TCA

The Canadian Amateur

Canada's Amateur Radio Magazine

La Revue des Radioamateurs Canadiens

JANUARY / FEBRUARY 2016 – JANVIER / FÉVRIER 2016

The Last Canadian IOTA: Operating from Melville Island in the High Arctic

Cezar Trifu, VE3LYC, in the High Arctic

RAC

Success at the 2015 World Radiocommunication Conference

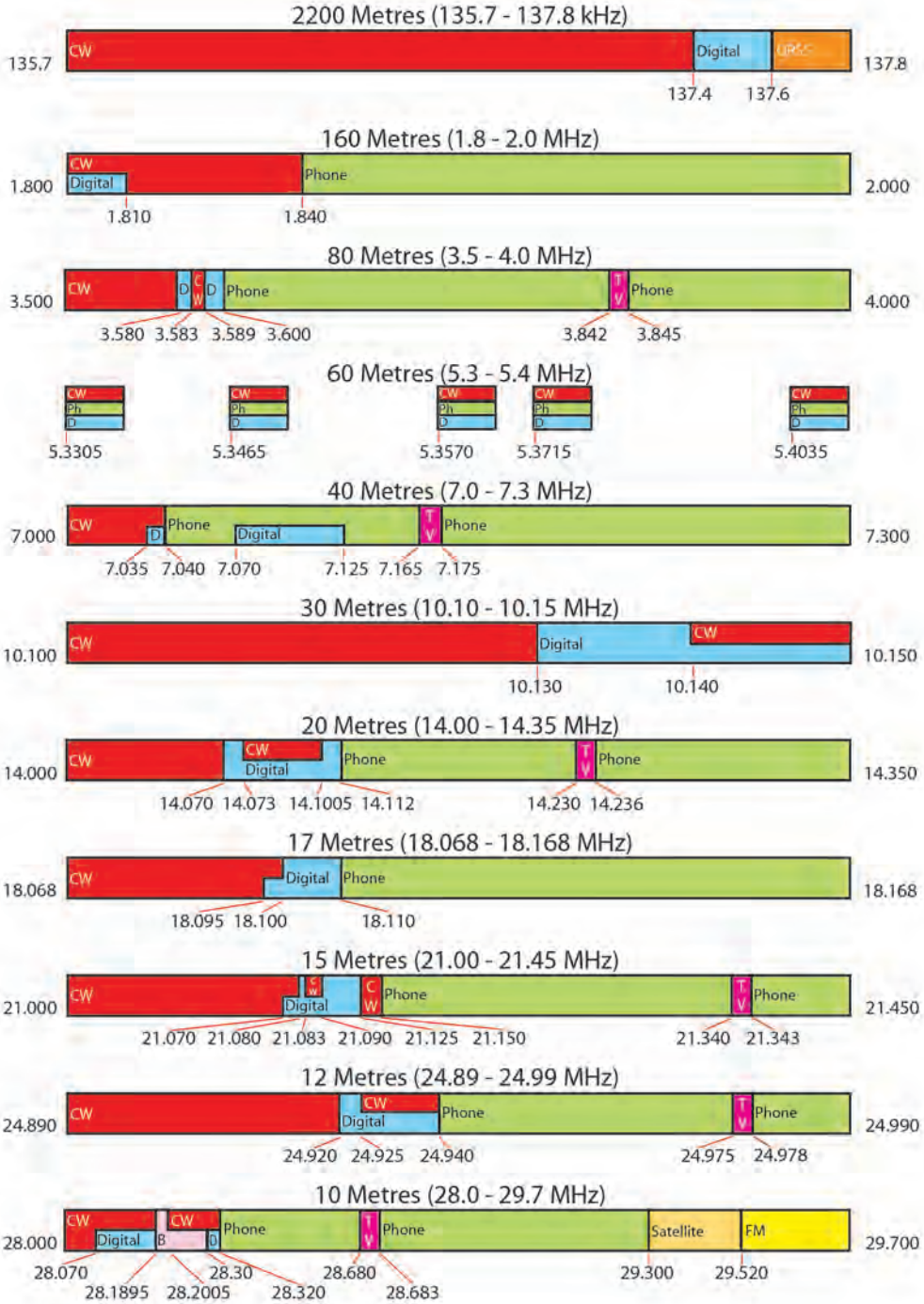
Publications Mail Agreement # 40028682 Registration # 09866

Canadian 0 - 30 MHz Band Plan

Effective Date: December 1, 2015

1. This is a simplified version of the official RAC Band Plan. Not all permissible modes/activities are represented.
2. LSB is used on 160, 80 and 40m. USB is used on all other bands that permit SSB, including 60m.
3. Consult various online resources for detailed information on what digital modes are used.
4. Maximum bandwidth permitted on 2200m is 100 Hz. Maximum power is 1 Watt EIRP.
5. Refer to the IC and RAC websites for full details before operating on the new 60m channels.
6. Remember not to allow your signal to spill over into adjoining band segments when operating close to the edges. During major weekend contests, activity in certain modes can spill over into other segments. Operators should avoid NCDXF beacons on 14.100, 18.110, 21.150, 24.930 and 28.200 MHz.
7. This graphic is a living document and will be reviewed and updated periodically to reflect changes in the band plans and operating habits.

www.rac.ca



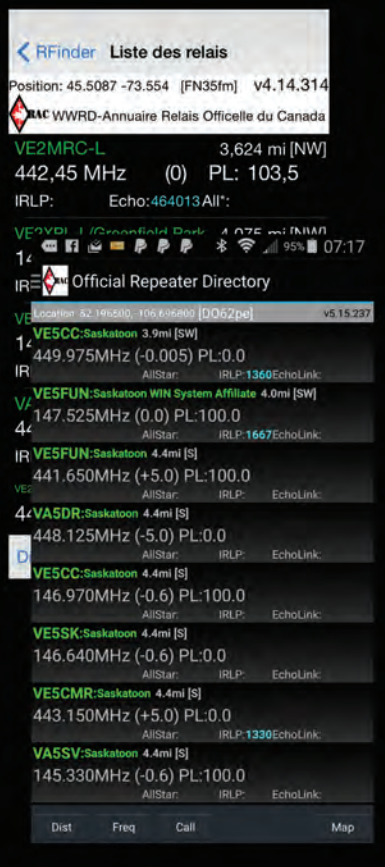
Key

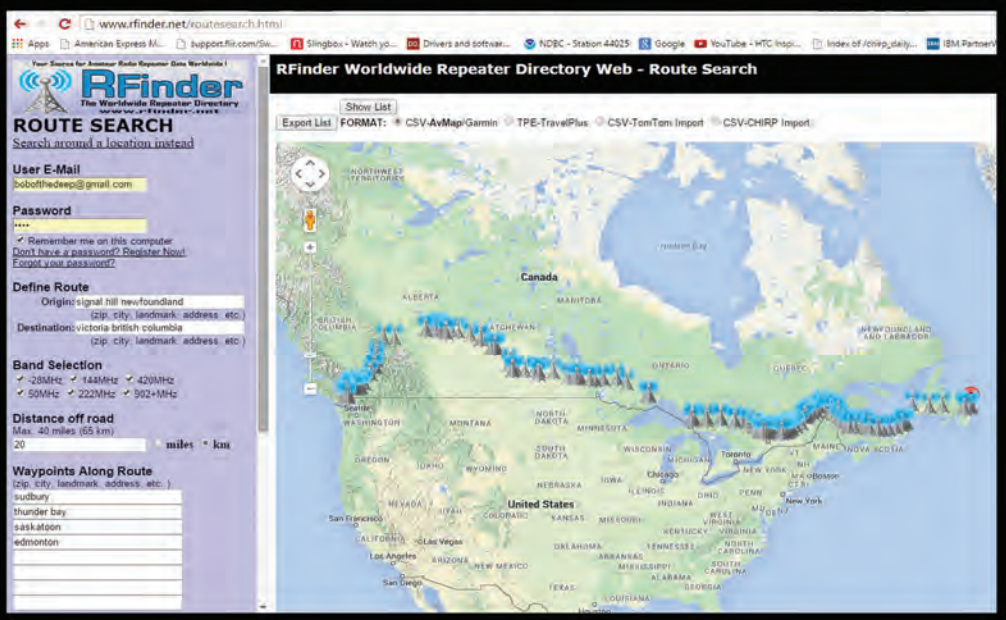
CW CW	FM FM	TV SSTV
QR CW QRSS	B Beacons	D Digital
Ph Phone	S Satellite	

RAC's "Social" repeater directory now supports Blackberry 10! For instructions check out Blackberry.RFinder.net. Now RFinder is avaialable on Android, iOS, Blackberry, web.rfinder.net, routes.rfinder.net, RT Systems, CHIRP and Radiobuddy. Repeater data, anywhere in the world, on any computing platform imaginable. RFinder.

RFinder - The Official Repeater Directory of RAC. Support RAC by choosing RFinder as your repeater directory.

Find RFinder in Google Play, the Apple App Store on your iPhone/ iPad/iPod Touch or on the web at www.rfinder.net for only $9.99 [usd]. Use RFinder in your favourite radio programmer such as RT Systems or CHIRP or access it at http://web.rfinder.net. New Social functions let you post your postion and repeater you are monitoring to APRS, Facebook and/or Twitter. Your net control will love it! Finding hams monitoring machines has never been easier!





TCA
The Canadian Amateur

JANUARY & FEBRUARY 2016 | JANVIER & FÉVRIER 2016

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The Canadian Amateur
720 Belfast Road,
Suite / Bureau 217
Ottawa, ON, Canada
K1G 0Z5
613-244-4367;
1-877-273-8304
tcamag@yahoo.ca
http://wp.rac.ca/

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Ottawa, ON K1G 0Z5

Canada's Amateur Radio Magazine
La Revue des RadioAmateurs Canadiens

VOLUME 44 NUMBER 1 – TCAMAG@YAHOO.CA – WEB ADDRESS: HTTP://WP.RAC.CA/P155/

"Known as NA-009, the Perry Islands were divided in July 2014 into two groups. The islands to the east of Byam Martin Channel – which fall entirely under the administration of the Territory of Nunavut and which are part of CQ Zone 2 – remained denoted as NA-009. The islands to the west – which fall largely under the administration of the Northwest Territories and which are part of CQ Zone 1 – became NA-248. This is the final IOTA group in Canada still waiting to be brought on the air for the first time."
– see page 43 for the complete story

Note: TCA is best viewed in colour on the RAC website at http://wp.rac.ca

ARTICLES WANTED

We would love to receive your articles – both technical and non-technical. Please send them to the TCA Editor at tcamag@yahoo.ca.

We are also looking for two new columnists: Antennas; and YL News.

The deadlines for the next issues are January 15 and March 15.

PHOTOS WANTED:

We are always looking for great photos to grace the pages of TCA and especially on our front cover. If you have a portrait-oriented colour photo, like that on our front cover (or a landscape-oriented photo that can be cropped), please send them to me at tcamag@yahoo.ca.

NATIONAL & INTERNATIONAL

TECHNICAL

DEPARTMENTS

OPERATING

NEWS

PLEASE SUPPORT OUR ADVERTISERS

The Canadian Amateur is published in Canada six times per year to provide Radio Amateurs, those interested in radio communications and electronics, and the general public with information related to the science of telecommunications.

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).

For a complete Author's Guide visit: http://wp.rac.ca/p155/

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The Canadian Amateur, publié six fois par an, est destiné à fournir aux radioAmateurs, à toute personne intéressée à la radio et à l'électronique et au grand public, des informations de toute nature relatives à la science des télécommunications.

Nous acceptons avec plaisir tout article, étude, suggestions, photos et lettres. Les manuscrits soumis doivent être lisibles et porter le nom de l'auteur, son indicatif, son ou ses numéros de téléphone ainsi que ses adresses postales, courriel et paquet s'il y a lieu. Si vous avez envie d'écrire pour *TCA :* http://wp.rac.ca/p155/

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RADIO AMATEURS OF CANADA / RADIO AMATEURS DU CANADA

NATIONAL EXECUTIVE

PRESIDENT
Glenn MacDonell, VE3XRA
2047 Chalmers Road
Ottawa, ON K1H 6K4
Tel. 613-523-4333
Email: ve3xra@rac.ca

VICE-PRESIDENT COMMUNITY SERVICES OFFICER
Doug Mercer, VO1DTM
Box 1042
84 Main Road
Goulds NL A1S 1H2
Tel. 709-364-4741
Email: vo1dm@rac.ca

CHIEF INFORMATION AND TECHNOLOGY OFFICER
Paul Burggraaf, VO1PRB
51 Greenspond Drive
St. John's, NL A1E 5Z9
Tel. 709-745-1999
Email: vo1prb@rac.ca

INTERNATIONAL AFFAIRS OFFICER
George Gorsline, VE3YV
118 MacPherson Avenue
Toronto, ON M5R 1W8
Tel. 416-921-4214
Email: ve3yv@rac.ca

REGULATORY AFFAIRS OFFICER
Richard Ferch, VE3IAY/VE3KI
PO Box 1291
86 Richland Drive
Richmond, ON K0A 2Z0
Tel. 613-838-8876
Email: regulatory@rac.ca

HONOURARY LEGAL COUNSEL
Marcel D. Mongeon, VA3DDD
Suite 374
3-35 Stone Church Road
Ancaster ON L9K 1S4
Tel. 905-390-1818
Email: va3ddd@rac.ca

CORPORATE SECRETARY
Sukwan Widajat, VA3WID
4610 Donegal Drive
Mississauga, ON L5M 4H2
Tel. 647-836-9091
Email: va3wid@rac.ca

TREASURER
Dorothy Brown, VA7DBR
12542 24A Avenue
Surrey, BC V4A 8H9
Email: dorothyebrown@shaw.ca

REGIONAL DIRECTORS

ATLANTIC
Everett Price, VO1DK
6 Virginia Road
St John's, NL A1A 3A8
Tel. 709-738-3508
Email: vo1dk@rac.ca

MIDWEST
Derek Hay, VE4HAY
51 St. Hilaire Place
Winnipeg MB R2J 4B5
Tel. 204-257-1420
Email: ve4hay@rac.ca

Please see the Director's Nomination Notice on page 18 of this issue of TCA.

ALBERTA/NWT/NU
Vacant

Please see the Director's Nomination Notice on page 17 of the September-October 2015 TCA.

ONTARIO NORTH/EAST
Vacant

BRITISH COLUMBIA/YUKON
William (Bill) Gipps,
VE7ISV/VE7XS
9362 – 206A Street
Langley, BC V1M 2W6
Tel. 604-328-0111 Mobile
Email: Bill.Gipps@gmail.com

ONTARIO SOUTH
Phil McBride, VA3QR/VA3KPJ
134 Longfield Road
Acton, ON L7J 2K4
Tel. 416-884-0480
Email: va3qr@rac.ca

QUEBEC
Vacant

Please see the Director's Nomination Notice on page 18 of this issue of TCA.

DEPUTY DIRECTORS

ATLANTIC
Len Morgan, VE9MY
QUEBEC
Normand Pitre, VE2NHK
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Richard Holder, VE4QK
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Keith Baker, VA3KSF (Sarnia)
Jerry Beneteau, VE3EXT (Essex & Kent)
Doug Frame, VE3JDF (Niagara)
Stan Leschinsky, VE3TW (Greater Toronto Area)

RAC SECTION MANAGERS

ALBERTA
Garry Jacobs, VE6CIA
45 Selkirk Boulevard
Red Deer, AB T4N 0G4
ve6cia@rac.ca

BRITISH COLUMBIA/YUKON
Acting: Bill Gipps, VE7XS
9362 – 206A Street
Langley, BC V1M 2W6
Bill.Gipps@gmail.com

MANITOBA
Jan Schippers, VE4JS
202 Sadler Avenue
Winnipeg, MB R2M 1P3
ve4js@rac.ca

MARITIMES
Craig Seaboyer, VE1DSS
136 Ohio Lake Road, RR 1
Antigonish, NS B2G 2K8
cseaboye@stfx.ca

NEWFOUNDLAND-LABRADOR
Boyd Snow, VO1DI
78 Main Road
Bristol's Hope
NL, A1Y 0A7
vo1cbs@eastlink.ca

ONTARIO NORTH
Allan Boyd, VE3AJB
27 Red Mill Road, Box 208
Little Current, ON P0P 1K0
ve3ajb@vianet.ca

ONTARIO SOUTH
Allan Foley, VE3XAL
9 Cutter Circle, RR1
New Lowell, ON, L0M 1N0
ve3xal@rac.ca

ONTARIO EAST
Michael Hickey, VE3IPC
2768 Chartrand Road
Lefaivre, ON K0B 1J0
ve3ipc@gmail.com

ONTARIO GTA
Acting: Rick Harrison, VA3NV
PO Box 85001
Burlington, ON L7R 4K3
ve3yrh@gmail.com

QUEBEC
Vacant

SASKATCHEWAN
Summer Hartzfeld, VE5SDH
407-2240 Albert Street
Regina, MB S4P 2V2
lyta@sasktel.net

For complete Section Reports please see the Section News on page 58.

THE RAC QSL BUREAU SYSTEM

The **RAC Outgoing QSL Bureau** service is available to RAC members, RAC affiliated clubs (club call only) and QSL Managers who are members of RAC. Your RAC membership number must accompany each shipment of QSL cards.

RAC Outgoing QSL Bureau
PO Box 11156, Station H
Nepean, ON K2H 7T9
Telephone: 613-670-3230
Email: ve3exy@rac.ca

There are limits and restrictions for use of the Outgoing QSL Bureau. For more information, surcharges and card sorting details, visit http://wp.rac.ca/ or http://www.magma.ca/~ve3exy/bureau.html.

The **Incoming QSL Bureau** service is a user-pay system, using one of four methods – (**A**) envelopes (**B**) credits (**C**) labels or (**D**) combination credit with labels – to get cards to you. Visit http://wp.rac.ca/the-rac-national-incoming-qsl-bureau/.
(*Note: Method B is preferred).

VE1 – VE0 Bureau (B)
Brit Fader Memorial QSL Bureau
Sponsored by the Halifax ARC
Tom Caithness, VE1GTC
PO Box 8895
Halifax, NS B3K 5M5

VE2 Bureau (A, B)*
Jacques Dubé, VE2QK
875 rue Sévère
Trois-Rivieres, PQ G9A 4G4

VE3/VA3 Bureau (B)
Mike Christmas, VE3XMS
PO Box 216
Streetsville, ON L5M 2B8
ve3qcb.ca

VE4 Bureau (B)
Harm Hazeu, VE4HAZ
7 Ashley Cove
Winnipeg, MB R2G 2Z3

VA5/VE5 Bureau (B)
Todd Bendtsen, VE5MX
616 Moffet Drive
Weyburn, SK S4H 2M7

VE6/VA6 Bureau (B)
Larry Chapple VE6KC
208 Canterbury Place SW
Calgary, AB T2W 1P4
http://www3.telus.net/telwest/QSLBuro.html

VA7/ VE7 Bureau (B)
Ken Clarke, VE7BC
12441 – 58A Avenue
Surrey, BC V3X 1X6

VE8/VY0 Bureau (A, B)*
John Boudreau, VE8EV
PO Box 3099
Inuvik, NT X0E 0T0

VE9/VY2 Bureau (B)
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Wayne Gillcash, VE1RR
Box 73
Moncton, NB E1C 8R9

VO Bureau (B, C)*
Rick Burke, VO1SA
Box 23099, Churchill Square
St. John's, NL A1B 4J9

VY1 Bureau (A, B)
Hugh Henderson, VY1HH
Box 33062
Whitehorse, YT Y1A 5Y5

Silent Keys – In Memoriam

With regret, we record the passing of these Amateur Radio operators.
Nous avons le regret de vous annoncer le décès des radioamateurs suivants.

VA3FF – Fergie Ferguson, of London, ON, at age 82, on October 31, 2015.

VA3GAK – Gerald Kocha, of Mississauga, ON, at age 66, in October, 2015.

VA3JAD – Joe Davidson, of Marmora, ON, at age 80, on November 2, 2015.

VA7UZ – Rolland Lewis, of Richmond, BC, at age 92, on July 4, 2015.

VE1DLT – Donnie Taylor, of Dobson Corner, NB, at age 72, on September 10, 2015.

VE1DRI – David Ingraham, of Margaree Valley, NS, on September 19, 2015.

VE1EJC – Ed Comeau, of Digby, NS, at age 72, on September 8, 2015.

VE1GAM – George Meisner, of Hebbville, NS, at age 70, on July 26, 2015.

VE1PG* – Doug Stallard, of New Glasgow, NS, at age 93, on October 1, 2015.

VE1UR – Peter Hardy, of Bridgewater, NS, at age 77, on September 27, 2015.

VE1XLY – Red Holmes, of Southbury, CT, at age 83, on July 18, 2015.

VE2LSA – Linda St-Amour, of Joliette, QC, at age 54, on November 4, 2015.

VE3CZM – Jim McIntosh, of Brighton, ON, at age 88, on August 31, 2015.

VE3DVV – John Vandenberg, of Hamilton, ON, at age 70, on October 3, 2015.

VE3FOR – John Norris, of Etobicoke, ON, at age 94, on November 14, 2015.

VE3FXQ – Larry Allen, of Weston, ON, at age 67, on October 9, 2015.

VE3GBD – Graham Bennett, of Ottawa, ON, at age 62, on November 17, 2015.

VE3GUD – David Dell, of Whitby, ON, at age 70, on November 26, 2015.

VE3GUZ – Weldon Plath, of Pembroke, ON, at age 69, on April 29, 2015.

VE3LX – Herman Prenger, of Thunder Bay, ON, at age 88, on September 7, 2015.

VE3SYV – Dick Hurt, of Windsor, ON, at age 84, on November 7, 2015.

VE3UHH – Norm Scudellari, of Pickering, ON, at age 93, on July 4, 2015.

VE3USN – George Ferguson, of Dundas, ON, at age 89, on October 10, 2015.

VE3ZBZ – David Howell, of Calabogie, ON, at age 87, on September 26, 2015.

VE4BI – Ed Bodnar, of Winnipeg, MB, at age 87, on October 28, 2015.

VE4CA – Dan Connors, of Brandon, MB, at age 79, on November 16, 2015.

VE4PK – Bob Coutts, of Winnipeg, MB, at age 95, on October 13, 2015.

VE6AAJ – James Hooey (VA6WJ), of Calgary, AB, at age 75, on September 21, 2015.

VE7BVO – Bill Newton, of Penticton, BC, at age 74, on November 26, 2015.

VE7ET – James Dragan, of Vancouver, BC, at age 101, on November 19, 2015.

VE7FOR – Louis Fortier, of Victoria, BC, at age 90, on November 8, 2015.

VE7GRE – Don Green, of Kelowna, BC, at age 92, on May 28, 2013.

VE7HBG – Robert Henderson, of Surrey, BC, at age 64, on September 30, 2015.

VE7IDU – Dave Savoie, of Burnaby, BC, at age 74, on October 13, 2015.

VE9UP – Armand Vienneau, of Shediac River, NB, at age 82, on September 21, 2015.

*Note: In the above list an * indicates that a call sign has been reissued. The list of Silent Keys is prepared by volunteers at RAC Headquarters. Please send obituary notices by email directly to rachq@rac.ca. For more information on how the list of Silent Keys is prepared please see the article "Behind the Silent Key Notices" by Mike Kelly, VE3FFK, on page 7 of the November-December 2015 TCA.*

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 http://wp.rac.ca.

REVISED RAC 0-30 MHZ BAND PLAN RELEASED

The revised RAC 0-30 MHz Band Plan has been released with the effective date of December 1, 2015. This replaces the January 1, 2015 Band Plan version. It incorporates several updates to reflect feedback received on the earlier version. The Band Plan graphics have also been changed to improve readability and make it easier to determine which segments are recommended for which modes, especially for those who are colour-blind.

The RAC 0-30 MHz Band Plan is provided on the inside front cover of this issue of TCA and is available on the RAC website at http://wp.rac.ca/rac-0-30-mhz-band-plan. A downloadable PDF file is available by clicking the image. The French version may be found at http://wp.rac.ca/qc/rac-du-plan-de-bande-0-30-mhz

Hats off to Vince d'Eon, VE6LK, for the many hours of work preparing the graphics through numerous revisions. Thanks to the RAC Band Planning Committee, chaired by Al Penney, VO1NO, with members Mel Martin, VE2DC, Ken Asmus, VA3KA, Frank VanderZande, VE7AV and Don Moman, VE6JY, for the over one-year commitment in reviewing the old band plans and current practices.

Thanks also to Claude Lalande, VE2LCF and Dann St-Pierre, VE6TD, for their help in producing the French language version and to Eric Lysenko, VE3EAL, for his insights on improving readability. Finally, RAC would like to thank all those who provided comments on the January 1, 2015 Band Plan. This feedback was instrumental in producing a graphic of great use to Canadian Amateurs.

The RAC 0-30 MHz Band Plan is a living document. Comments and suggestions are welcome. Please use the comment form at wp.rac.ca/executives and select International Affairs Officer. Comments will be acknowledged and forwarded to the full RAC Band Planning Committee for consideration as future updates.

George Gorsline, VE3YV
International Affairs Officer

MISE À JOUR ET PUBLICATION DU PLAN DES BANDES 0-30 MHZ DE RAC

Le plan des bandes 0-30 MHz révisé de RAC a été rendu public le 1er décembre 2015. Il remplace la version du 1er janvier 2015 et intègre plusieurs mises à jour de la version antérieure. La représentation graphique du plan des bandes a aussi été modifiée pour en faciliter la lecture et rendre plus facile l'identification des segments recommandés pour chaque mode, particulièrement au bénéfice de ceux atteints de daltonisme.

Le plan des bandes 0-30 MHz de RAC est disponible à l'intérieur de la couverture avant du présent numéro de TCA et sur le site web de RAC à : wp.rac.ca/rac-0-30-mhz-band-plan. Le téléchargement du fichier en mode PDF est possible en cliquant sur l'image. La version française est disponible à : wp.rac.ca/qc/rac-du-plan-de-bande-0-30-mhz

Chapeau à Vince d'Eon, VE6LK, pour les nombreuses heures de travail passées à préparer et à réviser plusieurs fois les graphiques. Merci au Comité du plan des bandes de RAC, présidé par Al Penney VO1NO, et aux membres Mel Martin VE2DC, Ken Asmus VA3KA, Frank VanderZande VE7AV et Don Moman VE6JY pour leur implication de plus d'un an à revoir les anciens plans et les pratiques actuelles. Merci aussi à Claude Lalande, VE2LCF et Dann St-Pierre, VE6TD pour leur aide dans la préparation de la version française, et à Eric Lysenko VE3EAL pour ses idées sur l'amélioration de la lisibilité du graphique. Finalement, RAC aimerait remercier tous ceux qui nous ont envoyé des commentaires sur le plan des bandes du 1er janvier2015. Ces commentaires nous ont servi à produire un graphique qui sera très utile pour les amateurs canadiens.

Le plan des bandes 0-30 MHz de RAC est un document en évolution. Commentaires et suggestions sont les bienvenus. Veuillez, s.v.p. utiliser le formulaire à : wp.rac.ca/executives pour vos commentaires et choisir « Responsable des affaires internationales ». Vos commentaires seront retenus et acheminés à tous les membres du Comité du plan des bandes de RAC et pris en considération pour la prochaine mise à niveau.

George Gorsline, VE3YV
Responsable des affaires internationales

JIM DEAN AND FARRELL HOPWOOD APPOINTED TO HALL OF FAME

The Board of Trustees of the Canadian Amateur Radio Hall of Fame is pleased to appoint Jim Dean, VE3IQ (SK) of Ottawa, ON and Farrell (Hoppy) Hopwood, VE7RD, of North Vancouver, BC to the Hall of Fame for 2015. The awards will be presented at local ceremonies in coming months. A summary of their contributions to Amateur Radio can be found on page 21 of this issue of *The Canadian Amateur*.

The appointments are to recognize Amateurs for outstanding achievement and 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, appointed by the Directors of Radio Amateurs of Canada.

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

JIM DEAN ET FARRELL HOPWOOD NOMMÉS AU TEMPLE DE LA RENOMMÉE

Le Conseil des administrateurs du Temple de la renommée pour les radioamateurs du Canada est heureux de nommer Jim Dean, VE3IQ (SK) d'Ottawa, Ont. et Farrell (Hoppy) Hopwood, VE7RD, de Vancouver Nord, C.-B. au Temple de la renommée pour 2015. Le prix sera remis lors d'une cérémonie locale dans les mois à venir. Un résumé de leur contribution au radioamateurisme peuvent être consultés sur la page 21 de ce numéro de *The Canadian Amateur*.

Ces nominations sont à l'effet de souligner leurs réalisations hors du commun et leur participation soutenue au radioamateurisme du Canada ou de façon générale. Le Conseils des administrateurs est constitué de radioamateurs représentant chaque province du Canada, nommés par les directeurs de Radio Amateurs du Canada.

Ed Frazer, VE7EF
Président, Conseils des administrateurs
Temple de la renommée radioamateur canadien

NEW ONTARIO GTA SECTION MANAGER

Congratulations are extended to Rick Harrison, VA3NV, our new Section Manager for Ontario GTA. Rick has been active in the Section for many years, and looks forward to working with all amateur radio operators in the GTA Section.

I join with the members of the RAC Executive and Board in saying welcome aboard.

Doug Mercer, VO1DM
RAC Community Services Officer

AND AROUND THE WORLD...

SUCCESS AT THE WORLD RADIOCOMMUNICATION CONFERENCE IN GENEVA

A new international allocation, which will likely become known as our 60 metre band, was achieved during the 2015 World Radiocommunication Conference (WRC-15) which took place in Geneva, Switzerland in November.

It's a secondary allocation which means we must take steps to ensure that we do not interfere with the primary users who are principally fixed and mobile government and military users. And we must tolerate any interference we experience from them. The new band is 15 kilohertz in size from 5351.5 to 5366.5 kHz and in Canada we would be limited to 15 watts (EIRP). Please see the article on page 12 for a complete report.

Shown in the group photo above are:

Front row, left to right: Bryan Rawlings, VE3QN, for RAC and a member of the Canadian delegation; Ken Yamamoto, JA1CJP, for the Japan Amateur Radio League and a member of the Delegation of Japan; Hans Blondeel Timmerman, PB2T, for the Netherlands Delegation and Colin Thomas, G3PSM, for RSGB and a member of the U.K. Delegation.

Back row, left to right: Ole Garpestad, LA2RR, IARU Vice-President and a member of the Norwegian Delegation; Reinaldo Leandro, YV5AM, IARU Region 2 President; Ulrich Müller, DK4VW, for Deutsche Amateur Radio Club and a member of the German Delegation; Brennan Price, N4QX, ARRL Chief Technology Officer and the US Delegation and Don Wallace, ZL2TLL, of the New Zealand Delegation.

Absent for the group photo: Dale Hughes, VK1DSH, for the Wireless Institute of Australia and the Australian Delegation; Flávio Archangelo, PY2ZX, representing CITEL and the Brazilian Delegation; Faisal al-Ajmi, 9K2RR, IARU Region 1 Vice-President and the Arab Spectrum Management Group; Don Beattie, G3BJ, IARU Region 1 President and Jon Siverling, WB3ERA, ARRL and the U.S. Delegation.

Also participating in Geneva:

Tim Ellam, VE6SH, IARU President; David Sumner, K1ZZ, ARRL Chief Executive Officer and Tafa Diop, 6W1KI, IARU Advisor.

Bryan Rawlings, VE3QN – RAC Special Advisor – WRC-15

For the RAC Store visit: http://www.cafepress.ca/rac_radio

LARRY PRICE, W4RA, APPOINTED HONORARY MEMBER OF HALL OF FAME

Following the nomination by the Board of Directors of Radio Amateurs of Canada (RAC), the Board of Trustees of the Canadian Amateur Radio Hall of Fame is pleased to appoint Larry E. Price, W4RA, of Statesboro, Georgia as an Honorary Member of the Canadian Amateur Radio Hall of Fame.

The appointment is in recognition of Larry's many years of support of Radio Amateurs of Canada and Amateur Radio in Canada. Honorary appointments can only be initiated by the Directors of RAC. This is the first Honorary appointment in the history of RAC.

Larry's induction to the Hall of Fame will take place in early 2016. A summary of his contributions to Amateur Radio will be published in future issue of *The Canadian Amateur* magazine.

Submitted by Ed Frazer, VE7EF
Chair, Board of Trustees
Canadian Amateur Radio Hall of Fame

AO-85 COMMISSIONED AND TURNED OVER TO AMSAT-NA OPERATIONS

Fox-1A (AO-85) has been formally commissioned and turned over to AMSAT Operations, which is now responsible for the scheduling and modes. Fox-1A is AMSAT-NA's first CubeSat.

The Fox-1 Project is a series of CubeSats. A total of five will be built and flown. Launches already have been scheduled for three more, and a new NASA CubeSat Launch Initiative proposal will be submitted for the fifth launch.

The Fox Team noted that an apparent lack of receiver sensitivity and difficulty in turning or holding on the repeater with the 67 Hz CTCSS tone are probably the most notable observations about AO-85.

– AMAT News / The ARRL Letter

A MESSAGE FROM THE PRESIDENT / UN MESSAGE DU PRÉSIDENT

Glenn MacDonell, VE3XRA
ve3xra@rac.ca

Happy New Year and welcome to my first Message as President of Radio Amateurs of Canada.

First, a very big thank you to Geoff Bawden, VE4BAW, who has guided RAC over the past six years. I have worked with Geoff in various positions on the RAC Executive and the Board of Directors since 2012. I have seen firsthand the incredible commitment he has to Amateur Radio in Canada and to making sure we have a strong organization able to defend it. Geoff devoted considerable time to meeting and talking with people across the country and I intend to do the same. He is also quite rightly proud of getting RAC's financial house in order over the course of his three terms. Without that work we might very well not have a national organization today. This has paid off in several recent significant developments described elsewhere in this issue of TCA. While he has said he wants to spend more time on the air and has a couple of towers and some new antennas to install at his cabin, I am sure he will be making other contributions to Amateur Radio and to RAC in the future as well.

For those of you who I haven't yet met, here is a bit of my background. My first encounter with Amateur Radio was in the form of a helpful neighbour who I met while putting up an antenna for the crystal radio my parents gave me when I was in elementary school. His advice and his gift of an Amateur Radio Handbook opened the door to interests in antennas, electronics and communications that have continued to develop throughout my life. I love operating, meeting people on the air, building and experimenting, providing communications services to community activities and talking about Amateur Radio with anyone willing to do so. I have worked most bands from 160 metres to 10 GHz and take particular delight in helping out with and participating in Field Days and major contests on HF, VHF and above.

I'm also keen to help build the Amateur Radio Service where I can. I've served on the Executives of several local clubs and as President of the Ottawa Amateur Radio Club. With representatives of these clubs I negotiated with the City of Ottawa to simplify processes for installing Amateur Radio antennas. I've had a chance to meet RAC members across the country over the past five years: first as Deputy Director of the Ontario North/East Region; then as Regulatory Affairs Officer and Vice-President; and most recently as Director Ontario North/East. During this time I led the review of the exam banks for Amateur Radio exams that RAC performed, with the assistance of RAQI, under contract to Industry Canada.

While I am enthusiastic about taking on the RAC Presidency, I know from my time working closely with Geoff Bawden, VE4BAW, while I was Vice-President how demanding this position can be. Our members are scattered across this large country and engaged in many different aspects of Amateur Radio.

Bonne et heureuse année et bienvenue à mon premier message en tant que président de Radio Amateurs du Canada.

D'abord, un gros merci à Geoff Bawden, VE4BAW, qui a dirigé RAC au cours des six dernières années. J'ai maintes fois travaillé avec Geoff au Conseil exécutif et au Conseil d'administration depuis 2012. J'étais aux premières loges pour voir son incroyable implication dans la radio amateur au Canada et pour s'assurer que nous ayons une organisation forte capable de défendre le radioamateurisme. Geoff a mis beaucoup de temps à rencontrer et à parler avec les gens partout au pays; j'ai l'intention de suivre son exemple. Il est, à juste droit, tout à fait heureux d'avoir remis de l'ordre dans les finances de RAC au cours de ses trois mandats. Sans ce travail nous pourrions bien ne plus avoir d'organisation nationale aujourd'hui. Plusieurs développements récents, dont la description est présente ailleurs dans le présent numéro de TCA, en témoignent. Même s'il dit qu'il veut passer plus de temps sur l'air et à travailler à la construction et l'installation de tours et de quelques nouvelles antennes à son chalet, je suis certain qu'il contribuera encore au développement du radioamateurisme et de RAC.

Pour ceux et celles que je n'ai pas encore rencontrés, voici un peu de mon CV. Ma première rencontre avec le radioamateurisme fut sous la forme d'aide reçue de la part d'un voisin alors que je travaillais à installer une antenne pour le radio cristal que mes parents m'avaient donné. Je fréquentais encore l'école primaire. Ses conseils et le cadeau d'un livre sur la radio amateur ont suscité en moi de l'intérêt pour les antennes, l'électronique et les communications. Je devais continuer le développement de cet intérêt tout au long de ma vie. J'aime aller sur l'air et rencontrer des gens, construire et expérimenter des services de communications pour la communauté et parler du radioamateurisme avec tous ceux qui le souhaitent. J'ai opéré sur la plupart des bandes du 160 mètres jusqu'au 10 GHz et éprouvé un plaisir particulier à aider à l'organisation des « Field Days », à y participer de même qu'aux principaux concours sur HF, VHF et au-delà.

J'éprouve aussi un vif plaisir à aider à la mise en place de services radioamateurs là où je peux. J'ai été membre de conseils exécutifs de plusieurs clubs locaux et président du Club Radio Amateur d'Ottawa. Avec l'aide des représentants de ces clubs, j'ai négocié avec la ville d'Ottawa pour simplifier la procédure d'installation des antennes radioamateures. J'ai eu la chance de rencontrer des membres de RAC partout au pays au cours des cinq dernières années, d'abord comme assistant directeur de la région du nord-est de l'Ontario, puis comme responsable des affaires règlementaires, vice-président et, plus récemment, comme directeur du nord-est de l'Ontario. Durant cette période, avec l'aide de RAQI, j'ai dirigé la révision des questions d'examens radioamateurs que RAC dispensent sous contrat avec Industrie Canada.

Si je suis enthousiaste à la pensée d'occuper le poste de président de RAC, je sais, suite à ma longue expérience de travail très près de Geoff Bawden, VE4BAW, alors que j'étais vice-président, combien la position peut être exigeante. Nos membres sont dispersés à travers un grand pays et impliqués sous plusieurs aspects du radioamateurisme.

Guiding a national organization that understands the diverse interests of Radio Amateurs – and which is well enough managed to make useful contributions to them – would be a challenge to any organization. RAC also faces the additional challenge of doing all of this through volunteers. Our small office focuses on the necessities of a national organization: handling membership applications and renewals and administrative tasks. All Executive and Board members donate their time to the organization, as do the many volunteers who deliver the programs and services we see as expressions of what RAC does for Amateur Radio. At the public meeting held in Toronto last May and at the Annual General Meeting in Saskatoon in July, we had a number of volunteers join the meetings electronically to describe their activities. I hope we can strengthen the support we give to our volunteers, but we will continue to count on people who value Amateur Radio and are willing to work to strengthen it.

At the World Radiocommunication Conference (WRC-15) in November (see page 12), there was a major victory for Amateur Radio internationally in which Radio Amateurs of Canada and, in particular, RAC's Special Advisor Bryan Rawlings, VE3QN, made a significant contribution. The new international allocation at 60 metres is the first new HF Amateur band created in 36 years since the 1979 decision on the WARC bands 30m, 18m and 12m. Bryan is the latest of several RAC volunteers who have worked on these issues over the past decade, and who have combined diplomacy and tact with their knowledge of the international regulatory process and of Amateur Radio in general. We have had continuing support from Industry Canada largely as a result of the commitment and the hard work done first by Bryan's predecessors and then by Bryan throughout the four years leading up to and then at WRC-15. Our contribution is well recognized by other national and international Amateur Radio organizations. Canada has a reputation of "punching well above its weight" – to quote David Sumner, K1ZZ, CEO of the American Radio Relay League (ARRL) – on these international issues. The Defence of Amateur Radio program (see page 49) made it possible for Bryan and his predecessors to participate in these important meetings and Radio Amateurs around the world have benefitted.

Before closing, I'd like to welcome another RAC volunteer back into an Executive position. Richard Ferch, VE3KI, is now serving as our Regulatory Affairs Officer. Many of you know Richard as a dedicated contester and may remember that he also previously served three terms as the Executive member responsible for Regulatory Affairs several years ago. I am sure we will benefit from his knowledge and experience

Glenn MacDonell, VE3XRA
RAC President and Chair

Diriger une organisation nationale qui couvre tant d'intérêts divers radioamateurs – et qui se doit d'être administrée de manière à être profitable à chacun d'eux – serait un défi pour toute organisation. RAC, de plus, doit faire face au défi de travailler avec une équipe de bénévoles. Notre petit bureau doit accorder la priorité aux choses nécessaires à une organisation nationale comme s'occuper du recrutement et du renouvellement des cartes de membres et voir aux tâches administratives. Tous les membres de l'Exécutif et du Conseil d'administration travaillent gratuitement pour l'organisation, comme le font nos nombreux bénévoles qui s'occupent des programmes et des services; ils sont l'expression de ce que RAC fait pour la radio amateur. À la réunion publique tenue à Toronto en mai dernier et à l'Assemblée générale annuelle de Saskatoon en juillet, plusieurs bénévoles se sont joints à l'assemblée par lien électronique pour nous décrire leurs activités. J'espère que nous pourrons améliorer le soutien à nos volontaires et continuer de compter sur la population pour valoriser le radioamateurisme et le renforcer.

À la Conférence mondiale des radiocommunications (CMR-15) en novembre (voir page 12), il y eu une victoire majeure pour la radio amateur internationale à l'égard de laquelle Radio Amateurs du Canada et, en particulier Bryan Rawlings, VE3QN, conseiller spécial de RAC, contribuèrent de façon marquée. La nouvelle allocation internationale du 60 mètres est la première nouvelle bande radioamateure créée en 36 ans, c'est-à-dire depuis 1979, année de la décision de la WARC d'accorder les bandes de 30m, 18m et 12m. Bryan est le dernier des nombreux bénévoles de RAC à avoir travaillé sur ces enjeux au cours des dix dernières années. Ils ont su joindre diplomatie et connaissances des procédures règlementaires internationales radioamateures en général. Nous avons eu un support continuel d'Industrie Canada dû en grande partie à l'implication et au travail accompli par les prédécesseurs de Bryan, et de Bryan lui-même, durant ses quatre ans de leadership à la CMR-15. Notre contribution est bien reconnue par les autres organisations nationales et internationales radioamateures. Le Canada a la réputation de « cogner bien au dessus de son poids" – pour citer David Sumner, K1ZZ, CEO de l'American Radio Relay League (ARRL) – quand il y a enjeux internationaux. La défense du programme radioamateur (voir page 49) a rendu la participation possible pour Bryan et ses prédécesseurs à ces importantes réunions. Le radioamateurisme à travers le monde en a bénéficié.

Avant de terminer, j'aimerais souhaiter la bienvenue à un autre bénévole de RAC de retour à l'Exécutif, Richard Ferch, VE3KI. Il est notre nouveau responsable des affaires règlementaires. Plusieurs d'entre vous connaissent Richard comme un franc-tireur de talent et peuvent se rappeler qu'il a déjà occupé le poste de membre de l'Exécutif responsable des affaires règlementaires durant trois mandats, il y a plusieurs années. Je suis certain que nous profiterons de ses connaissances et de son expérience.

Glenn MacDonell, VE3XRA
RAC Président-directeur général

– Traduction par Claude Lalande, VE2CLF. Merci Claude!

SIX METRES AND DOWN

PRESERVING OUR SPECTRUM: CONSERVATION AND POLLUTION

Dana Shtun, VE3DS
14 Ashwood Crescent
Toronto, ON M9A 1Z3
E: ve3dss@rac.ca
W: www.qsl.net/ve3dss

You know, over the last 50 years society has become much more aware of and able to proactively push governments to reduce the potential damage or after effects of pollution of our physical environment, whether it be related to sulfur dioxide, ground level ozone, particulates, asbestos, dumping of chemicals or wastes into our lakes and rivers, or pushing for more efficient and cleaner technologies.

All great stuff to be sure and given that we all live on this large rock hurtling through space, necessary for our survival.

But there is another aspect that so far has escaped the front pages and that is the pollution of our RF environment – in particular our UHF/VHF and Microwave spectrum.

Now, you may scoff and say how can you pollute the invisible radio spectrum? Well it's there for all to see on your radio, spectrum analyzer or even on your cellphone.

So you have a dead spot where you can't make phone calls, or suddenly your DTV over the air signal disappears, or your S meter is suddenly jumping up to 20 over S9 on 144.2 MHz every 30 seconds. It's pollution: intermod from a dirty pager, wideband noise from a poorly maintained electrical distribution system, noise from a street light, wideband noise from traffic lights, static from the neighbours grow op grow lights, or DC furnace motor control, or even the kitchen counter lights– the list is huge and sadly growing daily.

So what to do? Ask our regulators to enforce regulation? Promulgate stiffer regulations?

Ban the import of cheap RF gear from the far east? Ask retailers not to stock stuff that isn't compliant or is counterfeit? Ask our utilities to work cooperatively with us? Push for better regulation of unlicensed and licensed equipment?

I'm sure some in industry will point out that there are "regulations" and "codes and standards" in play, but many are flawed and many are compromises. As we have seen in the past through hard experience, industry will complain about being forced to comply, the high cost and not having enough manpower – and they will say "who is it really bothering"?

Yes, we have heard this over and over in both the RF environment and the physical world. However, in the physical world the effects of inaction are apparent and sometimes dramatic and then there is a response. This is a classic human trait: to avoid, avoid, avoid until you are in a corner. But does it have to be this way with RF?

I think it's time we all got up and collectively said "reduce" the levels of pollution, across the board. The big question is how to do that and what levels should we strive for, and just who the heck will close the legal loopholes and give the regulating bodies the finances and support for them to enforce the standards, regulations and laws?

If we don't start now, I'm afraid that a time will come when our HF, UHF and VHF spectrum will be unusable. If we don't speak up now, over time it will be accepted as the "norm" and will be forgotten. Is that acceptable?

Everyone who uses RF spectrum should get on board and take ownership: be it the Amateur Radio community, Radio Broadcasters, Radio Astronomers, TV Broadcasters, Emergency Responders, Wireless Providers, the Satellite community, Marine users, Manufacturers, our Electrical utilities and Industrial users and more. What's it going to take? A child dying because an emergency call is missed due to interference?

Think about it, write your MP. Let's get on it. Declare "war" on QRM/QRN.

UHF/VHF 2016

Well it's the end of 2015 and by the time you read this column, the new year will be here. We are enjoying the last bits of warm weather here in Ontario in early November and it's a great time to start planning that antenna system upgrade for 2016.

VE3DS – TOWER MONKEY

Your truly took advantage of the warmth to scamper up the tower and pull the rotor out. Not an easy job, but not the worst either. My trusty old (1982) T2X still has the old connector plate for the rotor cable like the CDR rotors (Ham M and CD44) all had and needed to be replaced. The grease had also hardened up so out came the varsol and rags and the innards got cleaned up. The ball bearings were in good shape having been replaced back in 2005 so with a bit of scrubbing and new grease, the rotor went back together fine and testing it proved that it now turned faster and wasn't so noisy, hi. A blast of black high gloss paint and let her dry and back up she went as good as new.

The following day, I tightened the 6 metre beam supports (the 34-foot boom is supported by two Dacron ropes) that had taken a beating during the 2014 ice storm, and realigned the antennas as the fierce winds had knocked them a bit off true. Once they were done everything seems to be good for the winter and the ARRL January VHF Sweepstakes!

I guess we will see how the winter goes with El Niño in full bloom. Hopefully, it won't be too bad across our fair land!

Come spring, I'm going to pull everything off the tower and rearrange the antennas. It's a big pain but it will be much better with 4 x FO22's on 432 plus Stacked loopers on 902/1296/2304.

I'm also considering going with a smaller 6 metre yagi setup, but we will see how the Es season shapes up next summer.

144.285 MHZ

WA1ZMS/b Reported Heard in Brazil on TEP

Via UKSMG:

"Following on from G4SWX's talk on VHF DX over 3,000 kilometres, I was interested to hear from WA1ZMS about the possible, recent, reception of his high power 144.285.5 MHz transatlantic beacon, located in Virginia, by a VHF op in Brazil. Assuming it is genuine and I've heard the phone app recording, but am not 100% convinced, it represents a truly remarkable distance for

144 MHz and is certainly well in excess of the 3,000 kilometres mentioned in John's talk. Even more remarkable is that the path is about 85 degrees off the Great Circle!

If genuine, then the reception of the ZMS/B beacon by PU2XIZ, and passed on by PY2DS on the phone, PY2DS feels he heard the CW and there is a very valid chance it's a true copy.

It was possibly tropo enhanced TEP (Trans-Equatorial Propagation) and that is being investigated using modern analysis software. Part of the beacon sequence is clear on the recording, but not all of it."

Over the last 30 years there have been at least five reported TEP openings from the southern US into South America, but this is the farthest north that a station has made it.

Speaking of WA1ZMS, the licence for the sister beacon WG2XPN, on 70.005 MHz has been renewed by the Federal Communications Commission (FCC) until May 1, 2017!

The beacon runs with an ERP of 3 kW and has been received consistently in Europe on Sporadic E propagation each summer. In addition, if you have a 70 MHz receiver take a listen for it at any time of the year.

THE VE2FUT/B BEACON SET UP IN F25

Stu, VE2XX, advises that upgrades are being done to the beacon (see above photo) on 144.280 to include a proper power divider in the line to split the signal between the omni halo, and the six-element yagi pointing northwest for Auroral propagation detection. If you are in Ontario or Quebec take a listen for Stu's beacon.

VA3ELE – 2304

Peter, VA3ELE, had some time during the warm weather to get his array of four loop yagis up on the tower for 2304 MHz. Next on the list will be the 4 x 55 el looper for 1296, plus the lower four bands (see photo). Peter continues to blaze new DX trails on the microwave bands and runs the 1296.1 Net on Thursday nights at 2130 EST on "1296.1", so take a listen and call in.

Peter, VA3ELE, installing his 2304 MHz loop yagi array.

MORNINGS ON 144 MHZ

Stan, KA1ZE/3, continues to stimulate activity in the mornings from New England, New York, Ohio, Michigan, New Jersey, Pennsylvania, Ontario, Quebec and further afield out to Illinois, Wisconsin and Indiana on 144.205 MHz. Stan is actually living in Florida but has an amazing remote base in the hills in Pennsylvania. If you want to try out your DX skills drop in any morning!

VE3DS ARECIBO TALK

In November, I made a presentation to the Peel Amateur Radio Club about my trip to the Arecibo Radio Observatory trip. It was great to see the gang there and blow them away with the scale of the big dish! The club also has a keen homebrew group so, if you are interested in the world of homebrewing, check them out!

Well that's it for now, wishing you and yours a safe and prosperous 2016. Spring isn't far away and time to plan those antenna upgrade projects! Drop me a line to let me know what you are up to! – *73, Dana, VE3DS*

60 METRES AT LAST! 60 MÈTRES – ENFIN!

Bryan Rawlings, VE3QN
RAC Special Advisor – WRC-15
Aviseur spécial de RAC – CMR-15

Seated/Assis: Bryan Rawlings, VE3QN; Ken Yamamoto, JA1CJP; Hans Blondeel Timmerman, PB2T; Colin Thomas, G3PSM
Standing/Debout: Ole Garpestad, LA2RR; Reinaldo Leandro, YV5AM; Ulrich Muller, DK4VW; Brennan Price, N4QX; Don Wallace, ZL2TLL

A new international allocation, which will likely become known as our 60 metre band, was achieved during the 2015 World Radiocommunication Conference (WRC-15) which took place in Geneva, Switzerland in November.

It's a secondary allocation which means we must take steps to ensure that we do not interfere with the primary users who are principally fixed and mobile government and military users. And we must tolerate any interference we experience from them. The new band is 15 kilohertz in size from 5351.5 to 5366.5 kHz and in Canada we would be limited to 15 watts (EIRP).

A complicated sideshow to the allocation was a footnote which recognizes that certain countries are far enough from the borders of some of the objecting countries to use slightly more power. Consequently, countries in South and Central America and certain islands in the Caribbean will have a power limit of 25 watts EIRP. Mexico is an exception to the exception with a limit of 20 watts. Canada and the US were judged too close to enjoy any exemption.

Even with the stellar effort by the team of Amateurs who have been shepherding this project since it first appeared on the WRC-15 agenda in 2012 – efforts which I have summarized in recent TCA articles – getting this allocation done took over 20 hours of committee meetings with perseverance, diplomacy and patience. During these, the Amateur delegates repeatedly took on suggestions that the new allocation would impinge on crowded spectrum and cause unacceptable interference. The smaller-than-hoped size of this allocation, the unusual band edges and the modest power limit reflect the painful compromises that had to be made to get the support needed.

We entered these meetings challenged by a formidable group of countries: the Russian Federation, its 10 partners in the Russian Regional grouping (RCC), Iran, Japan, the United States, Egypt, Thailand and (potentially) Australia – among others – all intended to vote for "No Change", i.e., no new band for the Amateurs. That, in the end, the proposal for the new band was moved through the Conference with unanimous support defied the odds and is testimony to the skill and tenacity of the Amateur team aided by the advice and counsel of the International Amateur Radio Union. As a Canadian – and in relative terms – a newcomer to these proceedings, I would be remiss if I didn't give a shout-out to our regulator, Industry Canada, and to the team which it sent to WRC-15 without whose unwavering support, I believe, the final outcome might have been different.

Une allocation internationale d'une nouvelle bande amateure, qui vraisemblablement sera reconnu comme notre bande de 60 mètres, a été accordée au cours de la Conférence mondiale de la radiocommunication 2015 (CMR-15). La Conférence s'est tenue à Genève en Suisse, en novembre.

C'est une allocation de type secondaire. Cela signifie que nous devons prendre les mesures nécessaires afin de ne pas interférer avec les utilisateurs primaires, principalement des stations fixes et mobiles gouvernementales et militaires. Et nous devons, par contre, tolérer toute interférence venant d'eux. La nouvelle bande est d'une largeur de 15 kHz, de 5351.5 à 5366.5 kHz et, au Canada la puissance sera limitée à 15 watts (EIRP).

En aparté à l'allocation, sous forme de note de bas de page, l'on reconnaît que certains pays suffisamment éloignés des frontières des pays objecteurs puissent utiliser légèrement plus de puissance. En conséquence, les pays d'Amérique du Sud, d'Amérique Centrale et certaines îles des Caraïbes pourront utiliser jusqu'à 25 watts EIRP. Le Mexique est exceptionnellement limité à 20 watts. Le Canada et les États-Unis ont été jugés trop près des pays dits objecteurs pour bénéficier de toute exemption.

Même avec les gigantesques efforts de l'équipe d'amateurs qui ont piloté ce projet depuis son inscription à l'agenda de la CMR-15 en 2012 – les efforts que j'ai résumés dans de récents articles de TCA – obtenir cette allocation a nécessité un travail de diplomatie et de patience qui a duré 20 heures en comité et réunions soutenues. Durant ce temps, les amateurs délégués, contestaient les arguments répétés sans arrêt que la nouvelle allocation allait empiéter sur le spectre déjà occupé et causer d'inacceptables interférences. Le résultat mitigé moins consistant que prévu, la faible largeur de bande inhabituelle et la limite de puissance obtenues témoignent du douloureux compromis qu'il nous a fallu faire pour obtenir le support nécessaire.

Bryan Rawlings, VE3QN, Christine Hsu (Industry Canada) and Flávio Archangelo, PY2ZX, at the Conference Centre.

I have so far avoided naming names – deliberately – for I fear missing ones whose contributions were truly critical. No one will fault me, however, for mentioning the following two individuals.

Dale Hughes, VK1DSH, was handed the task of chairing the Sub-Working Group which laboured through hour after hour of extremely stressful negotiations. The 60 metre project teetered between success and failure again and again. Dale's patience and courteous ways stayed the course. Bravo Dale!

Christine Hsu, Senior Spectrum Engineer with Industry Canada, was no stranger to the 60 metre project having toiled with us through four years of Working Party 5A meetings where she chairs the Canadian delegation. Anyone who has worked with Christine cannot but marvel at her capacity for hard work and good humour – in equal measure.

The new band will not begin to become available to us until the Final Acts of the Conference, which will likely come into effect at the beginning of 2017. Only then, if past practice is followed, will Industry Canada consider the new allocation and – most probably – seek public comment on it. Depending on the outcome of those deliberations, the band could then be made available to Canadian Amateurs.

If you think this is a long time coming, it's worth remembering that the Amateur community has been seeking an allocation here for two decades or more. This allocation is the first new piece of HF spectrum to be allocated to the Amateur Radio Service since the 30, 17 and 12 metre bands in the World Administrative Radio Conference in 1979. In the meantime, there are no indications that our access to five "spot" frequencies in the 60 metre range – products of a "domestic" allocation Industry Canada made in 2014 – will be curtailed anytime soon.

This experience at WRC-15 is the most visible testimony to a simple truth: the continuation of the Amateur Radio Service as we know it depends on our continuing to be present and involved. Despite our tendency often to regard it as a hobby, Amateur Radio is defined in the Radio Regulations as a service. That standing and the willingness of Amateur Radio societies, like Radio Amateurs of Canada, to incur the expense of working with their regulator and showing up at the International Telecommunications Union (ITU) to pursue and defend the interests of our pastime in a professional and skilled manner, helps us keep our bands and – every so often – gets us a new one.

Bryan Rawlings, VE3QN, Christine Hsu (Industrie Canada) et Flávio Archangelo, PY2ZX, au Centre de conférences.

Dès le début des réunions nous sommes confrontés à un groupe imposant de pays : la Russie et ses 10 partenaires du Groupe régional russe (RCC), l'Iran, le Japon, les États-Unis, l'Égypte, la Thaïlande et (potentiellement) l'Australie – entre autres. Tous avaient l'intention de refuser les changements en votant contre : « pas de nouvelles bandes pour les amateurs ». Finalement, la proposition pour une nouvelle bande a du affronter tout au long de la Conférence une résistance unanime qu'elle su défier; c'est un témoignage à la compétence et à la ténacité de l'équipe des amateurs, soutenue par les conseils et avis de l'Union internationale des radioamateurs. Comme Canadien et relativement néophyte de ces procédures, je serais mal venu de ne pas saluer notre supérieur, Industrie Canada et l'équipe qu'il envoya à la CMR-15. Sans leurs solides soutiens, je crois bien que le résultat final aurait été différent.

Jusqu'à présent, j'ai évité de donner des noms – délibérément – j'ai eu peur d'en oublier quelques uns dont la contribution fut majeure. Personne ne me reprochera cependant de mentionner les deux personnes suivantes.

Dale Hughes, VK1DSH, a assumé la tâche de président du « sous groupe de travail » qui a participé aux négociations heure après heure, dans une atmosphère de grande tension. Le projet du 60 mètres a vogué entre moments de succès et d'échec, autant comme autant. La patience de Dale et ses manières courtoises nous ont gardés dans la course. Bravo Dale!

Christine Hsu, ingénieure senior du spectre pour Industrie Canada, n'est pas étrangère au projet du 60 mètres puisqu'elle y a travaillé, avec nous, durant les quatre ans qu'ont duré les réunions du Working Party 5A; elle assuma la présidence de la délégation canadienne. Ceux et celles qui ont travaillé avec Christine ne peuvent que s'émerveiller devant sa capacité de travail et sa bonne humeur. Sans distinction!

La nouvelle bande ne nous sera pas accessible aussi longtemps que la Conférence ne rendra publique la Loi finale, ce qui devrait se produire au début de 2017. Seulement alors, selon son habitude, Industrie Canada considérera la nouvelle allocation et pourrait, entre temps, rechercher les commentaires du public. Selon les résultats de ces délibérations, la bande pourrait alors être rendu disponible aux amateurs canadiens.

Si vous pensez que le délai est long, il serait bon de vous rappeler que la communauté amateure sollicite une allocation depuis deux décennies et plus. Cette allocation est une première en matière de spectre HF dont profitera le service radioamateur depuis l'acquisition des bandes de 30, 17 et 12 mètres à la Conférence administrative mondiale de la radio en 1979. Pendant ce temps, il n'y a pas d'indications à l'effet que notre accès à cinq fréquences déterminées dans le 60 mètres – allocation « domestique » d'Industrie Canada en 2014 – sera reconnu plutôt.

Cette expérience à la CMR-15 témoigne clairement d'une vérité simple : la poursuite du Service radioamateur, tel que nous le connaissons, dépend de notre détermination à y être présent et à nous impliquer. En dépit de notre tendance à le voir comme un hobby, le radioamateurisme est toujours défini comme un service dans les règlements de la radio.

La qualité et la bonne volonté des sociétés radioamateures, comme Radio Amateurs du Canada, à assumer les frais de travailler selon la réglementation et à démontrer à l'Union internationale des télécommunications (UIT) que nous poursuivons et défendons les intérêts de notre passe-temps d'une façon professionnelle et compétente, est de nature à nous aider à conserver nos bandes et – de temps à autre – à en acquérir une nouvelle.

AMATEUR RADIO SATELLITES

Keith Baker, VA3KSF/KB1SF
PO Box 33
Corunna, ON N0N 1G0
E: va3ksf@rac.ca

In previous columns, I've been sharing a bit of early Amateur satellite history with you. In this installment, I'll once again put that history lesson on "hold" to share yet more very exciting news about the latest developments in the Amateur Radio satellite world.

NEW CAMSAT SATELLITES

In mid-summer, Alan Kung, BA1DU (CAMSAT CEO), stunned the Amateur Radio satellite community with news of the impending launch of not one, but six new Chinese Amateur satellites into Low Earth Orbit (LEO).

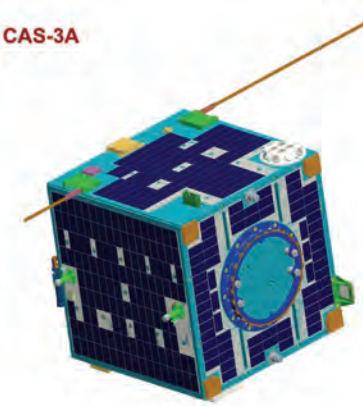
The new satellite "family" includes different weight category satellites consisting of one 20 kg satellite, three 10 kg and two 1 kg satellites.

All six satellites are equipped with substantially the same Amateur Radio payloads including a U/V mode linear transponder, a CW telemetry beacon and an AX.25 19.2k/9.6k baud GMSK telemetry downlink. In addition, the Amateur Radio payloads all share essentially the same technical characteristics, but operate on different frequencies of the 70cm band (uplink) and 2m-band (downlink).

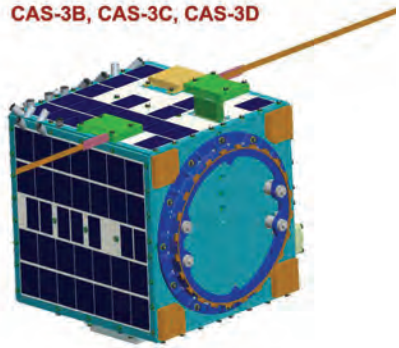
Alan went on to report that, over the years, his organization (CAMSAT) has been working closely with DFH Satellite Co. Ltd to complete the project. DFH is a Chinese government aerospace contractor that provided most of the support for this project.

The satellites all share a similar micro-satellite structure (400mm X 400mm X 400mm or about 15 inches on a side). As opposed to much smaller CubeSats, this sizing puts these satellites firmly in the "Microsat" category (similar in size to AO-27 and AO-51). Dubbed "China Amateur Satellites (or CAS for short), CAS 3A, 3B, 3C and 3D all sport three-axis stabilization with antennas consisting of quarter-wave monopoles. The inverting downlink transmitters are in the 100 mW category. CAS 3E and 3F are spin-stabilized and carry U/V Mode inverting linear transponders (again in the 100 mW power category) with a 20 kHz bandwidth.

CAS-3A



CAS-3B, CAS-3C, CAS-3D



All six satellites were successfully launched on September 19, 2015 on a brand new Chinese launch vehicle named Long March 6 (LM-6 or CZ-6) from Taiyuan Satellite Launch Centre in China. CAS-3A is in a 450 kilometre height sun-synchronous orbit, while the other satellites are in a slightly higher, 530 kilometre sun-synchronous orbit.

The launch carried a total of 20 satellites including three other satellites using Amateur Radio frequencies (named CAS-3G, CAS-3H and CAS-3I) built by other satellite-related agencies in China. CAMSAT assisted the Chinese government administration to coordinate and allocate their frequencies as well.

At press time (early November 2015), all six CAMSAT satellites (along with the three others noted above) had been heard passing over North America with several Radio Amateurs either copying the telemetry downlinks or actually making contacts through them. A complete listing of their uplink and downlink frequencies (along with other technical information for each) is available (in PDF format) from the AMSAT website at: http://www.amsat.org/wordpress/wp-content/uploads/2015/09/XW-2CAS-3-Sats.pdf

FOX-1A SUCCESSFULLY LAUNCHED!

AMSAT's Fox-1A launched as part of the GRACE (Government Rideshare Advanced Concepts Experiment) auxiliary payload on the NROL-55 mission on October 8, 2015 from Vandenburg Air Force Base (AFB) via an Atlas V launch vehicle. The launch was scheduled for 5:49 am PDT and went off right on time without a hitch.

The official launch logo for the NROL-55 satellite launch that carried AMSAT's Fox-1A satellite (and many others) to orbit. (Courtesy: ULA via AMSAT-NA)

Soon thereafter Radio Amateurs in Russia, Finland and the Netherlands heard Fox-1A's downlink on its very first orbit. Once those reports were received, Bill Tynan, W3XO, AMSAT'S OSCAR numbering authority, quickly assigned Fox-1A the official OSCAR designation of AMSAT-OSCAR 85 (or just AO-85).

On the day prior to launch, Jerry Buxton, N0JY, AMSAT's Vice-President for Engineering (along with other CubeSat providers on the launch), took part in a NASA video briefing to explain the details of their satellites.

Portions of this article appeared as "A Whole Host of New Satellites!" in the December 2015 issue of The Spectrum Monitor. Thank you TSM!

The upper stage containing AMSAT's Fox-1A is shown here being wheeled to the launch site for eventual mating to its Atlas V rocket. (Courtesy: ULA via AMSAT-NA)

A YouTube video of that briefing can be seen at: https://www.youtube.com/watch?v=C2gzyy-Xg9s. You can also watch a video of the actual early morning launch of the Atlas V that carried Fox-1A to orbit from Vandenberg AFB at: https://www.youtube.com/watch?v=drTslV7nR3w&feature=youtu.be. A video of the launch from the rocket's perspective (including the release of the many CubeSats on board can also be viewed at: https://spaceflightnow.com/2015/11/04/video-released-from-atlas-5-rocket-launch-of-cubesat-flock/

SO FAR, SO GOOD

At press time, Fox-1A/AO-85 was still undergoing checkout in orbit, but several general QSOs have already been heard through its transponder. The satellite emits a strong signal on its 2m downlink.

In fact, I quite easily copied it on a near-overhead pass with "full quieting" strength using just a simple FM handheld radio and "rubber duckie" antenna.

LIFTOFF!

The Atlas V booster carrying AMSAT's Fox-1A satellite comes off the launch pad at Vandenberg AFB, California right on time, October 8, 2015 at 05:49 PDT.

(Courtesy: ULA via AMSAT-NA)

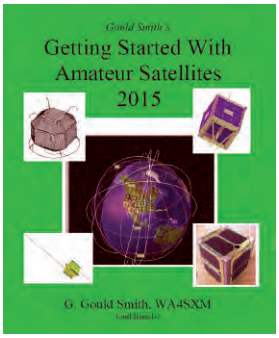
However, initial reports from AO-85's ground controllers indicate that it takes a bit more uplink power than planned to successfully get a 70cm uplink signal up and through the transponder. This is most likely due to the "capture effect" of FM signals along with the fact that so many Amateurs are all trying to use the new bird at once. Another initial observation is that AO-85's downlink signals are being heard somewhat lower in frequency than 145.980 MHz as was originally published. So, if you are listening for a pass of AO-85, be sure to listen both slightly above and also slightly below the published frequencies.

AO-85 OPERATING AIDS AND OFFERS

To assist you in hearing (or, if properly certified, working through) the new satellite, AMSAT has made an "AMSAT Fox Operating Guide" (in PDF format) available on its website at: http://www.amsat.org/wordpress/wp-content/uploads/2015/05/FoxOperatingGuide_May2015_Hi.pdf.

In addition, and in concert with AO-85's launch, AMSAT has also made a commemorative edition of *The AMSAT Journal* freely available for download via the AMSAT website (in PDF format) at: http://www.amsat.org/wordpress/wp-content/uploads/2015/10/AMSAT_Journal_Fox_Launch_Special_Issue.pdf. The *Journal* is normally published six times a year and is a primary benefit of AMSAT membership.

Speaking of AMSAT membership, as part of the launch and activation of the new satellite, AMSAT is also making their *Getting Started With Amateur Satellites* book available for a limited time as a download with any paid (new or renewal) membership purchased via the AMSAT Store. This offer is only available with purchases completed online and it's only available for a limited time.



A perennial favourite, AMSAT's "Getting Started" book is updated every year with the latest Amateur satellite information and is AMSAT's premier primer for satellite operation. The 132-page book is presented in PDF format (in full colour) and covers all aspects of making your first contacts via a ham radio satellite.

FREQUENCY AND MODE DATA

Satellite	Mode	Uplink (MHz)	Downlink (MHz)	Beacons (MHz)
Fox-1A	U/V (Mode B)	435.180	145.980	FM Voice
Fox-1B*	U/V (Mode B)	435.250	145.960	FM Voice
Fox-1C*	U/V (Mode B) L/V**	435.300 1267.300	145.920 145.920	FM Voice FM Voice
Fox-1D*	U/V (Mode B) L/V**	435.350 1267.350	145.880 145.880	FM Voice FM Voice

*** Pending IARU Coordination. If needed, any changes will be announced when known.**
**** U/V and L/V operations will be switchable by command stations but not be operational simultaneously.**

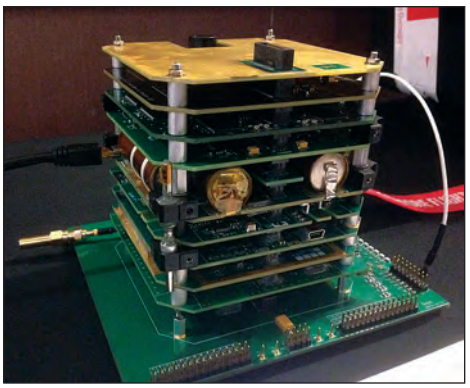
You can take advantage of this offer by visiting AMSAT's online store (http://store.amsat.org/catalog/) and then electing any membership option. While there, be sure to also check out their other items, including the M2 LEO-Pack Antenna System, AMSAT shirts and hats, along with other Amateur satellite-related items.

FOX 1B, 1C, 1D AND 1E

It is important to remember that, regardless of how AO-85 performs in orbit, the Fox project was never intended by AMSAT to be a single satellite project. In many ways, it was to be an initial prototype as it was AMSAT's first ever attempt at building and launching a CubeSat.

Depending on how well (or poorly) AO-85 eventually performs, the plan is to take the "lessons learned" from its performance in orbit and, where possible, to incorporate those lessons into subsequent satellites. In fact, there are now four other Fox satellites in various stages of completion either waiting for launch or sitting "on the shelf" for a launch opportunity. Specifically, Fox-1B (also called RadFXsat) has now been accepted by NASA as part of its ELANA project (Educational Launch of Nanosatellites) for a (not yet firm) launch sometime in late 2016.

Fox-1B is essentially a "carbon copy" of Fox-1A, but will carry some different experiments. Fox-1C – also now known as "Fox-1Cliff" to honour one of AMSAT's long-time benefactors Cliff Buttschardt, K7RR (SK) – is now slated for launch with Spaceflight, Inc. on its SHERPA carrying structure via a Space-X Falcon 9 booster sometime in "early 2016". The exact launch date will depend on the final results and resolution of the factors contributing to Space-X's most recent Falcon-9 launch failure. Besides a single "bent pipe" FM transponder, Fox-1Cliff will also carry a Mode L (1.2 GHz) uplink receiver, allowing users to access the transponder via both UHF and L-Band.



The engineering model for Fox-1Cliff (shown here minus its solar panels and sitting in its test jig) was on display at the 2015 AMSAT Annual Meeting and Space Symposium that was recently held in Dayton, Ohio. (Courtesy: AMSAT-NA)

Fox-1D is essentially a flight spare for Fox-1Cliff. However, in response to a last-minute flight opportunity, AMSAT and Spaceflight, Inc. have now arranged for Fox-1D to also accompany Fox-1Cliff on the maiden flight of Spaceflight's SHERPA system on a SpaceX Falcon 9.

As this is yet another satellite from the Fox-1 series, Fox-1D is identical to Fox-1Cliff, but with different frequencies and carrying the University of Iowa HERCI (High Energy Radiation CubeSat Instrument) radiation mapping experiment as a hosted payload. Fox-1D will also provide additional selectable U/V or L/V repeater capabilities once in orbit and will be capable of downlinking Earth images from the Virginia Tech camera experiment.

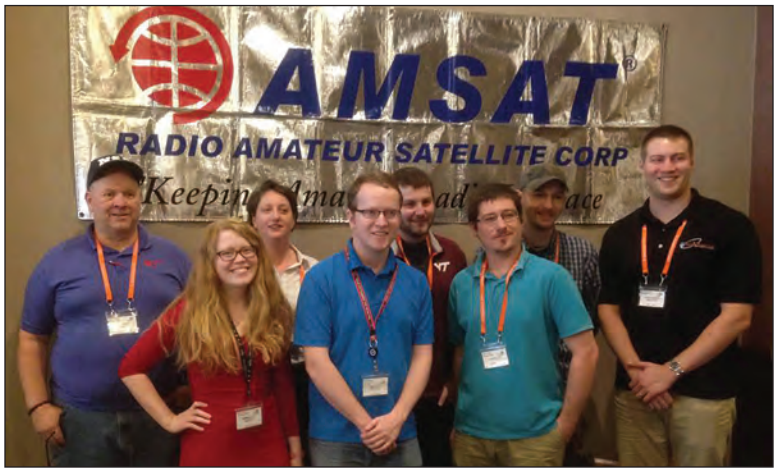
Fox-1E ("evolution") will be a further variation of the Fox-1 series, but will carry a Mode U/V (Mode-J) linear (i.e., SSB and CW) transponder. The transponder is planned to be about 30 kHz-wide and will also include a 1200 bps BPSK telemetry beacon. No flight opportunity has yet been secured for Fox-1E, but the search is continuing.

Needless to say, all of this capability doesn't come cheaply. What's more, besides the out-of-pocket costs for equipment and material to build these new birds, the launches for Fox-1Cliff and Fox-1D are being paid for out of AMSAT's reserve coffers. AMSAT still needs additional donor support to offset the costs associated with all of these projects.

Besides keeping up with all the very latest developments on these efforts by visiting http://www.amsat.org, while you are there you can quickly and easily donate to the cause by clicking on the "Donate" button for Fox.

FUTURE AMSAT PROJECTS

In previous columns, I shared exciting news about two possible future AMSAT satellite projects, either (or both) of which could result in AMSAT once again having Amateur Radio transponders in High Earth Orbit (HEO). An Amateur Radio transponder suite (now initially dubbed "Phase-4B") is being designed to



Dr. Bob McGuire, N4HY (left) and his team at the Hume Center at Virginia Tech University.

ride along as a hosted payload aboard a US Government Geosynchronous satellite now being built by Millennium Space Systems of El Segundo, California.

The second project would use an existing tri-star space frame (similar to AO-10 and AO-13) that is now sitting in storage at AMSAT-Germany (AMSAT-DL), again under the auspices of the US Government. This satellite (called "Phase 3-E") would be launched into a high elliptical orbit (sometimes called a "Molniya" orbit similar to the orbits that were used by AO-10 and AO-13).

Dr. Bob McGuire N4HY – a research professor and Director of Research at the Hume Center for National Security and Technology at Virginia Tech University in Blackburg, Virginia – and his team are now helping AMSAT pursue both of these projects. Dr. McGuire was recently elected to AMSAT's Board of Directors and he (along with AMSAT's other experimenters) is now leading a number of technical trade-off studies to see if both of these efforts are still "do-able".

At my column deadline (early November 2015), Dr. McGuire reported that negotiations among the various US government agencies involved were continuing and that, so far at least, both projects were moving forward. Stay tuned to http://www.amsat.org for all the very latest developments on these two potentially exciting efforts that, if ultimately successful, will not only "keep Amateur Radio in space" but will take Amateur Radio where it hasn't (yet) gone before.

WRAP UP

In future columns, I'll continue with our AMSAT history lesson – that is, of course, unless there is even more exciting news to share of recent or upcoming launches that add to our every growing fleet of Amateur Radio satellites. See you then!

TCA

THE TOOLBOX RADIO

Barry Brousseau, VE3SLD

As a youngster I was fascinated by the fact that one could mysteriously and magically send sound waves through the air at a great distance. I listened to both the commercial AM and FM broadcast bands. I was extremely intrigued by the ability to listen to radio stations on the AM broadcast band from hundreds of miles away, at night, originating in the United States.

I recall the summer that I saved all my pennies to purchase my first new transistorized pocket radio receiver. Shortly after that point in my life – as I collected anything that was associated with radio and stored them in the rafters of our basement much to my mother's dismay – I was given an AM/FM desktop radio that also contained the 49 metre shortwave band. I began to listen to radio programs from foreign countries from around the world and became totally hooked on radio as a hobby. I built my first homebrew shortwave reviewer that year; the start of my project constructions.

I've been interested in Amateur Radio for more than 25 years now. I have always enjoyed doing projects and collecting spare parts to keep the cost of my projects down. I have just finished a project which I affectionately call "The Toolbox Radio". The whole idea is to have a portable high frequency radio for use at Field Day or emergency communications and vacations.

I started off by designing a platform that could properly contain my all band, all mode rig. I began with cardboard cutouts of the remote radio head and tuner. From this I determined the probable best size for the container. I included a remote speaker, a remote mic jack and a remote tuner button. I also made a nice bracket to hold the head of the radio as well as power supply leads to connect to a source of direct current to power up the radio, and short coax wires to connect to an external antenna without wear to the connections on the back of the radio.

When sizing the box I was careful to ensure that there was sufficient room. I always leave extra space in my measurements only to find I really could have used more.

The first part of this project was picking out the toolbox. I then custom-cut a fibreboard for the bottom of the case, which gave me a spot to bolt down all the components to hold them solid for transport, without drilling holes in the waterproof case. This maintains the integrity of the container.

Once the toolbox has been completed, the radio and composites can be lifted out as one item for service and repairs.

After everything was mounted and fitted, I then removed the fibreboard and painted and cut a rubber mat to cushion under the base plate. I then reassembled and began my wiring.

In the top photo you can see the bracket that was made to hold the radio head. It is just a small piece of steel, bent to 90 degrees, and has enough weight for a little stability to prevent the radio head from moving on the table.

The middle photo shows the completed project and the different leads that make it work.

The bottom photo shows the radio packed up, ready to travel, alongside a power supply, an ugly balun (homemade 1:1 RF transformer), and a portable G5RV Multiband HF antenna. This is a different homebrew project and my favourite homemade antenna for HF.

The antenna is packed in the second box in the event that there is no antenna onsite.

You can set the toolbox on the floor and you only need to bring a radio head to the work place, then power up and connect your antenna. It is a quick set up that also protects the radio and tuner.

Now that this project has been completed, I have to say there was nothing too technical or difficult about it and I believe it is well within the wheelhouse of any Amateur.

The purpose of this article was just to get you thinking of a project of your own and, for that reason, I did not go into great detail on the construction.

I am confident that this will come naturally and you may even a find a better way to complete it. I have already moved on and I am playing with a QRP Flex Radio. One cannot live long enough to explore every aspect of Amateur Radio.

My interest in radio started when I was 8 years of age and I got my first shortwave. Later that year I built my first crystal radio, and it worked great. I am presently serving my third term as President of the Guelph Amateur Radio Club and I sponsor a number of our Club Calls. I have held the position of Vice-President twice and I chair of a number of Club Committees. I became an Accredited Examiner (#2136) about eight years ago.

SECOND NOTICE TO RAC MEMBERS RESIDING IN THE ALBERTA/NWT/NU AND QUEBEC REGIONS

Call for Nominations of Candidates for Regional Director to serve on the Board of Directors of Radio Amateurs of Canada Inc.

The Secretary of Radio Amateurs of Canada Inc. hereby solicits nominations for the positions of Director for the Regions of Alberta/NWT/NU and Quebec.

If required, an election for this position will be held in March 2016. The Director will take office immediately to complete the two-year term ending December 31, 2017.

Incumbents:

- Alberta/NT/NU: Mitch Mitchell, VE6OH; tenure completed
- Quebec: vacant

1. The Candidate:
   - ✓ must be a Full Voting Member of RAC
   - ✓ must have reached the legal age of majority
   - ✓ must reside in the Region for which he or she is nominated
2. A candidate may not nominate himself/herself.
3. The nomination form will:
   - ✓ be printed or typed
   - ✓ clearly indicate the candidate's name, call sign and RAC membership number
   - ✓ clearly indicate the names, call signs, RAC membership numbers and original signatures of ten (10) or more full voting members of RAC
4. The nominators must have reached the legal age of majority and must reside in the same Region as the candidate whom they are nominating.
5. Each candidate must:
   - ✓ sign the nomination form, indicating a willingness to be nominated
   - ✓ include with the nomination a brief biographical sketch/CV limited to 500 words succinctly setting out his/her background and qualifications. A candidate choosing to submit a biographical sketch in both English and French languages will be allowed 500 words in each language. The biographical sketch will not include any campaign platform material.
6. **All original nominations and supporting documentation, including the biographical sketch, must be received** by the Secretary of RAC at the address indicated on page 19 by 3 pm on Friday, February 19, 2016.

It is suggested (but not required) that the nomination forms be sent by registered mail.

Faxed or emailed documents will not be accepted.

DEUXIÈME AVIS AUX MEMBRES DE RAC RÉSIDANT DANS LES RÉGIONS DE : ALBERTA/TNO/NU ET DU QUÉBEC

Appel de mises en candidature pour le poste de directeur de région siégeant au conseil de direction de Radio Amateurs du Canada inc.

Le Secrétaire de Radio Amateurs du Canada inc. sollicite des candidatures pour le poste de Directeur pour les régions de Alberta/TNO/NU et le Québec. S'il y a lieu, des élections pour ces postes se tiendront en mars 2016 pour prendre effet le premier janvier 2016 pour un terme de deux ans.

S'il y a lieu, une élection à ce poste sera tenue en mars 2016. Le directeur entrera en fonction immédiatement pour compléter le mandat de deux ans se terminant le 31 décembre 2017.

Candidats sortants :

- Alberta/TNO/NU : J.T. (Mitch) Mitchell, VE6OH; mandat terminé
- Québec : vacant

1. Le candidat :
   - ✓ doit être membre en règle de RAC
   - ✓ doit avoir atteint l'âge légal de la majorité
   - ✓ doit résider dans la région pour laquelle il est mis en nomination
2. Un candidat ne peut se nominer lui-même.
3. Le formulaire de mise en nomination devra :
   - ✓ être dactylographié ou imprimé
   - ✓ reproduire clairement le nom du candidat, son indicatif d'appel et son numéro de membre chez RAC
   - ✓ reproduire clairement le nom, l'indicatif d'appel, le numéro de membre RAC et les signatures originales d'au moins dix (10) membres en règle de RAC
4. Les présentateurs doivent avoir atteint l'âge légal de la majorité et demeurer dans la région du nominé.
5. Chaque candidat doit :
   - ✓ signer le formulaire de mise en nomination, indiquant son accord d'être mis en nomination
   - ✓ inclure avec la mise en nomination une courte note biographique/CV, limitée à 500 mots, décrivant succinctement ses antécédents et ses qualifications. Un candidat qui désire soumettre sa biographie en anglais et en français se verra alloué 500 mots dans chacune de ces langues. Les notes biographiques ne devront inclure aucun élément de la plate-forme électorale.
6. **Tous les documents originaux de mise en candidature et les documents reliés**, incluant la note biographique, devront être reçus par le secrétaire de RAC à l'adresse indiquée sur la page 19 avant 15h00 le vendredi 19 février 2016.

Il est suggéré (mais pas obligatoire) que les documents de mise en candidature soient expédiés par courrier recommandé.

Les documents expédiés par courriel ou par télécopieur ne seront pas acceptés.

2016 WORKED ALL NCDXA "RST" STATIONS
A SPECIAL EVENT COVERING ALL OF NORTHERN NORTH AMERICA

Members of the North Country DX Association (NCDXA) will be active in February and March 2016 from several different locations in Alaska, Yukon, Northwest Territories and Nunavut Territory using KL7RST, VY1RST, VE8RST and VY0RST to further promote Amateur Radio up north. This is a first for the north – a joint-venture KL7, VY1, VE8 and VY0 special event! All modes 6 to 160 metres and WARC bands are permissible. SWLs are welcome to participate.

The object is to work or log (SWL) as many NCDXA "RST" stations as you can from their different locations. Work/log each "RST" station only once per their QTH/band and mode. For a wildcard, Portable "RST" Stations will also participate and are worth 3 points each/mode and band but must be the "RST" stations mentioned above! The portable stations must be outside their own prefix to count (i.e., KL7RST/KL7 does not count but KL7RST/VY1, VY1RST/KL7, VE8RST/VY0 etc. do count).

Watch the DX spots as we plan to have stations on from Whitehorse, Yellowknife, Anchorage, Fairbanks, and many other cities (maybe an Alaskan glacier or two!).

The QSL manager is K7ICE. KL7YK is LotW administrator for Alaska, VY0CF for Nunavut and VY1MB for Yukon. Optional full colour certificates are also available (contact JohnKL7JR@gmail.com for details) for working/hearing any of the "RST" stations. (QSLs printed by KB3IFH). A new QSL will include VY0RST!

Special Event Date: February 15 (0001Z) through March 27 (2359Z), 2016

Exchange: NCDXA "RST" stations send signal report and QTH (i.e., 5x7 Anchorage, 5x9 Whitehorse etc.). Receiving stations send signal report and state, province or country.

Certificate Levels: Beautiful full colour certificates are available for working/logging: 1) one or two NCDXA "RST" stations; 2) any KL7RST, VY1RST, VY0RST or VE8RST, but must work one of each; 3) for those more competitive (keep in mind the scoring is for certificate levels and this is not a contest), a highest score category. Certificates are different scenery shots from up there for each level.

Scoring example: K7QRM works KL7RST in Anchorage on 10m SSB, 10m CW, 15m SSB and 40m CW for his Anchorage total of 4 points. K7QRM works KL7RST at Matanuska Glacier on 10m SSB and 12m SSB for his Matanuska Glacier total of 2 points. K7QRM also works VY1RST in Whitehorse on 10 SSB, 15m digital, 40m CW and 30m CW for 4 points. K7QRM also works VE8RST in Yellowknife on 10m SSB and 20m SSB for a total of 2 points. K7QRM also works VE8RST in Hay River on 10m SSB for 1 point total. K7QRM's grand total points are the city QSO sum of 13 points (plus any wildcard points).

Handwritten or computer generated certificate applications are acceptable. First, second, third etc places will be awarded. The certificate deadline is May 15.

As a bonus, pending snow depth and weather, we may also have KL7RST and VY1RST on together from the border of Alaska and the Yukon on the Alaska Highway. That has got to be another first for the north! A special QSL and certificate will be available for the border op. Thanks in advance for your DX spots!

73, John Reisenauer, KL7JR – "Yukon John"

✓ Clearly indicate on the mailing envelope that Nomination Documents are enclosed.

✓ The envelope will be held unopened until after the closing deadline of February 19, 2016. After this date, the Election Committee, under the supervision of the RAC Secretary, will open all submissions, review the documentation for accuracy, completeness and validity, and then announce the results of the Call for Nominations. The decision of the Election Committee is final.

✓ Should a balloted election be required, ballots will be mailed from RAC Headquarters on or before February 29, 2016.

Nominations must be sent to the following address:

Secretary, Radio Amateurs of Canada
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5

Clearly indicate on the envelope: "Nomination Documents".

✓ Indiquez clairement sur l'enveloppe qu'elle contient des formulaires de mise en candidature.

✓ L'enveloppe restera scellée, jusqu'après la fermeture des mises en candidature le 19 février 2016. Après cette date, le comité électoral, sous la gouverne du secrétaire, ouvrira toutes les candidatures soumises, et vérifiera la documentation quant à sa validité, son exactitude et sa complétude, et annoncera ensuite le résultat de cet appel de mises en candidature. La décision du comité électoral sera finale.

✓ Si une élection était requise dans l'une des régions, les bulletins de vote seraient postés du quartier général de RAC le 29 février 2016 ou avant.

Les mises en candidatures doivent être envoyées à l'adresse suivante :

Le secrétaire, Radio Amateurs du Canada
720 Chemin Belfast, Suite 217
Ottawa, ON, K1G 0Z5

Indiquer clairement sur l'enveloppe :

« Documents de mise en candidature ».

RADIO AMATEUR OF THE YEAR: ALEX SHOVKOPLYAS, VE3NEA

The RAC Board of Directors takes great pleasure in announcing the selection of Alex Shovkoplyas, VE3NEA, as the Canadian Radio Amateur of the Year for 2014.

Through the Radio Amateur of the Year Award, Radio Amateurs of Canada recognizes the outstanding contributions made by Canadian Amateurs.

Alex Shovkoplyas, VE3NEA, is renowned through his unique and innovative software. Available at http://www.dxatlas.com/ his programs are in wide use by many operators around the globe. A diverse menu of tools is available to the Amateur.

CWskimmer, as a notable example, allows the simultaneous decoding of all CW signals within the receiver passband.

It is now well established, has changed Amateur Radio forever and is closely connected to the Reverse Beacon network.

Many will credit his MorseRunner program as their main method of improving CW skills. Recently, DXAtlas has been supplemented with Gritty, an RTTY decoder.

In addition, Alex also provides several other innovative tools for download as aids to the DXer.

"I was born in Ukraine, got my Masters degree from Dnipropetrovsk State University, and worked for several years as electrical engineer. I learned programming by self-education and have been a software developer for the last 25 years. Currently, I have a day-time job with a software company and I spend all nights and weekends writing my own Ham Radio software.

I got my first call sign, UB5EMI, in 1981. At that time I used only homebrew equipment. I still like homebrewing, but these days I prefer to homebrew software rather than hardware. In fact, all of my programs for Ham Radio were written for my own use. I just developed what I needed for DXing and, if I thought the program might be useful to other Hams, I published it as either freeware or shareware.

I like DXing more than any other kind of Ham activity. I started chasing DX from Canada in 2004, and now I am at 325 DXCC CW. I use a homebrew Hex-Beam and a dipole with my TS-570, but my most important tool is software – especially CW Skimmer. Ironically, I do not use its decoding capabilities, all I use is its waterfall display that helps me both find DX before it is spotted on the cluster, and crack the pileups once they develop." – 73 Alex VE3NEA

In recognition of Alex's numerous and significant contributions to Amateur Radio, he is the recipient of the 2014 RAC Amateur of the Year Award.

The plaque honouring VE3NEA's achievements was presented by RAC Ontario South Director, Phil McBride, VA3QR/VA3KPJ, at the York Region Hamfest which was held at the Markham Fairgrounds on November 3.

Congratulations Alex!

Submitted by Stan Leschinsky, VE3TW

Photo by Mike Goldstein, VE3GFN

RAC Ontario South Director, Phil McBride, VA3QR/VA3KPJ (above photo at right) presents the Radio Amateur of the Year Award to Alex Shovkoplyas, VE3NEA, at the York Region Hamfest.

JAMES DEAN, VE3IQ AND FARRELL HOPWOOD, VE7RD APPOINTED TO CANADIAN AMATEUR RADIO HALL OF FAME

Prepared by Ed Frazer, VE7EF
Chair of Trustees for Hall of Fame

The Trustees of the Canadian Amateur Radio Hall of Fame have appointed James G. Dean, VE3IQ (SK) and J. Farrell Hopwood, VE7RD, to the Canadian Amateur Radio Hall of Fame for the year 2015. The Constitution for the Hall of Fame specifies that appointments are made "for outstanding achievement and excellence of the highest degree, for serious and sustained service to Amateur Radio in Canada, or to Amateur Radio at large". Both appointees are most worthy for this honour.

JAMES DEAN, VE3IQ (SK)

Jim Dean was raised in Toronto and achieved his Amateur Radio licence while in high school. He attended the Royal Military College of Canada in Kingston, Ontario and then went to the University of Toronto where he graduated with a Bachelor of Applied Science (BASc) in Electrical Engineering. This was followed by a lifetime career with the Royal Canadian Navy, retiring in 1993 in Ottawa with the rank of Captain.

An avid builder in the early days, Jim's Amateur Radio interests now became ragchewing and the serious pursuit of DX. He achieved the DXCC Honour Roll in the Phone mode and was only six entities short for DXCC Honour Roll in the CW mode.

Jim was active with Radio Amateurs of Canada and served on its Executive for many years: first as the Vice-President Government Affairs and then as the Vice-President Regulatory Affairs. He was RAC's representative on the Canadian Amateur Radio Advisory Board meetings with Industry Canada, and on the Canadian delegation to the International Telecommunication Union's World Radiocommunication Conferences (WRC) in Geneva from 1997 to 2007. Jim was also Special Advisor to RAC President Geoff Bawden, VE4BAW.

Jim passed away in January 2015 in Ottawa after a five-year battle with colon cancer. A detailed account of his achievements can be found in the March-April 2015 issue of TCA magazine. He is survived by his wife, Sandra and two children, James, and Peter.

Jim will be inducted to the Hall of Fame posthumously at the QCWA lunch on February 16, 2016 in Ottawa. Further details of this event may be obtained from Richard Ferch, VE3KI, President of QCWA Chapter 70 at ve3iay@gmail.com.

J. FARRELL HOPWOOD, VE7RD

J. Farrell Hopwood, VE7RD, better known as "Hoppy", was born and raised in British Columbia. Hoppy's parents were influential mentors in his early telecommunications career.

His father, Jack, was a telegrapher with Canadian Pacific (CP) Telegraphs; his mother, Mona, was a Teletype operator who worked alongside Jack. Hoppy learned the landline Morse code from his dad.

Hoppy started his telecoms career in Vancouver as a telegraph lineman for CP Telegraphs in 1948 and then transferred to BC Telephone, where he worked his way through maintaining telephone dial offices to long-distance carrier systems in Vancouver. After the changeover to public distance dialing in 1959, Hoppy was involved with mechanical switching, TD2 microwave and large digital switching networks; and in 1971, formed a Systems Coordination Centre (SCC) to help BC Telephone and other large business users to install new telecom networks. He managed the SCC until he retired in 1992.

In 1955, Hoppy obtained his Amateur Radio licence and his first call sign, VE7AHB. He held a strong interest in all aspects of Amateur Radio, particularly DX, VHF/UHF linking and packet. He was an early member of the Canadian Radio Relay League, the Canadian Amateur Radio Federation, the American Radio Relay League, Telephone Pioneers and the North Shore Amateur Radio Club.

He was also a member of the team that created an Amateur Radio station and exhibit at EXPO 86 in Vancouver.

These memberships introduced him to government regulations and the various threats to Amateur Radio bands. This led Hoppy to become an Assistant Director for the Canadian Amateur Radio Federation, followed by Director and Vice-President.

He sought the CARF Presidency on the condition that the CARF Board commit to meet with the CRRL Board to revisit prior discussions with the CRRL to create one national society. Thus began a series of meetings between CARF and CRRL.

Merging the two societies was a complex and delicate process for the whole merger team and when roadblocks occurred it was up to the two Presidents to find a way around.

Hoppy particularly appreciated working with CRRL President Dana Shtun, VE3DSS (now also VE3DS), who shared the vision for a strong national Canadian Amateur Radio society and served as RAC's first Vice-President.

Hoppy was appointed RAC President and remained in this post for six years. During this period the new RAC team improved services to members and to the Amateur Radio community in Canada. Hoppy retired at the end of 1998 after serving three terms as President.

Hoppy was inducted into the Hall of Fame on December 10, 2015 at the annual banquet of the North Shore Amateur Radio Club in North Vancouver, BC.

Ottawa and Vancouver Amateur Radio Clubs Support the Hall of Fame

Two well-known Canadian Amateur Radio clubs support the Canadian Amateur Radio Hall of Fame by donating funds to cover the costs of the awards and the presentations.

Thanks to the Ottawa Amateur Radio Club who have provided funding for the Hall of Fame for many years.

Thanks also to the North Shore Amateur Radio Club of Vancouver who stepped in with additional funding when it became possible to make two annual appointments to the Hall of Fame.

QUA – A TOPICAL DIGEST

Allen Wootton, VE7BQO
4503 Cedar Crescent
Terrace, BC V8G 1X5
E: ve7bqo@rac.ca

I often think about what a truly amazing phenomenon radio communication is, and how fortunate we are, as Radio Amateurs, to be able to make use of it.

It allows us to keep in contact with old friends or make new friends throughout the world.

Its very unpredictability adds excitement: weak signals from Antarctica that result in an exchange of call signs and signal reports, VHF contacts through Moonbounce, meteor scatter or tropospheric ducting or QRP contacts from unlikely places.

Because I particularly like QRP operation it is often these QRP contacts that I remember most fondly – a QSO with a fellow vacationing in Hawaii (he sitting on a beach and me sitting on a snowbank near my home in Terrace, British Columbia), another from Kluane National Park to New South Wales, Australia, and a number of very enjoyable QSOs during backpacking and canoeing trips.

Another aspect of Amateur Radio communication is its connection to science.

Figure 1: The Aurora Borealis and the Big Dipper.

Through our participation in this wonderful pastime we become more aware of natural phenomenon. To me, two recent events were special reminders of this connection.

The first occurred on Friday, March 20, 2015. Fairly early in the morning that day the United Kingdom and Western Europe experienced a partial solar eclipse. I was intrigued by a report written by Steve Nichols, G0KYA, in *RadCom*, the journal of the Radio Society of Great Britain, regarding this eclipse and communications experiments that were carried out during it. In the article Steve outlines the expectations very clearly: a decrease in solar radiation that should result in a decrease in D, E and F ionospheric layer ionization and a consequent increased strength of long distant medium wave and 3.5 MHz, 5 MHz and 7 MHz signals; a decrease in short range signal strength for these same frequencies; and also a decrease in critical frequency. All of these effects were reported and, of particular significance, I think, is Steve's mention that for the first time, (at least for Amateurs) software defined receivers, WSPR and the Reverse Beacon Network made accurate readings of signal strength possible.

I've had the very good fortune of seeing one total solar eclipse. It was an unforgettable experience. The path of totality is narrow, however, and one has to be in the right place (with co-operative weather) to see one of these spectacles. Partial solar eclipses are much easier to see because one does not have to be in the narrow band of the moon's shadow. Typically, there are two or three solar or lunar eclipses each year so I hope that the next one that is conveniently located over North America on August 21, 2017 may provide an opportunity for similar very interesting data as that which was obtained in the partial solar eclipse in the United Kingdom in March 2015.

The second event that reminded me of the science/radio communication connection was a recent display of the aurora borealis. I was listening to my radio in the early evening, trying to find signals. The few that were present were weak and wavering. Radio communication was a non-starter! As the evening darkened, however, the light show began. Intense streaks of green interspersed with white tinged sometimes with a faint violet colour spread across the sky. The ionosphere was certainly disrupted and the effects were spectacular. Figure 1 gives some idea of what I had the privilege of seeing.

TRANSCEIVER POWER CONTROL

I was interested in reading a December 2014 *QST* article entitled "Transceiver Power Control Accessory" by Phil Salas, AD5X. In it Phil describes how he designed a circuit that would allow a friend to easily adjust the power output of a Kenwood TS-520S transceiver for anything from QRP operation to the reduced power needed to drive a linear amplifier.

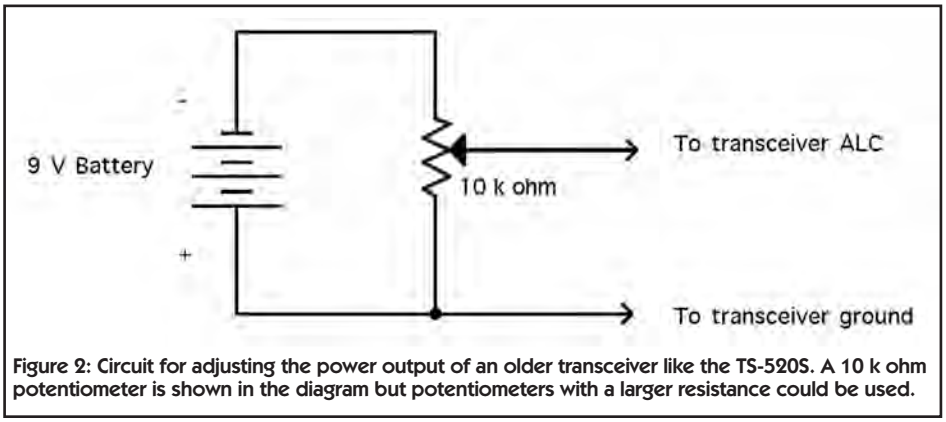


Figure 2: Circuit for adjusting the power output of an older transceiver like the TS-520S. A 10 k ohm potentiometer is shown in the diagram but potentiometers with a larger resistance could be used.

Phil used a "wall wart" and an LM7909 negative voltage regulator to provide an adjustable negative voltage to the ALC input of the transceiver.

I was interested in this article for a number of reasons. I use a TS-520S on a regular basis and was pleased to see that others still make use of this fine old radio. In addition, whereas it is easy to decrease the power from maximum for a more modern transceiver, it is not so easy to do with these older radios. Decreasing the drive to the final amplifiers does decrease the output, but I don`t think this is too satisfactory a method of doing so.

While Phil produced a circuit that included all the features his friend desired, he also stimulated me to try a much simpler circuit that used his idea in order to adjust the output of my TS-520S. You can see this circuit in Figure 2.

It uses just a 9 volt battery and a 10 k ohm potentiometer.

The positive terminal of the battery is connected to one end of the potentiometer and to the chassis of TS-520S.

The negative battery terminal was connected to the other end of the potentiometer, and the slider to the ALC terminal on the remote connector on the back of the TS-520S.

I was very pleased to find that as I adjusted the ALC voltage I could smoothly vary the output of the transceiver from full power to zero.

In Fgures 3 and 4 you can see my measurements of ALC voltage and transceiver power output to a dummy load.

My circuit was connected for only a temporary experiment. For a more permanent accessory I recommend AD5X's much more complete circuit.

Figure 3: Full power output at about –3 volts on the ALC terminal.

Figure 4: QRP power at about –6 volts ALC.

Finally, since this is the first issue of TCA in 2016, I wish all of you a very happy and enjoyable year and much pleasure in our shared pastime of Amateur Radio.

Please contact me at ve7bqo@rac.ca if you have any comments.

TCA

A WIRELESS (REMOTE) ANTENNA SWITCH

Don Dorward, VA3DDN

Like most other Amateurs, I have one main operating position proudly referred to as “the shack”, which is located in a corner of my basement. However, I spend a lot of time in the kitchen on the main floor, and found it convenient to set up a secondary operating location there for my VHF and UHF transceivers.

At first, I used small antennas set up near the kitchen until it occurred to me that it would be better to “split” the feedlines for my existing outside antennas, for use either in the main “shack” or in my “kitchen shack”.

My first attempt used several common Daiwa CS-201, two-port coaxial switches (see Figure 1), mounted in the basement shack location: one to switch the 220 antenna and the other to switch a dual-band 144/440 antenna – both of which are located a good distance up my tower.

Figure 1: The Daiwa CS-201, two-port coaxial switches.

I wired these manual switches so that one position connects the outside antennas to the basement rigs, and the other position diverts the antennas to the kitchen. This approach was simple, but in order to use the kitchen position I had to run downstairs and throw the Daiwa switches and then remember to switch them back! What I needed was a means of doing this by remote control.

I searched for another solution and came across a surprising variety of single-pole, double-throw (SPDT) coaxial relays on eBay for reasonable prices.

This article was published in the October 2015 issue of QST and is being reprinted with the permission of the American Radio Relay League. Thank you!

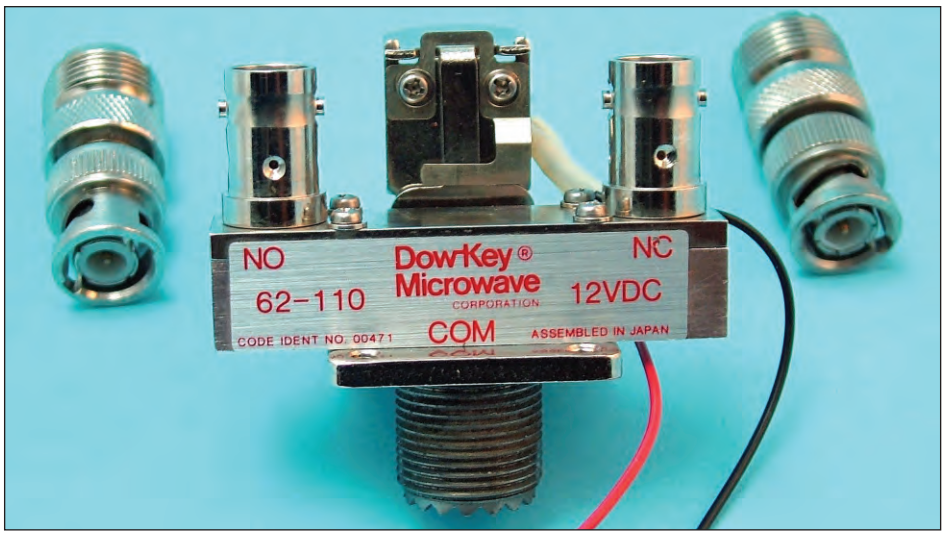


Figure 2: The Dow-Key Microwave 62 series coaxial switch is a good choice for switching VHF or UHF antennas.

Eventually, I found a coaxial relay that can be switched electrically, can operate at VHF and UHF frequencies, and can handle the 50 watt output of my rigs.

I ordered two of the Dow-Key Microwave 62-110 relays, which will operate from low HF frequencies to 1 GHz at up to 150 W. The particular switches I ordered had an SO-239 as the common connector and BNC females as the normally open (NO) and normally closed (NC) contacts (see Figure 2). This was not a problem as I simply added two RF adapters to convert the BNC females to SO-239. These coaxial relays operate on 12 VDC and consume only 170 mA each (a total of 340 mA) when activated.

Figure 3 is a simplified block diagram of my coaxial antenna switch assembly, with two of the Dow-Key coaxial relays, one for each antenna. The common (COM) connector of one relay is connected to the 220 MHz antenna and the common of the other to the dual-band antenna.

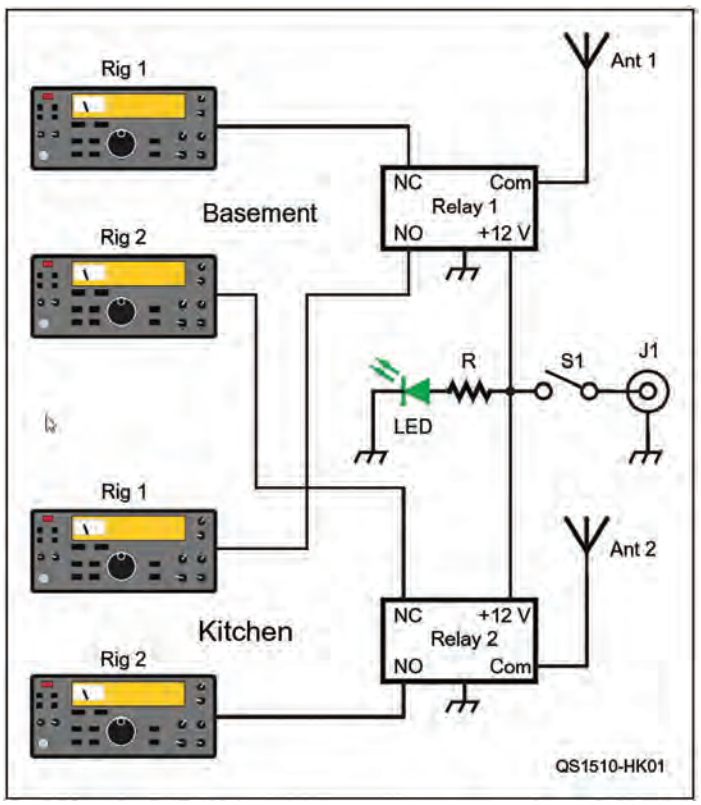


Figure 3: Simplified bock diagram showing connections for the dual-relay switch. (Source: the ARRL)

The NC output of each relay is connected to the basement rigs and the NO outputs are connected to the kitchen rigs. The LED in Figure 2 can be any you have available; size resistor R to match the particular LED you use.

Figure 4 on the next page shows the two relays mounted on a 3½ x 10 inch piece of wood.

I connected the coils in parallel and fed them with 12 VDC from an

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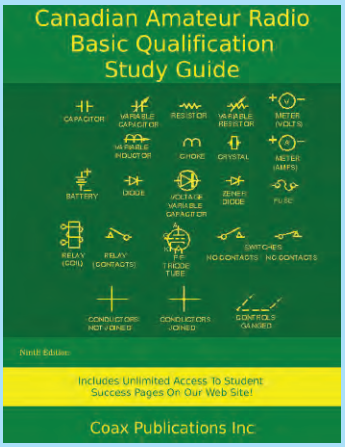

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AC to DC adapter (wall wart) that had a 0.5 amp capacity. The panel in the centre has the DC power jack (J1), a relay "on" LED and an ON-OFF switch for manual control.

The remote control aspect of the design uses a wireless remote switch to control the relays. These wireless switches come in AC and DC versions. AC switch examples are the Woods 32555, Globe 78901 or SVAT WRC101. The wireless DC switch I used was the RS101 from ClickAndLights.com. There are many other versions of both available.

The AC version is the simplest to install. You just have to plug the wireless switch into any AC outlet and then the wall wart or other DC power supply into the switch. Using the wireless remote control you can turn the relays on or off as necessary.

The DC option is a little more involved, requiring you to solder the wireless switch module's input connections to the 12 V power supply's output and the switch module's output to a DC power plug (P1) to match relay connector (J1). The RS101 wireless DC switch has five wire pigtails (see Figure 5), two of which are the 12 V input (red and black), two are the switched DC output (white and black), and one for connection to a short antenna (blue).

Another point to consider is that some wireless switches are toggle types with only one button on the wireless remote control; that is, when the switch is off, pressing the button will turn it on; if the switch is on, pressing the button will turn it off. Others have separate ON and OFF buttons. I prefer this type because you can press the OFF button anytime you forget the state of the switches.

Note that if you want to forego the wireless control option, you can add an optional second switch (S2) to provide hardwired remote operation. When using this option, S1 and S2 need to be SPDT switches wired in a three-way configuration (see Figure 6). A low cost source of three-conductor cable for the three-way switch option is to use three of the four conductors in telephone wire, often available at low cost in many stores.

I have found the remote operation to be quite reliable over more than three months of use. I have also found the control range distance to be more than adequate at my location with about 30 feet of horizontal separation, and main floor to basement with mainly wood construction.

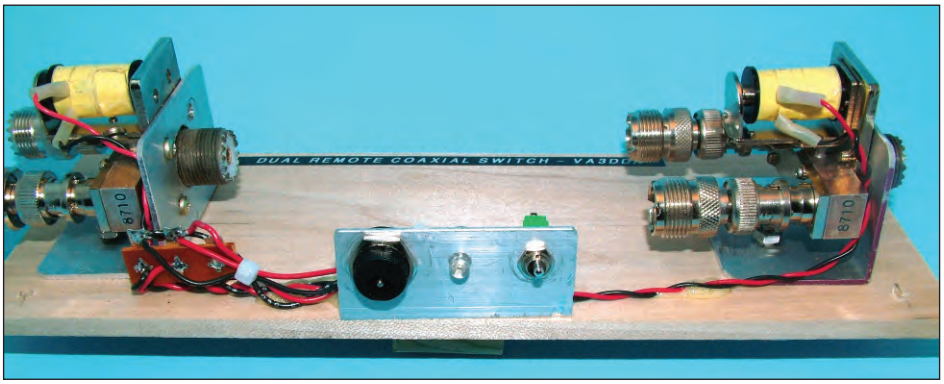

Figure 4: The completed dual-relay unit. Relays 1 and 2 are on either end of the board, leaving room for the coaxial cables which connect to the relays. The control panel (centre) shows the power connector J1, the LED and the manual switch S1.

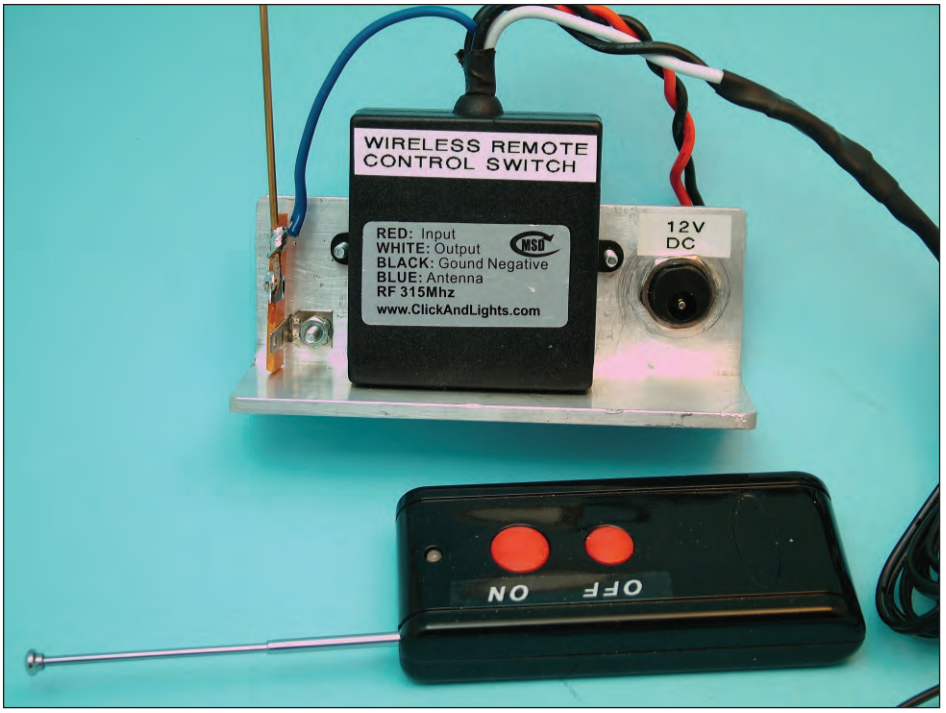

Figure 5: The DC wireless switch requires soldering the connections for the 12 V input and output, and also for a short antenna. The 12 VDC output (P1) connects to the J1 power connector on the control panel in Figure 4.

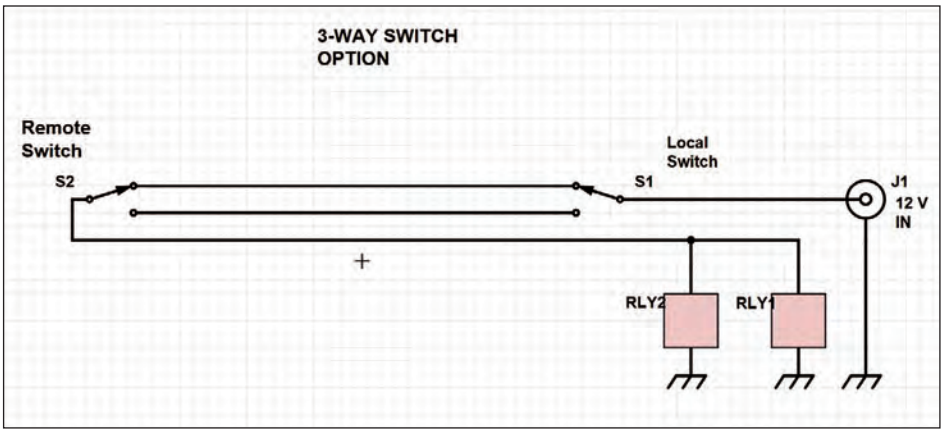

Figure 6: Wiring connections for the three-way switch option, if used.

Don Dorward, VA3DDN, graduated from Ryerson University in 1963 and his career positions have included: management of R & D; ISO Quality Systems and Regulatory Affairs; UL/CSA and EU product safety testing and certification; and EMC compliance. He worked in the component, consumer products, automotive, medical and power supply industries. He has been an Amateur Radio operator (VA3DDN) since 2002 with both Basic and Advanced certification and is a Life Member of the Institute of Electrical and Electronics Engineers and is a member of the American Radio Relay League, Radio Amateurs of Canada and Ten-Ten International.

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CANADIAN FIELD SERVICE EPISODES: 1953-1957

Written by Erwin David, VE3ZTH/G4LQI
Edited by Bill Karle, VE1YY

Background

Canada was subject to great changes, not of its own making, when I settled in Montreal in 1952.

The Cold War between the US and the USSR was heating. Thinly populated and previously undefended Northern Canada was becoming the "buffer" between the two competing superpowers. As 90% of Canada's then-22 million inhabitants lived within 90 miles of the US-Canada border, the defence of the Canadian centres of population was inseparable from those of the US.

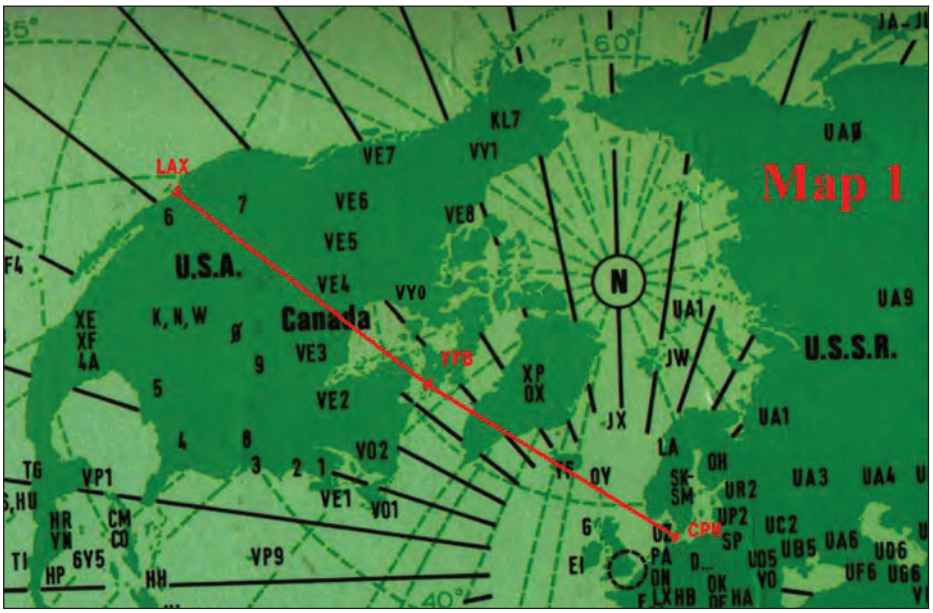
The major conceived threat was from manned Soviet bombers arriving via the Canadian Arctic (see Map 1). Coordinated coast-to-coast radar surveillance and interceptor control were required. The Royal Canadian Air Force (RCAF) was being expanded again to play its part in the defence of the North American continent.

A more peaceful development was the increasing range of passenger aircraft. With the arrival of the Douglas DC-7, non-stop service between Western Europe and the American East Coast was a reality and Scandinavian Airlines Systems (SAS; now Scandinavian Airlines) was pioneering "over-the-pole" flights from Copenhagen to Los Angeles with only one stop in Edmonton, Alberta.

Emergency landing fields and air-to-ground VHF phone and point-to-point HF/LF RTTY facilities were needed. For that purpose, the chain of refuelling bases established for the WWII delivery of relatively short-range fighter aircraft from the California factories to the United Kingdom, was to be upgraded to Civil Aviation standards. Navigational aids were required in anticipation of the planned rapid increase in Arctic flights, both civil and military.

Canadian Aviation Electronics Limited

In March 1953, I joined the Installation and Field Service department of Canadian Aviation Electronics (CAE) Limited (now a division of Boeing). The Company had been founded in 1947 by a group of demobilized RCAF officers and, by 1953, had grown to 600 personnel, approximately 60 of which were professionals, many of them post-war immigrants from Europe.



Map 1: The major conceived threat was from manned Soviet bombers arriving via the Canadian Arctic.

CAE had obtained long-term contracts for the depot-level modification, repair, overhaul and deployment of RCAF-owned electronic equipment in Montreal. The department I was joining undertook the systems design and documentation of field projects and implemented such projects at RCAF sites anywhere.

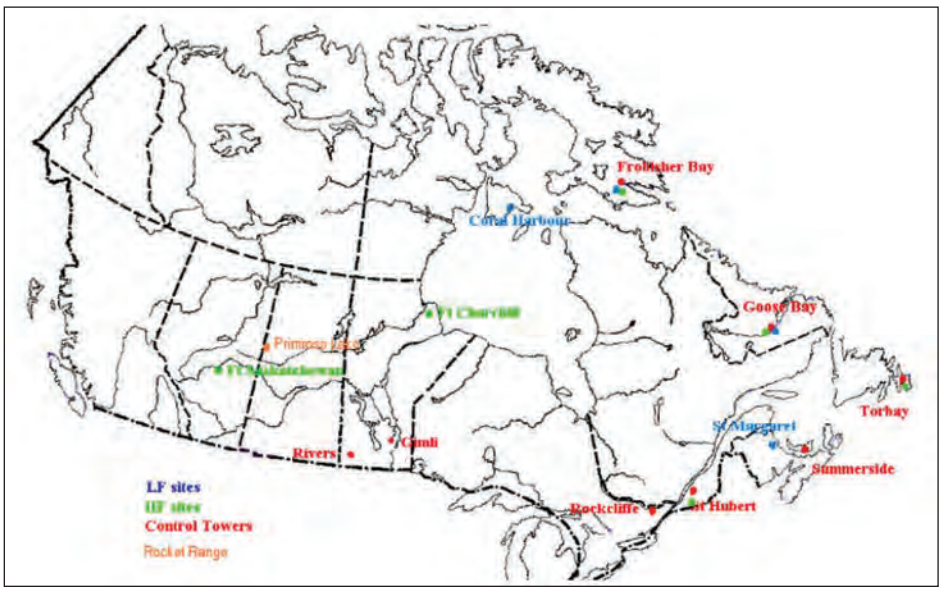
I was to work on four major types of radio systems:

- control tower equipment such as consoles, VHF transmitters and receivers (see Map 2)
- LF transmitters used as beacons and, later, as RTTY transmitters
- HF transmitters, receivers and antennas for point-to-point and air/ground/air communication
- Doppler radar and VHF communications along the Mid-Canada Line (see Map 3)

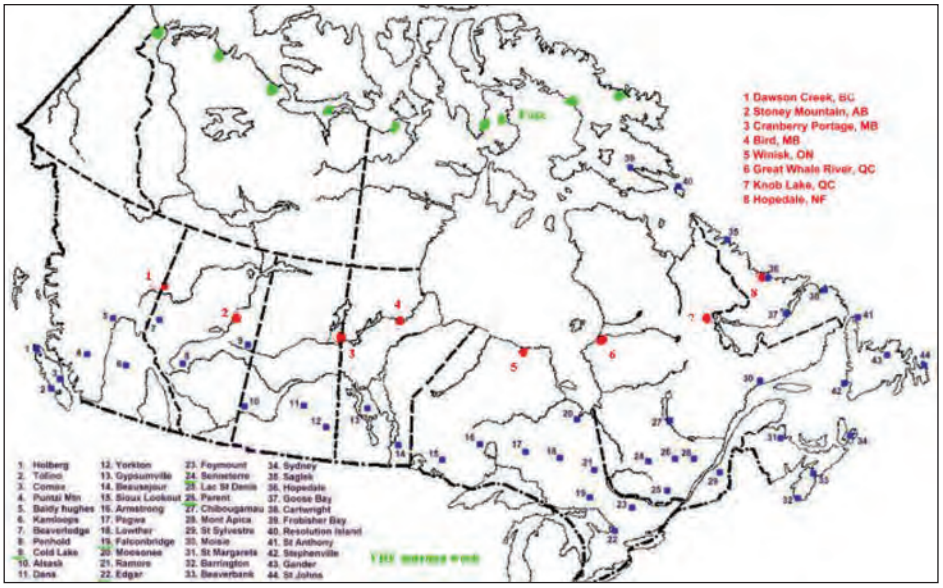
I also had to make many "service calls", some of them quite funny, all of them instructive.

Frobisher Bay, Northwest Territories

My first field assignment was the control tower installation at Frobisher Bay, NWT (VE8), now renamed Iqaluit, NU (VY0). The runway there had been built during WWII as a refuelling point for Mustang



Map 2: Control Tower and other LF, HF and VHF sites where I worked.



Map 3: Cross-Canada Radar chains (South to North): Pinetree, Mid-Canada, Distant Early Warning lines.

fighters being flown from the US west coast to the UK. After the war it had been relegated to its earlier role of Department of Transport weather station and LF Radio Range station, Hudson's Bay trading post and Inuit support centre (Department of Northern Affairs).

With the advent of the Cold War, the United States Air Force (USAF) had built a radar station on a nearby mountaintop and the runway was being extended to take the biggest aircraft. The USAF also was building a multi-hop tropo-scatter link, called "Polevault", from a base on Newfoundland along the Labrador coast to Frobisher, a technical innovation (see Map 3 and Figure 1).

The RCAF was taking over air traffic control and a new control tower had been built. A CAE crew, under our Vancouver-based foreman W S (Rusty) Hopper, VE7OS, had installed the electronics. On the top floor there was a console with all transmitter, receiver and intercom controls and, as backup, an SCR522, the standard 4-channel MIL aircraft VHF transceiver. On the floor below were four single-channel crystal-controlled VHF AM receivers and one tuneable backup. There was also an FM receiver for airdrome vehicle communication.

The transmitters, four single-channel 50W AM and one 20W FM unit, were installed in a wooden shack some distance from the airdrome. In the 1950s, it was common practice to rate transmitters by the DC input to the final RF amplifier, not by their RF output. Each transmitter and receiver had its own ground-plane vertical antenna. From Rusty, I learned professional installation and cabling techniques.

The installers soon left and Rusty and I debugged the installation and did the Proof of Performance for the RCAF Telecom Officer who flew in to inspect our work. That performance was incredible: solid voice communication with aircraft taking off from Goose Bay, 800 miles south, as soon as they reached 10,000 feet cruising altitude.

Though there was a scheduled RCAF Northstar aircraft into Frobisher only every second week, weather permitting, getting out was no problem. There were almost daily flights in and out by USAF DC4 transports, or Maritime Central Airlines' Bristol Freighters bringing construction materials from New Brunswick. Any Captain would gladly give you a lift to Goose Bay as long as you had adequate survival gear with you.

One day a USAF DC4 was grounded at Frobisher with a defective engine. The next day, another aircraft brought a spare engine, on a cradle in a huge wooden crate. The defective engine was lifted out and dropped onto the cradle with one crane, while a second crane installed the replacement engine. With that, night fell and work ceased, leaving the defective cradled engine and the empty crate on the tarmac.

Next morning, surprise! An Inuit family had moved into the empty crate and would not budge. An Inuit's home is inviolate, even if it is on the apron of an airport among parked aircraft. Cooking fires anyone? It required all the local Mountie's negotiating skill to convince the squatters that they, crate and all, would be better off in the Inuit village. The crate was dragged there, but the engine had to stay until a new crate was flown in.

Jimmy and Me

After Frobisher, I worked on similar control tower installations at several RCAF Stations: again in Goose Bay; then Summerside, PE; Torbay, NF; Rockcliffe, ON; as well at Gimli and Rivers, MB.

The Coronation of Queen Elizabeth II, on June 2, 1953, was big news. Rusty and I were working in the Goose Bay control tower when an RAF Canberra bomber arrived with the coronation films for the Canadian and US TV networks. A souped-up Mustang, piloted by the film star Jimmy Stewart, stood ready to carry the US films to New York City while an RCAF CF-100 jet was to take the CBC films its Toronto headquarters. The CF-100 was given clearance and took off first but before anyone knew it, and without clearance, the Mustang started on an intersecting runway, passing under the CF-100 with a near miss of ten feet. The CBC got their films first anyway!

Lobster Boil

Of the further control towers, Summerside was the most interesting location. An RCAF Operational Training Unit was located there. Each evening, resident pilots would take out groups of student-navigators for long flights in as many as 12 Expediter and up to six Dakota aircraft. Maritime Central Airlines had two daily flights in from Moncton, fog or no fog.

A decent flying control facility was urgently required. We built one (see Figure 2 on the next page).

A wooden pier jutted into Summerside Harbour near the hotel where we stayed. There was a small lobster cannery at the pier's end. Next to it, were weighing

Figure 1: A "Polevault" tropospheric scatter site.

Figure 2: The Control Tower Console at Summerside PEI.

scales and a 45 gallon drum, with an oil burner under, in which sea water was kept on the boil.

Lobster fishermen would unload their catch into nets that were weighed and dumped into the boiling water. When cooked, the lobsters were taken inside for processing, but many did not make it: for only 25 cent a piece, we bought all the lobsters we could eat, using long-nose pliers and side-cutters while sitting on the edge of the platform, feet dangling in the water.

Twenty-five years later I revisited Summerside. Only two Search and Rescue aircraft were stationed there and there were no scheduled flights. The control tower equipment we had installed was gone and the civilian control officers again used the prehistoric equipment we had replaced!

Frobisher, Again and Yet Again

I was called back to Frobisher a year after the original installation. All four VHF transmitters had failed. The two airmen charged with telecom maintenance had been unable to locate the cause; surprising, as I could smell from the outside of the transmitter shack what had happened!

The shack was heated by an oil stove. These had the reputation of exploding if the burner was not regularly cleaned. That had occurred and finger-thick goo, an oil and soot mixture, was sticking to all nearby surfaces including the air intake filters for the blowers in the bottom of the transmitter cabinets.

Airflow switches were part of the transmit interlocks; no airflow, no talk. Removing the clogged air filters restored serviceability. Five minutes work, five days away from Montreal.

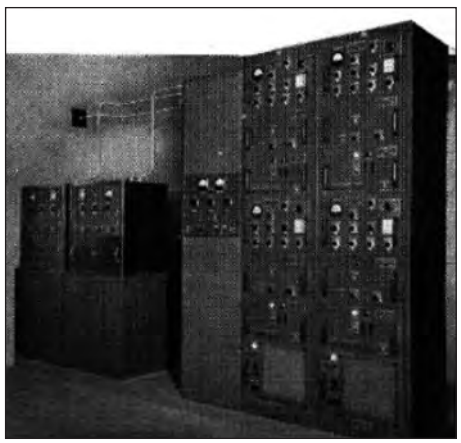


Figure 3: Control Tower Transmitters (from left: two 25W LF, one VHF FM, four 50W VHF AM)

Another assignment at Frobisher Bay concerned the layout of a 5 to 10 MHz antenna. Aircraft flying the polar route from Europe to California were expected to report their position at frequent intervals by VHF to the nearest ground facility from where the report would be passed to their departure and destination points by HF RTTY. With Frobisher right on the great circle route between Copenhagen and Los Angeles, and Edmonton not far off to the side, a reversible rhombic would fill the bill. I had to establish its exact size and location on site, depending on the available terrain. A local Inuit crew would do the actual work.

A little background: there was a mismatch between the EE curriculum at Delft Technical University in Holland, where I had taken my first two years, and that at Kansas, from where I graduated. Before commencement, I found myself short of one compulsory credit: surveying. Surveying for an electronics engineer? Irrelevant! So I petitioned the Faculty of Engineering and was permitted to substitute an equally irrelevant "surplus" credit, Metallography.

Fast-forward two years: when the Inuit foreman reported to me, his first question was: "Boss, where do the poles go?".

With no surveyor for kilometres in any direction, I borrowed a transit and an 1893 surveying book at the local weather station and, amid guffaws from the weathermen, this greenhorn learned surveying. It did not take me six weeks either! I never learned if that rhombic ever was built.

Cold Lake, Alberta

During a seven-week stint in the spring of 1954 on an International Civil Aviation Organization (ICAO) installation in Indonesia, I received a cable not to come all the way home after completion, but to pick up my next assignment at the British Consulate in Honolulu, Hawaii. I did so after a delightful weekend at Waikiki Beach and found that next assignment was at Cold Lake, AB; some contrast!

In the bush just beyond the limit of agriculture, a four hour drive northeast of Edmonton and mainly inhabited by Cree Indians, a major airbase was being established. The Cold Lake proper is clear and 113 metres deep. On its shore was a fishing village where, in anticipation of the business a major airbase would bring, the surprisingly comfortable Roundel Hotel had just opened.

Figure 4: Our Cold Lake to Primrose Taxi.

At the airbase-to-be, a CAE crew had started to erect HF antennas amid a sea of mud. Joining them in my white tropical clothes was quite a joke. My task, though, was not at that site. Twenty miles further north is Primrose Lake, a larger, pear-shaped body of water, which was to become a rocket test range. At its narrow, southern end there is a hill, on which there was to be a Range Control Station. On the lakeshore, not far from the bottom of the hill, there was a logging camp, uninhabited since the winter breakup. Before our arrival, a path had been bulldozed from that camp to the hilltop and a shack had been built there. Our task was to install VHF facilities for communication with Cold Lake and with six down-range theodolite stations yet to be established.

The trip from Cold Lake to the logging camp, over muddy forest paths, took several hours in a tracked vehicle towing a trailer with our equipment. Insects were the worst of our problems; mosquito oil was only partly effective, even with an "oil change" every few hours, but worst were the bigger insects, "dive bombers", biting

or not, which would hit your head every few seconds and drive you crazy. Against them we had to wear wide-brimmed hats with netting going down into the collar. Using the latrine was a major problem! We later wisely used the RCAF Otter float plane, moving between Cold and Primrose lakes.

The transmitters, receivers and the generator were installed in the shack and a ground-plane vertical was temporarily hoisted up in a tree so we could talk to Cold Lake and call for the plane.

The job itself was good fun. The bulldozer was still on site and one of our crew, who had been a tank driver in WWII, knew how to operate it. He hauled our equipment on a sled up the hill. The permanent antennas, two horizontal Yagis and three ground plane verticals, later went on a 90-foot tubular mast that nevertheless barely cleared the surrounding forest.

Coral Harbour, Nunavut

The RCAF maintained omnidirectional LF beacons to be used for aircraft navigation in conjunction with a radio compass at several landing strips in the Canadian Arctic.

An overhauled transmitter and ATU, plus complete walk-in aluminium housings for the latter, had been delivered when my three installers and I arrived at Coral Harbour in August 1954, via Winnipeg and Fort Churchill, MB, in a C-119 "Flying Boxcar", in which we 'passengers' had to wear a parachute harness and a Mae West over our Arctic kits consisting of parka, padded trousers and fur-lined flying boots.

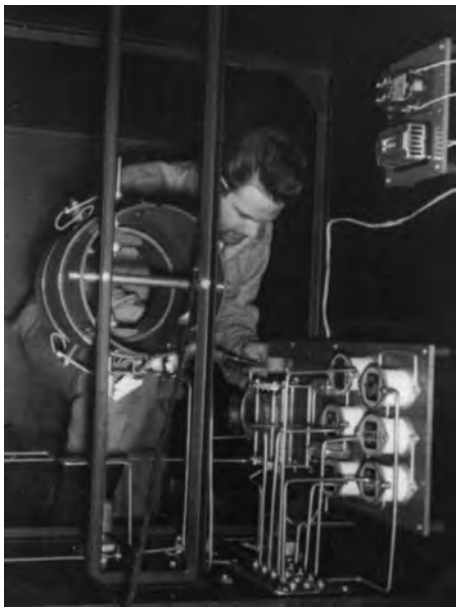


Figure 5: The LF ATU at the base of the Coral Harbour 250-foot tower.

Figure 6: General Radio Model 916A Impedance Bridge (Photograph courtesy of Greg Ordy, W8WWV.)

Coral Harbour was the most primitive of all the places I have worked. The runway was no more than a levelled esker (natural gravel bank amid the tundra) marked out by oil drums painted orange. Twelve men lived there including weathermen, radio operators, two RCAF men to keep the runway, maintenance personnel for the power plant and vehicles and housekeepers. Most of these lived there for six months at a time. Their and our quarters were in one of the barracks left over from WWII. The water supply consisted of blocks of ice sawn from a nearby lake. These blocks were melted in a bathtub over oil burners. If you wanted a shower, you chopped one block of ice: for a bath you chopped two.

Bulk essentials – mainly heating, aviation and diesel fuel, maintenance materials and food staples – were brought in late each summer by ship. Just in case ice prevented the ship from coming in some year, a two-year supply of those products was kept. Proof that Arctic navigation was risky, even when ice permitted it, is a rusted hulk on the beach: a WWII supply ship, the Liberty ship aptly named "SNAFU". Liberty ships were 10,000 BRT freighters of welded construction, a WWII innovation permitting faster assembly than the then traditional riveting. Fresh food, all supplies that had not been ordered far back and personnel replacements had to be flown in. Boredom was the main source of discontent but several men took correspondence courses; there was a library and a 16mm film projector. Alcohol was prohibited, though we heard rumours of large requisitions of copper tubing.

The vehicles, 4x4s, bulldozers and snowmobiles, were kept in a small hangar. Diesel engines were kept running all winter.

The tundra never thaws deeper than about 15 cenitmetres. Below that is permafrost.

Ten kilometres away there was an Inuit village of about 200 souls with a school, church, nurse and Hudson's Bay general store, but getting there over the tundra was a chore in summer. In winter, the people-carrier-size snowmobiles made it easier.

Back to the installation. We had RCAF drawings detailing the transmitter location in one end of a WWII stores building. We readily found the locale: a concrete slab with stores – rows and rows of unused oil stoves, not a spot of rust on them – but no building! It was said to have burned down 10 years earlier.

Fortunately, there was another building within reach of the length of one-inch coax we had and the installation preceded on schedule. Tuning the antenna was easy with the fine Model 916A General Radio impedance bridge (see Figure 6) that I had brought along and the system worked as expected.

Before accepting that, however, the RCAF wanted far-field field strength information. A Lancaster aircraft of 408 Photo-reconnaissance Squadron was brought in to "fly the pattern", a circle with a radius of 400 miles at 10,000 feet. 408 Squadron had the task of mapping the Canadian Arctic with an accuracy that previously had been unattainable.

Our navigator would determine our position every few minutes and I then would record the corresponding radio compass bearing and S-meter reading. With the to-and-fro it took more than a full day, but apparently the result was fine. I never heard otherwise.

I did hear from the Department of Transport radio operators at Coral Harbour, though. The beacon was getting into their receivers. I determined where and how, so upon my return to Montreal I could design and build suitable filters.

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Foxe Basin, Nunavut

A few months later, in winter, I was back in Coral Harbour to install the RFI filters. That did not take very long and worked fine but no RCAF aircraft out was scheduled for several weeks. I was anticipating boredom when a Dakota (DC3) aircraft came through, on skis, with a Canadian Marconi crew and materials to build a radio beacon at Foxe Basin, the site for a future Distant Early Warning (DEW) Line station.

Marconi had found it very difficult to recruit competent personnel for Arctic work and none of the men had any Arctic experience. I decided to go with them and help so we were flown to the bare site and unloaded the tent, sleeping bags, food, stove, power generator, barrels of fuel, a 25 watt LF transmitter, a 20 metre lattice mast, ground mat wire and a tool chest. With the pilot's joke – "As soon as you get on the air we can find you again" – the aircraft took off. That was our cue. It took us just three days. When I keyed the beacon, Coral Harbour came right back and we were promptly taken back to Coral Harbour and on to Fort Churchill!

Running cables in the Arctic wants to be learned. On unused terrain, bare wires as for ground mats and armoured cables, are just laid on the ground and weighed down with stones. Unarmoured cable is hung from catenaries of heavy steel wire in order to be capable of surviving high wind and ice loading. It is not practical to sink poles into the ground because of the permafrost. They instead are stood up and temporarily guyed. Gravel and muck is then piled up around their base. The permafrost quickly comes up into that pile and the pole is held as if in concrete. To prevent gouging of the wood by heave, the base of the pole is greased and wrapped in reinforced tarpaper before erection. That permits some movement up and down. Tripods may be used instead of single poles. They require smaller piles around their bases.

Goose Bay, Labrador: Ghosts

High-power LF transmitters had been installed at Manotick near Ottawa, ON and St. Margarets near Chatham, NB in order to back up HF circuits. CAE was to install one at Goose Bay.

The antenna systems were the same as those used for the beacons at Coral Harbour and Frobisher Bay, but the transmitters were much bigger, 10 kW, with ATUs to match. These transmitters were originally designed for CW, i.e., with about a 50% duty cycle. To use them on continuous FSK RTTY, the stacked-mica capacitors in the final tank circuit – bigger versions of those shown in the picture of the 2 kW ATU, were not adequately rated. My friend Ivan Mark, at our Montreal plant, designed and implemented a modification, replacing the mica capacitors with a bank of vacuum units.

Goose Bay seemed to be haunted. The area, where the Hamilton and Goose Rivers flow into the Goose Bay, is one of sandy soil overgrown with scrawny trees and brush. To build a major airbase there during WWII, a large area had been stripped of all growth. Since then, replanting or reseeding had been largely unsuccessful, and the place was subject to terrible sand storms. A new antenna farm was to be located just outside the previously cleared area and a fine brick transmitter building had been constructed just inside it. That whole building tilted and had to be replaced. It had been built over an abandoned latrine pit!

After the new building was completed and the transmitters installed in it, I went to do the acceptance test, but shortly after I applied full power, the wooden ATU hut caught fire. It was quickly extinguished and the precious variometer was salvaged. It took several weeks before the hut was repaired and the variometer cleaned and reinstalled. I could not go for the second attempt to get the installation accepted as I had the flu, so a colleague went in my stead. The same thing happened but, being warned, the blaze was extinguished immediately. This time the cause was properly investigated. It turned out that the hut had been assembled with steel screws instead of the brass ones specified.

After the hut was replaced, I went again and all worked well (third time's the charm), but by then Bell Telephone's civilian microwave relay chain had reached Goose Bay and the LF circuit was redundant.

St. Margarets, New Brunswick

The St. Margarets transmitter was destined for a more useful project. It, in combination with a similar station in Scotland, was to continuously broadcast weather information by narrow-shift (85 Hz) RTTY to be received anywhere over the North Atlantic by Trans-Canada Air Lines (TCA) and British Overseas Airways Corporation (BOAC) aircraft which, for that purpose, were to be equipped with teleprinters. CAE did not do the installation but, since we had overhauled and modified the transmitter, we would be called if something went wrong. During the six months reliability run something did, twice!

One Friday afternoon a call was received from our customer, RCAF Materiel Command in Ottawa, that the transmitter was down and urgent help was requested by the RCAF personnel on site, who were charged with twice-daily meter reading. I drew my antenna bridge from stores, all other instruments would be on site, and caught the evening flight to Moncton, NB, arriving there at 5 am. The Hertz agent was none too pleased being called out of bed at that hour, but by 6 am. I was on my way, arriving on site by eight.

The transmitter could not be loaded by the antenna. It did work into the dummy load so the load had to be the problem. As the impedance looking into the ATU was spot-on, it had to be the approximately 100 metres of buried one-inch coax. Using the bridge on its HF range, the fault was located: a short near the ATU end. Digging in the only recently back-filled trench was not difficult and the fault was quickly found, four metres from its ATU end, where the coax seemed to have shrunk to less than half its original diameter. It had been overstretched!

This coax was armoured by steel braid, on the bias, waterproofed by an overall neoprene jacket. The steel braid was not intended to give tensile strength to the cable, which had arrived on site on a big wooden reel, still there, with some surplus cable on it.

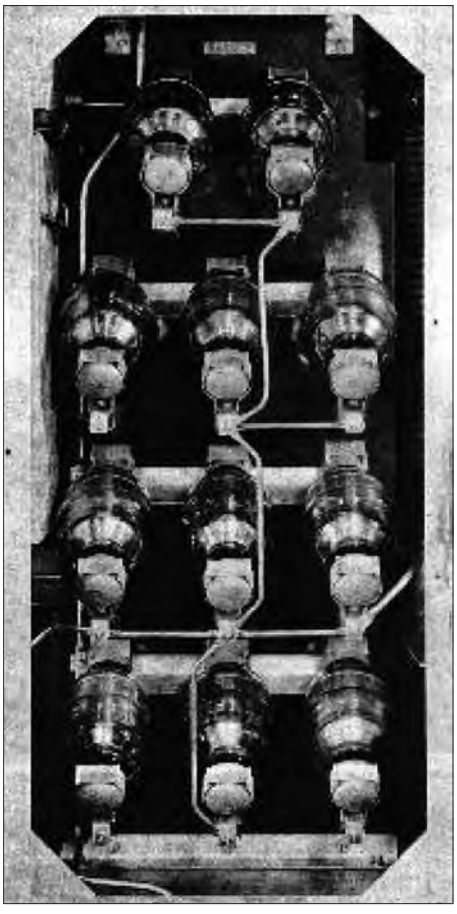

Figure 7: A bank of strap-selectable 30 kV vacuum capacitors covers a tuning range of 78 to 200 kHz.

The sergeant knew at once what had been done wrong. The installers had put a shaft through the wooden reel and onto supports by the transmitter building, tied the loose end to a truck and pulled it to the ATU. Dragging 100 metres of heavy cable over rough terrain required more force than the cable could withstand, constricting it where it had been attached to the truck. It should have been done the other way around; the reel should have been mounted on the truck, the end tied at the transmitter building, and the cable unrolled as the truck was driven towards the ATU. The remedy was easy: there was enough cable left on the reel to run from the ATU to where I had cut out the faulty piece. A very temporary splice was made, above ground and waterproofed by an upturned pickle jar. Service was restored.

A second repair call was less challenging. When I entered the transmitter building the fault stared me in the face. The 892-R power amplifier valve is visible through a glass window in the transmitter cabinet. In series with the grid connection, on the side of the glass envelope, there is a parasitic suppressor, consisting of a 50Ω carbon rod resistor in parallel with a few turns of heavy wire. That resistor was red hot and absorbing the drive to the final amplifier. The suppressor was replaced from stock and the transmitter returned to service. After that, a CAE technician was stationed at St Margarets for the remainder of the six-month reliability run. He never had any work at all and for sheer boredom dabbled in the occult.

Torbay, Newfoundland

Our team was requested to stay on at Torbay after we had completed the control tower job. We were needed for a temporary installation. Joint Navy/Air Force Atlantic exercises were about to begin and Maritime Air Command, normally operating out of Halifax, NS, wanted forward communication facilities near St. John's, NF. We were to install HF transmitters, i.e., five 300 watt single-channel AM/MCW/CW and one four-channel 500 watt model, and a few dipole antennas, on a field just outside the village of Torbay. The communication centre, in a nearby caravan, comprised CR91 receivers and the telephone-dial remote controls for the transmitters.

You can guess how we tested the installation! Rusty Hopper has several QSL cards confirming QSOs with VE7OS/VO. The RCAF was happy with the installation, but the Minister of the nearby church was not: when the Hammond organ was switched on that Sunday, the Congregation was treated to continuous military ground-to-air traffic.

I was faced with an interesting personnel problem at that site. During my years in Kansas, I had become acquainted with and had adopted for myself, the American doctrine that "any honest work is honourable". To do this rush temporary job, our Montreal office had sent me a newly hired additional technician, an Englishman, who had recently retired from the RAF as a Flight Sergeant. He had just immigrated and this was his first Canadian job.

As we arrived on site, an RCAF truck delivered the crated transmitters and receivers. We helped the driver unload and set to work uncrating the equipment and dragging it inside; all of us that is, except our new man. He had "Senior NCO status and rough labour was not what he had been hired for". I made him stand and watch us in silence. No one talked to him. By lunchtime he had seen the light and dug in like everyone else. He eventually became a civil servant in Ottawa and took out a Canadian Amateur licence. In 1983 I heard and called him on 28 MHz and we had several pleasant QSOs after that.

Not All Coax is Equal

Between other jobs, there was a string of VHF antenna repairs to be done at Pinetree Radar Stations, where clusters of Ground Plane Verticals mounted on wooden poles were in use for air/ground/air communication. A linesman, i.e., a professional pole climber, a helper and I would go out to a site underlined in green in the list on Map 3 (see the eTCA in full colour on the RAC website) and overhaul these antennas. This would consist of inspection of each coax connection, and, where necessary replace the RG-8/U coax, always packing the connectors with silicone grease before reassembly. There seemed to be different qualities of RG-8; in some, the core apparently shrunk more at very low temperatures than the dielectric, causing the pin of the type-N plug to pull out of the socket. This problem is said not to occur with RG-213/U.

Why was an engineer required for this strictly mechanical job? The work had to be carried out without interruption of service. I had to closely liaise with the users and plug a spare antenna into each piece of equipment before disabling its own antenna and the spares were not always properly marked as such!

Onward

Canadian Aviation Electronics Limited later switched emphasis from telecommunication to the design, manufacture and operation of Flight Simulators where it has become a world leader. I switched with it.

Shortly thereafter, and newly married, my wife and I were posted to #1 F-wing, RCAF in Marville, France with CAE's first overseas CF-100 simulator, but that is another story.

I left Holland, where I was PA0CG, in 1949 for Kansas, having family in Kansas City, with two years of electrical engineering and a year as an engineering assistant with Philips Telecom under my belt. I made a living in nearby Lawrence, Kansas as a TV serviceman while studying at the University of Kansas, where I graduated with a BSEE in 1952. I then settled in Montreal and began a half-decade of adventures. Since 1958, I am a Canadian Citizen. I held the call VE2APQ and still have VE3ZTH. Family considerations led to a move to England in 1979 where I became G4LQI.

TCA

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SLOW SCAN TELEVISION (SSTV): PART 3 – APT 101

Note: "SSSTV: Part 1 – Genesis and SSTV: Part 2 – Morphosis appeared in the September-October 2015 and November-December 2015 issues of TCA. Detailed reference material is available on my website so only the most important features, developments and applications are covered herein. Several transmission formats of the weather satellite analog SSTV automatic picture transmission (APT) system have been used over the past six decades and the generic term "APT" is used to mean all previous versions regardless of their differences. Happy New Year!

INTRODUCTION

American humourist Mark Twain's good friend, newspaper editor Charles Dudley Warner, wryly wrote "While everybody talks about the weather, nobody seems to do anything about it!" That 19th century aphorism (Twain popularized it) is still true today because the number one most talked about, searched for or trending topic in cyberspace isn't "sex", "food" or "Kardashians" – it's the weather – and we still can't do anything about it!

In this century, we seem to have a total reliance on (some would say addiction to) cyberspace to provide our daily information (bread) including weather, but what do we do when everything within 500 kilometres is knocked down and blanketed by layers of heavy snow and ice, disrupting all commercial communication systems for days on end, cutting us off from all physical and electronic roadways and our daily cyber bread?

Which obtusely leads to my question: "Can you and/or your local ARES group do something about 'it' and provide terrestrial- and/or satellite-based weather information to third parties during devastating extreme weather or other (real or simulated) environmental emergencies?"

Many Amateurs and other hobbyists have solar/battery powered personal weather stations (PWS) feeding data into various weather Internet and/or mesh networks and/or radio-based systems (see Figure 1) such as the Citizen Weather Observer Program (CWOP) or the Automatic Packet Reporting System (APRS), etc. Some also receive APT weather satellite maps and telemetry then redistribute them via the Internet and/or mesh networks (see Figure 2). So why not integrate these valuable resources into the local ARES emergency communications (EmComm) "what if" planning scenarios?

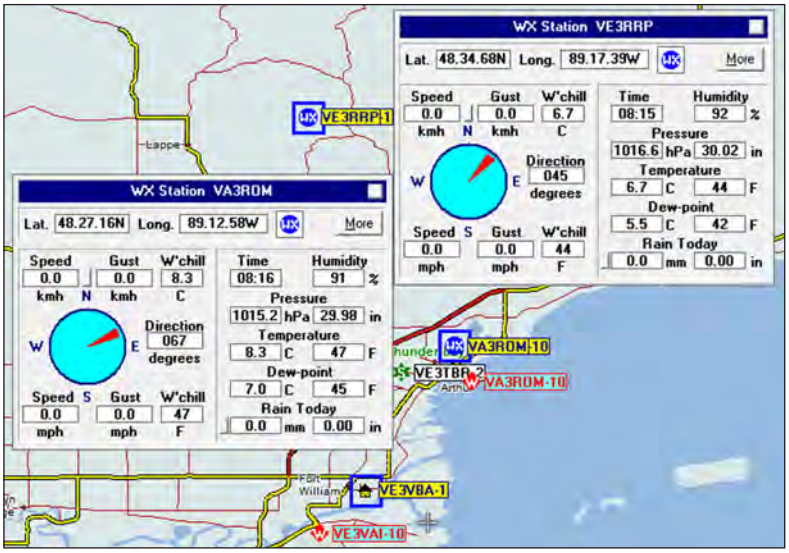

Figure 1: Local Thunder Bay APRS/CWOP weather stations transmit data on simplex FM 144.390 MHz and are decoded by any APRS/packet radio software plus streamed to the Internet and/or mesh network (as required).

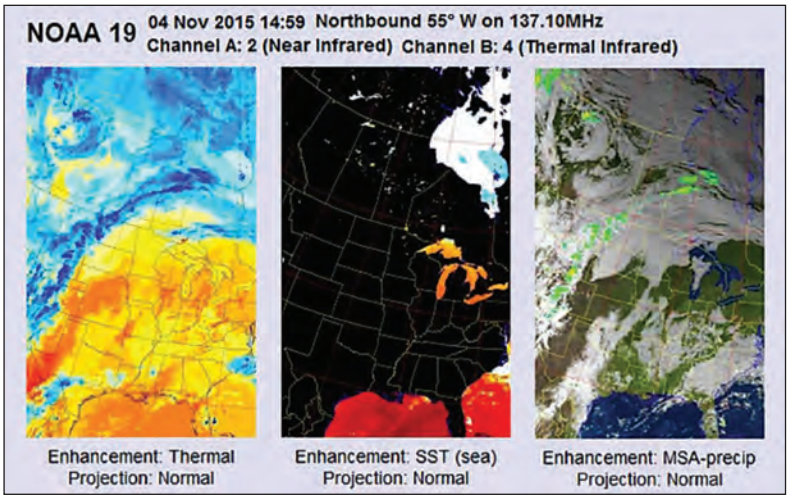

Figure 2: Early morning (before sunrise) APT IR images of NOAA-19 (137.1 MHz) captured using an SDR dongle showing some processing and colourization methods. Data is uploaded to the Internet and/or via a mesh network (as required).

THE PAST

In 1960, the National Aeronautics and Space Administration (NASA) launched the first experimental weather imaging satellite or "bird" called TIROS-1 (Television Infrared Observation Satellite) to test out a novel (or crazy) idea that artificial satellites could be used to study global climate – perhaps even do more.

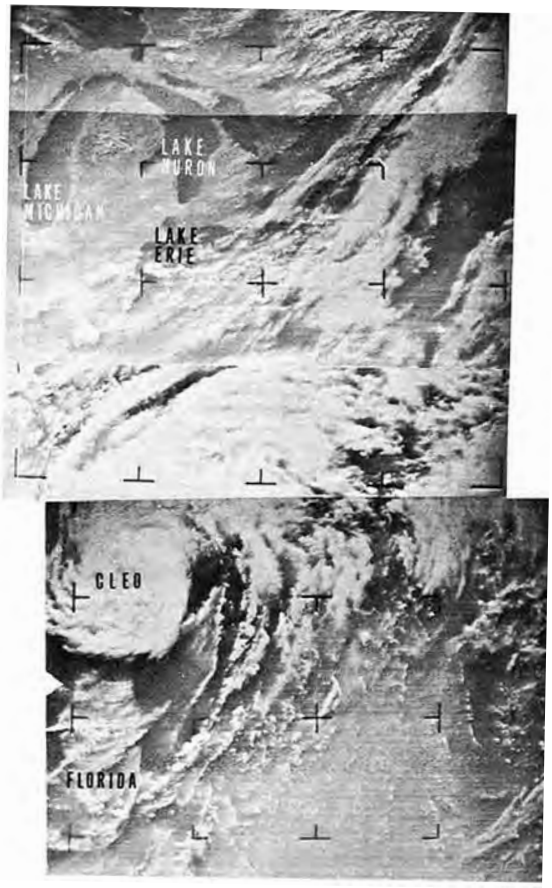

Figure 3: Visible light (vidicon) APT images captured by several Nimbus-1 satellite passes over eastern North America showing category 4 [major] hurricane Cleo (August 1969) slowly travelling up the eastern seaboard. Cleo caused the deaths of 156 people but satellite images helped to minimize the loss of life (and property damage) with advanced warnings and hurricane path tracking. (Courtesy of NASA)

TIROS-1 "grabbed" a single video frame (at 30 second intervals) from a fixed vidicon camera, converted it to an audio signal, saved it to magnetic tape, and later transmitted it (on command) to a ground control station (store and forward) taking 200 seconds to transmit one frame at a time; but this method left gaps between images and required multiple passes over an area before enough overlapping images created a composite picture.

It was TIROS-8 (1963) and the Nimbus satellite series whereby APT data from vidicon cameras, then fixed radiometers and later on, scanning radiometers could be freely received by anyone, agency or country "in the clear" on VHF radio with no command ground control station required (see Figure 3).

Note: A vidicon is a cathode ray tube (CRT) video imaging analog device used in the early days of broadcast television. A radiometer measures (meters) levels of radiation/radiance (radio) at different energy (flux) levels of the electromagnetic force (EMF) spectrum which is composed only of light-speed particles (photons).

Weather satellites image the EMF spectrum we call "light" (Greek: phos) from the visible to the infrared. A fixed radiometer has a straight down below or "nadir" view of the Earth while a scanning radiometer (SR) uses a rotating/reflecting mirror system allowing it to have a wider field of view (FOV) on either side of nadir so instead of moving the camera from side-to-side, we move the light! The opposite of nadir is "zenith".

The early APT (vidicon version) weather satellites transmitted a signal 100% compatible with standard weather facsimile (WEFAX) direct readout (printout) stations already located at weather centres. They just added a VHF FM receiver and antenna system to receive and print APT weather maps, but at $32,000 new and $5,000 used (in 1960s dollars!) they were very cost prohibitive for most, however, technically savvy SSTV Amateurs and other hobbyists started homebrewing direct readout station equivalents (using thermal paper or photographic film) for a lot less (see Figure 4) but this never really caught on with the "masses".

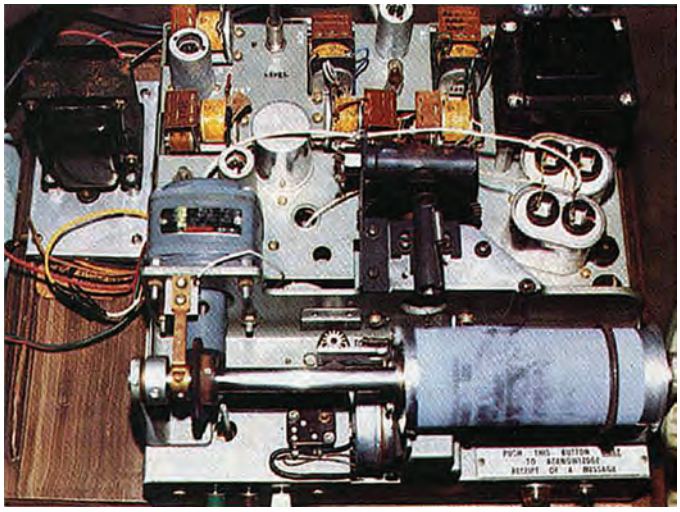

Figure 4: Homebrew APT/WEFAX Direct Readout Station (1960s) (Courtesy 73 Magazine)

In 1970, NASA transferred control of all (civilian) weather satellites and their corresponding programs to the newly created National Oceanic and Atmospheric Administration (NOAA) with satellite command and data acquisition (SCDA) centres located at Fairbanks (Alaska) and Wallops Island (Virginia), providing (24/7) monitoring, maintenance and control of NOAA satellites (see Figure 5).

Figure 5: Wallaops Island NOAA SCDA Facility (Courtesy Google Earth)

Figure 6 (see above): Modern (Hobbyist) APT Receiving Station. The standard APT station setup used by most Amateurs and other hobbyists: QFH (quadrifilar helix) or turnstile (crossed dipoles) antenna, VHF preamp/preselector, analog VHF FM receiver, remote weather station (optional), computer (desktop/laptop) plus free/commercial processing software. (Courtesy WRASSE Electronic and Davis Instruments)

Note: It would take about 25 years before the personal computer (PC) revolution and advances in software/hardware made things both affordable and practicable with inexpensive "off-the-shelf" APT receiving equipment (see Figure 6).

THE PRESENT

NOAA APT birds (currently three) fly in sun-synchronous (polar) Low Earth Orbit (LEO) averaging 850 kilometres high, travelling in the opposite direction to the Earth's rotation (retrograde) with a close-up view of every spot on the globe at least twice every 12 hours in visible light (VIS) and various infrared (IR) wavelengths.

They belong to the Polar-orbiting Operational Environmental Satellites (POES) program for meteorology, climatology and oceanography use providing non-visible data collection to users.

On the other hand, geostationary or geosynchronous equatorial orbit (GEO) weather satellites (currently eight) have a very wide "birds-eye" FOV (pun intended) of what's going on below them, but they are locked into one spot, spaced around the equator, high above the earth's surface (35,800 kilometres) and can't image regions above/below 60 north/south latitudes (they cover about 60% of the Earth's surface). In addition, at their altitude they lack the same optical resolution of the LEO birds, but because they "hover" over one spot streaming data in real time (24/7), you don't need to figure out the next flyby time, and the term "now-casting" describes this continuous data availability from the GEO birds.

Up to 2010, NOAA launched LEO weather satellites with both the digital High Resolution Picture Transmission (HRPT) and analog APT modes, and made plans for HRPT-only birds in the future. However, HRPT has higher start-up costs and isn't compatible with any APT equipment and many "high-profile" users took a very dim view in having to trash perfectly useable gear and reinvest in HRPT! NOAA had predicted that only one APT-equipped satellite (out of the five remaining at the time) would still be operating by year 2015, but no one realized just how tough and "stubborn" these old birds really are because three (NOAA-15, NOAA-18 and NOAA-19) are still flying high (see Figure 7)!

NOAA-15 (launched 1998) is showing definite signs of "old age" and it's now the "backup bird" flying in a "morning" orbit (slightly lower and faster), but I'm making my own prediction – barring any serious system failures – that at least one of them will still be operating in the 2020s (NOAA-19 launched in 2009) and NOAA is now working very hard to keep them working for as long as possible.

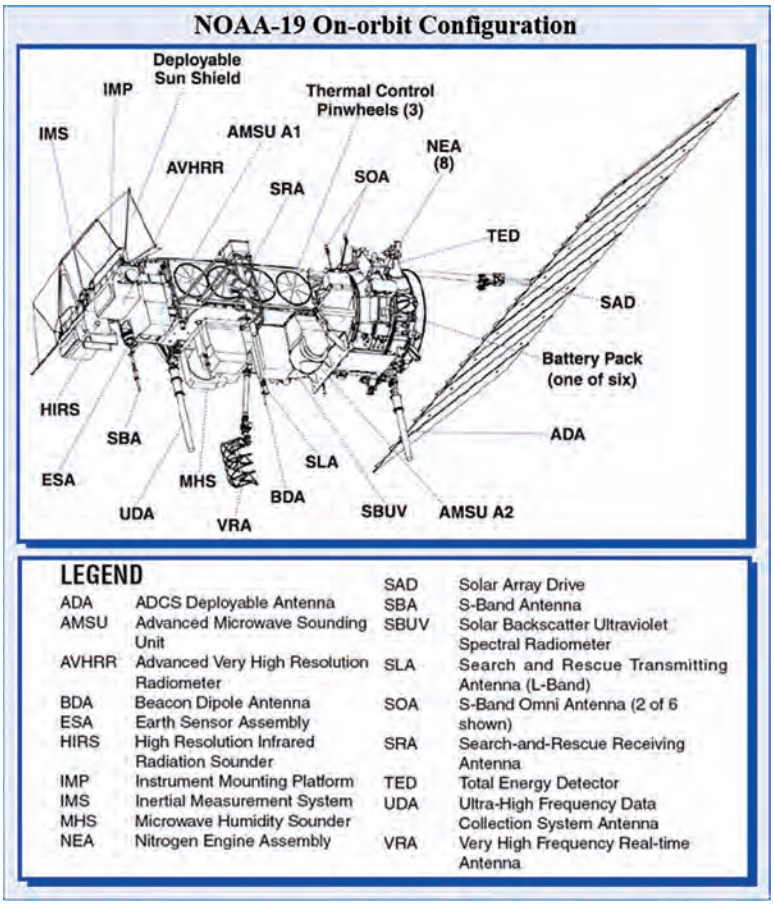

Figure 7: NOAA-19 is the last POES to fly with APT capability and it has surpassed its minimum 2-year service life, but "granny" NOAA-15 is still chugging along with 18 years of continuous service so APT may be around for quite a while longer! (Courtesy NOAA)

TRANSMISSION FRAME / TELEMETRY FORMAT

Note: I'm glossing over this topic since the APT decoding software handles all the "translation" of APT video and telemetry signals, but if you want to really know the detailed "techno-speak" specifications, refer to the reference material on my website.

Modern APT transmissions derive from the 3rd generation scanning radiometer called the Advanced Very High Resolution Radiometer (AVHRR/3), which is a digital imaging device, and various versions of it have been flown since 1978. The current generation provides six spectral channel (see Table 1) HRPT digital video/telemetry transmitted on 1.7 GHz (L-band) using binary phase-shift keying (BPSK).

The AVHRR/3 has 1.1 km/pixel (10-bit) resolution with a narrow but detailed FOV while APT has 4 km/pixel (8-bit) resolution with a wide (aspect angle corrected) but less detailed FOV. Basically, the AVHRR/3 signal is only composed of varying shades of black and white (256-level grayscale) and colour is applied afterwards in post-processing by using colour lookup tables (CLUTs).

A separate APT analog video/telemetry stream is created from two of the AVHRR/3's six channels, converted to analog voltages (see Figure 8 on the next page) and amplitude modulate a 2400 Hz subcarrier (SCAM), which feeds a 37 dBm (5-watt) 137 MHz FM (17 kHz peak deviation) transmitter connected to a right-hand circular polarized (RHCP) helical or "corkscrew" antenna (see Figures 7 and 9).

AVHRR/3 Channel Characteristics

Channel Number	Resolution at Nadir	Wavelength (um)	Typical Use
1	1.09 km	0.58-0.68	Daytime cloud and surface mapping.
2	1.09 km	0.725-1.00	Land-water boundaries.
3	1.09 km	1.58-1.64	Snow and ice detection.
4	1.09 km	3.55-3.93	Night cloud mapping, sea surface temperature.
5	1.09 km	10.30-11.30	Night cloud mapping, sea surface temperature.
6	1.09 km	11.50-12.50	Sea surface temperature.

Table 1: Courtesy NOAA

The modern APT radio frequency (RF) approximate bandwidth is defined by Carson's (FM) bandwidth rule:

CBR = 2(Δf + f m) or 2 x (17 kHz + 2.4 kHz) = 38.8 kHz (early APT used 15 kHz deviation)

During flybys with sufficient illumination (sunlight), the visible light channel (Channel A) and one near/mid-IR channel (Channel B) are automatically selected. At night, two different (usually mid and thermal) IR wavelengths are selected.

THE FUTURE

Because HRPT isn't compatible with any APT equipment, a new and different digital imaging mode called Low (data) Rate Picture Transmission (LRPT) is the planned replacement. It's still SSTV, slowly painting video images (in three tall, narrow strips, imaged in separate wavelengths) scan line by line on your monitor, but LRPT has the same 1.1 km/pixel resolution as HRPT and uses most of the same old APT equipment!

The AVHRR/3 can stream both digital modes and NOAA had planned to use LRPT for future LEO weather satellites, however, the US government decided differently and cancelled the plan (2010). But "politics does make for strange bedfellows" because the Russians have launched LRPT equipped Meteor-M series satellites (2009 and 2014), with another one in the works, so APT users are very happy about this, albeit one bird is a little "flaky". They share the frequency segment (137 MHz), fly in polar LEO and transmit 5-watt RHCP signals using quadrature phase-shift keying (QPSK). However, the RF bandwidth used is 120 kHz with a data rate of 72 kilobits per second (kbps) resulting in huge amounts of data (> 100 megabytes [MB] per pass). For speed comparison, APT is a "turtle" at 4.16 kbps with small amounts of received data (< 20 MB per pass)!

Hobbyists have created free LRPT signal decoding and processing software, and have also written APT and LRPT "how-to" tutorials for using those ubiquitous and inexpensive USB dongle software defined radios (SDRs). Adding LRPT imaging to my existing APT receiving station just involved swapping out the old analog FM receiver ($300) for a new "high-end" SDR dongle ($50) and installing the new LRPT software alongside the old APT software, but the VHF turnstile antenna, preamp/preselector and an "ancient" dual-core XP laptop stayed put!

MY FINAL

The next column looks at using SDR dongles and free software to capture/process APT video images/telemetry with the option to stream them via Internet/mesh network for public/personal or ARES specific uses. – 73

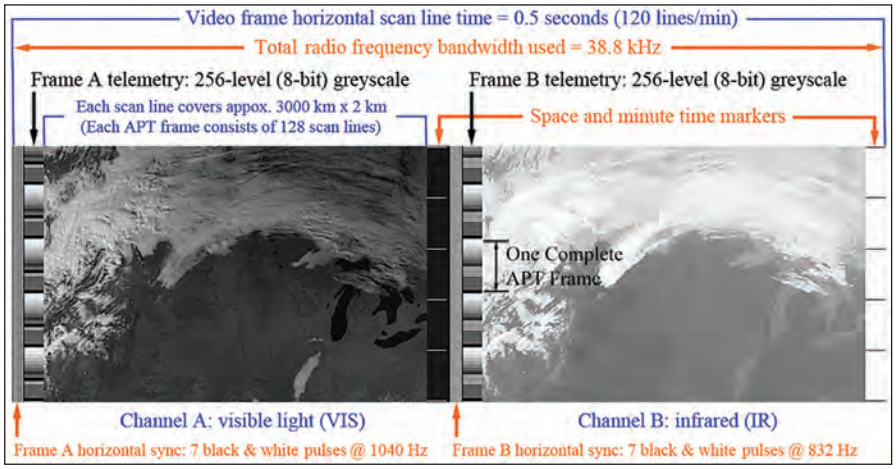

Figure 8: APT Frame and Telemetry Format. This is a 5-second segment of an NOAA-19 daytime flyby west of the Great Lakes. With NOAA IR imaging, the colder an object is the whiter it appears and the warmer an object is the darker it appears (Russian birds do the IR opposite!). Black signal level is 5% modulation and white signal level is 87% modulation (+/- 5%). APT signals have a very distinctive "tick tock" sound because of their horizontal line synchronization (square wave) pulses. (Courtesy NOAA)

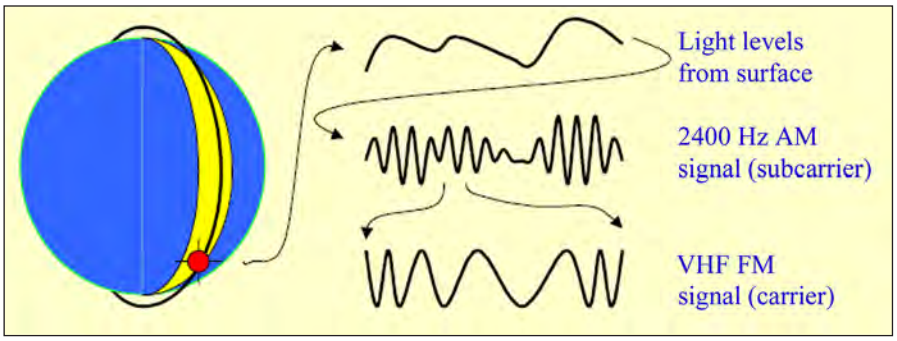

Figure 9: 2400 Hz SCAM/VHF FM Transmission. SCAM FM injects a 2400 Hz audio tone into a keyed VHF FM transceiver and varies the tone's loudness (modulates) up and down to indicate varying voltage (light) levels. All analog signals are composed of an infinite number of points but 8-bit ADC can only quantify 256; for example, represent a continuous range of analog temperatures as digital values from –127 °C to +127 °C in 1 °C increments. (Courtesy Princeton University)

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Dr. Su-Yin Tan, University of Waterloo

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QST Archive
http://www.arrl.org/qst

VA3ROM: All Things Digital
http://tinyurl.com/og2acxq

Phillip Boucher, VE3BOC
E: phillipjboucher@gmail.com
www.phillipjboucher.com

FRESH ON THE AIR

– ADVENTURES FOR THE NEW AND BEGINNING HAM

The 222 MHz Amateur Radio Band...

Although I have covered the 222 MHz band in a previous column, this band seems to have a bit of mystery to it and many new Amateurs don't know much of anything about it.

The Amateur band of 222 to 225 MHz or the 1.25 metre band, sits in between the VHF 2 metre band (144 MHz) and the UHF 70 centimetre band (440 MHz). Although it is considered to be VHF itself, it exhibits a combination of propagation characteristics of both VHF and UHF signals.

It has a shorter communications range than 2 metres but slightly greater than 70 centimetres. It also has better penetration ability through trees, hills, and buildings than 2 metres, though not as effective as 70 centimetres. As such, it can be an optimum band to operate on via simplex or have a repeater located if used in a location or environment that can take advantage of the combination of propagation characteristics.

Although most radios with 1.25 metre capability will only transmit from 222 to 224.995 MHz, this is not the only portion of the band that is available to Amateurs.

In Canada, Amateurs can use 219 to 220 MHz on a secondary basis. This means that Amateurs must accept any and all interference from other users of the band. As such, very little, if any, use of this band occurs.

The band 220 to 222 MHz *may* be permitted for Amateur use on a secondary basis for exceptional circumstances to assist in disaster relief efforts. So again, very little if any use of this band occurs as well. These two bands were snatched from us via the "use it or lose it" or "if it isn't used, it isn't needed" philosophy of radio spectrum acquisition. However, we still retain 222 to 225 MHz on a primary basis which means it is here and it is available for every Amateur to access.

Other than remote station control or other linking or relay purposes, the majority of communications on 222 MHz is going to be by repeater, and less often by simplex. CW and SSB are very common on this band during VHF contests.

Some dual or multiband radios come with 222 MHz transmit capabilities, but most only provide a maximum output power of about 1.5 watts. This gives reasonable transmission range for local repeaters and simplex use, but lacks the output power needed for more distant repeaters like 5 watts can provide for 2 metres and 70 centimetres. Unless you are near a local 222 MHz repeater, you are limited to simplex use. Manufacturers do put out both single band and multiband radios, that allow 5 watts out on 222 MHz, so if you have a desire to use this band heavily or access a distant repeater, the equipment with the output power exists to let you do so easily.

The good news for 222 MHz is that many clubs and individuals are beginning to operate more 222 MHz repeaters, and the possibility that a repeater may be in your area is getting better. Although, in my experience it can be hit or miss. In my area, there are four 222 MHz repeaters available, yet only one is on the air at the moment. I don't know whether it is from lack of use, money or infrastructure, but that seems to be the way in this band.

If you and another Amateur or two have radios with 222 MHz capability, you may want to use this band more often than 2 metres or 70 centimetres. If you can access a local repeater, use it as much as possible over the other two bands. Let other operators know you hang out on that repeater. If there are no repeaters in your area, talk via simplex.

It comes down to this: the more Amateurs who use 222 MHz for regular Amateur Radio QSOs, nets, club on-air gatherings, the Amateur Radio Emergency Service (ARES) and so on, the more protected the band becomes and the less likely it is to be taken away and parcelled up to commercial and government users.

And the more 222 MHz is used in your area, the more other Amateurs and clubs will take notice and they may decide to set up a repeater. Think supply and demand. If the demand for something exists, then eventually someone will begin to supply it.

In the grand scheme of the frequency spectrum, Amateur Radio is allocated only a very tiny portion and it is imperative that we keep what we have by *using* what we have if we have the ability to do so. If your radio has 222 MHz capability, find a repeater or a local Amateur and use the band as much as possible. You may find that this band will become your favourite.

Below is the 222 MHz band plan for Canadian Amateurs (all frequencies in MHz). Remember that with repeaters, inputs and outputs could be reversed:

219-220: Used on secondary basis only. Amateurs must not interfere with other users and must accept interference from other users.

220-222: May be used only to assist with disaster relief efforts when authorized.

222-222.05: EME (Earth-Moon-Earth or Moonbounce)

222.05-222.10: Continuous wave (CW); 222.1 is the SSB and CW calling frequency

222.10-222.275: SSB

222.275-222.300: Propagation beacons

222.310-223.370: FM Repeaters (inputs); 223.5 simplex calling frequency

223.390-223.490: High speed data

223.490-223.590: Simplex

223.590-223.890: High speed data

223.910-225: FM Repeaters (outputs)

Transmission Tidbit:

Got a Ham Radio joke? Send it in to me and I'll use it here for a Transmission Tidbit!

Write me via the magazine; email me at phillipjboucher@gmail.com or via my website at htttp://www.phillipjboucher.com.

My book, "The Almost Complete Guide to Yaesu's VX-6R", is available in PDF for $14.95.

Visit http://www.phillipjboucher.com to order. It's also available in Epub format at Amazon Kindle at http://www.amazon.com/Almost-Complete-Guide-Yaesus-VX-6R-ebook/dp/B00IWN7SJI.

GenRad Treasures

Bill Karle, VE1YY

While researching the historically important General Radio Type GR916-A Impedance Bridge, I found a delightful website that answered my questions. It might appeal to the historians or equipment restorers among us hams.

General Radio was a firm that commenced making and selling electronic test apparatus in 1915. From its Cambridge, Massachusetts factories it innovated an early portable oscilloscope, precision component standards, and the much appreciated "Variac" autotransformer.

I own a piece of General Radio history: a Variometer, an adjustable inductor. It is a treasure representing the era when lab gear came in oak boxes, coils were wound with cotton and silk covered wire, panels sported heavy bakelite knobs, carefully engraved metal scales, rugged binding posts and hand-inscribed calibration data.

James Kilton Clapp worked at General Radio from 1928 to 1957. While there he improved the Colpitts oscillator, inventing the oscillator that bears his name, the Clapp Oscillator (you do recall that from the exam, dontcha?).

Clapp also wrote for the *General Radio Experimenter*, a company periodical. He more than once stressed the necessity of knowing one's operating frequency. This March 1929 article, when read by the present-day reader, transports one to a watershed moment in Amateur Radio. The piece begins with the words [1]:

"Before the amateur bands, made necessary by the Washington Convention of the International Radio Telegraph Conference, went into effect last January, wavemeters or frequency meters were not the absolute necessities they are today. With not too tolerant commercial and military services in adjacent channels, services that are themselves required to hold closely to their assigned frequencies, it is little wonder that increased official emphasis is being laid upon the necessity of the amateur's keeping within bounds."

The development of radio communications and electronics, in general, is the backdrop for many articles in the *Experimenter*, which was published into the mid-1970s.

General Radio became GenRad and eventually the company specialized in automatic test equipment. After a couple of morphs, the firm was bought by IET Labs.

IET Labs' website has the lovingly assembled collection of GenRad's publications, instruction manuals, product literature and other treasures. The site was created by Benjamin Sheena of IET, who invites visits to it at: http://www.ietlabs.com/genrad/index.html

Those of you who own a piece of radio history, know that obtaining information is important and this site fulfills that role. As well, it is fun to review what hardware was being produced in the early- and mid-parts of the 20th century in order to better exploit electromagnetic communications.

[1] James K. Clapp. "A better frequency meter for the radio amateur." *The General Radio Experimenter*, 1929 March, pp 2 and 4.

Bill Karle, continuously licensed since 1957, has held calls K8QGT, VE2ECW, briefly 4S7KZG, VE4KZ and now VE1YY. Bill is a Certified Emergency Coordinator. His Amateur Radio interests include propagation, antennas, digimodes, and DXing. He is retired following a career in international consulting, university teaching and university administration.

The Type 687 Oscilloscope. With only the tube and horizontal sweep electronics, the user supplied any vertical gain. Courtesy of the IETLabs website (see the text for the URL).

The Type 107D Variometer, exterior. Courtesy of the author's collection.

The Type 107D Variometer calibration data. Author's collection.

CONDO CONUNDRUM AND A HOMEBREW SOLUTION

Tom Hardy, VE4AKI

One of the traditions of Amateur Radio that first attracted me to the hobby was the art of homebrewing equipment needed to operate an effective station. Some say that the art is dying. So much of the equipment we use is available from retail outlets compared to the early days when homebrewing was more of a necessity. What's missing is the satisfaction that comes from building and using equipment that you have made yourself. My own station consists of a combination of commercial gear and homebrew including: antennas, antenna tuners, power supplies, keyer paddles, power meters and desk microphones.

A recent opportunity to practice the art presented itself when a ham friend moved his station from a house to a condo. The problem was how to get the coax feedline into the shack without drilling holes in walls. A conveniently located window seemed like the best route.

The most common solution is a feedthrough panel mounted in the window frame. This method only works with some types of windows and is subject to problems with weathersealing. A more attractive solution is a coax feedthrough that is basically a coax jumper that is very flat. This can be fed through the window and the window can be closed so that it seals and is lockable.

Checking with dealers in Canada it was found to be a non-stocked item. The US price was rather high and shipping costs increased the price to an unattractive level. So the question arose: is it possible to homebrew a replacement?

The problem was not the coax connectors, it was the flat conductor. A search of my "wire junkbox" turned up 300-ohm indoor twin-lead which is very thin, about 1.25 mm thick.

I use this twin-lead to get through my basement window where it transitions to outdoor HD twin-lead to feed my all band HF antenna. This type of twin-lead can be obtained from the dipole antenna which is often included with TV sets and stereo receivers. That's where I got mine.

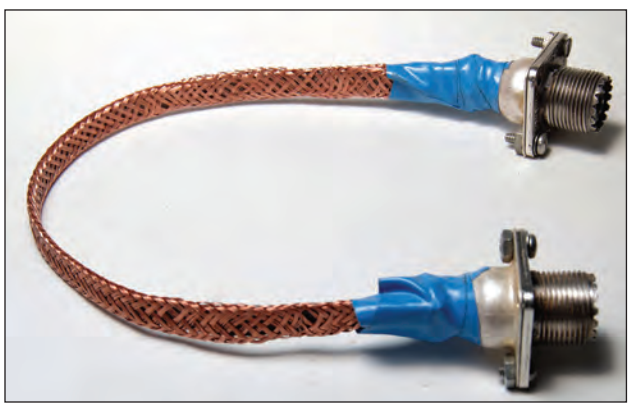

Figure 2: The completed assembly.

I frequently run 100 watts through the indoor twin-lead and have had no problems.

Now I needed something to act as a shield for the centre conductor.

I stripped the copper braid from a length of 75-ohm TV coax.

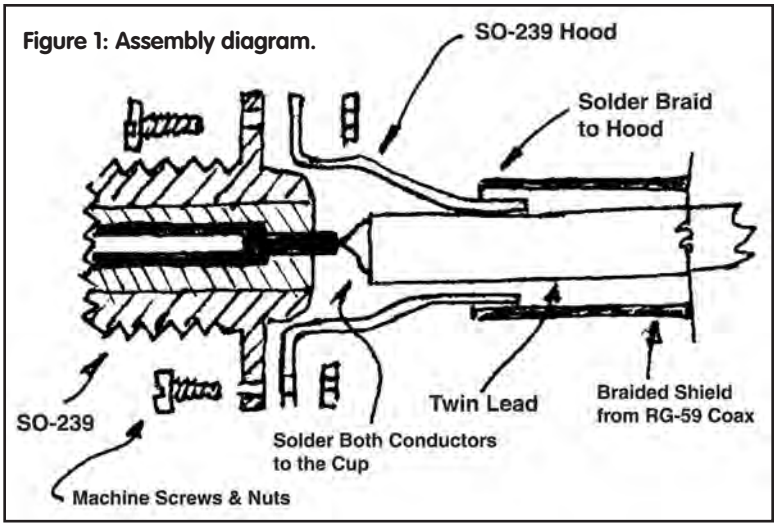

Figure 1: Assembly diagram.

I inserted a wooden dowel into the braid to expand it until it was large enough to feed the twin-lead through. This took a few minutes and required a bit of patience. The end connectors consist of SO-239 connectors and hoods suitable for RG-58 coax.

The two conductors of the twin-lead were soldered together and to the centre pins of the SO-239 connectors. The hoods, which had been slid on beforehand, were attached with small machine screws and nuts. The braid was then stretched over the round portion of the hood and soldered in place (see Figure 1).

Electrical tape was used to give some weather protection. I would recommend that the assembly be taped completely if it is to be used in a window or door with a metal frame.

Note: The braid should be well taped over, not just for weather protection, but for insulating the braid from the metal window frame. Common mode RF currents could be present on the outside of the braid and one would not want that to energize the window frame.

A rubber hammer and a flat surface was used to flatten the conductor as much as possible. The final thickness was about 2 mm. The length of the assembly was 300 mm. Figure 2 shows the completed assembly.

A quick check with a multimeter indicated all was well. A nagging question was will it have a negative effect on the antenna SWR? I inserted it in line with my 40 metre vertical which has an SWR of 1.5:1. Transmitting at low and high power showed a just perceptible increase from 1.5:1 to 1.55:1. Use at higher frequencies may show a somewhat larger impedance bump, but with such a short length losses would be minimal.

Although this is not an exhaustive test it still indicates that this construction method is a workable solution to the problem. I did expect more of an impedance bump, but perhaps the dimensions of the conductors and the shield worked out in my favour.

Assembly time was approximately one hour; well worth the investment in time and a saving of about $75.

The satisfaction from making and using an accessory needed to get a station operational cannot be measured. This is a combination true to the spirit of Amateur Radio.

Tom Hardy, VE4AKI, lives in Winnipeg and is a retired vocational teacher who has been a licensed Amateur for 30 years. He holds an Advanced class licence and is active on all the HF bands as well as 6 metres. He has been involved in QRP activity for over 20 years, both CW as well as SSB. "I enjoy designing and building all kinds of ham equipment especially antennas. I live on a small city lot and am currently concentrating on limited space antennas."

The Last Canadian IOTA:
Operating from Melville Island in the High Arctic

Cezar Trifu, VE3LYC

Antenna setup on Melville Island, which is part of the final IOTA group in Canada, NA-248.

The Canadian Arctic Archipelago, also known as the Queen Elizabeth Islands, extends north of 74°N. It includes Ellesmere Island at the eastern edge – referenced as NA-008 for the Radio Society of Great Britain's Islands On The Air (IOTA) Program – Sverdrup Islands located west of Ellesmere (NA-043), and Perry Islands to the south. The latter cover a huge area of approximately 1,200 kilometres from east to west by more than 400 kilometres from north to south. Known as NA-009, the Perry Islands were divided in July 2014 into two groups. The islands to the east of Byam Martin Channel – which fall entirely under the administration of the Territory of Nunavut and which are part of CQ Zone 2 – remained denoted as NA-009. The islands to the west – which fall largely under the administration of the Northwest Territories and which are part of CQ Zone 1 – became NA-248. This is the final IOTA group in Canada still waiting to be brought on the air for the first time.

With a surface area of 42,149 km^2, Melville Island is not only the largest island in the group, but the fourth largest uninhabited island in the world and the third largest in the Canadian Arctic. The island is intersected by the 110°W meridian which represents the border between the two northern Canadian Territories, thus established to allow them to share the two very large gas resources found in the 1970s to the east and west of the island.

Camp Bounty is a temporary research base on Melville, four kilometres inland. Run by Queen's University of Kingston, Ontario, it was established to study the effects of climate change on the land, water and flora. The camp is located 430 kilometres from Resolute Bay on Cornwallis Island, and can be reached by a twin-engine charter plane. Logistics are supplied by the Polar Continental Shelf Program (PCSP), which supports Canada's science and government policies in the High Arctic. Established 12 years ago, Camp Bounty operates for a couple of months each summer.

The presence of a research camp on Melville Island made it the preferred destination for an IOTA expedition aiming to bring NA-248 on the air for the first time. As such, in early 2015 I contacted Dr. Scott Lamoureaux from the Department of Geography at Queen's, who was in charge of Camp Bounty. He was quickly captivated by my radio project and offered his support. The plan was for me to spend a week on the island in early August, together with a research group under the leadership of Dr. Melissa Lafrenière of the same department. Industry Canada exceptionally approved my request to operate as VY0M from NA-248. Scott and Melissa organized all the logistics I needed for this operation through the PCSP in Resolute Bay, which included the chartered flights, accommodation (a separate tent, mat and sleeping bag), food, as well as generator, gas and batteries.

The week on Melville was much longer than the typical three to four day operations I had carried out previously in the Arctic, but I was concerned with the possibility of a propagation blackout as a result of a solar flare event. I wanted to make sure that the stay was long enough to mitigate any significant geomagnetic disturbance, which could have challenged the minimum 1,000 QSOs with stations from at least five continents requirement for the validation of this new IOTA group. I still remembered how the bands died off in September 2010, following a large solar flare, during my operation on Ulituqisalik Island (NA-208), forcing me to shut down ahead of schedule. Even three days later, when I attempted to operate from Yellowknife, the propagation was still awful.

In order to get to Resolute Bay I first had to drive 200 kilometres to Ottawa, from where I flew 2,000 kilometres to Iqaluit, and then, through Arctic Bay, another nearly 1,600 kilometres. This was a journey longer than half a day. Upon arrival I was met by Dominic Gauthier from the PCSP, who drove me to the accommodation compound.

The Polar Continental Shelf Program building in Resolute Bay.

Located on Cornwallis Island (NA-009), Resolute Bay is home

to an Inuit hamlet with a population of 229, which is the second northernmost civilian community in Canada. Nearby lies the major hub from where PCSP coordinates field logistics in support of advancing scientific knowledge and management of Canada's lands and natural resources. The first documented visit of the island was that of Sir William Perry in 1819, after whom the island group was named in 1820. By size, Cornwallis ranks 95th among world islands with a surface area of 6,995 km^2.

Operating as VY0/VE3LYC from Cornwallis Is.

Checking my email account I found a note received from Christian, EA3NT, who asked me to consider operating from NA-009 on my way to Melville Island. Running the station inside the accommodation quarters was out of the question, not only because the entire building was made of steel, with windows hermetically closed, but also because no noise was permitted overnight. The only possibility was to set up a tent about 70 metres behind the building, with the cooperation of PCSP. Despite it being late in the day, I rushed to their hangar and I spoke with Chris McLellan, the group site Manager, who quickly provided me with a one-person tent, a chair, a table and a deep cycle battery fully charged. It was very windy and rainy, and despite Dominic's assistance with the tent, it took me a while to get everything set up and ready to go.

The equipment consisted of an Icom IC-7000 rig, and a vertical multiband wire antenna. I operated as VY0/VE3LYC for approximately ten-and-a-half hours on August 2 and 3. It rained most of the time, with temperatures around 5°C and winds of up to 30 km/h. After spending an entire night on the air, I took the antenna down in the rain, dried its components and the mast, and packed everything for the trip to Melville Island. While foggy conditions on Melville delayed the flight for a day, the local rain intensified and under the circumstances I decided to wait patiently for my flight rather than go back on the air.

During the short operation I logged 1,209 QSOs with 1,097 stations in 61 DXCCs on six continents. In order to maximize the number of unique stations, I operated on only one band: 20 metres. Since the propagation conditions were good, I preferred to stay mostly in SSB. As such, this mode accounted for 75% of all contacts, with CW accounting for the rest. The continental spread was similar for contacts and stations logged: EU 57%; NA 29%; AS 11%; OC and SA 1% each, while AF was <1%. Top DXCCs by number of QSOs and stations were K (295/264), DL (109/97), I (108/96), UA (107/90), JA (94/88), and VE (47/43), totaling 63 and 62% of all logged, respectively.

The Twin Otter to Melville and back.

It was on August 4 when I could finally fly to Melville Island. I was the lone passenger in a Twin Otter, but the plane also carried plywood, planks and other construction materials for Camp Bounty, along with two deep cycle batteries, a second generator and gas for my operation. Past Cornwallis, the sea was largely iced up. It took us almost two hours to reach the island. All of the pilots are experienced with flying into various Arctic camps and Antarctic bases. Their skills are impressive as they can land and take off on natural terrain in no more than 30 metres by deflating the tires.

The camp was composed of two areas. The first area included the main or administration tent – where the meals were prepared and served, and where people would spend time in the morning and evening – a lab and a storage tent where the scientific equipment was kept. The second area was about 150 metres away, on higher ground, and consisted of the sleeping tents, surrounded by an electric bear fence. Safety protocol required that bear bangers and shotguns always be kept handy both in and outside the camp.

To minimize the interference with the scientific team, it was established in advance that the radio station would be set up in the storage tent. Melissa was in charge of the camp during my stay and she organized some of their equipment to be parked outside in order to give me sufficient space inside. Since the tent was unheated, the wind and freezing temperatures forced me to take periodic breaks to warm myself inside the main tent.

Propagation conditions were good during the first couple of days, particularly at night, when I made about 1,800 and 1,100 QSOs, respectively. Sometimes, I was able to copy stations from Europe, Asia, North and South America calling me at the same time.

Worth mentioning, despite the fact that propagation forecast at those high latitudes is notoriously unreliable, the VK and ZL stations came in as suggested by W6EL propagation software. After experiencing this during the short operation from Cornwallis Island, I stuck to the respective schedule, thus rewarding several OC IOTA chasers with a rare contact at the high northern latitude.

Less than a day into the operation, Melissa brought me some bad news. Her team found that the ATV they were using to travel around and carry batteries back and forth between a couple of lakes and the camp had water in its fuel; they had to drain the tank of the unusable gas before refilling it. Moreover, they noticed that the batteries they were bringing from the field for daily charging – which were normally used to power a small boat employed to periodically collect data from the two lakes – became unusable too. Since the batteries were only charged for a few hours per day, it was apparent that the charging time had to be significantly multiplied. The two events combined required a quick re-evaluation of the gas requirements, leading to the conclusion that I wouldn't be able to operate for nearly as long as I had intended! The scientific team's needs came first and I was now limited by their use of the generators and the restricted gas reserve.

It was pretty clear to me that the fuel compromised by water must have been the result of leaving the tank empty during

the cool weather, which allowed substantial condensation over time, and then neglecting to drain the water inside the tank before fueling it for the first time. However, it took me a while to understand what had happened with the batteries. The batteries were deep cycle and considerably discharged after each use. Charging them for only a few hours at 4 amps, using the DC output was insufficient, and over time the batteries were completely discharged to the point where they were unusable in the field. The solution was to charge them at a higher current, faster, using an inverter. I pushed my hosts to look for an inverter, and they found not one but two pretty quickly. Problem solved! I also noticed a small canister of gas, which Melissa said it contained what remained from last year, which she suspected was also contaminated with water. After checking the content carefully, it was found to be clean gas so we were all relieved: there wasn't going to be any gas shortage!

The geomagnetic field became unsettled over the next two to three days, leading to long periods of unanswered CQs, but conditions recovered nicely during the last couple of days. Between August 4 and 11, VY0M logged 4,509 QSOs with 3,526 stations in 84 DXCCs on 7 continents. All contacts were on 20m, except three on 17m and 84 on 30m. 54% of QSOs were in SSB and 46% in CW. The continental distribution was the same for QSOs and stations: EU 55%, NA 26%, AS 17%, and each of AF, AN, OC and SA <1%. The top DXCCs by number of QSOs and stations were K (984/790), JA (585/460), DL (432, 340), UA (400, 310), I (313, 241), and VE (158, 121), accounting for 64% of each total.

During the last day of operation I had to remove the rig from the storage tent, because the research team took down the lab and had to store some sensitive equipment there. Luckily, I was allowed to set up the station inside the main tent and operate from there all night long. It drizzled for most of that night so the antenna, mast and cable had to be cleaned and dried out before being packed. The morning of the scheduled extraction was extremely foggy, offering no landing conditions, to everyone's disappointment.

The first polar bear ever spotted near Camp Bounty.

With Queen's team (L to R): Sarah, Sean, Issy, Ana, Gillian, Kaitlyn, Cezar and Melissa.

The following day, however, was by all accounts the most beautiful day that summer: sparkling blue sky, warm, no wind, absolutely gorgeous. The plane had already left Resolute Bay by the time I decided to hike up the hills behind the camp for a final photo opportunity. This wasn't a bad decision. A bad decision was to go without a shotgun or even a bear banger!

The stroll took longer than anticipated because the shallow ravine just in front on the hills was mushy. By the time I returned to the camp, 15 to 20 minutes before the plane approached for landing, a big polar bear was spotted by Melissa about 650 metres away, on the hills in front of the camp!

It was stalking us, very slowly approaching the camp. Both cameras and shotguns were out in no time. Within minutes though, the noise of the plane scared it away, never to be spotted again before the camp was closed down for the winter about three weeks later. It was the first time in 12 years that a polar bear was spotted inland on Melville Island. What a terrifying reminder to remain vigilant in the wilderness at all times, as well as of the saying: "It ain't over till it's over"!

I am grateful to Doctors Scott Lamoureaux and Melissa Lafrenière of Queen's University who allowed me to join their research team on Melville Island. Chris McLellan, Dominic Gauthier, and the pilots at PCSP in Resolute Bay are graciously acknowledged for their logistical support. Maury, IZ1CRR, is thanked for designing the expedition website and George, VE3GHK, for his invaluable assistance with equipment testing and the preparation of materials for the two QSL designs.

I wish to express my gratitude to the German DX Foundation, the International Radio Expedition Foundation, DX News, Icom Canada, the Clipperton DX Club, and Venus IT (China) for their funding of this project. I remain indebted to Dave, W5BXX, Toshi, JM1PXG, Alfio, IT9EJW, Claudio, I2SNW, Joe, I2YDX, Al, W3AWU and Bob, KD1CT, for their exceptional support, to the top donors – AB6QM, AD5A, AH6HY, DK8UH, DL6DQW, DL8FL, EA3NT, G4VMX, JA5IU, JF4VZT, JJ8DEN, K5MT, K6VVA, K8GI, K9AJ, K9RR, N4WW, N6AWD, N8JV, OE3SGA, OE3WWB, PA3EXX, SM3DMP, SM3NXS, PT7WA, VE7DP, VE7IG, VE7QCR, VE7YL, WB2YQH, WC6DX – and many others who provided financial help.

Cezar is a passionate DXer and IOTA expeditioner. From the current 340 DXCC list he confirmed 339 Mixt, 338 SSB, 338 CW, 320 DIGI, over 2,700 Challenge points, as well as 1,063 IOTA. Cezar operated from 14 rare IOTA groups including 7 New Ones: NA-230, 231, and 248 in the Canadian Arctic; OC-294 in Western Australia; SA-095, 096, and 097 in Chile and Argentina. He was awarded the RAC Amateur of the Year (2011), is a member of A1Op Club and FOC, and the IOTA Deputy Manager.

RANDOM THOUGHTS...

Dirk Moraal, VY1NM
Box 75
Tagish, YT Y0B 1T0

It ain't how high it is, it's how high it is...
Bonus column: Mistaken Identities

My friend (whom I am not supposed to mention) and I were having a nice little QSO the other day when it became obvious I was not herding enough electrons to overcome the distance between us.

I thoughtfully offered to raise my antenna. (Yes, in retrospect if one has a sense of humour that was funny).

I obligingly went outside and cranked up the little tower to 35 feet from the 20 feet I had it at – its "safety height" during the spring winds that can occur here as soon as the sun is willing to reflect enough heat off the snow cover, and let me tell you, we can have some pretty strong gusts and even whirlwinds strong enough to rip off shingles. Just one of the reasons I put on a metal roof and in the process degraded my wonderful indoor horizontal loop antenna.

This raising and lowering of the antenna sort of became a habit of mine when I built a primitive two-element wire Yagi-Uda antenna. It was very light weight, which was perfectly adequate for a companion mast made from three skinny spruce poles scarfed together on a cold winter day.

In the process of adjusting the antenna to resonance, I had installed a rope and pulley to make the raising and lowering job easier, and the thought had come over me that maybe I could change the skip zone by raising and lowering the antenna, as well as aiming the beam by loosing the guy ropes and tying them to different nearby shrubs.

I never did find out that part about aiming the antenna because it brought it too close to the metal roof, and anyway the beam width was wide enough that from my QTH it pointed towards most if not all of the areas of Ham activity then known to me, plus it covered Japan off the back of the beam very nicely when propagation allowed.

Thus I decided to leave it there and play with height instead: 35 feet seemed best and I left it at that. By one of those flukes of fate that are called sheer luck, 34.75 feet is about a half wavelength on 20m (14.150 MHz), and that theoretically produced a useful lobe at about 15 to 45 degrees, which translated into a distance to first reflection zone, or skip, of (700 to 1200 miles) 1100 to 2000 kilometres with F layer heights of between (125 and 220 miles) 200 to 350 kilometres. The second skip would be 2200 to 4000 kilometres (the theortical maximum possible single skip distance) and somewhere in between those points, depending on F layer height is where my friend lives.

Note: *That antenna at 20 feet would be somewhat more than a quarter wavelength, but the Yagi would still have a vertical radiation pattern of from 25 to 55 degrees (300 to 500 miles or 500 to 800 kilometres skip distance).*

No wonder changing the antenna height improved readability, at least until someone running huge power on a wide band mode parked himself right on our frequency. Well, thank goodness for satellite phones. We ended our QSO on that "mode" much to the entertainment of Bill's dear wife Nancy.

I have just been reading an interesting little book, *Vertical Antenna Handbook,* which was written by Paul Lee, N6PL, a retired Navy antenna expert, the first chapter of which, by way of comparison, touched on dipoles and Yagi antennas. What was interesting was that dipoles and Yagis differ very little in vertical radiation patterns at the same heights. Yes, I know that, but do I understand? At heights above, say three-quarters wavelength, we begin to waste considerable power on high angle lobes. At full wavelength, the takeoff angle is down to 10 to 20 degrees, but is weaker because of high angle lobe losses at 38 to 60 degrees. Above one λ the low angle lobe shrinks and several high angle lobes now appear, and the antenna becomes useless for DX.

I did not know that. I now understand. Interesting little book.

Mistaken Identities

I am sure most all Amateurs must have at least one interesting anecdote to tell about the misidentification of a call sign during a QSO. I don't mean those hard to hear ones during a dogpile or when the noise levels are S9. I mean those on odd occasions when we have good conditions but still mistake the call we hear for a similar one. I suspect has to do with mindset. If you expect some sequence of letters and numbers, chances are good that is what you will hear.

I remember my first call to a Venezuela station. I thought I was being ignored. I twisted all the knobs on the radio back and forth to the full extent of my capabilities, and when that produced no results I decided there must be no path from him to my QTH. Then I heard him

calling me. In a slightly agitated voice he told me what had happened. Since I was calling in Spanish, he mistook my call sign (VY) for a local one (YV) sent out backwards. Since he was looking for DX he had not bothered answering. It took a while before his brain jolted him with the information that he actually had been ignoring a somewhat rare DX station. Signals must have been really good at his end if I sounded that near!

Another interesting misidentification happened while hunting SSTV with the mobile radio. I started receiving a very clear CQ image, and I decided to try for it. After my reply to his call, I got a fair confirmation image, and then sent him my information image. I was a bit puzzled when he sent back a message saying "Thanks, got it right that time. "After the QSO was over I realized that he had transposed the prefix letters VY1 for YV1, and that must have been a huge disappointment for him. An SSTV Mobile DX from Venezuela? That would have been a rare haul indeed! Even I don't have one in the log. He probably thought I was really on the ball. But I had missed the error. Since my images all have the correct call sign, I did not suspect anything. I wonder if he was copying the call signs by hand. That would have been a nice personal touch most of us do not bother with. At any rate, Venezuela is turning out to be a very entertaining entity.

Occasionally, I get mistaken for a VE1 and usually a bit of comedy occurs. I have even been told "directly" that I was making the call sign up.

Often when replying to a CQ there is a pause on the other end and I guess the other Op is checking out my bona fides. I am of a more trusting nature and I reason that if the call is a fake, it may have some intrinsic value for me as a conversation piece.

I think if I get enough of them I would be justified in making up some fake QSL cards and pasting then on a wall display of "Genuine Fake and Bogus QSOs". I could make up a certificate after I log 100 fake call signs and I will call it, oh, I don't know, maybe the FB CC Award and award myself serial number OOO1. And yes, I do realize that using "Fake" and "Bogus" is a redundancy, but I had to in order to make "FB CC" work for me.

Maybe one day it will even become fashionable to brag about the fake ones.

CALL FOR ARTICLES

We are gathering information about **Repeater Coordination and Councils in Canada** and we included a Call for Information on page 16 of the November-December 2015 TCA. If you have any information about the Repeater Council or Frequency Coordination Group serving your area or province, please send it to the TCA Editor at tcamag@yahoo.ca along with your contact information, a website URL and/or a brief written description. If there is sufficient response, this information will be compiled with the object of doing a feature article in TCA on the State of Repeater Councils in Canada.

Ever since Marconi played with kites in Newfoundland, Amateurs in Canada have been doing interesting things with **antennas**. Since the earliest issues of TCA there have been hams working with other hams through these pages describing, explaining and researching antennas and related concepts. We are always looking for articles about your own experiences and are happy to provide this opportunity to share them with our readers. We have in the past had great columns from David Conn, VE3KL, Art Blick, VE3AHU and Gerry King, VE3GK, among others, and we are looking for someone to take on this challenge by writing a new antennas column. Do you have any ideas about suitable topics or potential columnists?

We have also been blessed in the past with great YL columnists: Cathy Hrischenko, VE3GJH and Val Lemko, VE5ACJ. Are you up to the challenge? Do you know someone who is?

Do you have an article to submit? Please contact the TCA Editor at: tcamag@yahoo.ca.

Vimy Ridge Commemorative Station VE100VIMY

Donald Studney, VE7DS

April 9, 2017 will mark the centenary of the Battle of Vimy Ridge – a major milestone on Canada's road to nationhood.

Situated on an escarpment above the adjacent Douai Plains in the northeast corner of France, Vimy was part of the "Western Front" the main theatre of battle in WWI which stretched from the North Sea to the Swiss border. Vimy Ridge appears as a small dot on the landscape when a visitor approaches from the nearby highway and seems to be insignificant. It was, however, of huge strategic importance, commanding a great field of fire and blocking advances up the adjacent broad valleys leading towards important mining and industrial sites. Repeated attempts by the French and British forces over three years had failed to dislodge the occupying German troops and had cost hundreds of thousands of casualties.

In April 1917, four Canadian Divisions, fighting as a unified force, using original tactics and under the command of Canadian General Arthur "Guts and Gaiters" Currie, captured the main part of the Ridge on the first day of combat and completely occupied the entire ground in four days. Vimy Ridge remained in Allied hands for the rest of the war and served as the base for wireless operations of the Canadian Corps of Signals. The Vimy success was welcome news to war-weary Canada and it stirred a new sense of nationhood that some historians describe as the "birth of a nation for Canada".

In April 2017, for the first time in nearly 100 years, wireless signals will ring out from this Canadian National Historic site. The site was ceded by France to Canada by a Treaty in 1922 for "a park of 100 hectares...on which to lay out a monument to the memory of the Canadian soldiers who died on the field of honour in France during the war 1914-1918".

When VE100VIMY goes on air the signals will be "CQs" and "599s" instead of artillery coordinates. A dozen operators with two stations will transmit from a shack near the summit of the Ridge.

The event is being organized by the Vimy Commemorative Station Society, a BC registered Society and a RAC Affiliated Club, in coordination with a number of leading Canadian Amateurs.

Some of the Vimy station organizers and operators were members of the Hart House Amateur Radio Club (HHARC; call sign VE3UOT) at the University of Toronto in the 1960s. Hart House was then a men's (now coed) cultural and athletic centre and the home to many clubs such as debating, photography as well as Amateur Radio. The radio club's meeting rooms were usually reached by passing by a captured WWI German Maxim machine gun on display.

In the display, a small sign indicated that the Maxim gun had been captured by a U of T graduate, Major Thain W. MacDowell, who was awarded a Victoria Cross for his actions. This held little significance for most HHARC members with the exception of Thain, VE2NI (SK) whose father was Major MacDowell who had brought the gun home from the War and made it a childhood toy (no live ammunition) for VE2NI. The gun was later gifted to the University and is now on display in Soldier's Tower adjacent to Hart House. Thain Jr. was part of the planning group for VE100VIMY.

The Maxim gun's inventor was an American-born Briton, Sir Hiram Stevens Maxim who licensed his device in Europe and Britain in the early 1900s. Thus the same weapon came to occupy both sides of the Western Front in the subsequent war.

Sir Hiram's son, Hiram Percy Maxim was also an inventor and radio experimenter who held the call sign 1AW. He is, of course, now celebrated in the Amateur Radio world as the founder of the American Radio Relay League (ARRL). W1AW identifies the Hiram Percy Maxim Memorial Station at ARRL headquarters in Newington Connecticut.

The significance of the Battle of Vimy is little known outside of Canada. This Commemorative Station Event will take the message of Vimy around the world, crossing borders and cultural boundaries as only radio waves can. Amateurs who contact the station will learn about Vimy during their QSO and from the QSL card.

The Society Executive has visited the Vimy site on three recent occasions for purposes of logistics planning and antenna siting. RF noise levels were assessed in April 2015 and found to be low. Present plans are to have two Elecraft K3/ KPA500 combinations and an array of directional and dipole antennas. Modes will be CW, SSB and RTTY with an emphasis on unique contacts and on coverage of the low bands so popular in Europe. Special efforts will be made to aim good signals at Canada. For security reasons the shack will not be open to the public nor to visiting Amateurs. Contact will have to be made the hard way – on HF.

The organizers wish to recruit operators with good contest or DXing skills from as wide a cross-section of Canada as is practical. Additionally, CFARS (Canadian Forces Affiliate Radio System) has been invited to nominate licensed active service personnel to be guest operators. Interested Amateurs should contact the organizers at ve100vimy@rac.ca.

For more information on this very special event please visit our website at: http://www.ve100vimy.ca

TCA

Public Safety Lifeline Volunteer Years of Service Awards

Submitted by Brady Conroy, VE7TAX

On October 17, 2015, members of the Provincial Emergency Radio Communications Service (PERCS) were presented with the Public Safety Lifeline Volunteer Years of Service Award. The group is part of the British Columbia Central Region Provincial Regional Emergency Operations Center which supports Emergency Management British Columbia (EMBC).

The volunteers in the photo are (from left): Jonathon Conroy (General Service Volunteer; 6 years); Rodger Scoular, VA7ROD (11 years); Sid Reith, VE7XC (20 years); Brady Conroy, VE7TAX (Central BC PERCS Radio Station Manager); Ken McEachern, VE7EFL (25 years); Wilf Studer, VE7EHE (21 years); Philip Conroy (General Service Volunteer 6 years).

Missing from the photo were:
Gina Charlesworth, VA7AIR (5 years);
Bill Foster, VE7WWW (11 years);
Al Hepworth, VE7CG (20 years);
Alec Farquharson, VE7JAF (20 years);
Mary Anne Unruh, VA7MAU (6 years);
Lorna Kilgour, VE7LNX (10 years); and
Gerry Vermey, VE7TGV (21 years).

When communications are needed in a community due to a disaster, the Provincial Regional Emergency Operations Centre (PREOC) activates the Provincial Emergency Radio Communications Service which operates an Amateur Radio station at the PREOC VE7KAZ, and can send the Deployable Radio Communications Kit VE7VIZ to the effected community.

For example, in the summer of 2015 the Rock Creek fire knocked out the hydro power to Beaverdell. The Central BC PREOC activated the Central PERCS Amateur Radio volunteers into service. The Deployable Radio Communications Kit was deployed from Kamloops to Beaverdell to handle any radio messages to or from the Beaverdell Community Centre. The Kit Radio operator VE7TAX had a line of communications via HF voice 3735 kHz LSB to VE7CG in Sorrento and VA7MPG in Gabriola.

The BC PERCS volunteers continually prepare communications for an earthquake on the west coast of British Columbia. Senior Amateur Radio operators Sid Reith, VE7XC (89 years old) and Ken McEachern, VE7EFL (86 years old) pass their experience on to the PERCS group.

More information on the Provincial Emergency Radio Communications Service can be found at: http://www.percs.bc.ca

The PERCS group have a net every Wednesday at 7 pm pacific daylight savings time on 3735 kHz LSB, then switch later in the net to 7060 kHz LSB; any interested Amateur can check in.

Brady Conroy, VE7TAX
BC Central Region PERCS Amateur Radio Station Manager

TCA

THE DEFENCE OF AMATEUR RADIO FUND

The Defence of Amateur Radio Fund (DARF) is a Trust Fund that was established in the early 1990s 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.

It costs a lot to attend a WRC meeting such as the recent WRC-15 meeting last November (see page 12).Travel and meeting expenses for a three- to four-week conference can top $10,000 or more in an international city like Geneva, Switzerland even for the most frugal.

Without new donations, DARF funds on hand won't last indefinitely. Donations may be made by cheque only. Cheques should be made out to "Radio Amateurs of Canada" but should also include a memo indicating that the donation is for DARF.

Cheques may be sent by mail to Radio Amateurs of Canada, 720 Belfast Road, Suite 217, Ottawa K1G 0Z5. For more information please visit darf.rac.ca.

BATHURST AMATEURS SUPPORT THE CIBC RUN FOR THE CURE

Submitted by Francis Pitre, VE9FCP

With sun and clear blue skies this year, Amateur Radio operators in Bathurst, New Brunswick once again did their part in supporting the 24th Annual Canadian Breast Cancer Foundation CIBC Run For The Cure on Sunday, October 4.

The event is Canada's largest single day, volunteer-led fundraising event dedicated to raising funds for breast cancer research, education and awareness programs.

This fall classic, consisting of a 1K Walk and a 5K Walk/Run, raises funds which go directly to the Canadian Breast Cancer Foundation.

Despite a significant economic downturn in the region, with the closing of two major employers in recent years in this city of approximately 13,000 residents, teams and individuals were still able to raise $26,223 this year adding to a grand total of $268,797 over the nine years that Bathurst has hosted the event.

The local organizing committee expressed their gratitude for the support of the Amateur Radio operators who provide communications and ensure the safety of participants at intersections along the routes. It was noted that the generous support of volunteers helps to keep costs down, which directs more money to the Canadian Breast Cancer Foundation in order to fund breast cancer research and health promotion initiatives.

The attached photo shows the Amateur Radio operators who took part in this year's event in Bathurst: (Front, left) Francis, VE9FCP and Junior, VE9ZZ; (Back, left) Ron, VE9RON, Sue, VE9MLR, Mike, VE1MLS and Gilles, VE9GIL.

A VINTAGE ENTRY IN THE BRANDON TRAVELLERS DAY PARADE

Submitted by Rick Jones, VE4AV

On two metres one morning, Rick Jones, VE4AV and George Moore, VE4MSM, were discussing the Travellers Day Parade, which was about to took place in Brandon, Manitoba on June 6, in conjunction with the Brandon Provincial Exhibition. Rick decided that the entry of his all original 1930 Model A Ford would be a worthy addition to the parade. After a short deliberation we decided to ask Dave Snydal, VE4XN, if he would like to participate in our endeavour. Dave, in his usual enthusiastic and jovial way, graciously agreed.

Rick and I decided that, in addition to the club signs and the club call signs of VE4QD, that we would also make signs to identify our distinguished Canadian Amateur Radio Hall of Fame member, Dave Snydal, VE4XN. Dave is also Secretary/Treasurer of the Brandon Amateur Radio Club (BARC) and is the founder, curator and President of the Manitoba Amateur Radio Museum (MARM) located in Austin Manitoba.

The museum at Austin is unique in that it is part of the larger Manitoba Agriculture Museum, which houses antique steam and gas tractors, period farm implements and displays. Austin is home to the annual spectacular Threshermen's Reunion and Stampede, held the last week of July every year.

MARM traces the history of Amateur Radio, and also includes displays of vintage equipment as well as a functional ham shack with present day equipment and antennas.

After meticulous preparation of the Model A by Rick, the three of us, Rick, Dave and myself, all seniors citizens with a combined age of 229 years, took our places in the vintage automobile. Rick adjusted the spark and carburetor, touched the starter which gave the crankshaft a half turn, and the antique engine began to purr. Rick put the car in gear, let out the clutch and we cruised to our designated place in the parade.

With Rick's two metre rig, I kept everyone on frequency apprised of our progress and location. We received a QSO from Matt, VE4MDM, with his good wishes. He was one of a throng of spectators. Enjoying perfect weather conditions, we made our way through the parade route to the fairgrounds where we were treated to lunch and a pass to the fair. All in all, the three of us thoroughly enjoyed the experience.

Bob Nash, VE3KZ
5260 14th Sideroad, RR6
Milton, ON L9T 2Y1
Tel. 905-878-7382
Email: ve3kz@rac.ca

THE SPORTS PAGE

— THE CANADIAN CONTEST SCENE

SPORTS PAGE INFO:

Tom Haavisto, VE3CX, assists with the preparation of the Sports Page. Thanks Tom!

For more contest information check out these sites:

http://www.hornucopia.com/contestcal/weeklycont.html

http://www.contesting.com

http://www.sk3bg.se/contest/

http://www.arrl.org/contests/calendar.html

http://www.arrl.org/contests/rate-sheet/about.html

http://www.cq-amateur-radio.com/awards.html

http://www.arrl.org/files/file/DXCC/2013%20DXCC%20Current_a.pdf

The "Contest Calendar" at the end of this column is presented as a guide only.

RAC and TCA do not necessarily endorse or support any of the contests or the accuracy of the information.

Bands: The 30, 17 and 12m bands are never used in any contest.

ASSISTED OR NON-ASSISTED?

These are two very different modes of operation. In many contests operating Assisted places you in the Multi-operator Category. In some you are placed in a separate Assisted Category, yet in others you compete directly with Non-Assisted operators.

How does the "Assisted" category affect your operation?

There was a time when the term "Assisted" had no meaning except to indicate a rule infringement in those rare cases where telephone alerting was employed. Then FM alerting repeaters came into being. I sincerely hope that the former no longer happens, but the latter has been automated to the point where a very large number of contestants are using Internet alerting to find contacts to work. With our modern logging programs this amounts to a "point & click" regimen as opposed to turning the dial to find new contacts. The effect of this kind of assistance is amplified by the host of non-participants who use the spotting network to work "rare" DX thus adding to the pileup potential. The first rule of computers is still valid: "Garbage in, Garbage out". In this case the spotting network is an ideal amplifier for the Garbage.

This is admittedly a rather negative look at the Assisted Category. For new operators being introduced to contesting, it can be a useful tool as an introduction to the sport. One hopes that it will assist the newcomer first to learn to identify the spotted station by ear, then to advance to actually finding other stations by tuning. Anyone who has been spotted in a contest knows that one call sign error in a spot can cause a rash of "dupes". Alas, many don't seem to master that first step!

What is your perfect contest?

As time has fled by I know in my personal case I have moved more and more to the QSO Party, particularly on CW. As with many of you, age becomes a factor that cannot be ignored.

SSB pileups have become too unpleasant to endure for any length of time. Search and Pounce is much more pleasant, but without running pileups the chance of a competitive score becomes very remote.

QSO Parties also have the benefit of giving more modest antenna installations an opportunity to work closer to their potential working more moderate distances at higher angles than in a DX contest. Large numbers of target mobiles perfect the experience.

I don't enter as "Assisted". For me it takes away my chance to use skills that I have developed over 60+ years. I'll take my chances in whatever contest I choose. Thanks to CQ for the "Classic" category. "The entrant will use only one radio, no QSO finding assistance, and may operate up to 24 of the 48 hours." Perfect!

BC QSO PARTY

I want to congratulate Rebecca, VA7BEC, on one of the finest writeups on contest results that I have seen. Please have a look for yourself at: http://orcadxcc.org/content/pdf/bcqp/BCQP_2015_report.pdf

One novel approach to poor conditions and low activity was mentioned.

"An interesting support strategy emerged that could help offset any perceived scarcity of BC stations in the future and maximize Q potential, especially for out-of-province participants on the hunt for BC stations.

After sunset, Gabor, VE7JH, got a group going on 7230 with VE7/VA7s from federal electoral districts EJF, KTC, NAA, NAC, NVA, SBV, VIC and VIN. They just hung around the frequency, making it interesting for others who stopped by for a BCQP Q and giving casual operators who might be hesitant to call CQ the opportunity to work stations that dropped by."

For others contemplating this technique, it must be very carefully managed to keep it from mimicking the DX nets where you hear the phrase "last heard you were 3 by 4".

Drop by the BC QP. It isn't easy from eastern Canada but their work is worth supporting.

WRTC2018 UPDATE

With 9 of 26 contests adjudicated, here are the Team Leader qualification standings for the two areas containing Canadian operators:

VY2ZM, VE3DZ and VE3AT leading in the east with VE7CC, VE6EX and VE4EAR leading in the west.

When all the qualifying results are in, the 12 best will yield the two final Team Leaders.

73, Bob, VE3KZ

TCA

ARRL RTTY ROUNDUP

Call	CAT	Power	QSO	Mult	Score
VE7CC	U	B	1,983	114	222,300
VA2UP	S	A	1,268	104	130,624
VA7KO	U	B	1,296	97	123,481
VE7SZ	S	B	1,386	87	119,364
VE3KI	U	A	1,027	110	112,530
VE3CX	S	B	1,199	81	96,309
VA3DF	S	A	847	105	88,620
VE2EBK	U	A	811	103	82,297
VE4VT	S	A	1,150	71	80,230
VE2FU	S	A	759	100	74,200
VE3FH	S	A	721	100	71,800
VE3TW	S	B	778	89	68,708
VA7ST	S	A	831	71	58,575
VE2FK	U	B	621	91	56,147
VE2AXO	S	A	584	90	51,840
VA7AM	S	A	761	68	50,184
VE4EA	S	B	627	78	48,204
VE3DZ	S	A	534	91	48,048
VY2LI	S	B	549	88	48,048
VE3RZ	U	B	496	95	46,740
VA3PC	U	B	440	107	46,652
VA7RY	M	A	652	72	46,512
VE3AJ	S	A	507	87	43,413
VE5KS	S	A	589	74	43,068
VE5MX	U	B	504	84	41,832
VE3JI	S	A	506	80	39,760
VA3XH	S	A	506	78	38,844
VE7KW	S	B	542	66	35,442
VE6UM	U	B	458	78	35,256
VE3IAE	U	A	382	83	31,374
VY2MP	S	A	379	82	30,914
VE7SAR	M	B	491	62	29,822
VE3SD	S	A	330	72	23,184
VE2NMB	U	B	300	76	22,116
VE2SG	U	B	350	65	21,970
VE3FJ	S	A	266	78	20,436
VE3RCN	S	A	276	75	20,400
VE3MGY	M	A	329	57	18,240
VE6QQ	S	A	304	51	15,402
VA3IK	S	A	209	67	13,936
VE3LVW	S	A	202	69	13,662
VE3XAT	U	A	196	68	13,192
VE7AX	S	B	195	64	12,032
VE5SF	S	A	242	47	10,998
VE3BW	S	A	139	55	7,535
VE9AA	S	A	133	54	7,128
VE3SS	U	B	133	51	6,783
VE7EU	S	A	134	42	5,628
VA7BWG (VE7GM)	S	A	123	39	4,797
VA3PCJ	S	A	120	38	4,522
VE9BWK	S	A	103	40	3,960
VE2FFE	S	A	94	43	3,956
VE3VSM	S	A	100	37	3,700
VE3SST	S	A	80	38	3,040
VA7JC	S	A	100	31	3,038
VA7MM	S	A	73	36	2,520
VE7HBS	U	A	73	31	2,201
VE3CV	S	A	65	32	2,080
VE3VCF	S	A	66	30	1,920
VA3FN	S	A	61	30	1,800
VA3VF	S	A	53	29	1,537
VE3IBW	S	A	53	30	1,530
VA6NJK	S	A	60	25	1,475
VE3LXL	S	A	44	26	1,118
VY0/VE3VID	S	A	34	26	585
VE5CON	S	A	39	26	754
VE7BGP	S	A	36	21	693
VA3RKM	S	A	28	20	560
VA3WR	S	A	25	18	450
N2WQ/VE3	S	A	14	12	144

ARRL VHF SWEEPSTAKES

Call	CAT	QSO	Mult	Score
VE3ZV	B	225	108	47,628
VE3OIL/R	R	198	71	31,240
VA3ST	B	151	65	14,560
VE3SMA	A	109	50	12,950
VA3ZV	A	133	52	10,920
VE3DS	UL	120	57	10,773
VE7JH	RL	136	44	7,744
VE3FHM	A	83	38	4,484
VE7DAY	UH	61	20	1,300
VE7AFZ/R	R	39	20	1,180
VE3KZ	3B	52	19	1,121
VE2ASL	A	31	18	864
VE2UG	UH	33	14	840
VE2HAY	A	32	13	611
VA2RAC (VE2DDZ,VA2KEY)	L	21	10	300
VE3NPB	A	7	7	259
VE6AO (VE6CCL)	UL	15	10	190
VE6NR	3B	12	8	128
VE3LVW	3B	14	7	119
VE2NGH	A	9	6	82
VA7MM	3B	9	4	48
VA3RKM	Q	7	3	27
VE3RX	A	2	2	4
VE2GT (VE2PIJ)	B	1	1	1

ARRL INTERNATIONAL DX CW

Call	CAT	Power	QSO	Mult	Score
VY2TT	S	C	4,408	458	5,949,420
VA2WA	SAH	C	3,501	553	5,768,343
XL3T (VE3AT)	S	C	3,337	443	4,405,635
VE7JH	SAH	C	2,511	471	3,531,087
VE7CC	S	C	2,628	426	3,336,858
VE3OI	S	C	2,572	362	2,756,268
VE3YAA	MSH	C	2,187	401	2,593,668
VE3CX	SAH	C	1,704	506	2,568,456
VE9ML	MSL	B	1,817	462	2,501,730
VA3DF	SAL	B	1,727	442	2,278,068
VO1HP	SAH	C	1,640	372	1,820,196
VE3MM	SAH	C	1,527	348	1,577,484
VA7KO	SAH	C	1,424	356	1,497,336
VE2BWL	SAL	B	1,282	337	1,265,772
VE5ZX	SAH	C	1,127	347	1,151,346
VA7ST	S	C	1,496	257	1,144,935
VA3EC	SAH	C	1,194	319	1,133,088
VE3VN	S	A	1,150	310	1,062,990
VE3XB	S	B	993	354	1,048,194
VE3KI	S	A	1,106	314	1,040,910
VE3TG	S	B	1,037	322	994,980
VE3IAE	S	B	989	281	826,983
VE5UF	SAH	C	773	344	788,448
VE3XAT	SAL	B	800	324	758,160
VE2FK	SAH	C	892	279	739,071
VE3MIS	MSH	C	778	318	726,948
VE4VT (VE4EAR)	SAL	B	717	339	718,002
VE1DT	SAH	C	568	378	640,710
VE6EX	S	B	776	237	538,938
VE2AWR	S	B	750	240	537,840
VE7CV	S	B	636	216	407,592
VE3FH	S	B	565	238	401,982
VA7MG	S	B	610	205	364,080
VE3MGY	SAL	B	603	210	359,730
VA3EJN	S	B	502	221	330,837
VE3BR	S	B	444	231	304,920
VY1JA (W1NN)	S	B	565	178	295,302
VE3VV	SAH	C	438	225	294,975
VE6LB	SAH	C	486	206	294,168
VE4YU	S	B	471	207	288,765
VA2ES	S	B	495	188	274,668
VE1ANU	S	B	399	232	266,568
VA7DZ	MSL	B	589	152	256,272
VA3PAW	SAL	B	375	193	214,230
VA2EU	S	C	296	250	210,000
VA3SB	S	A	401	166	194,220
VE5SF	S	B	493	104	150,072
VE7DDG	S	B	324	141	137,052
VA3DX	SAH	C	462	101	136,350
VE3TW	S	C	294	152	132,240
VE3FJ	S	B	272	154	124,740
VE1OP	SAH	C	231	178	122,286
VE3UTT	S 40		405	86	102,942
VE3ZY	S	B	243	134	94,872
VE3NZ	MM		406	76	90,060
VE3EY	S	C	333	89	88,110
VE3PN	S 80		406	63	74,088
VE3VSM	S	B	195	121	69,333
VE3TA	SAH	C	149	149	66,156
VE6AX	SAL	B	189	109	60,495
VE7IO	SAH	C	212	91	55,419
VA3GUY	S 20		232	80	52,800

VE3DTI	S	A	162	110	50,820
VY2OX	S 10		234	72	49,248
VE4AKF	S 20		236	69	48,852
VE9BWK	SAL	B	175	94	47,658
VE3XT	S	A	164	102	46,512
VE3RCN	S	B	160	97	45,978
VA3FN	S	B	182	86	45,924
VE1ZA	S 80		294	51	44,370
VE3DXK	S	B	172	80	41,040
VE3SB	S	B	151	93	40,455
VE1JBC	S 15		234	57	39,843
VE3JAQ	SAL	B	148	83	35,358
VE5ACN	SAH	C	152	68	30,804
VE3DQN	S	B	118	86	30,444
VE2KOT	S	A	121	73	26,499
VY2LI	S 80		161	47	22,278
VE7AHT	SAH	C	101	59	17,877
VE7MR	S 40		110	56	17,304
VE3LXL	S	B	92	60	16,560
VA7BWG (VE7GM)	S	B	111	45	14,985
VE3ATZ	S 20		99	48	13,968
VE6XH	S 20		98	48	13,392
VA7MM	S	B	113	40	12,600
VO2NS	S	B	73	48	10,512
VE2JR	S	C	81	46	10,212
VE3VCF	S	B	73	46	10,074
VA2SNL	S	A	64	53	10,017
VE2QV	S	B	65	50	9,600
VE3PQ	S	B	66	49	9,408
VE3EDX	S	A	61	51	9,333
VA7NF	SAH	C	87	37	9,213
VE3WDM	S 15		77	37	8,214
VA3EON	S	A	46	41	5,658
VE7IAD	S	B	63	31	5,301
VE7BGP	S	B	59	30	5,130
VE6AMI	S	B	58	28	4,872
VE3OSZ	S 160		46	31	4,185
VE7YU	S 80		65	17	3,315
VE3FK	SAL	B	39	28	3,276
VA7DXC	SAL	B	39	26	2,964
VE9OA	S	B	32	23	2,208
VE2ESU	S	B	15	14	630
VE2EZD	SAH	C	9	6	162
VA3RKM	S 10		6	6	108

ARRL DX SSB

Call	CAT	Power	QSO	Mult	Score
VY2ZM	S	C	4,762	491	6,949,614
VY2TT	SAH	C	3,769	464	5,221,392
XL3A (VE3AT)	S	C	3,086	396	3,648,348
VE9ML	MSL	B	2,203	393	2,574,936
VA2EN	MSH	C	1,695	337	1,687,359
VE4VT (VE4EAR)	S	C	1,462	351	1,530,009
VO1KVT	S	C	1,769	284	1,501,224
VA2EM	SAH	C	1,381	367	1,483,047
VA3SWG	S	B	1,339	228	898,776
VE3TW	SAL	B	1,027	269	821,526
VE3EJ	S 15		2,229	122	811,422
VE6FI	M2X		1,117	225	724,950
VE3OI	S	C	932	261	721,926
VO2NS	S	C	993	244	713,700
VE3AD	S	C	1,016	220	658,020
VE8EV	SAH	C	905	217	578,739
VE9AA	S 10		1,667	111	553,446
VA7BEC	SAL	B	750	239	532,014
VE3DZ	S 10		1,527	114	520,866
VE4EA	SAL	B	741	231	505,890
VE3XAT	SAL	B	595	273	483,210
VE7XT	SAH	C	667	227	452,184
VE3HG	SAL	B	611	241	437,415
VA7ST	S	C	665	220	436,260
VE9HF	S 20		1,131	108	363,852
VE5ZX	SAL	B	491	249	359,307
VO1DJT	S	B	643	172	328,692
VE3KKQ	S	B	491	204	294,984
VA3TIC	S	B	555	186	292,950
VE3UTT	S 10		1,010	90	270,270
VE1JBC	S	C	596	151	269,082
VE4GV	SAL	B	400	226	267,132
VA6NJK	SAH	C	475	176	249,744
VE3RA	SAH	C	363	219	237,177
VE1RAR	S	B	430	185	234,765
VE3VV	SAH	C	390	200	230,400
VE3PN	S 10		833	91	224,406
VE2EBK	S 10		715	104	221,208
VE1ZD	S	B	475	158	217,092
VA2WA	S	C	608	114	206,568
VA2ES (VE2AXO)	S	B	408	170	204,510
VE3JAQ	SAL	B	386	176	196,944
VE3KTB	S	B	340	183	183,366
VE9OA	SAL	B	312	173	165,561
VE2PDT	S	B	397	139	163,881
VE3RHE	S	B	323	167	158,316
VE7SZ	S 10		593	86	151,188
VE3MGY	S	B	313	159	146,439
VE6BBP	S	C	412	117	144,261
VE7TK	SAH	C	262	180	140,400
VE7AX	S	C	331	125	123,375
VE7SAR	MSH	C	279	140	114,660
VA3DBT	S	B	267	144	114,048
VA3DX	SAH	C	263	133	104,139
VE4YU	S	B	280	124	103,788
VE3BK	SAH	C	229	142	96,702
VE7URN	SAL	B	252	116	87,348
VE4AKF	S	C	240	116	83,520
VE3TU	S	B	233	120	82,800
VA6MA	SAL	B	225	123	82,287
VA3IK	S	C	235	113	79,326
VE6AX	SAL	B	238	106	75,366
VA2IC	S	B	242	106	75,366
VE3VSM	S	B	200	122	73,200
VE7TJF	SAL	B	208	115	71,760
VE7NS	S	B	204	114	69,426
VA3JLF	SAL	B	158	142	66,030
VE3FH	S	B	290	76	65,892
VE3CR	S 20		254	86	65,016
VE3EP	S	B	203	111	61,605
VE3FTG	S	C	227	86	56,523
VE7JH	S	B	239	75	53,325
VA3ZLT	S	B	196	91	52,689
VE7FCO	S	B	192	91	51,870
VA3NW	S	B	176	96	48,960
VE3FU	S 40		260	63	48,762
VA2QR	S	C	151	99	43,659
VA7IR	S	C	210	72	43,200
VE3LJQ	S 10		219	62	40,176
VE7ACN	SAL	B	195	67	38,793
VA3FP	S 15	C	222	58	38,628
VE5CON	S	B	132	98	37,632
VE7XF	SAH	C	151	82	36,654
VA7JW	SAH	C	206	60	34,560
VE3KI	SAH	C	121	89	32,040
VE4DRK	S	B	132	83	31,623
VE3PQ	S	B	122	83	30,378
VE6CMV	S 10		158	64	30,336
VE3MEW	S	B	135	73	27,813
VE6EC	S	B	125	74	26,418
VE9WH	S	B	117	75	26,100
VE3AJ	SAL	B	99	84	24,444
VE2PIJ	S	B	105	78	23,868
VE3RCN	S	B	113	68	22,644
VE5SF	S	B	116	66	22,572
VE7BGP	S	B	113	65	21,645
VE3JSQ	SAL	B	119	61	21,228
VO1AX	S 40		172	41	20,664
VE6AMI	S	C	110	58	18,618
VA7AQD	S	B	109	56	18,144
VE3HEU	SAL	B	93	63	17,388
VE6SPS	SAL	B	98	58	16,878
VA3XH	S 40		100	46	13,524
VE6JY	SAH	C	76	59	13,452
VE7RSV	S	B	100	45	13,365
VE3NQM	S	B	85	50	12,300
VE6FN	SAH	C	71	53	11,289
VE4TV	S 15		90	43	11,094
VE7VR	S	B	90	40	10,680
VE2JM	SAH	C	80	38	8,892
VY1JA	S	C	74	40	8,880
VE7QC	S 10		91	31	8,370
VE5GC	S	B	62	44	7,788
VE2RFI	S	B	73	36	7,668
VE3DVY	S 10		70	38	7,638
VA7RP	SAL	B	84	33	7,326
VA3MPF	S 20		64	37	6,993

VA7ZM	S	B	72	32	6,912
VY2MP	S 10		66	35	6,825
VE6SQ	S	B	49	39	5,616
VE6BHO	S	B	53	32	5,088
VA3RKM	S	A	45	37	4,995
VE6TR	SAH	C	35	34	3,570
VE1OP	SAL	B	35	33	3,465
VE7CLX	S	B	43	27	3,402
VE2MRN	SAL	B	32	32	3,072
VA3EJN	S	B	34	31	2,604
VA6SP	S	B	32	20	1,860
VA7HZ	SAL	B	25	24	1,800
VE6STP	S	A	29	19	1,653
VA3EC	S	C	27	19	1,539
VE2HKW	S	B	23	21	1,386
VE3HED	S	C	21	21	1,323
VE2SG	SAH	C	22	19	1,026
VE7VAW	S	B	29	9	783
VE2OBE	S	B	20	13	780
VA7AM	S	B	15	14	588
VA3FN	S	B	11	10	330
VA7KH	S	A	7	6	108
VE3IGJ	S	B	6	6	108
VA2SCJ	S	B	1	1	3
VE3KJQ	S	A	1	1	3

NAQP CW WINTER

Call	Power	QSO	Mult	Score
VE3JM	L	1,119	248	277,512
VE3DZ	L	971	267	259,257
VE3EJ	L	992	251	248,992
VE3KI	L	850	230	195,500
VA7ST	L	888	207	183,816
VE3OI	L	783	232	181,656
VE6UM	L	913	188	171,644
VE3XB	L	735	204	149,940
VE3CX	L	660	218	143,880
VE5ZX	L	780	182	141,960
VE3RZ	L	665	207	137,655
VE5SF	L	681	170	115,770
VE3MGY	L	663	174	115,362
VE3GFN	L	631	182	114,842
VA3DF	L	586	182	106,652
VE2AWR	L	527	161	84,847
VA3EC	L	511	147	75,117
VE2BWL	L	447	166	74,202
VE7JH	L	548	131	71,788
VE4YU	L	426	167	71,142
VE3VN	Q	467	149	69,583
VE2FK	L	445	156	69,420
VE9AA	L	416	151	62,816
VE5MX	L	385	119	45,815
VE1RSM	L	295	131	38,645
VY2LI	L	301	125	37,625
VE3UTT	L	253	128	32,384
VE3HG	L	225	104	23,400
VE3FJ	L	229	85	19,465
VE3VSM	L	196	96	18,816
VE9OA	L	181	93	16,833
VA1MM	L	173	90	15,570
VE1DT	L	170	91	15,470
VA7BWG (VE7GM)	L	137	77	10,549
VE1OP	L	155	67	10,385
VO1BQ	L	134	77	10,318
VE4VT	L	132	78	10,296
VA3RKM	Q	110	75	8,250
VE3ZY	L	87	43	3,741
VA2WA	L	78	43	3,354
VE7IAD	L	62	47	2,914
VE3PQ	L	61	43	2,623
VA7JC	L	67	37	2,479
VE3RCN	L	58	37	2,146
VE7BGP	L	51	40	2,040
VE9BWK	L	55	35	1,925
VA3IK	L	51	27	1,377
VE3DTI	Q	23	20	460
VA3WR	Q	21	15	315
VA3FN	L	16	13	208
VE5GC	L	9	6	54

NAQP SSB WINTER

Call	Power	QSO	Mult	Score
VA3DF	L	663	159	105,417
VE5JZX	L	636	155	98,580
VE4GV	L	561	151	84,711
VE3RZ	L	531	154	81,774
VA7ST	L	424	144	61,056
VE3WG	L	413	145	59,885
VA6NJK	L	462	112	51,744
VY2LI	L	329	120	39,480
VO1KVT	L	356	109	38,804
VA3XH	L	284	134	38,056
VA7AM	L	370	96	35,520
VE3VSM	L	296	101	29,896
VE4YU	L	248	106	26,288
VE4DRK	L	227	93	21,111
VE3KTB	L	226	92	20,792
VE4HAZ	L	171	93	15,903
VE3RCN	L	174	89	15,486
VE7JTF	L	182	85	15,470
VA3EC	L	165	80	13,200
VE3PQ	L	161	76	12,236
VE2BWL	L	155	62	9,610
VE3EJ	L	147	64	9,408
VE7FCO	L	107	61	6,527
VE8NSD	L	114	53	6,042
VE3BK	L	93	56	5,208
VE3FJ	L	107	45	4,815
VE3IAE	L	97	47	4,559
VE4DPR	L	92	44	4,048
VA3KVI	L	70	45	3,150
VA3EEB	L	75	41	3,075
VE3CBK	Q	61	44	2,684
VA3RKM	Q	62	41	2,542
VA3IK	L	62	38	2,356
VA3WR	Q	58	30	1,740
VE5BCS	L	63	22	1,386
VE3KJQ	Q	46	29	1,334
VA3ENF	L	30	19	570
VA7XNL	L	29	16	464
VE3PYJ	L	25	12	300
VA3PCJ	Q	20	13	260
VA3KOC	L	18	12	216
VE2GT(VE2PIJ)	L	13	10	130
VA2SCJ	L	7	7	49

NAQCC JANUARY 2015 SPRINT

Call	QSO	Mult	Score
VE2TH	33	14	1792
VE3EDX	11	11	484
VE3FUJ	10	8	320
VE5BCS	10	7	280
VE3DVC	8	7	224
VE3DTI	5	5	100

NAQCC FEBRUARY 2015 SPRINT

Call	QSO	Mult	Score
VE2TH	38	20	3,040
VE3RCN	14	12	672
VE3DVC	13	9	468
VE7KBN	11	7	322

NAQP RTTY WINTER

Call	CAT	Power	QSO	Mult	Score
VE5MX	SO	LP	977	202	197,354
VA2UP	SO	LP	853	192	163,776
VE3KI	SO	LP	581	175	101,675
VA7ST	SO	LP	638	156	99,528
VE7SZ	SO	LP	523	158	82,634
VA3DF	SO	LP	478	152	72,656
VA7KO	SO	LP	449	144	64,656
VE5KS	SO	LP	411	154	63,294
VE2FK	M2	LP	454	130	59,020
VE3TW	SO	LP	376	139	52,264
VE3JI	SO	LP	334	127	42,418
VE2EBK	SO	LP	296	115	34,040
VE6QO	SO	LP	254	102	25,908
VE3AJ	SO	LP	238	95	22,610
VE2NMB	SO	LP	204	93	18,972
VE3RCN	SO	LP	193	89	17,177
VE7IO	SO	LP	169	87	14,703
VE6AX	SO	LP	152	88	13,376

VE4YU	SO	LP	145	84	12,180
VE7FO *	M2	LP	133	77	10241
VE3IKT	SO	LP	114	59	6,726
VE3FJ	SO	LP	115	50	5,750
VE7FCO	SO	LP	92	60	5,520
VE3CX	SO	LP	98	48	4,704
VE7HBS	SO	LP	97	44	4,268
VE7GM	SO	LP	84	49	4,116
VO2NS	SO	LP	73	40	2,920
VE3PQ	SO	LP	63	40	2,520
VE7BGP	SO	LP	43	36	1,548
VE3LXL	SO	LP	46	30	1,380
VA6NJK	SO	LP	28	23	644
VE4VT	SO	LP	20	10	200
VA3RKM	SO	QRP	7	5	35
VA7SIL	SO	LP	4	4	16

*VE7CDC, VE7FO

BARTG SPRINT RTTY

Call	CAT	QSO	Mult	Score
VA2UP	SOE	988	87	515,736
VE7CC	SOE	899	81	436,914
VE7SZ	SOE	492	63	185,976
VA2ES	SOAB	400	61	122,000
VE7IO	SOAB	331	38	75,468
VE2NMB	SOAB	211	50	42,200
VA7ST	SOAB	203	38	38,570
VE6AMI	SOAB	88	31	13,640
VE3XAT	MO	95	38	10,830
VE3IAE	SOAB	103	26	8,034
VE6QO	SOAB	67	24	6,432
VA7AM	SOAB	98	20	3,920
VE7FCO	SOAB	54	22	3,564
VA7JC	SOAB	49	21	3,087
VE7BGP	SOAB	33	21	1,980
VE2FK	SOAB	17	12	612
VE3AJ	SOAB	8	10	240

CQ 160 CW

Call	Power	QSO	Mult	Score
VA2EW	HP	1,278	109	818,917
VE3EJ	HP	1,198	107	710,694
VE3XAT	HP	935	95	460,560
VE3PN	LP	706	92	366,988
VE3MGY	LP	688	69	230,322
VE6BBP	HP	498	62	148,114
VE3OSZ	LP	359	69	122,682
VE3VSM	LP	396	59	112,926
VE3DZ	LP	375	59	106,554
VE3XL	LP	360	61	106,323
VA3EC	LP	404	52	100,152
VE3WG	LP	288	55	76,395
VE3BR	LP	278	50	66,200
VE1ZA	LP	234	45	49,905
VA3ATT	LP	242	40	45,160
VE3GFN	LP	218	39	39,936
VE3RCN	LP	199	41	38,335
VE3TW	LP	173	34	27,676
VE1ZAC	HP	131	40	26,320
VY2LI	LP	145	37	24,864
VE3UZ	HP	125	39	23,088
VA3FN	LP	134	35	21,875
VE6XH	LP	101	44	21,384
VE3FJ	HP	109	29	14,413
VE4VT	LP	63	37	11,174
VE1ANU	LP	89	22	9,262
VE9AA	HP	59	18	5,274
VA2EU	LP	33	19	3,059
VA7ST	LP	42	14	2,674
VE6AMI	LP	23	15	1,680

CQ 160 SSB

Call	Power	QSO	Mult	Score
VE3PN	HP	645	72	231,408
VE3MGY	LP	530	58	150,336
VA3XH	HP	317	48	73,728
VE3KZ	LP	203	45	44,190
VE3HED	LP	127	40	24,800
VA3TIC	LP	129	27	16,524
VE1ZA	LP	110	29	15,283
VE9BK	LP	101	28	13,522
VE3TW	LP	90	31	13,485
VE3BR	LP	81	32	12,576
VE7DNZ	LP	67	35	11,270
VE3RCN	LP	84	27	10,692
VE3NQM	LP	72	26	8,970
VE3EDY	LP	51	28	6,860
VE2GT	LP	52	20	4,840
VE3DZ	LP	44	20	4,280
VA7IR	HP	50	18	4,104
VE6AMI	HP	27	20	2,460
VE3MT	LP	36	13	2,184
VA3DBT	LP	17	9	738
VE3XAT	LP	15	8	600
VA3FN	LP	9	7	294
VE3EJ	HP	10	7	287
VE4HAZ	LP	2	2	20

REF CONTEST CW

Call	CAT	Power	QSO	Mult	Score
VE2CWT	SOAB	B	196	146	82,928
VE3DZ	SOAB	B	192	147	80,262
VE2BWL	SOAB	B	126	92	33,580
VE9OA	SOAB	B	44	41	5,166
VE3FJ	SOAB	C	41	36	3,924
VE2FK	SOAB	C	31	30	2,730
VE2QV	SOAB	B	26	26	1,976
VE3DTI	SOAB	A	25	24	1,752
VA3RKM	SOAB	A	16	15	690
VE2KOT	SOAB	B	11	11	341

UBA DX SSB

Call	CAT	Power	QSO	Mult	Score
VA2QR	SOAB	HP	32	31	6,696
VA2OBW	SOAB	HP	27	30	5,280
VE9ML	SOAB	LP	99	81	53,703
VE2BWL	SOAB	LP	96	78	39,156
VE3FK	SOAB	LP	72	66	29,106
VE2GT	SOAB	LP	17	17	1,564

NCJ SPRINT CW FEBRUARY

Call	Power	QSO	Mult	Score
VA7AAA	HP	285	44	12,540
VE3KI	HP	238	40	9,520
VE5MX	HP	114	36	4,104
VE3JM	HP	108	34	3,672
VE3VSM	LP	72	31	2,232
VE3RCN	LP	41	23	943
VA7JC	LP	7	5	35

MINNESOTA QSO PARTY

Call	CAT	Power	QSO	Mult	Score
VE3KZ	SO	HP	261	86	44,892
VE7JH	SO	LP	103	62	12,772
VE3HED	SO	HP	75	53	7,950
VA3GKO	SOPH	75	49	7,350	
VA3ATT	SO	LP	65	47	6,110
VE3TW	SO	HP	70	41	5,740
VE3CRU	SO	LP	59	46	5,428
VE4DDW	SOPH	68	37	5,032	
VA7ODX	SOPH	19	12	456	
VE7FCO	SOPH	14	14	392	
VE3TU	SOPH	13	12	312	
VE2GT	SOPH	8	8	128	
VE9ML	SO	LP	6	6	72
VE3DTI	SO	QRP	5	4	40

10-10 INTERNATIONAL WINTER SSB

Call	Score
VA7TEN	483
VA2KF	247
VE5BCS	154
VE5KM	112
VE2HAY	71
VA2MO	68
VE2MEW	53
VA3GUY	52
VE2GT	11

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XE INTERNATIONAL CONTEST RTTY

Call	Power	Score
VE2SG	HP	11,618
VE3FH	LP	51,332
VA3XH	LP	44,772
VA2ES	LP	17,380
VA7ST	LP	2,645
VE7HBS	LP	1,107

BC QSO PARTY

Call	CAT	Power	QSO	Mult	Score
VE5KS	Mixed	SOLP	51	45	7,020
VE9ML *	Mixed	MOHP	28	28	2,640
VE2ZT	Mixed	SOLP	26	24	1,952
VA3GKO	SSB	SOLP	31	28	1,816
VE1TWM	SSB	SOLP	6	6	112
VE2AWR	Mixed	SOLP	5	4	104
VE3CX	SSB	SOLP	6	6	92
VE3TW	Mixed	SOLP	4	4	88
VE1RGB	CW	SOLP	4	4	84
VE8NSD	SSB	SOLP	6	6	72
VE9BEL	Mixed	SOQRP	3	3	56
VE2GT	SSB	SOLP	2	2	28

* Ops VE9ML VE9BK

DUTCH PACC CONTEST

Call	CAT	Power	QSO	Mult	Score
VE9ML	MO Mixed Unlimited	HP	415	59	24,190
VE3KZ	SOAB Mixed	HP	361	53	18,497
VE2BWL	SOAB Mixed	LP	141	44	5,940
VA3GKO	SOAB SSB	LP	113	37	3,996
VE7CV	SOAB Mixed	HP	55	22	1,166
VA3EC	SOAB CW	LP	43	21	840
VA6NJK	SOAB SSB	HP	37	22	792
VE2GT	SOAB SSB	LP	26	16	416
VA3ATT	SOAB CW	LP	24	15	345
VE1DT	SOAB CW	HP	21	13	260
VA2OBW	SOAB SSB	HP	12	10	120
VE6JY	SO40 SSB	HP	11	6	66
VE1FQ	SO10 SSB	HP	1	1	1

UBA DX CW

Call	CAT	Power	QSO	Mult	Score
VA3EC	SOAB	LP	90	54	16,200
VO1HP	SO15	LP	97	36	11,556
VE3FK	SO40	HP	99	36	11,484
VE9ML	SO40	LP	45	24	4,200
VE9OA	SOAB	LP	50	26	3,562
VE2BWL	SO15	LP	33	21	3,150
VE1ZA	SOAB	QRP	28	18	1,350
VE9BWK	SOAB	LP	14	6	168

NORTH CAROLINA QSO PARTY

Call	CAT	QSO	Mult	Score
VE2JCW	Mixed	114	48	13,930
VA3ATT	CW	94	43	12,326
VE3PQ	Mixed	60	35	5,115
VE3PYJ	SSB	61	32	4,104
VE3HED	SSB	54	34	3,922
VA3EC	CW	39	23	2,891
VA2KZ	SSB	46	27	2,734
VA6NJK	SSB	18	16	776
VE3DTI	CW	10	8	290
VE9BWK	DIGI	6	6	108

CQWPX RTTY

Call	CAT	QSO	Mult	Score
VC7G *	M-MULTI	3,358	996	9,645,264
VE7CC	SO HP ALL	1,989	797	4,736,571
VA7KO(+VA7BEC)	M-ONE HP	1,551	625	2,925,625
VE2FK	SO HP ALL	1,285	558	2,263,248
VA3DF	SO LP ALL	1,099	630	2,232,720
VE5MX	SO HP ALL	1,265	595	2,198,525
VE7SZ	SO HP ALL	1,370	550	2,188,450
VE2GSO	SO HP ALL	1,305	539	2,185,106
VA2AM	SO HP ALL	981	519	1,819,095
VA3XH	SO HP ALL	1,007	510	1,818,150
VA2ES(VE2AXO)	SO LP ALL	1,073	531	1,745,928
VE7IO	SO HP ALL	978	442	1,213,732
VA5AA **	M-MULTI	975	445	1,121,400
VE3TW	SO HP ALL	807	435	1,088,805
VE3KI	SO QRP ALL (T)	781	434	1,040,732
VA3DX	SO HP ALL	666	412	981,384
VE3FH	SO LP ALL	736	395	913,635
VE3CX	SO HP 10M	737	445	858,405
VA6ZZZ	SO HP 15M	741	459	829,872
VE6AMI	SO HP ALL	671	363	700,590
VA7AM	SO LP ALL	779	316	556,792
VE2BVV	SO LP ALL	541	356	551,444
VO2NS	SO LP ALL	625	363	539,418
VE3JI	SO LP ALL	467	344	525,288
VE2EBK	SO LP ALL	514	356	501,248
VA7ST	SO LP ALL	568	318	486,858
VE2NMB	SO HP ALL	491	305	466,955
VE2FU	SO HP 10M (T)	451	318	398,772
VE3VID	SO LP ALL (T)	379	281	355,184
VE3AJ	SO LP ALL	394	253	323,081
VE3MGY	SO LP ALL (T)	386	205	244,975
VE6AX	SO LP ALL	338	213	180,411
VE3CGR	SO HP ALL	305	201	170,850
VE9BWK	SO LP ALL	274	193	168,682
VA3VF	SO LP ALL	306	213	163,797
VE3IAE	SO LP 10M (T)	238	197	126,474
VE7AX	SO HP ALL	244	190	121,410
VE3RCN	SO LP ALL	234	183	118,950
VE3DZ	SO LP ALL (T)	202	169	107,822
VE3JAQ	SO LP ALL	220	173	107,606
VE3FJ	SO HP 10M	188	164	82,164
VE3NI	SO LP ALL	161	138	77,004
VE3XAT	SO LP ALL	158	144	61,200
VE6LB	SO LP ALL	169	136	56,168
VY2LI	SO HP 10M (T)	154	128	51,584
VA2WA	SO LP ALL	142	120	47,640
VE4YU	SO LP ALL	159	111	46,176
VE6SPS	SO LP ALL	164	120	45,480
VE6SQ	SO LP ALL (T)	147	121	43,439
VE7FCO	SO LP ALL	164	119	42,126
VA3FN	SO LP ALL	124	101	40,097
VE6QO	SO QRP ALL	152	97	39,091
VA2QR	SO LP ALL	116	91	34,944
VE2QV	SO LP ALL	117	94	29,328
VE7HBS	SO LP ALL	122	92	23,276
VE7FO(+VE7CDC)	M-ONE HP	107	81	22,356
VA7JC	SO LP ALL	108	87	19,053
VE7ACN	SO HP ALL	85	70	18,410
VO2DX/9(VE9AA)	SO HP 10M (T)	99	79	16,432
VE2EZD	SO HP ALL	88	75	15,150
VE3IKT	SO LP 20M	74	73	14,016
VE4EAR	SO LP ALL	59	53	10,547
VE3LXL	SO LP ALL	64	59	9,853
VE7GM	SO QRP ALL	65	53	9,381
VA3PCJ	SO QRP ALL	71	59	9,322
VE2KOT	SO LP ALL	46	40	4,040
VE7BGP	SO LP ALL (T)	35	33	2,706
VE3IBW	SO QRP 20M	4	4	20

* Ops VA7DX VE7JH VE7MR VE7KW VE7UF

** Ops VA6GWS VA6NJK VE5CMA VE5FN VE5WI VE6VAC

HA DX CONTEST

Call	CAT	QSO	Mult	Score
VE1DT	AB CW HP	223	73	65,116
VE2FU	AB CW LP	85	49	19,992
VE2FK	AB CW HP	119	27	10,692
VE9OA	AB CW LP	48	13	2,223
VE3IAE	AB CW LP	24	9	927
VE3FJ	10 m CW HP	48	6	822
VY2LI	AB SSB LP	7	4	132
VE2KOT	AB CW LP	10	3	87
VA3RKM	AB MXD QRP	8	2	44
VE3DXK	40m CW LP	4	1	11
VA3FN	40m CW LP	4	1	10

CONTEST CALENDAR FOR JANUARY, FEBRUARY AND EARLY MARCH 2016

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 2	2400z Jan 3	http://www.arrl.org/rtty-roundup
NA QSO Party CW	1800z Jan 9	0600z Jan 10	http://www.ncjweb.com/
NAQCC Sprint 160m	0000z Jan 13	0400z Jan 13	http://naqcc.info/
Hungarian DX Contest	1200z Jan 16	1159z Jan 17	http://www.ha-dx.com/HADX/
NA QSO Party SSB	1800z Jan 16	0600z Jan 17	http://www.ncjweb.com/
NAQCC Sprint	0130z Jan 21	0330z Jan 21	http://naqcc.info/
ARRL VHF Sweepstakes	1900z Jan 24	0359z Jan 26	http://www.arrl.org/january-vhf
BARTG Sprint RTTY	1200z Jan 23	1200z Jan 24	http://www.bartg.org.uk/sprintcontest.asp
CQ 160m CW	2200z Jan 29	2200z Jan 31	http://www.cq160.com/rules.htm
REF Contest CW	0600z Jan 30	1800z Jan 31	http://concours.ref-union.org/contest/
UBA DX SSB	1300z Jan 30	1300z Jan 31	http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules
NCJ Sprint CW	0000z Feb 7	0359z Feb 7	http://www.ncjweb.com/
MN QSO Party	1400z Feb 6	2400z Feb 6	http://www.w0aa.org/index.php/mn-qso-party
10-10 Int. Winter SSB	0001z Feb 6	2400z Feb 7	http://www.ten-ten.org/
Mexico Int. Contest RTTY	1800z Feb 6	1759z Feb 7	http://www.rtty.fmre.mx/english/rules.html
BC QSO Party	1600z Feb 6	0359z Feb 7	http://www.orcadxcc.org/bcqp.html
FISTS Winter Slow Speed Sprint CW	1700z Feb 6	2100z Feb 6	http://www.fistsna.org/
NAQCC Sprint	0130z Feb 10	0330z Feb 10	http://naqcc.info/
Dutch PACC Contest	1200z Feb 13	1200z Feb 14	http://www.dutchpacc.com/
FISTS Winter Sprint CW	1700z Feb 13	2100z Feb 13	http://www.fistsna.org/
CQ WW WPX RTTY	0000z Feb 13	2400z Feb 14	http://www.cqwpxrtty.com/
ARRL Int. DX CW	0000z Feb 20	2400z Feb 21	http://www.arrl.org/arrl-dx
REF Contest SSB	0600z Feb 27	1800z Feb 28	http://concours.ref-union.org/contest/
CQ 160m SSB	2200z Feb 26	2159z Feb 28	http://www.cq160.com/rules.htm
UBA DX CW	1300z Feb 27	1300z Feb 28	http://www.uba.be/en/hf/contest-rules/uba-dx-contest-rules
NA QSO Party RTTY	1800z Feb 27	0600z Feb 28	http://www.ncjweb.com/
NC QSO Party	1500z Feb 28	0059z Feb 28	http://rars.org/ncqsoparty/
ARRL Int. DX SSB	0000z Mar 5	2400z Mar 6	http://www.arrl.org/arrl-dx

SECTION NEWS

THE RAC FIELD ORGANIZATION FORUM

BRITISH COLUMBIA/YUKON:

SM Acting Bill Gipps, VE7XS
A/SM Ron McFadyen, VY1RM
A/SM Neil King, VA7DX
STM Al Ross, VE7WJ
SEC Acting Al Munnik, VA7MP
SEC Terry Maher, VYIAK (Yukon)
OBM Bill Foster, VE7WWW
OOC: Dennis Wight, VE7IJJ
ACC: Karla Wakefield, VA7KJW
Website: www.va7mpg.ca

SEPTEMBER-OCTOBER SM REPORT:

A Simulated Emergency Test (SET) was held on Saturday, October 10. Despite difficult propagation, there was significant participation at both the local and Provincial government levels, as well as from various ARES groups and interested individual Amateur Radio operators. Multiple nets were run on 80, 40 and 20 metres. More success was achieved when some individual stations, running power, either assisted the lower powered new control stations or took over as net control. This exercise showed some excellent coordination and cooperation between all parties involved.

– Bill Gipps, VE7XS

Public Service Honour Roll
September:
VE7XLH: 155; VE7DWG: 90; VA7MPG: 396; VE7GN: 150; and VE7WJ: 92.
October:
VE7XLH: 148; VE7GN: 160; VE7WJ: 100; and VE7DWG: 71.

ALBERTA:

SM: Garry Jacobs, VE6CIA
SEC: Brian Davies, VE6CKC
STM: Jack Humphries, VE6JRH
OO: Don Momen, VE6JY

SEPTEMBER-OCTOBER SM REPORT:

It is with great pleasure that I wish to welcome aboard Dave, VE6DEV, EC Edmonton and area, and Bernard, VE6HFD, EC Three Hills and area. I look forward to working together with both of you.

Simulated Emergency Test
SM Garry, VE6CIA and SEC Brian, VE6CKC

The Simulated Emergency Test was held in Alberta on Saturday October 3. Thanks to all who participated. We had checkins from operators VE6CIA, VE6CKC and VE6SND at the Red Deer control station VE6CIA to Cold Lake, Edmonton, Hanna, Lloydminster, Coronation, Three Hills, Olds, Medicine Hat, Trochu, Rocky Mountain House, Ponoka, Sylvan Lake, Lacombe, and believe it or not, even Red Deer.

There were 30 checkins, which is great. Thanks guys and gals.

We made contact on 3.675 MHz, 14.135 MHz, 2m, 440 and we received an email via Winlink. We were connected to the Discovery Reflector on IRLP, the complete VE6QE system, the VE6YXR UHF ARES system, the Southern Alberta Repeater Association system, the Three Hills system and had Echolink available, (approximately 23 repeaters) all at the same time.

The Edmonton ARES group was dispatched to the scene in Stettler and set up HF, VHF and UHF communications via their portable station and emergency power.

The County of Red Deer Emergency Services Manager was contacted and gave his thanks for a job well done and all injured were being well taken care of.

Smiles:

1) great job having as many checkins as we did

2) good to get all systems tied together

3) heard some HF stations

4) many parts of the province were heard from

5) using headphones at control, allowed us to use HF and VHF in the same room

Frowns:

1) trouble connecting the Southern Alberta Repeater Association (SARA) system to the reflector

2) very poor conditions on HF both 80m and 20m

3) never got my Winlink on HF working till after the SET

4) no participation from the south part of the province

5) very little traffic passed

6) make closer note of all repeaters connected to the net so all can be taken down after

7) some audio problems showed up between the VE6YXR system and VE6REP on the SARA system

Lessons learned:

1) practise system accesses ahead of time, even if you think you know how it works

2) get systems you expect to use, working well in advance of the event

3) have more assistance in the control centre to create traffic to pass along to some stations to keep interest going

4) try linking all systems during idle time so bugs can be worked out before the systems are needed in the heat of battle

Thanks again to all participants.

MESSAGE FROM RAC COMMUNITY SERVICES OFFICER

CFSO Doug Mercer, VO1DTM
Email: vo1dm@rac.ca
(see page 4 for contact info)

During this past summer, the RAC Executive and Board met and as part of our planning agenda we discussed the direction and future of the RAC Field Organization.

We concluded that the Field Organization should return to it's EmComm/Community Service roots.

Amateur Radio EmComm services, by their nature and purpose, must focus on and serve their municipal and provincial served agencies.

Each region has a different flavour depending on the emergency needs of their served agencies.

Emergency management is a municipal and provincial responsibility. There is little federal or national engagement. The ARES mandate in the US is quite different due to their association with the Federal Emergency Management Agency (FEMA).

The Field Organization divides Canada into 11 geographic regions called Sections. Each Section has a similar team of one elected volunteer Section Manager and several volunteer positions. Section Managers are elected by members living within the Section for a two-year term. The Section Manager appoints a team of volunteers.

The RAC Section Manager (SM) is the senior representative for ARES activities within each Section, working with the served agencies within the Section. Section Managers receive their operational instructions from the served agencies, with RAC's role as one of providing support to the SM and EmComm groups in the following ways:

1) Acting as a clearinghouse for information and providing forums for exchange of best practices. This includes voluntary Certified Emergency Coordinator training, promoting Section training standards (CEC, IMS) and maintaining the RAC ARES Operations Training Manual as well as the Canadian registry for Certified Emergency Coordinators.

2) By representing Amateur Radio domestically to Industry Canada and other government bodies and to various international organizations.

The Section Manager is responsible for dealing and managing the relationship with served agencies, such as municipal and provincial governments, as well as non-government organizations (NGO) RAC affiliated clubs and RAC ARES EmComm groups where emergency communications is involved. Each ARES group's structure is driven by the needs of its served agency. The needs of the served agency are paramount.

RAC does not conduct security screening of ARES participants. The served agency will conduct such screening along with ID cards if required.

With the exception of the Certified Emergency Coordinator certification and future courses that may be offered by RAC from time to time, all training takes place at the Section level and is either self-study by the individual, operationally oriented and provided by the served agency or sponsored by RAC Affiliated clubs in coordination with the Section Training Manager.

The RAC ARES Operations Training Manual and the Certified Emergency Coordinators program have both been updated and are available on the RAC website.

The Emergency Coordinators Manual is currently being updated, and revised Field appointment descriptions for Section Managers, Section Emergency Coordinators and Section Training Managers have been submitted by the Section Manager Advisory Council to the RAC Board for approval.

Doug Mercer, VO1DTM
Community Services Officer

Calgary Regional ARES
Ian Burgess, VA6EMS

Calgary Regional ARES has gone through some amazing transformations in the past year.

In February, we became a Canada Revenue Agency Registered Charity. This is a huge step for our group because of the large area that we cover that includes Urban, Suburban and Rural areas. Our first priority is to ensure that we have coverage through our area with APRS and the ability to link into one of two Provincial networks – the Southern Alberta Repeater Association and the Central Alberta Amateur Radio Club's YXR repeater network – to allow the Regional Emergency Operation Centre to be able to contact the Provincial Emergency Operations Centre in Edmonton. We are applying for grants and starting fundraising to build this system.

Our second priority is to focus on allowing our members to have the tools and training to be able to respond to both Public Service (community events) and Public Safety situations. We have identified the need to build APRS trackers that can be mounted in vehicles so the Public Safety command and dispatch centres can see where their units are if the cellular network fails. When preparing our members to respond we are going to be building a training program based on the International Amateur Radio Union (IARU) Emergency Communications Guide. Once we have developed the training, we intend to share it with other ARES groups in Canada after we have been contacted from groups already looking for the training standards we have in place.

Working with agencies in Calgary, Airdrie, Strathmore and the local Alberta Emergency Management Agency officer for the South Central Area, we are well on our way to developing Memoranda of Understanding with governments and agencies to become established in the emergency plans for South Central Alberta.

Even though we have only been incorporated for two years, Calgary Regional ARES continues to grow and, with the continued assistance from our membership, and with the goodwill from other Amateur Radio groups in the Calgary Area, Calgary Regional ARES will be around to serve the community for years to come.

Three Hills Amateur Radio Club
Bernard McCoy, VA6HFD

The Three Hills Amateur Radio Club is looking forward to getting more support from the club members to get ARES more active in the area.

A lot of things are still in the planning/setup stages for now, since I am just getting my feet wet as new EC and feeling my way through this learning process.

Medicine Hat Amateur Radio Club
Joel Keeler, VE6KEE

There is an APRS Repeater on our VE6HAT site that is under solar power. APRS Igate at our club station is Internet only, no RF, but Digipeater VA6KRK is up and operational. My Igate VE6KEE will be back on as soon as I have house repairs completed from the wind and hail storm.

Sask/Alta Radio Club
Joe, VE5JM – EC Sask/Alta Radio Club Lloydminster and area

September was a busy time for the Repeater techs as they were out installing new repeaters to expand our three repeater system to a six repeater system. We now have repeaters working at Lloydminster, (with an Echolink node), Vermilion, Innisfree, Edgerton and Hardisty. They are all working in full-time link through a UHF Hub repeater at Borradaile. They are up and working and are being finetuned to get the audio smoothed out throughout the system. We may be adding a tone up / tone down link to the Lloydminster local UHF repeater (with an IRLP Node). This will allow us to use the handle through the UHF onto the VHF system and also to bring in the capability to have IRLP working onto the VHF system. Thanks go to Bill, VE5FN and Jim, VA6NJK, for being the main techs involved in this project and thanks to anyone else who helped out. For more information on the system please see https://www.repeaterbook.com/repeaters/index.php?state_id=CA01 and look for Sask – Alta System.

Another project that has been working its way through the system is the placement of antennas on the roof of the new RCMP building which is the home of the Emergency Operations Centre (EOC) in Lloydminster. We now have two dual band VHF/UHF antennas and a 5-band HF wire antenna mounted and working. Next will be the addition of some HF radio equipment. We have some other locations in mind to place antennas in the coming year.

We are pleased to see that another Basic Qualification course is underway this year and is well attended. The course runs from October 14 until March 30 on Wednesday nights from 7 to 9:30 and is being held in Lloydminster in the EOC room on the second floor of the RCMP building. Thanks go to Greg, VA6GWS, for taking this on again this year.

We had a station in Vermilion on the air for the annual SET. The station is located on the second floor of the Lt Col Craig Armory and thanks to Don, VE6VAC, it is fully equipped with Full HF CW/SSB and Data modes. It also has VHF and UHF with Voice and Data modes. Don worked the SET net on a number of HF frequencies and made some data contacts. I was also active on the net for the last hour from my station in Lloydminster and I worked the net on HF.

Thanks to Bill, VA6RQ and Don, VE6VAC, for their input.

The regular Sask/Alta and ARES Sunday night for September-October had 4 sessions with 26 checkins.

– SM Garry, VE6CIA

RAC SECTION MANAGER ELECTION NOTICE:

THE MANITOBA AND QUEBEC SECTIONS

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 10 or more full members of RAC residing in the Section concerned. It is advisable to have more than 10. 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:

Notice to all RAC members in the Manitoba and Quebec Sections

_____ (place & date)

RAC Community Services Officer
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5

We, the undersigned RAC Full members residing in the _____ 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, 2016**. 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, 2016**. Return of ballots by 1600E **May 20, 2016** and will be counted after **May 27, 2016**.

A Section Manager elected will take office on **July 1, 2016** to complete a two-year term until **June 30, 2018**. If no valid petition is received, the Section will be resolicited in *The Canadian Amateur*.

Doug Mercer, VO1DTM, RAC Community Services Officer

SASKATCHEWAN:

SM: Summer Hartzfeld, VE5SDH

SEPTEMBER-OCTOBER SM REPORT:

Saskatoon ARC Report
Doris Quiring, VE5DJQ

The Saskatoon Amateur Radio Club has changed their format to having the formal business meeting three times per year and the rest of the monthly meetings will be devoted to informative and educational sessions. At its November meeting Liam Bindle, VE5LRB, gave a very interesting talk about an Engineering team from the University of Saskatchewan winning First place in the European (Mars) Rover Challenge (roverchallenge.eu/en/). To hear firsthand from Liam what the team experienced was fascinating. Liam was part of the four-member team that went to Poland. These four Engineering students had to use a lot of skill to complete the task at hand as their rover did not leave Canada as expected and they were left with very little time to assemble and finetune prior to the competition.

The second half of the evening was presented by Bruce, VE5BNC and Mike, VE5MMG, on the topic of Arduinos. The meeting was well attended and well received. There is a wide variety of talent within the club and I am sure that more interesting topics will be presented.

Saskatoon and area now has three Yaesu repeaters up and running. Two of the repeaters have the C4FM / fusion activated. To date there are only a few Amateurs in the surrounding area that have fusion capability.

Saskatoon Amateurs are again in the process of re-establishing ARES for Saskatoon. John, VE5MU and Ron, VE5RS, are heading that committee. Area Amateurs met with the Saskatchewan Emergency Management Organization (EMO) this fall and EMO did express an interest in working with Amateurs. This is a work in progress.

Meewasin Amateur Radio Society
Devon Racicot, VE5DWR

It has been a very long time since we reported on the happenings of the Meewasin Amateur Radio Society. It has been a fun and exciting year so far.

As you know, this past summer we hosted the Saskatchewan Hamfest. We saw 89 people walk through the doors throughout the three-day event and it seems it was well received by everyone who attended. I think we had enough door prizes so that almost everyone got at least one! The grand door prize was awarded to Lyle, VE5EE, which was a Yaesu FTM-400DR mobile radio valued at over $800.

The program included presentations on D-STAR, satellite operations, IRLP, Search and Rescue and EMO. We also hosted the Radio Amateurs of Canada and Saskatchewan Amateur Radio League AGM and had several special guests. The Saturday evening dinner keynote speaker was Lawrence Dobranski, VA5LD, on "Securing the Digital Ham." It was an excellent, eye opening discussion.

We were fortunate enough to have multiple vendors attend. They included: Alfa Radio Limited, Radioworld Central and Icom Canada. We thank them all very much for their support of the hamfest and Amateur Radio in Saskatchewan. They all contributed significantly to the door prize pool with some very nice prizes.

We have had some difficulties with our repeaters over the last few months but are getting those resolved. The club operates five repeaters in the area that include two D-STAR, one IRLP/FM and two C4FM/FM repeaters. All repeaters are open for use by anyone. I think the busiest repeater by far in Saskatoon has become the 448.125 D-STAR repeater! We started with a user base of three Amateurs about three years ago and we are up to 18 D-STAR users in the city and we are growing monthly.

Our members participate regularly in several IRLP and D-STAR nets including: the Saskatchewan 2m Linked Net on weeknights; the "Say Good Morning with Radio Net" every morning; the Trans Canada net on Wednesdays; the Friday Night Net and the Canadian D-STAR Net on Fridays; the PAPA System Thursday Night D-STAR Round Table on Thursdays; and the Ohio Wide D-STAR net on Sundays. Some members participate in other nets on our repeaters from time to time. So if you are in the Saskatoon region, please feel free to get on the air and say "hello!"

As a club, we continue to meet at least once per month for a coffee (usually on a Tuesday night) and have ad hoc meetings when real business needs discussing. We've never really been much for schedules! Since the hamfest we have seen our membership grow as well and are thankful for that.

We hope 2016 will be a successful year for the club.

That's it for now! Good DX!

– Summer Hartzfeld, VE5SDH

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).
ECs: Ron Wlliscroft, VE4QE (Selkirk and District); Bill Boskwick, VE4BOZ (RM of Grey, RM of Dufferin & Town of Carman); Jason Coombe, VE4JYC, (Brokenhead ARES)

SEPTEMBER-OCTOBER SM REPORT:

The 2015 WARC Flea Market took place at our all-time favourite location, Heritage Victoria Community Centre, on October 18. The event was well attended and ran smoothly thanks to the event organizer Dick Maguire, VE4HK. This will be Dick's last year as Fleamarket Coordinator and I thank him for his hard work. This event is a great social event and one of the major sources of revenue for the club.

Basic Short Course
David Rosner, VE4DAR

Led by Chief Instructor Dan Rivera, VE4DPR and WARC's cadre of volunteer instructors, the 23 students of Basic Short Course 10 completed training at Shaftesbury High School on Saturday, October 24. Nineteen students wrote Industry Canada's exam proctored by Adam Romanchu, VE4SN. Four students deferred to a later date. Eleven students passed the Basic Certificate exam with two achieving Honours. We congratulate them and look forward to hearing them on the air soon. Following the exam, long-time ham Dave Place, VE4PN, gave a presentation on getting started in our hobby. Students benefited from his presentation, augmented by samples of various equipment and enhanced by stories of his service with ARES and overseas with the Canadian Red Cross.

Winnipeg ARES
Jeff Dovyak, VE4MBQ

Seventeen Winnipeg ARES members and affiliates provided volunteer Amateur Radio communications on Saturday, September for the Parkinson SuperWalk at the University of Manitoba's Fort Garry Campus. Thanks to Dick Maguire, VE4HK, for once again coordinating the ARES component. Our volunteers were: VA4s: VMM and RWT; and VE4s: DAR, MMG, CDM, VD, JAH, EIH, GKS, VID, KAZ, JFK, BOY, TSY, GWN, YYL and HK.

At our September General Meeting, Bartley Kives, from *The Winnipeg Free Press,* spoke about his experience with skin damage from excessive sun exposure (WFP online article July 25, 2015: "Don't soak up too much sun this summer"). Mr. Kives was a very relaxed presenter and participated in a wide ranging Q &A session at the end of his presentation.

Welcome to our newest member, Robert Poirier, VE4RCA.

Between May 11 and September 13 we ran 11 Severe Weather Nets ranging from 45 minutes to six hours duration during our CANWARN Program (in 2014 there were four Severe Weather Nets). There were 12 Test/Familiarization/Service sessions. We utilized VE4MAN owned by the Manitoba Repeater Society for 26 hours during Severe Weather Nets. VE4MAN is located on a site owned by CBC, MRS is supposed to keep track of how much time MAN is used for emergency communications.

Nineteen out of 25 CANWARN Net Controllers were able to volunteer for on-call shifts this year (12 hours/day for 17 weeks):

VA4s: AJG and MAC.

VE4s: AJO, JNF, WTZ, HK, SIG, WZ, DLA, HAZ, DXR, GWN, DWG, LDI, JS, GKS, STL, VD and MBQ.

Kent Haase, VE4KEH, is doing great as the custodian of the government-owned radio gear.

Speaking of doing great, Nicki Albus, VE4MMW and Hamish Donaldson, VE4JDH, did a great job as Fundraising Co-Chairs organizing the Winnipeg ARES Silent Auction at the WARC Fall Fleamarket. I'm not totally sure how they did it but they managed to put together 14 prize lots. Everyone who purchased tickets and/or donated items are also winners because they helped to finance our continued operation!

Donors included: Radioworld; Wild Birds Unlimited; Fort Garry Industries Limited; Canadian Super Shop; St John Ambulance; Nicki Albus, VE4MMW and Mom; Susan Collings, VE4SYM; Glen Napady, VE4GWN; Irving Cosgrove, VE4UG; and Ruth Mills, VE4XYL.

Thanks to Jim Sutton, VE4SIG, who demonstrated the tying of four knots for the members present at our October General Meeting.

Jim, VE4SIG and Dick, VE4HK, operated VE4WWO on Saturday, October 24 in support of the South-Central ARES Simulated Emergency Test.

Our meetings are held at Sir William Stephenson Library at 765 Keewatin Street on the third Tuesday of every month.

– Jan Schippers, VE4JS

Traffic Totals
September: 4
October: 0

ONTARIO NORTH:

SM: Allan (Al) Boyd, VE3AJB
ve3ajb@vianet.ca
STM: Patrick (Pat) Dopson, VE3HZQ
dopsonp@vianet.ca
SEC: Stiig Larsen VE3LBX
slarsen@vianet.ca
OBM: Paul Caccamo, VA3PC
va3pc@ciinet.org
Website: http://ontario.racares.ca

SEPTEMBER-OCTOBER SM REPORT:

– Allan Boyd, VE3AJB

ONN SEC Report

Albany District

DEC Dave Hayes, VE3JX, reports the annual Simulated Emergency Test is yet to be conducted in most of the District. The suggested dates were not convenient for most of the local groups.

The Algoma Amateur Radio Club in Sault Ste. Marie has successfully conducted a Basic course which produced seven new Amateurs. The course was conducted at the Great Lakes Honda building. Due to health issues, one other candidate will be tested later as he wants to upgrade to Honours for HF privileges. Earlier in the year, another successful course was conducted which yielded some successful Red Cross candidates.

Dave Campbell, VE3EGC, EC for Echo Bay & Laird Township, reports attending the Emergency Management Annual Training, Exercise and Review in Bruce Mines, on behalf of Laird Township on November 3. There were representatives from seven local townships.

Davis Sutherland VE3SUT, EC for Elliot Lake reports: We had seven cars on the road for the Halloween patrol and Grace was here at the house keeping track of what was going on. We had no incidents to report. Some areas had lots of kids and some had none, but all went well even in the rain.

Killarney District

Manitoulin Island and North Shore

On Sunday, September 20, the following ARES members of the club assisted with the annual Terry Fox Run which was held in Little Current: Allan Boyd, VE3AJB, Jim McLean, VE3LJM, Lorraine McLean, VE3LMJ (NTC), Jim Hastings, VA3AUC, Martin Connell, VA3MFC, Mike Maciuk, VE3UKI, Marshall Maciuk, VA3NOD, Gloria Counsell, VE3EOP, Ron Counsell, VE3NDI, Russell Auxier, VE3WVA, Brenda Playter, VA3TKH, Roger Lloyd, VA3REL, Patric Dopson, VE3HZQ, Suzanne Dopson-Pitman (observer), Ken Horsfall, VE3FJH, Mary Hastings (scribe). Tactical call signs were used throughout the exercise (FOX1, FOX2, etc) and everyone had a great time.

On Wednesday, September 23, several ARES members were invited to a Simulated Emergency Test which was hosted by the Municipality of Gordon/Barrie Island at their community centre. Members attending were: Al Boyd, VE3AJB, Jim McLean, VE3LJM, Kathy McDonald, VA3KKM, Tom Imrie, VE3TNI, Merv Gilchrist, VE3VFC, Carrie Lewis, VE3CLK, Martin Connell, VA3MFC, Rick Rusk, VA3RRN, Mike Addison, VA3GBY and Roger Lloyd, VA3REL. Communications was the main discussion of the evening with great input from the ARES group.

On Tuesday, October 6, Al Boyd, VE3AJB and Jim McLean, VE3LJM were invited to Baldwin Township on the North Shore by the local CEMC to give a presentation to the council on the advantages of using Amateur Radio in emergency situations.

On Wednesday, October 7, the following communities on Manitoulin Island participated in this year's Province-wide emergency communications test: Assiginack Township: Alton Hobbs (CAO) VA3AKL; Billings Township: Tom Imrie (CEMC), VA3TNI; Kathy McDonald (CAO), VA3KKM; Gordon/Barrie Island Township: Carrie Lewis (Clerk/Treasurer), VE3CLK; and Town of Gore Bay: Lorraine McLean, VE3LMJ.

Sudbury

Monthly EOC station tests were held and all equipment performed well. Training and planning resumed in October.

DECs reporting:
VA3s: PC
VE3s: FAL, JX, LJM
ECs reporting:
VA3s: AJV, SPT
VE3s: EGC, LJM, OTL, MXJ, SUT

ONTARIO – GREATER TORONTO AREA:

Acting SM: Rick Harrison, VA3NV
SEC: Rick Harrison, VA3NV

SEPTEMBER-OCTOBER SM REPORT:

GTA ARES groups continue to be busy with public service events. Special mention to the teams in GTA West who seem to participate in two or three events each month.

SEC Report

With the exception of the Provincial EOC team, GTA ARES groups did not take part in the Ontario SET on either October 7 or October 10, but in a Section-wide SET on November 7.

DEC Ontario Provincial EOC
Hal Buller, VA3HFB

The PEOC ARES station was active from 8:30 am to 3 pm during the SET on October 7. Radio contacts were made with 18 individual stations in GTA as well as the Red Cross Canada HQ and REOCs in London and Barrie.

Email contacts were made with the Brampton/Caledon Sector Coordinator (REOC not stood up) and with the Barrie REOC.

DEC GTA West
Kevin Andrews, VA3KRA

Kevin Andrews, VA3KRA, has volunteered to take on the role of District Emergency Coordinator for GTA West.

Durham Region

Efforts continue to focus on recruitment, training and securing a location to hold monthly meetings.

Halton Region

The Burlington ARES EC continues to attend the monthly Burlington ARC regular and Board of Directors meetings to present a report on ARES activities. The group, with assistance from the South Halton and Hamilton ARES teams, provided communications for the Eaton Downtown Dash 5K and 10K races on September 19. Thanks to Gary, VE3TTO, Shawn, VA3MFD, Bob, VA3RHH, Peter, VA3PRE, George, VE3OGP, Stan, VA3SBB, Derek, VE3DDL, Joan, VE3JNX, Bernie, VE3ZZT and Adele Davis (SWL) for their participation.

On Sunday, September 20, Burlington and Hamilton ARES teams assisted with communications for the Burlington Terry Fox Run with proceeds going to cancer research. Kevin, VA3KRA, Gary, VE3TTO, John, VA3BL, Shawn, VA3MFD, Stan, VA3SBB and Rob, VA3WHO, participated.

The September 30 meeting of the Halton Region Emergency Communications Team was attended by the Burlington EC who provided a report on the group's activities over the previous two months.

On October 11 assistance was provided to South Halton ARES and other radio groups in support of the Oakville Lion's Club Car Rally for the Visually Impaired. Burlington ARES members participated in two BARC nets, five Hamilton ARES nets and nine Halton regional nets during the past reporting period.

Burlington EC Kevin Andrews, VA3KRA, continued to provide NCS and OBS services to the Halton net when so scheduled.

Halton ARC ARES reports that their VHF (VE3OD) and UHF (VE3HR) repeaters were operational, both with 100% up time throughout this last reporting period. The VE3PKG packet/Winlink node was tested and is operational and BBS and other services are available. Testing of 9600 baud RF packet connectivity to VA3BAL, with BBS forwarding, is being conducted.

The September South Halton ARES meeting was well attended. Discussion centred on coming events and on the Simulated Emergency Test. A discussion and training session on packet radio took place as well. Work on the group's communications trailer continues. The 12 volt lighting system has been installed as have internal walls and ceiling. SHARES representatives attended the September meeting of the Halton Region Emergency Communications Team. On October 11 the group provided communications assistance for the Oakville Lion's Car Rally for the Visually Impaired.

Peel Region

Brampton/Caledon ARES assisted the Bolton Scouts during the Annual Jamboree on the Air on October 17. HF (40m) contact was made with Bowmanville, ON and IRLP contacts with Edmonton, AB, Maple Ridge, BC and Burks Falls, ON. VA3QSL, VE3BDI, VE3SHL and EC VA3RMU took part.

The group took part in both Peel ARC and OPN nets in October.

At both of their September and October meetings, the Mississauga ARES group discussed the planning for the SET, ARES training, callout tree planning and update, and portable radio kit checks.

The three portable radio kits have been checked and repairs made where necessary. Radios located in the Red Cross Ontario Zone office in Mississauga have been checked and are fully functional. A laptop computer was donated and is now being used for packet radio and other digital modes at Red Cross OZone. A successful callout tree exercise took part in October. A series of "cheat sheets" outlining functions on the radios used by Mississauga ARES is being developed. They will be deployed and tested during the GTA SET.

Toronto

At the September meeting of the Toronto Red Cross ARES group, 11 members met and worked on the plans for the SET including the download and setup of Outpost, RMS express, FLdigi and MBEMS. Members set up the software and started communicating locally to test and get proficient with the software and radio setup. The members then ran a final test of the software at their October meeting. The group hopes to have at least two mobile packets stations running during the SET acting as relay stations. Group membership continues to increase.

York Region

The York ARES EC and three AECs attended a day-long York Region EMO conference.

The conference included a number of presentations and a tabletop exercise.

Plans are being made to meet with York Region Police to help them deploy Amateur Radio in their mobile command centre. Contacts are being pursued with municipal CEMCs in the Region.

– Rick Harrison, VA3NV

Total number of registered ARES operators in Section: 216

DECs reporting:
VE3BGD, VA3KRA, VA3HFB

ECs reporting:
VA3RMU, VE3OGP, VA3RJS (AEC), VA3BXG, VA3TMB, VE3TMA, VE3OV, VE3VXY and VE3GRL.

OBS reporting:
September: VE3JUZ 8, VA3KRA 1
October: VE3JUZ 6, VA3KRA 1

ONTARIO EAST:

SM: Michael Hickey, VE3IPC
Email: ve3ipc@gmail.com
SEC: Michael Hickey, VE3IPC
STM: Vacant
OBM: Vacant
Website: http://ontario.racares.ca

SEPTEMBER-OCTOBER SM REPORT:

This Section did not have very much to report this time as 2015 comes to a close and 2016 begins. However, I am happy to report that EC Barrie Crampton of the Lanark North Leeds (LNL)-ARES group was presented with the Lanark County Award of Excellence on November 18 at the Lanark County Council Chambers in Perth, Ontario. Congratulations go to Barrie for all his community volunteer work over the past many years.

ARES / EmComm Groups

Submitted by EMRG/Ottawa ARES group AEC Mike, VE3FFK

The **EMRG/Ottawa ARES group** conducted their September 2 test of the repeaters under the direction of Dave, VE3KMV, which went well, with all repeaters checking out OK. Thanks to Jean VE2OCQ, Jeremy, VA3ZTF and AEC Mike VE3FFK. The digital systems were also working as they should, and extracts of the RAC Ontario sections weekly bulletins continue to be posted on the VE3OCE-1 packet bulletin board on 145.030. A thunderstorm passed through just after the end of the repeater test so timing was good.

Submitted by PR-ARES Group Coordinator Lance, VA3LP

The **Prescott-Russell (PR) ARES group** participated in October's Goblin Patrol throughout the Prescott-Russell County. This year the group had a new Net Control, Rick, VE3CVG, who very masterfully conducted the net from his home in Orleans. The following Amateurs were involved in patrolling: Jim, VA3KV in Rockland; Pierre, VE3SOF in Bourget; Chris, VA3NKE, foot mobile in Rockland; Ron, VA3RRZ and his faithful sidekick in L'Orignal and Vankleek Hill; Mike, VE3IPC in Alfred; Jeff, VA3ISP, in Clarence Creek; Michel, VE3VMB in Hawkesbury; and Lance, VA3LP in Rockland, Wendover and St Pascal. There were lots of young ones out enjoying the evening and no incidents were reported. It was a very active but quiet Halloween.

In addition, both ARES repeaters, VA3PRA on 145.470 - (110.9) and VE3PRV on 147.330 + (110.9) are working well. To conduct a new RPT test the group borrowed a Yaesu Fusion repeater from local hams Alain, VE3TLO and Michel, VA3MYL. The installation was done by Dean, VE3OFF and Jeff, VA3ISP, and as a result the VE3PRV is working gangbusters, greatly outperforming the original RPT which was a GE Master II. If you are travelling between Ottawa and Montreal, on Highway 17 or 417, you should be able to pick up both repeaters.

The group had four nets on Tuesday evenings in October. The net is now at 8 pm during Eastern Standard Time starting on the VE3PRV repeater.

Submitted by Peterborough ARES Group Coordinator Jim, VA3CC

The **Peterborough ARES** group and the **Peterborough ARC** provided radio communications for the 2015 Head of the Trent Weekend Regatta event that occurs every fall for Trent University. This event brings rowing clubs from universities from all over Ontario, Quebec and northern New York state for the competitions. The ARES group has provided their radio communications service to this event for the past 25 years.

We wish to thank the following Radio Amateurs for all their time and hard work and for being out in the cold: Terry, VE3MTT, Bob, VE3IEL, John, VE3VL, Shirley, VA3NSE, Mark, VE3LJQ, Larry, VE3LJK, Wayne, VE3WRL, Rick, VE3IQZ, John, VA3NW, Dave, VE3SD, Nina, VE3IRK, Devon, VE3DEV, Group Coordinator Jim, VA3CC; and a big thanks go to Barry, VE3BLM and Teresa, VE3TZM, for putting this all together for the last 25 years. We couldn't have done it without you.

Peterborough ARES conducted their regular radio station and antenna tests at the EMS and Fire services. Group members Rick, VE3IQZ and Jim, VA3CC, attended a meeting with Selwyn Township on October 13. The group is now working to get the new repeater up and running on the new 200-foot communications tower that the Township would like us on. This will take some time but the ball is rolling.

RAC FIELD ORGANIZATION REPORTS

National Traffic System (NTS) Net Reports

Net (Manager)	Sessions	QNI	QTC
September 2015:			
APSN (VA6IX)	30	0	0
Alberta ARES	8	0	0
Aurora (VE7GBO)	30	0	0
BCEN (VE7XLH)	30	236	29
BCYTN (VE7WJ)	30	495	18
MEPN (VE4JS)	30	534	1
MMWXN (VA4GD)	30	455	1
MRS (VE4HK)	8	257	0
MSMN (VE4AEW)	22	637	0
October 2015:			
APSN (VA6IX)	31	1236	23
Alberta ARES	31	475	0
Aurora (VE7GBO)	31	1979	0
BCEN (VE7XLH)	31	246	27
BCYTN (VE7WJ)	31	567	19
MEPN (VE4JS)	30	607	0
MMWXN (VA4GD)	30	425	0
MRS (VE4HK)	9	265	0
MSMN (VE4AEW)	22	594	0

Districts reporting:
Eastern Ontario
ECs (GCs) or assistants reporting:

VE3FFK, VA3LP, VA3CC, VE3VY, VE3YX and VE3IMP.

DECs reporting: VA3LP.

OBS reporting: VE3YX, VE3KII, VE3VY and VE3IQZ.

– 73, Michael Hickey, VE3IPC

NEWFOUNDLAND-LABRADOR:

SM: Boyd Snow, VO1DI

SEPTEMBER-OCTOBER SM REPORT:

I would like to thank RAC for the opportunity to serve the Amateurs of Newfoundland & Labrador as Section Manager. I was licensed in 1998 and have enjoyed all that Amateur Radio has to offer including the club scene and ARES. After a brief pause from radio due to other commitments, I returned to "active" status about a year and a half ago. Since then, I have been looking to become more involved than ever before so when the SM position became available, I gave it some thought and decided to offer myself for the position. Well, here I am, and this is my first report on the NL Section.

Fall is always a busy time of year. People are out and about preparing for the cold harsh months of winter, which will no doubt arrive. In the Amateur community the same holds true as Amateurs check their towers and antennas to ensure that they will, at least, withstand whatever old man winter decides to throw our way. Usually, by the end of October everything has been checked and repairs have been made or equipment replaced.

Club stations and repeater sites also require the same attention. Members of the Society of Newfoundland Radio Amateurs in the St. John's area have been working to correct some small issues with a couple of their repeaters in the area.

Members of the Apache Amateur Radio Club (St. John's), Baccalieu Amateur Radio Klub (Conception Bay North) and the Upper Trinity Amateur Radio Club (Trinity Bay South) are busy upgrading their repeaters to System Fusion machines, thanks to the generous offer from Yaesu through their DR-1X Installation Program.

The Baccalieu and Upper Trinity clubs have joined forces to link their four repeaters together via UHF to provide completed blanket coverage of the Conception Bay North and Trinity Bay South area. These four sites are also to be equipped with battery backup systems as well. Lester, VO1UG, has reported that the VO1RIR repeater is back on the air with new equipment after its 30+ year old TX/RX packed it in a while ago.

There it is, as I have it, for this time around. Hopefully, as I settle into the position I will become more familiar the all the happenings in this very large section. The most important thing to remember about our wonderful hobby is that it is meant to be enjoyed by all who participate in it. If there is a club or ARES group in your area, join in, or at least support their efforts. Please keep up the good work and keep the news coming.

– Boyd Snow, VO1DI

Traffic Totals
September
Cod Jigger Net: 341
Evening Traffic Net: 843
Caribou Net: 312

October
Cod Jigger Net: 322
Evening Traffic Net: 898
Caribou Net: 337

COMING EVENTS

THE HAMFEST AND FLEAMARKET CALENDAR

The following events are listed by date. Some dates and details are tentative. For more Hamfests and Fleamarkets please go to: http://rac.eton.ca/events/upcoming.php

BIG EVENT 38 FLEAMARKET AND HAMFEST
Sponsor: Niagara Peninsula Amateur Radio Club
Date: Saturday, February 6.
Time: Vendors 7 am: Public 9 am.
Place: St. Catharines, Ontario; Merriton Community Centre, 7 Park Avenue.
Description: Durham Radio, Radioworld, Maple Leaf Communications, CANWARN, ARES, QSL Bureau and RAC. Door Prizes. Hot Food. Sandwiches. Pop. Coffee.
Cost: Public: $7; Tables: $13 plus admission. All tables 6 feet long. Power only available at tables around the perimeter of the room.
Talkin: VE3NRS 147.240 MHz + Offset Tone 107.2 Hz.
Info: Contact John, VA3BOZ, at bigevent@nparc.on.ca for more information or Table Coordinator Kevin, VA3KGS, at vendors@nparc.on.ca to book tables. Payment options available by paypal or email transfer. Please make all cheques, or money orders, payable to NPARC. Inc. and send payments to: Table Coordinator NPARC, Kevin Smith, VA3KGS, Attention: Big Event Vendor Tables.
Web: http://www.nparc.on.ca/bigevent.php

BURNABY ARC ANNUAL SWAP MEET
Sponsor: Burnaby Amateur Radio Club
Date: Sunday, March 6.
Time: Doors open to the public at 10 am.
Place: New Westminster, BC; Queensborough Community Centre, 920 Ewan Avenue.
Cost: $6 per person and children under 12 are free. Tables cost $25 each and include one person. If you are sharing a table, please add $6. There are over 40 tables available on a first come, first served basis. We require the names and call signs of all vendors for our records. All tables must be prepaid. Pay pal will be available.
Info: Contact Lou Beaubien, VE7CGE, 604.291.1569 or loucge@telus.net.
Web: http://www.ve7bar.org for details.

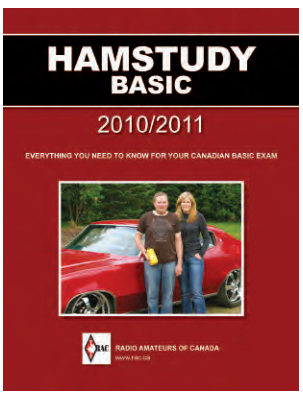
ANNUAL IROQUOIS FLEAMARKET
Sponsor: Iroquois Amateur Radio Club
Date: Saturday, April 2.
Time: Vendors 8 am; Public 9 am.
Place: Iroquois, Ontario; at the Civic Building (Fire Hall) 1 Dundas Street. Directions: Exit 738 from 401.
Cost: Public: free! Table rentals $10.
Talkin: VE3IRO 145.29(-)
Info: Table rental contact Mike at va3tufham@aol.com or Don at va3nc@rac.ca.

MONTREAL FLEAMARKET
MARCHÉ AUX PUCES DE MONTRÉAL
Saturday, April 9.
Royal Canadian Legion Branch #212 (LaSalle), 7771 Bouvier (Coin de Shevchenko/Corner of Shevchenko). Ville LaSalle, Quebec.
Autobus STM # 109 Arrêt au coin/stops at corner.
Ouverture/Opening: Vendeurs/Vendors 08h15 – 08:15 am; Public/Public 09h00 – 12h00/09:00 am - noon.
Prix de Presence – Door Prizes
Radio-Guidage/Talkin VE2BG 147.060 (+)
Frais D'Admission/General Admission 5$
Tables/Tables 10$ chacun/each 18$ pour deux/for two.
Renseignements/Reservations Information/Reservations
James R. Hay 514-990-1965
courriel/email:ve2arc@marc.ca
http://www.marc.qc.ca/fest/fest.html

WINNIPEG ARC SPRING FLEAMARKET
Sponsor: by Winnipeg Amateur Radio Club Inc.
Date: Sunday, April 17.
Time: Coffee, muffins and eyeball QSOs 9:30 am; Vendor Setup: 9:45-10:30 am; Public: 10:30 am; Prize Draws: 11:30 am.
Place: Winnipeg, MB; Heritage Victoria Community Centre, 950 Sturgeon Road.
Description: Best Springtime social event for both old and new hams, along with lots of "stuff" to buy.
Cost: Public $5; exact change preferred. Tables: $5 each for WARC members, $10 each for non-members.
Talkin: VE4WPG 147.390 MHz + offset 127.3 tone.
Info: Contact Ruth 204-837-6915 or ve4se.xyl@gmail.com to book a table. For general information contact Peter Toth, VE4TTH at ve4tth@gmail.com.
Web: http://winnipegarc.org/flea_market.html

Note: the deadlines for the upcoming issues of TCA are January 15 and March 15. Please send your submissions to tcamag@yahoo.ca

RAC OFFERS BOTH BASIC STUDY GUIDES

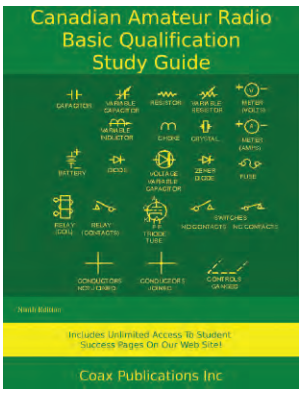


"This is the perfect reference for new Radio Amateur enthusiasts. It provides everything needed to qualify for the Basic Exam."

For more information please visit http://www.hamstudy.com/.

"The 9th edition has been completely revised to address changes in technology in the five years since the 8th edition was produced."

For more information see the ad on page 25.



NEW ENGLAND AMATEUR RADIO FESTIVAL (NEAR-FEST XIX)
Sponsor: New England Amateur Radio Festival, Inc.
Date: Friday, April 29.
Time: Gates open at 9 am Friday for sellers and buyers.
Place: Deerfield, NH, USA; at the Deerfield Fairground located on Route 43 approximately 15 miles NE of Manchester NH. GPS coordinates: N42d 5m 57.4" W71d 14m 33.5s (Lat 43.099286 Lon -71.242663).
Description: In addition to the hundreds of hams "tailgating" in the fleamarket there will be three huge buildings full of commercial vendors and dealers offering everything from the latest in radio equipment, books, accessories and who knows what else?
Cost: Public $10 per person 18 years of age and over. $10 per vehicle into the fleamarket. Camping fees are $30 a night. Tent sites are $15. All overnight fees are payable to the Deerfield Fair Association.
Talkin: K1JEK/RPT 146.700 MHz (-600 PL 88.5) 146.52 direct 3.885 MHz Tune your car radio to FM 95.1 or AM 650 for continuous hamfest news and entertainment.
Info: W1RC@near-fest.com
Web: http://www.near-fest.com/

MAPLE RIDGE SWAP MEET
Sponsor: Maple Ridge Amateur Radio Club
Date: Sunday, May 1.
Time: Vendors 7:30 am; Public 9 am. Open for pancake breakfast at 8 am.
Place: Pitt Meadows, BC; 12460 Harris Road, one Block South of the Lougheed Highway in the old REC Building.
Description: The largest Amateur Radio and computer Swapmeet in the Fraser Valley. Great prices lots of stuff. Concession will remain open during the event.
Cost: Public $5, includes chance to win a radio; Tables $20, includes 1 entry and a chance to win a radio.
Talkin: 146.800 -600 + Tone 156.7.
Info: Call Nick at 604-465-9476 or contact ve7te@mrarc.net.
Web: http://www.mrarc.net

2ND ANNUAL SIMCOE COUNTY HAMFEST
Sponsor: Barrie Amateur Radio Club
Date: Saturday, May 7.
Time: 7:30 to 11:30 am.
Place: Barrie, Ontario (south/west end); Grenfell Community Centre/Arena, 1989 Sunnidale Road.
Description: Indoor/outdoor Hamfest. Bring any or all of your surplus radio related items. Last year's event was a huge success. Over 27 vendors.
Cost: Public Free! Vendors/tailgators $7. Vendors set up inside or out. Bring a table for your set up. Rain or Shine. Coffee and snacks will be available.
Talkin: 147.000 + Tone 156.7.
Info: Mike, VE3MKX at mkx@bell.net
Web: http://www.barriearc.com

32ND ANNUAL SMITHS FALLS FLEAMARKET
Sponsor: Rideau Lakes Amateur Radio Club
Date: Saturday, May 14.
Time: Vendors: 7 am; Public: 9 am.
Place: Smiths Falls, Ontario; Smiths Falls Curling Club, 13 Old Sly's Road, Smiths Falls (same location as last year).
Description: Our 32nd annual fleamarket of Amateur Radio equipment includes a large number of commercial and private vendors, a canteen, a consignment table and an equipment testing table.
Cost: Vendors: Tables (appx 2.5 x 5 feet) $10 (admission not included). Public: $5 per person; youth under 16 admitted free of charge.
Talkin: VE3RLR on 147.21 MHz+.
Info: For information or reservations contact ve3rlr@gmail.com.
Web: http://ve3rlr.dyndns.org

8TH ANNUAL JUNK IN THE TRUNK HAMFEST
Sponsor: Ontario Swap Shop
Date: Saturday, August 27.
Time: 7:30 am until 12 noon.
Place: Newmarket, Ontario; Newmarket Theatre, 505 Pickering Crescent, in the beautiful large paved parking lot. Closest intersection is Leslie Street and Mulock Drive.
Description: A huge Amateur Radio garage sale and hamfest. Bring any or all of your surplus radio related items. Rain or shine. Over 45 vendors attended last year!
Cost: Public: Free! Vendors $5 per space per car; additional spaces $5. All money is donated to the Theatre group.
Talkin: 146.520 local repeater is 147.225.
Info: Nick, VE3NJG, nickve3njg@rogers.com; Mike, VE3MKX, mkx@bell.net.
Web: http://ontarioswapshop.com

OTTAWA (CARP) 18TH ANNUAL HAMFEST
Sponsor: Ottawa Amateur Radio Club, Inc.
Date: Saturday, September 10.
Time: Commercial Vendor setup: 7:30 am; Private Vendor setup: 8 am; Public: 9 am to noon.
Place: Ottawa (Carp), ON; Carp Agricultural Fairgrounds (in the W. Erskine Johnston Arena at the north end of the fairgrounds), 3832 Carp Road.
Description: The region's largest fleamarket and hamfest. All of the big Amateur Radio retailers are going to be there! Major doorprize draws! Breakfast, coffee, and lunch concession. Volunteer organizations and displays. Onsite Amateur Radio licence exams. Get your licence, or upgrade during the hamfest!
Note: if you are upgrading, bring the 11-digit certificate number on your licence to speed processing.
Cost: Public $6; Tables $14/table (plus admission). Please book tables early to reserve your preferred table location.
Talkin: VE2CRA, 146.94-, 100 Hz.
Info: Ed, VE3WGO at fleamarket@oarc.net
Web: http://www.oarc.net/fleamarket

http://www.cafepress.ca/rac_radio

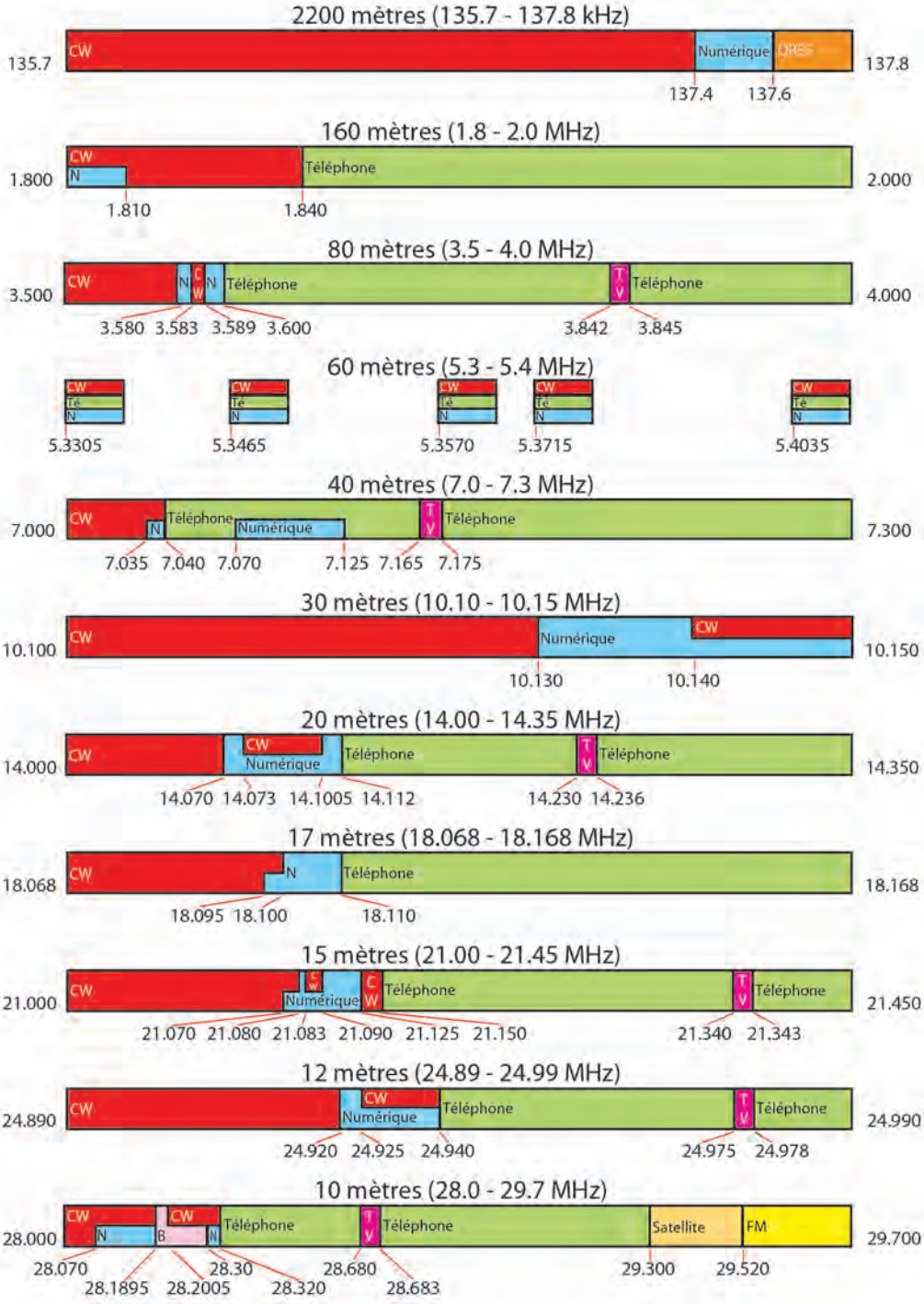
Plan de bandes canadien

0 - 30 MHz

En vigueur le 1er décembre, 2015

1. Voici une version simplifiée du plan officiel des bandes de RAC.
Tous les modes et activités n'y sont inscrits.
2. La bande latérale inférieure (BLI/LSB) est utilisée sur les bandes de160, 80 et 40m.
La bande latérale supérieure (BLS/USB) est utilisée sur toutes les autres bandes pour qui la bande latérale unique (BLU/SSB) est permise, incluant le 60 m.
3. Consultez les diverses ressources en ligne pour des informations détaillées sur les modes numériques utilisés.
4. La largeur de bande maximum permise sur le 2200m est 100 Hz. La puissance maximum est 1 watt EIRP.
5. Se référer aux sites web de IC et RAC pour connaître tous les détails avant d'opérer sur les nouveaux canaux du 60m.
6. Se rappeler de ne pas laisser déborder votre signal sur les bandes adjacentes quand vous opérez près des bords. Durant les principaux concours de fin de semaine, les activités dans certains modes on tendance à déborder sur des segments de la bande adjacente. Les opérateurs doivent éviter de nuire aux balises NCDXF sur 14.100, 18.110, 21.150, 24.930 et 28.200 MHz.
7. Ce graphique est un document en évolution et sera révisé et mis à niveau périodiquement pour tenir compte des changements des plans de bandes et des habitudes d'opération.

www.rac.ca



Références

CW	CW	FM	FM	TV	SSTV
QR	CW QRSS	B	Balises	N	Numérique
Té	Téléphone	S	Satellite		

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Maestro is an intuitive, plug-and-play control console that directs operation of any FLEX-6000 Signature Series transceiver without the need for a traditional PC. Connect Maestro directly or through your local area network (LAN) to any FLEX-6300, FLEX-6500 or FLEX-6700 transceiver and you are ready to operate.

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