community Centre.

Cost: \$5 per person. Vendors: \$20 per table (includes one admission).

Talkin: VE7RBY 145.35 - (tone 127.3 Hz).

Information: For table reservations and info contact Lou Beaubien, VE7CGE, 604-291-1569 or by email at <loucge@telus.net>.

Website: <www.ve7bar.org>

HAM-EX 2012

Hosted by Mississauga ARC and Peel ARC

Date: Saturday, March 24.

Time: Vendors and Manufacturers 7 am;

Refreshments 7 am; Exhibits and

Demonstrations 8 am to noon;

Public Fleamarket 9 am to noon.

Place: Brampton, Ontario; Brampton Fall Fair Grounds, 1292 Heart Lake Road (at Old School Road) 43.771218 N -79.8298 W.

Description: Canada's Top Amateur Radio and Electronics Showcase and Sale; Industry Canada Basic, Advanced and CW Exams.

Cost: Public \$7.

Talkin: VE3PRC 146.880 (no tone);

VE3MIS 145.430 (103.5 Hz tone required)

Special Events Station VE3XR 1300-1800Z 3.75, 7.269 and 14.265 MHz +/-QRM.

Information: Contact <vendors@ham-ex.ca> and <info@ham-ex.ca>.

Website: www.ham-ex.ca

16TH ANNUAL IROQUOIS FLEAMARKET

Sponsored by the Iroquois ARC

Date: Saturday, April 7.

Time: Vendors 8 am; Public 9 am; No early birds please.

Place: Iroquois, Ontario; Iroquois Civic Building 1 Dundas Street.

Cost: Admission is free; Table rental \$10.

Talkin: 145.29 (-).

Information: For table rental contact Mike at <va3tufham@aol.com> or Don <va3nc@rac.ca>.

MONTREAL SPRING FLEAMARKET

Sponsored by the Montreal ARC

Date: Saturday, April 14.

Time: Vendors 8:15 am; Public 9 am to noon.

Place: LaSalle, Quebec; Royal Canadian Legion Hall Branch #212, 7771 Bouvier (Corner of Shevchenko).

Description: The second fleamarket/hamfest of the season in the Montreal area. Door Prizes. IC exams will be given; call ahead for an appointment. Autobus STM #109 stops at the corner.

Cost: General Admission \$5; Tables \$10 each or \$18 for two.

Talkin: VE2BG 147.060 (+).

Information: For information or reservations contact James R. Hay at 514-990-1965 or 514-697-7205 or <ve2arc@rac.ca>.

Website: www.marc.qc.ca/fest/fest.html

WINNIPEG ARC SPRING FLEAMARKET

Sponsored by Winnipeg ARC

Date: Sunday, April 15.

Time: Socializing, coffee and muffins 9:30 am; Sellers set up 9:45 am; Doors open for buyers 10:30 am.

Place: Winnipeg, Manitoba; Heritage Victoria Community Club, 950 Sturgeon Road.

Description: Fleamarket and Social Event.

Cost: Admission \$3; Tables: WARC members \$5 per table, others \$10 per table.

Talkin: VE4WPG 147.390 MHz positive offset 127.3 tone; to purchase tables: Ruth, VE4XYL <ve4se@mts.net> or 204-837-6915.

Information: Dick, VE4HK <ve4hk@rac.ca> or 204-256-3143.

RIDEAU LAKES ARC 28TH

SMITHS FALLS FLEAMARKET

Sponsored by the Rideau Lakes ARC

Date: Saturday, May 12.

Time: Public 9 am; Vendors 7 am.

Place: Smiths Falls, Ontario; Smiths Falls Curling and Squash Club (this is a new location), Old Sly's Road.

Description: Our 28th fleamarket of Amateur Radio equipment. A large number of commercial and private vendors will be in attendance. Canteen available.

Consignment Table available.

Cost: Admission \$5 (includes door prize ticket); Youth under 16 admitted free; Tables (2.5' x 5') \$10 (includes one admission).

Talkin: VE3RLR on 147.21 MHz+.


Information: For info or reservations contact the RLARC at <ve3rlr@yahoo.ca>.

Website: http://ve3rlr.dyndns.org

CG3B: THE BICENTENNIAL (200 YEARS) OF PEACE

CG3B: The Bicentennial (200 years) of Peace between the United States of America and Canada after the war of 1812, will be active during July 1 to July 31 during various Bicentennial functions in the Niagara on the Lake, Ontario. A special QSL card will be available from trustee, Dave Digweed, VE3FOI, 4117 Hazelnut Court, Vineland, ON L0R 2C0, Canada. SASE or \$2 USA or via the Bureau, attention VE3FOI.

More information will be updated on the Niagara Peninsula ARC's website at <www.nparc.on.ca>. Also on QRZ.com. This will be the first of many special event stations between 2012 and 2014 regarding the Bi-Centennial. The Niagara Peninsula ARC takes pleasure in providing this special call sign for General Issac Brock.



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[email: info@mapleleafcom.com](mailto:info@mapleleafcom.com)

CENTRAL ONTARIO HAMFEST & FLEAMARKET

Sponsored by the GARC & KWARC

Date: Sunday, June 3.

Time: Vendors 7 am, Public 9 am to 12 noon.

Place: Cambridge, Ontario; Waterloo Regional Police Association Recreation Centre, RR2, 1128 Rife Rd. North Dumfries Township beside Hwy 401, between exits 268 & 275, 43.344939, -80.418376

Description: 38 years and still going strong; bringing together Amateur Radio, hobbyists and enthusiasts just after Dayton and before Field Day and the summer heat. Indoor tables and tailgating; major vendors, loads of collectibles; free prize draws.

Cost: Public \$7 (under 12 free).

Information: Contact <info@hamfest.on.ca>.

Website: www.hamfest.on.ca

RAC MAPLE LEAF OPERATOR MEMBERSHIP PROGRAM



Radio Amateurs of Canada would like to thank the following RAC Maple Leaf Operators:

A James Ballard, VE9AJB	Daniel Lamoureux, VE2KA
Dennis Bancesco, VE6ATC	Harvey A.A. Larabee, VA3LHA
Shawn Barnard, VE3KYQ	Allan E. Lett, VE3TYT
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Larry Barnett, VE6LGB	David Liddell, VE7QR
Bill Barrie, VE3AAS	Gene R Lutes, VE7IMP
Michael Bell, VE3NOO	Ian MacFarquhar, VE9IM
John R. (Jack) Belleghem, VE3HD	John MacKay, VE7EEX
Bruce Bernard, VE1TIN	R K Mackenzie, VA3RKM
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