

MARCH & APRIL 2020  
MARS & AVRIL

**Editor / Rédacteur en chef**  
Alan Griffin  
Email: [tcamag@yahoo.ca](mailto:tcamag@yahoo.ca)

**Advisors / Conseillers**  
Dave Green, VE3TLY  
Norm Rashleigh, VE3LC  
Mike Kelly, VE3FFK  
Richard Ferch, VE3KI  
Bill Karle, VE1YY  
Ken Grant, VE3FIT

**Translation / Traduction**  
Claude Lalonde, VE2LCF  
Jean Desbiens, VE2OCQ  
Ante Laurijssen, VA2BBW  
Alan Bulley, VA2UK

**Technical Diagrams / Schémas technique**  
Stan Smith, VE3DDX

The Canadian Amateur is published by Radio Amateurs of Canada Inc. / The Canadian Amateur est publié par la société Radio Amateurs du Canada Inc.

Indexed in the Canadian Periodical Index / Enregistré à l'Index des publications canadiennes : ISSN 0834-3977

Publications Mail Agreement / Accord de publications diffusées #40028682. Registration / matricule #09866

The Canadian Amateur  
720 Belfast Road,  
Suite / Bureau 217  
Ottawa, ON, Canada  
K1G 0Z5  
613-244-4367;  
1-877-273-8304  
[tcamag@yahoo.ca](mailto:tcamag@yahoo.ca)  
<https://www.rac.ca/>

Printed in Canada by St. Joseph Communications  
Ottawa, ON, Canada  
Imprimé au Canada sur les presses de St. Joseph Communications  
Ottawa, ON, Canada

Return Undeliverable Canadian Addresses to Circulation Department:  
217-720 Belfast Road  
Ottawa, ON K1G 0Z5

For RAC Membership Inquiries and Change of Address please contact RAC HQ at: [rachq@rac.ca](mailto:rachq@rac.ca)



*"Let me start, however, with a quick summary of the challenges we faced and what was accomplished. Recent advances in technology have made it possible for the practical use of sections of the radio spectrum which until recently were of little interest to users other than Radio Amateurs. This, of course, applies principally to a broad swath of the upper UHF and microwave ranges."*

– see page 28 for the rest of the story

*"The first international meeting to try to address this concern was held in 1903 and these meetings have continued in one form or another ever since. For a long time these conferences were organized for individual radio services – usually broadcasting – and were specific to certain regions of the world. However, international gatherings in which all users of the radio spectrum are participants date back to at least 1927."*

– see page 30 for the complete story

### 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](mailto:tcamag@yahoo.ca).

The deadlines for the next three issues of TCA are March 15, May 15 and July 15.

## NATIONAL & INTERNATIONAL

RAC Management Team .....	4
RAC President's Message, Glenn MacDonell, VE3XRA .....	5
Un message du président, Glenn MacDonell, VE3XRA .....	5
RAC Amateur of the Year Award 2019: Cary Rubinfeld, VE4EA .....	8
RAC Welcomes new WRC Special Advisor: Paul Cloverdale, VE3ICV ...	8
Donations in Support of Amateur Radio.....	16
Former RAC Ontario North Director Doug Leach, VE3XK SK .....	17
World Radiocommunication Conference 2019: We Showed Up! Bryan Rawlings, VE3QN.....	28
The International Regulation of Radio and the Amateur Radio Service, Bryan Rawlings, VE3QN.....	30

Defence of Amateur Radio Fund (DARF) 2019 Annual Report, Serge Bertuzzo, VA3SB.....	34
Message from the RAC Community Services Officer.....	58
Section Manager Election Notice .....	see previous TCA

## TECHNICAL

QUA – A Topical Digest, Allen Wootton, VY1KX.....	11
120 Volt AC Wiring: What You Must Know & Should Know, Ken Grant, VE3FIT .....	15
Amateur Radio Satellites, Keith Baker, VA3KSF .....	18
A Microphone Audio Test Source For Your Ham Shack, Don Dorward, VA3DDN .....	20
Radio Magic: Magic, Myth and Marconi (Part 2) Robert C. Mazur, VA3ROM.....	24
Do you have Transmission Line Trouble?, Erik Skovgaard, VA7QI .....	35

## DEPARTMENTS

TCA Advertising Index.....	2
Silent Keys.....	3
RAC QSL Bureau System .....	3
Feedback: Our Readers Write .....	14
Defence of Amateur Radio Fund .....	16, 34, 44
RAC Membership   Adhésion de RAC.....	48-49
Coming Events .....	63

## OPERATING

Six Metres and Down, Dana Shtun, VE3DS.....	9
“My friend Alan McKnight, VE7TRM: the fellow Ham in my life...”, John Noakes, VE7NI .....	14
World Radiocommunication Conference 2019: We Showed Up! Bryan Rawlings, VE3QN .....	28
The International Regulation of Radio and the Amateur Radio Service, Bryan Rawlings, VE3QN .....	30
Canadian National Parks on the Air: Final Update, Sheldon Hartling, VE1GPY.....	39
Fresh On The Air – Adventures for the New and Beginning Ham, Phil Boucher, VE3BOC.....	40
“Passing the Test is the Beginning of the Amateur Adventure...”, Hugh McCully, VE3AYR, Mark Richardson, VA3OBO, Rod Clifton, VE3ISO and Mike McArdle, VA3KAH.....	41
Public Service / Amateur Radio Emergency Service (ARES) .....	43
Northwestern Ontario ARES Participates in “Exercise Ice Storm”, Warren Paulson, VE3FYN.....	43
Requirements for Amateur Radio Interoperability, Michael Hickey, VE3IPC.....	45
Our Amateur Profile: Ron and Cathy McFadyen move East.....	47
Random Thoughts..., Dirk Moraal, VY1NM .....	50
The Sports Page – The Canadian Contest Scene, Tom Haavisto, VE3CX .....	51
“QRP in a Time of a Solar Minimum”, Peter West, VE3HG.....	51
90th Anniversary of the Polish Amateur Radio Union .....	52
International Lighthouse Lightship Weekend 2020, George Dewar, VY2GF .....	55
Section News – The RAC Field Organization Forum .....	57
RAC Field Organization Reports / National Traffic System Net Reports.....	62
Coming Events: The Hamfest and Fleamarket Calendar .....	63

### PLEASE SUPPORT OUR ADVERTISERS

<i>Coax Publications Inc.</i> .....	31
<i>Degen Designs</i> .....	23
<i>Hammond Manufacturing / Peter W. Dahl Co.</i> .....	31
<i>Hamstudy.com</i> .....	50
<i>H.C. MacFarlane Electronics Ltd.</i> .....	64
<i>Maple Leaf Communications</i> .....	63
<i>Quarter Century Wireless Association</i> .....	37
<i>Radio Amateurs of Canada</i> .....	<i>inside back cover</i>
<i>Radioworld</i> .....	<i>16, outside back cover</i>
<i>Radio Society of Great Britain</i> .....	38
<i>The Personal Home &amp; Auto Group Insurance</i> .....	<i>inside front cover</i>
<i>Yaesu</i> .....	33

*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/tca/>

The contents of this publication are copyright, and may not be reproduced without prior consent except by a bona fide Amateur Radio organization which may reproduce them provided the author and *The Canadian Amateur* are acknowledged.

The Advertising Department of *The Canadian Amateur*, on behalf of the magazine, wholly disclaims any responsibility for the content of any advertisement contained herein and makes no representations on behalf of *The Canadian Amateur* as to the truth of any statement contained in any such advertising.

Radio Amateurs of Canada Inc., and the publisher and editor of *The Canadian Amateur*, hereby disclaim any responsibility for any statement of opinion or other statement that may be contained in any article published by *The Canadian Amateur* and any such statement of opinion or other statement contained in such article is solely the opinion of the author of the article and not that of Radio Amateurs of Canada Inc., or the publisher or editors of the magazine, unless it is specifically stated to be the case therein.

*The Canadian Amateur* is published by Radio Amateurs of Canada Inc., 720 Belfast Road, Suite 217, Ottawa, ON K1G 0Z5

Indexed in the Canadian Periodical Index:  
ISSN 0834-3977.

Publications Mail Agreement No. 40028682.

Registration No. 09866.

*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/tca/>

Le contenu de la présente publication est protégé par copyright, tous droits réservés et ne peut être reproduit sans autorisation préalable dont est toutefois dispensé tout groupement reconnu de radioAmateurs sous réserve que ladite reproduction paraisse avec les mentions du nom de l'auteur et soit identifiée extraite de *The Canadian Amateur*. Le service publicité de *The Canadian Amateur*, agissant au nom de la revue, décline toute responsabilité quant au contenu des annonces publicitaires publiées et ne se porte en aucune façon garant de la véracité des propositions contenues dans lesdites annonces.

La compagnie Radio Amateurs du Canada Inc. ainsi que l'Éditeur et le Rédacteur en chef de *The Canadian Amateur* déclinent par les présentes toute responsabilité quant aux opinions exprimées ou autres déclarations pouvant apparaître dans tout article publié par *The Canadian Amateur* et déclarent en outre que toute expression d'opinion ou déclaration figurant dans un tel article représentent uniquement l'opinion de l'auteur dudit article et non l'opinion de la société Radio Amateurs du Canada Inc., ou celle de l'Éditeur ou du Rédacteur en Chef de la revue à moins qu'il soit spécifié que ce soit le cas en l'occurrence.

*The Canadian Amateur* est publié par la société Radio Amateurs du Canada Inc., 720 rue Belfast, Bureau 217, Ottawa, ON K1G 0Z5.

Enregistré à l'Index des publications canadiennes sous le numéro ISSN 0834-3977.

Accord de publications diffusées par courrier : 40028682.

Numéro de matricule 09866.