

marc0gram



Official Publication of The Montreal Amateur Radio Club Inc. Box 53047 - RPO Dorval, Dorval Quebec H9S 5W4

A MARC Monthly Newsletter

Volume 51, Number 8 May 2006

Meeting - Wednesday 31 May 2006

Ragchew and Fleamarket: 19:30 Club meeting: 20:00

St. Ignatius of Loyola Parish Church

4455 West Broadway (corner of Terrebonne) in N.D.G. - Montreal

(Please enter by the back door)



We need your help !!!

A Word from The President

Hello,

Well, its spring and as I write this its raining so I guess all is well with the world. With summer coming on we tend to think more of outdoor activities such as the Cyclo-Tour, Harmony Horse Trails, Canada Day, the Jay Challenge and others but other things are happening too. The situation for VE2BG is settled and we are still worknig on VE2RED.

The club's 75th. anniversary is coming up in 2007 and we are looking for ways to celebrate the occasion. There have been a number of suggestions within the board but we would like to hear your suggestions and also get an idea of what you, the members, are willing to help out with. The club is the members and without membership support and participation things don't happen. Remember the directors can't do everything.

On a more personal I have learned that Roman Massanova, VE2RKM, has had surgery again which was successful however he is now facing a long period of recuperation. If you would like to send him a card in care of the club at the post box we will make sure that he gets it. No matter what is your age long stays at home aren't fun but when one is young it has to be particularly wearing.

This month is our annual Show-and-Tell so bring those goodies and projects you want to show off. John Grow, VE2EQL, will also be explaining the

D-Star system from Icom as we are considering an offer from them to put up a 1.2 GHz repeater. This is a good opportunity for the club to break some new ground so for those who want to innovate come on out and see what its about.

73 de Jim.

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Club Call Sign: VE2ARC

Club Website: <http://www.marc.qc.ca>

Repeaters

VE2BG 147.06 MHz (+)

Owned and operated by Montreal Amateur radio Club. Located on the Point Claire water tower.

VE2RED 147.27 MHz (+)

Owned and operated by the Montreal Amateur radio Club.

VE2RJS 449.975 MHz (-)

Owned by the Montreal Amateur Radio Club and operated by the Cote St. Luc Amateur radio Association.

Meetings of the Board of Directors

Meetings of the Board of Directors are open to any member to attend. Board meetings are held on the first Wednesday of the month (Sept. to June) at 7:30 PM at the Montreal Association for the Blind, 7000 Sherbrooke St. West.

Should you wish to attend one of the meetings you are welcome. Just speak to one of the directors before-hand to make certain that the meeting has neither been cancelled, nor the location changed.

The MarcOgram is published nine tomes per year on the second to last Wednesday of September through June, excepting December, by the Montreal Amateur radio Club. Advertising and copy deadline is one week prior to publication.

Editor

Ron Campbell, VA2RJC va2rjc@rac.ca

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Annual Fees are:

General Members...	...
\$23.00	
Associate Members	...
\$23.00	
White cane members	...
\$10.00	
Family members (per family)	..
\$30.00	

The membership year runs from September 1 to August 31. Membership received on or after June 1 commences immediately and extends through the subsequent membership year - covering a period of up to fifteen months.

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James R. Hay, President

A Call for Hams

St. Lazar Cyclo-Tour

The St. Lazare Cyclo-Tour is held on Sunday, May 28, 2006. I'm sure Ken Magee, VE2EXC will be happy to hear from any of you who are willing to offer a few hours of your time. This is an excellent opportunity for Hams to provide service to a community. The MARC portable repeater on 147.015 (+) and simplex 146.580 will be in use. Contact Ken Magee, ve2exc@rac.ca for additional information.

The Jay Challenge

The Jay Challenge held in the beautiful mountains of northern Vermont is a three day event from Friday July 28th to Sunday July 30th 2006. This will be the third year that the M.A.R.C., along with members of other Clubs, cover this event.

I urge anyone interested in this event to visit the event website at WWW.Jaychallenge.com or for additional info and to volunteer please contact: Ray VA2RY at va2ry@rac.ca

From the Editor's Desk

Whew!! a tough flight



If you haven't seen me around recently it's because I've been following my doctors orders and taking life easy and relaxing. What better way than laying around on a beach and attempting to do Su Doku puzzles. I bought the "Su

Doku for Dummies" book and I'm still at the easy stage.

Though in my relax mode, I did actually visit a "Hurricane Preparedness"

Year	Forecast	Actual	Error
2000	11	14	+3
2001	9	15	+6
2002	13	12	-1
2003	12	14	+2
2004	13	14	+1
2005	11	27	+16

exhibition. Obviously this is a hot topic along the coastal areas of Florida. The local TV Station gave an interesting presentation on statistics of the past hurricane season's and also informed viewers of their service in advising the local population regarding hurricane warnings and preparedness. Of course there were many business representatives showing their various types of building materials, shutters etc. There was an influx of LED Torches (flashlights) and battery/self powered broadcast hazard alert radios and several brands of portable generators. There was also a few volunteer organizations represented. What sur-



prised me was that there was not one commercial or volunteer telecommunications organization present. When I mentioned the subject there was little response, the only people that seemed to understand the necessity of communications was the American Red Cross. The representative I talked with, confirmed that radio amateurs play a big part in assisting them during disaster

periods.

I would have thought that this would have been a good opportunity for local radio amateur groups to show off their capabilities and willingness to give aid. Perhaps on reflection, this was a commercial event and the cost of exhibiting was high, who knows.

On a different subject:

In the May/June TCA, it was reported that the RAC has established an advisory committee to study the disturbing trend of diminishing number of active radio amateurs in Canada. This trend is not unique to Canada but pretty much worldwide.

We know that the major influx of radio amateurs occurred after the 2nd world war where thousands of military personnel were trained in the skills of radio operation for various purposes. Nothing since has produced so many highly skilled people. As these service people moved back into civilian life many became intrigued with amateur radio and became active members so as to continue the use of their newly gained skills.

The TCA article asked the question; is Amateur Radio dying? the response, no - its changing. Yes indeed, not only is amateur radio changing but the whole technical environment has changed.

In my April 2006 presentation I showed how the environment in which most of us evolved bears no relationship to that of the young people today. With their access to computers and the internet and all the associated electronic gadgets, it creates a different thinking and active person. If we are determined to encourage young people into the realm of Amateur Radio, then we will need to start thinking and planning for their level.

I note that Australia and the U.K. have made definite regulatory changes for entry into radio amateur activities and they are meeting with some success. I'm not saying that we should copy

their procedures but we should certainly be taking note of their results. I wish the RAC Midwest Director, Bj. Madsen, VE5FX and his committee success in this most important venture. The future of our most worthwhile and enjoyable hobby may be in their hands.

*That's it for this month, your Ed...
rjcam the video-ham.
VA2RJC*

Club Activities - Monthly Meetings

Club meetings are held on the last Wednesday of the month. The meetings will be held in the Lounge which is the rearmost door on the South side of the unless we have reason to hold it in the Parish Hall which is the first door on the South side of the building. An informal flea-market and ragchew session starts at 19:30 with the formal meeting starting at 20:00. STM buses 51, 162, and 105 stop nearby.

31 May 2006

Annual Show and Tell Meeting plus, a presentation of D-Star by John Grow, VE2EQL

D-STAR INFO

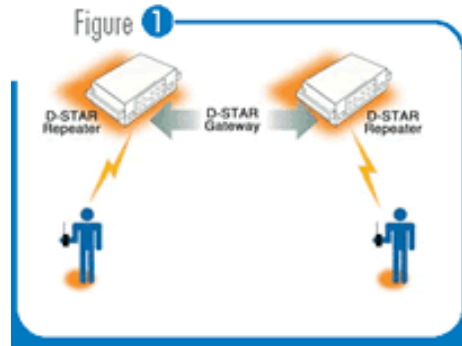
The History

D-STAR, a standard published in 2001, is the result of three years of research funded by the Japanese government and administered by the JARL to investigate digital technologies for amateur radio. The research involved Japanese radio manufacturers and other observers. Icom provided the equipment used for development and testing. D-STAR radios and repeaters have been tested extensively and are now ready for public use.

An Overview

D-STAR is an open protocol – although it is published by JARL, it is available to be implemented by any-

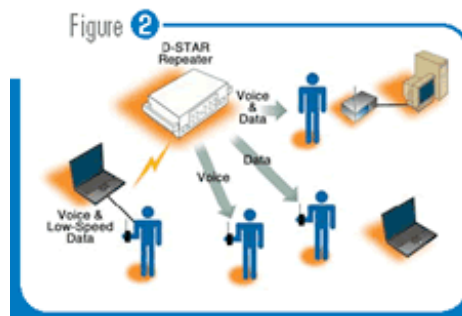
one. While Icom is the only company to date that manufactures D-STAR-compatible radios, any equipment or software that supports the D-STAR protocol will work with a D-STAR system. D-STAR systems can be built using both commercial and homebrew



equipment and software.

In a D-STAR system, the air link portion of the protocol applies to signals travelling between radios or between a radio and a repeater. D-STAR radios can talk directly to each other without any intermediate equipment or through a repeater using D-STAR voice or data transceivers. The gateway portion of the protocol applies to the digital interface between D-STAR repeaters (see figure 1). D-STAR also specifies how a voice signal is converted to and from streams of digital data, a function called a codec. The D-STAR codec is known as AMBE® (Advanced Multi-Band Excitation) and the voice signal is transmitted in the D-STAR system at 3600 bits/second (3.6 kbps).

D-Star Digital Voice (DV) and Digi-



tal Data

The D-STAR system supports two types of digital data streams. The Digital Voice (DV) stream used on 144 and 440 MHz contains both digitized voice

(3600 bps including error correction) and digital data (1200 bps). Using a DV radio is like having both a packet link and FM voice operating simultaneously. The Digital Data (DD) stream, used only on 1.2 GHz, is entirely data with a bit rate of 128k bps. The data connection to a radio that uses DV is via an RS-232 interface or USB 1.0. An Ethernet connection is used for high-speed DD D-STAR data. Ordinary terminal emulation software (DV) or a Web browser (DD) will do just fine for exchanging data (see figure 2).

Other Activities

May is the end of the winter/spring period for MARC meetings. The board of directors are now working on activities for the fall meetings which commence on Wednesday, September 26, 2006.

2006 Hamfests

Saturday, May 27

Amherstburg Radio Club 2005 Flea-market - Amherstburg, Ontario. Location: Kinsmen Scout Hall on the corner of Victoria and Simcoe Streets. Vendors 07:30 and the Public 09:00. Tables 5.00\$ General admission Free. Talk-in: 145.290 (-) VE3EXT and 146.520 simplex Information and Reservations: Carey Collard, VE3CFQ at 519-736-7694 e-mail ve3cfq@hotmail.com

Saturday, June 10

Central Ontario Fleamarket and Hamfest. - Fergus, Ontario. Location: Fergus & District Community Centre, 10 km north of Guelph off Highway 6. See www.hamfest.on.ca for a map. Vendors at 06:00, Tailgaters at 07:00 and the Public at 08:00 to 12:30. Admission \$6.00 -- Vendors - \$12.00 plus admission -- Tailgaters \$7.00 plus admission. Talk-in: 145.210 (-) VE3ZMG, switch to 146.520 simplex in the Fergus.

E-mail: info@hamfest.on.ca
 Web page: <http://www.hamfest.on.ca>

Saturday, July 8

Ontario Hamfest 2006 - Milton Ontario. Location: Milton Agricultural Fairgrounds, Milton ON. Times Inside Vendors: 07h00 - Robert Street Gate only. Tailgaters: 08h00 - Robert Street gate only - General Admission: 09h00 - Thomas St gate only. General Admission - 6.00\$ Inside Vendors - 10.00\$ per table plus

6.00\$ per person Tailgaters - 5.00\$ tailgate permit (per space) + 6.00\$ per person. Talk-in: 146.520 Simplex. E-mail: Registration: ve3czi@rac.ca or Norm Freidin at (905)-335-8962 - Information: Chuck Wilson, VE3IUO E-mail: ve3iuo@rac.ca phone (905) 667-8534 Web Page: <http://home.cogeco.ca/~barc>

Saturday, September 2

Ottawa Amateur Radio Club 10th Annual Hamfest. - Carp, Ontario. Location: Carp Agricultural Fair Grounds, 3970 Carp Rd (at Falldown Lane), Carp, ON. Vendors - 08:00 Tailgaters - 08:00 General Public - 10:00 to 13:00. Forum T.B.A. - 13:00 General Admission 5.00\$ Tables 10.00\$ plus admission Tailgaters 5.00\$ plus admission. Talk-in: VE2CRA 146.940 (-) Greg Danylchenko, VE3YTYZ at (613) 236-9291 (H) E-mail: fleamarket@oarc.net Web Page: <http://oarc.net/fleamarket>

Saturday, September 16

West Island Auction - Dollard des Ormeaux (Montreal), Quebec, Location: Karnak Shiners Hall, 3350 Boulevard des Sources, Dollard des Ormeaux, QC. Vendors - T.B.A - General Public T.B.A. - Auction General admission T.B.A. - Tables T.B.A. Talk-in: VE2RWI 146.910 (-). Information: e-mail to ve2cwi@rac.ca Web page: <http://shell.pubnix.net/~wiarc>

Saturday, October 28

Hamfest de la Rive Sud de Montreal. 1023 boulevard Taschereau, Longueuil, Quebec. **Admission:** Table \$10.00 Public \$5.00 **Vendors:** 06::h, Public at 09:00h. **Talkin:** 145.390 **Information:** hamfest@ve2clm.ca, **Website:** <http://www.ve2clm.ca/hamfest.htm>

Submissions for entry into marcOgram

For submissions of text only it is preferable that you send as a ".txt" file, however, MS Word is acceptable.

For pictures please use "jpg" format with maximum size 400 x 240. Where possible use at least 240 dpi.

For clip art if possible use "gif". Maximum size 480 x 340 pix. This will give a picture size of approximately 8 Kb.

Contact me at:

va2rjc@rac.ca va2rjc@marc.ca
 Home Tel: 514-767-2804

2006 MARC Fleamarket & Hamfest

Saturday April 22 was the 2006 edition of the Montreal Spring Fleamarket and Hamfest. Many thanks to all of those came out to support the club and to the vendors who came. The crowd was a little smaller than normal but some of that can be attributed to the weather.

Many thanks to those who volunteered to help me and James to make the event a success. Many thanks to Joe Glover, Pierre Provencal (VE2PPF), Robert Paknys (VE2JBP), John Grow (VE2EQL), Roman Massanova (VE2RKM), Paul MacDougal (VA2YQ), Howard Ikeda and Sheldon Werner (VA2SH). Also many thanks to Laurie Binns and her staff at the RCL Branch 212 for their fine

work in helping this become a successful event.

A special thanks to Sheldon Harvey, VE2SHW of Radio HF for providing the main door prize which was the 2006 edition of the ARRL Handbook for Radio Communications and the ARRL Antenna Handbook which was won by Alex Vegh, VE2VEH. Also many thanks to Radio Amateurs du Quebec and Radio Amateurs of Canada for also providing other prizes.

Please bookmark <http://www.marc.qc.ca/fest/fest.html> for more information on next year's fleamarket.

Vernon Ikeda, VE2MBS

A New Ham

We have been advised that Nicholas Kalantzis has been issued the callsign, VE2WPT. Nicholas passed the exam last Saturday at the club fleamarket/hamfest. He started the basic course last year but due to work commitments was unable to finish at the time.

Welcome aboard Nick!

75 Year Anniversary of the Montreal Amateur Radio Club 1932-2007

by John Grow, VE2EQL

There are many who are not aware that the Montreal Amateur Radio Club will be celebrating its 75-year Anniversary in 2007. This marks a milestone for communications technology and the Montreal Amateur Radio Club itself. Who would have imagined our beginnings from spark gap transmitters and to the world of cell-phones, WiFi, and space communications. Or the continuation of a handful of committed persons, who paved the way, and organized the Montreal Amateur Radio Club into the club that we know and hopefully, "Support today." The next question that I have to ask is, will we have a 100th Anniversary in 2032. No doubt our founding members of the

MARC did not think about the 10, 25 or even 50th Anniversary, or it planned celebration. And why not? Simple mathematics, the number of hams, and people involved were far greater than it is today. They were involved, building radio projects, operating, helping new members, and having fun. They just did it. We have heard of every reason in the book, as to why our ham population is being reduced. Then there is the pressure from work and family, and every other known reason or excuse. It is said that people don't care, and don't belong, and don't get involved, or are afraid of doing something wrong, or to get blamed. Times have changed, and our environment has also changed. Whatever reason, and its not to say that family and work are not priorities, and no one is being judgmental, or to cast blame. BUT WE

NEED YOUR HELP, AND YOUR INPUT.

At the next meeting, we will open the floor for ideas:

- How to promote Amateur Radio.
- How to promote the Montreal Amateur Radio Club within the community and other clubs.
- How to promote our Communication Expertise as professional communicators.

At the last Board of Directors meeting, the following was discussed. We will also discuss these topics:

- 75th Anniversary Logo Design Contest, which will be used on correspondence, QSL cards, etc.
- 75th Anniversary Dinner
- 75th Special Event Station, with some possible display material.

As with any organization, it is a team effort, where all the members have input. We are asking for everybody to get involved in some way to help out. With that, I would also like to remind everybody that attending our next meeting, May 31st. would be a good start.

Radio Amateur Equipment For Sale

For Sale:

KENWOOD TS50S TRANSCEIVER, with power cable, quick release mount, manuals, box. Never mobile, fully working. Original owner. \$ 475.00
 SANGEAN SHORTWAVE PORTABLE RECEIVER AT808, has FM. Bought New, with manual. Excellent condition \$ 70.00 I have used this with a outboard TECTEC BFO to receive SSB and CW signals. Great portable.
 Kenwood TM-741A Dual Band Radio with microphone, mobile bracket. fully working, very clean. Has cross band capacity. Covers 2 M/ 440 Mhz. Can accept 3rd band module for 220 or 6 meters. \$ 400.00
 DAIWA 2 meter amplifier, 0.5 - 10 watts input provides 30 watts output. Has GAS-FET Pre-amp. \$ 45.00
 DRAKE SPEAKER MS-4 \$55.00 (has a few scratches on cabinet. Front is nice, clean, no marks)

B&W Scope, model: 1405, perfect for beginner, student or builder. \$ 50.00
 ASTATIC D104 Amplified Desk Microphone. Has black base. \$ 45.00
 RAMSEY HR40 Receiver with Case, manual, selling for ham who did not finish kit \$ 25.00 (he wants to sell as a set)
 RAMSEY HT40 Transmitter with Case, manual, selling for ham who did not finish kit \$ 25.00
 (Will sell set for \$ 40.00 dollars)
 YAESU FC 901 500 Watt Tuner, like new with manual \$ 200.00
 JPS COMMUNICATIONS NIR-10, Noise / Interference Reduction Unit. With box, manual. \$ 100.00
 ICOM MOBILE MOUNTING BRACKET, IC-MB-12, never used. For R7000, R71A, R8500 series of radios. \$ 25.00
 UNBUILT KITS FOR SALE (never opened)
 Light Activated Circuit kit \$ 5.00
 Lie Detector, Rainbow kits \$ 10.00
 Velleman Mini Kit "Led Sound to light kit" \$ 8.00 Audio Level Meter kit \$ 8.00
 Blinking LED kit \$ 5.00
 IC shortwave Receiver kit \$10.00 Covers 8-16 mhz.
 Fiber Optic Educational Communication Kit \$ 15.00
 FM Radio Transmitter Kit \$ 10.00
Please contact John VE2EQL at 450-672-1545 or via email

jgrow@sympatico.ca

For Sale:

ICOM EQUIPMENT
 SPEAKER IC-SP3
 POWER SUPPLY PS-55
 HF TRANSCEIVER IC-735, plus
 1-T3 Aural Signal Tracer
 2 Laboratory generator LG-1
 3 Hp Wide Range Oscillator model 200Cd
 4 Atronics Code Reader
 5 Antenna Tuner from Viewstar model VS300A
 6 Heathkit Condenser checker model C3
 7 Head Patrol Model XK from Microta
 8 Heathkit Monitor Scope model HO-10
 9 Coaxial Selector Switch model 375
 10 Linear Amplifier SB 200
 11 Electronic Keyer HD 1410
 12 FS Controler from Norton Radia Company Type 107 model 2
 13 Variable low pass filter from bud radio model LF-601
 14 Low Pass Filter model 3300 LP
 15 Microphone Turner crystal model 454X
 16 Antenna switch model Fanon FCA-2
 17 Back Simpson Wavemeter modulator indicator model 77
 18 Wide Range Oscillator model 700CD
 19 Yaesumodel SP-102
 20 Yaesu Model FC-102
 21 Yaesu Model FT-102
 22 Varly Tester
 23 Sine Square Generator model SAG-1
 24 Signal Generator model Hickok 288X
 25 Heathkit Monitor Scope model HO-10
 26 Yaesu frequency counter model VC-355D
 27 Microp[hone Model Turner Plus Thee
 28 Yaesu lanliner
 29 Sencore Transister Tester model TR139

Mike Gervais

You can make contact at:
mcpag51@hotmail.com or by phone at 450-974-0218

Note

A number of photos were taken at the MARC Fleamarket/hamfest. Some will appear in our June issue.....ed

It is with deepest regrets that we have to announce the passing away of a Montreal radio amateur colleague

Ron "Flash" Fleishman, VE2AXR



Ron "Flash" Fleishman, ex-VE2AXR, became a Silent Key 27 Jan 2006. Born on March 12, 1925 in Montreal, he lived the last ten years of his life at the Sunnybrook Health Sciences Centre in Toronto.

During World War II he was a member of the Third Battalion of the Black Watch in Montreal, training at St. Bruno and Farnham camps. After the death of his mother, he joined the regular army.

Ronald worked for 36 years as a proof reader and copy editor, including stints with Protect Yourself magazine and the McGill Daily. He also worked as a professional photographer for The Sunday Express, the Montreal Gazette and The Herald, specializing in sports photographs. He earned the nickname "Flash Fleischman" after the flash from his camera temporarily blinded a

baseball player during a night game at Delorimier Downs.

He brewed fantastic spruce beer, shaved his head and wore army boots, making his own fashion statement well before the current style. His images and writings immortalize his clear and sardonic view of the world, and his photo-montages created in the mid 1980s reveal a keen eye for juxtaposition, shape and ironic sarcasm.

To quote Ron in a caustic review of a dietary regime proposed by author Herbert. M. Shelton, "What profiteth a man to give up his good food, wine and women just so that he may liveth to become a wrinkled, shrivelled-up old half-alive corpse? (...) I'll eat, fart and be merry and not worry about what the body is doing. It can take care of itself without too much intervention."

Goodbye, Ron. We will miss your straight-forward clear-cut revealing view of a world afflicted with a bad case of "The Emperor's New Clothes." VE2AXR DE VE2HAX SK missed by us all. Our sympathy is with Ron's family and many friends as he will be missed by us all.



Don Dashney, VE3RM giving a talk on antennas, baluns and related hardware at the April MARC meeting.

MARC Fleamarket/Hamfest door prize winners

Radio HF gift certificates:
Sylvain Paquette, VE2DIY, Tim Doughty and Andrew Robinson.

Grand Prize - 2006 ARRL Handbook and the 2006 ARRL Antenna book - Alex Vegh, VE2VEH.

Three prizes were unclaimed which were RAQI membership and two RAC memberships.

Notice regarding one of our members.

Roman Massanova VE2RKM, entered the Shriners Hospital in Montreal for surgery on May 16th, and he is expected to have a 10 day stay at the hospital.

Roman is the MARC youngest attending member. The address to send get well cards is:

C/O: Roman Massanova (Patient),
Shriners Hospital for Children,
1529 Cedar Avenue, Montreal,
Quebec, H3G 1A6

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E-MAIL/COURRIEL:
info@radiohf.ca

Sheldon Harvey, Prop.
 VE2SHW

web:
www.radiohf.ca

SHORTWAVE & AM/FM RADIOS / RADIOS ONDES COURTES & AM/FM
 A.O.R., DRAKE, FAIRHAVEN, GRUNDIG/ETON, ICOM, SANGEAN, SONY, YAESU

SCANNERS / BALAYEURS D'ONDES
 A.O.R., ALINCO, ICOM, UNIDEN/BEARCAT, WINRADIO, YUPITERU

AMATEUR RADIO / RADIO-AMATEUR
 A.D.I., ALINCO, ICOM, KENWOOD, RANGER, YAESU

CITIZENS BAND (CB) / BANDE PUBLIQUE (CB)
 ALAN, ASTATIC, COBRA, GALAXY, K40, MACO, MAGNUM, MIDLAND,
 PARADYNAMICS, RANGER, ROAD NOISE, SHAKESPEARE, SOLARCON/ANTRON,
 UNIDEN, VALOR/PRO-AM,
 WILSON, WORKMAN

FAMILY RADIO SERVICE (FRS) / DISPOSITIFS RADIO DOMESTIQUES (DRD)
 AUDIOVOX, COBRA, ICOM, KENWOOD, MOTOROLA

ANTENNAS / ANTENNES
 ALPHA DELTA, ANTENNA SUPERMARKET, ARROW, ATOC, BUTTERNUT, COMET,
 CREATE, CUSHCRAFT, DIAMOND, FIRESTICK, FORCE 12, HUSTLER, HYGAIN,
 LARSEN, MFJ, MIRACLE ANTENNA, OUTBACKER, PRYME, SCANMASTER,
 VALOR/PRO-AM, VAN GORDEN, WORKMAN

SPECIALTY PRODUCTS / PRODUITS SPECIALISES
 AMERITRON, ASTRON, BENCHER, DAIWA, D.C.I., GARMIN, GEOCRON, HEIL,
 KANTRONICS, KIWA ELECTRONICS, L.D.G., MAGELLAN, MAHA, MFJ, MIRAGE, NYE
 VIKING, OPTOELECTRONICS, PALOMAR ENGINEERS, PALSTAR, PREMIER, RF
 CONCEPTS, R.F. SYSTEMS, RIGBLASTER, S.G.C., TIMEWAVE, UNADILLA,
 UNIVERSAL, VECTRONICS, VIBROPLEX,
 WEST MOUNTAIN RADIO

PUBLICATIONS / PUBLICATIONS
 AMERICAN RADIO RELAY LEAGUE (ARRL), ARTSCI, BAYLIN PUBLICATIONS,
 BILLBOARD (WRTH), CQ, CRB, HIGHTEXT, IBS (PASSPORT), KLINGENFUSS,
 LOOMPANICS, NATIONAL RADIO CLUB, RADIO SOCIETY OF GREAT BRITAIN,
 RADIO AMATEUR CALLBOOK, RADIO AMATEURS OF CANADA, RADIO AMATEURS
 DU QUEBEC, SCHIFFER BOOKS, SONORAN, TAB,
 TIARE, UNIVERSAL RADIO