

marcOgram

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

A MARC Monthly Newsletter

Volume 52, Number 5 February 2007

Next meeting - Wednesday 28 February 2007

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)



A tribute to Tommy Letts, VE2BG

(1887 - 1974, married to May Slater, survived by twin daughters Edith and Florence)

[see page 4]

Repeater VE2BG 147.06 MHz (+) was establish in honour of Tommy

A Word from The President

Hello,

Well, judging my the way winter is going conditions should be just right soon for antenna work! With all the snow which has recently arrived I hope you've all been able to stay inside and enjoy some good DX or perhaps sort QSL cards by the fire.

We now have the word from the United Irish Societies that our services are again needed for the 183rd. annual St. Patrick's Parade in Montreal to be held on March 18th, 2007. If we can have a dozen operators we should be able to fulfil our role quite well as this year we will be gearing our activities more toward ensuring that the organizers have the information needed to keep everything running smoothly. While some operators will be walking the parade route many will also have stationary positions. An HT, spare batteries and appropriate clothing are the tools of the trade for this event as the parade goes no matter what the weather. Please let me know if you would like to help with this year's parade.

Think about taking advantage of the cold weather to organize some of the surplus items you have stored away and consider taking a table at the flea-market on April 21. Please let me know if you would like to book a table - or even several!

Hopefully by the meeting day February will not be living up to its reputation so much and I'll see you all at the meeting.

73 de Jim.

DIRECTORS

President: James R. Hay, VE2VE
514-697-7205
jrhay@HayA.qc.ca

Vice President: Sheldon Werner, VA2SH
va2sh@rac.ca

Secretary: Paul MacDougall, VA2YQ
va2yq@marc.ca

Treasurer: Vernon Ikeda, VE2MBS
514-684-7944
ve2mbs@rac.ca

Directors:

Craig Brander, VE2YGK

craigyl@total.net

Earl Paris, VE2ESP 514-524-4633

Bob Paknys, VE2JBP

ve2wpt@rac.ca

Nicholas Kalantris, VE2WPT

ve2wpt@videotron.ca

John Grow, VE2EQL

jgrow@sympatico.ca

Ron Campbell, VA2RJC

va2rjc@videotron.ca

Club Call Sign: VE2ARC

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

Club Email: ve2arc@rac.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 times 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@videotron.ca

Tel: 514-767-2804

Annual Fees are:

GeneralMembers...	\$25.00
Associate Members	\$25.00
White cane members	\$15.00

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.

Articles published in the MarcOgram may be reproduced providing credit is given to the original author and the Montreal Amateur radio club.

The opinions expressed herein are, unless otherwise stated, solely those of the authors concerned, and not those of the Club, the Directors or members and do not represent the policy of the Club.



From the Editor's Desk

The environment and weather appear to be prime subjects in the news at present.

I refer to a short piece in the ARRL column (page 4) regarding ARES and other ham radio volunteers in Oklahoma providing assistance during a recent ice storm. I'm sure many local hams have strong memories of the 1998 ice storm that blanketed most of Quebec and eastern Ontario.

With the apparent changing of weather patterns, I cannot help wondering what the likelihood is of a repeat performances ? and, are we prepared?

Think about it, and ask yourself, what are we as a group doing to prepare for such an eventuality?

That's it,

Your editor
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.

Saint Patrick's Day Parade - March 18, 2007

M.A.R.C. has again been requested to provide communications assistance for the March 18, Saint Patrick's day parade. Those who are interested in participating are requested to contact, James R. Hay, VE2VE
 514-697-7205 jrhay@HayA.qc.ca

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@videotron.ca
va2rjc@marc.ca

Home Tel: 514-767-2804
 Snail mail: Ron Campbell, 201 Du Club Marin, Apt. 209, Verdun, QC.
 H3E 1T4

D-Star group in Montreal.

Gerald Voghel, VE2VOG, ve2vog@videotron.ca. gave an introduction to the D-Star group of Montreal on the January MARC meeting. The website for the association is <http://www.dstarmontreal.com>

From The ARRL

SUITSAT-2 GOES TO COLLEGE

Eleven electrical engineering students at The College of New Jersey had a hand in designing some of the software defined radio (SDR) hardware that will fly aboard SuitSat-2. The college seniors signed up last fall for "Software Defined Radio," taught by adjunct professors Bob McGwier, N4HY, and Frank Brickle, AB2KT -- both members of the Amateur Radio on the International Space Station (ARISS) SuitSat-2 team.

The second-generation SuitSat will have a software designed Amateur Radio transponder (SDX) on board. SuitSat-2 is being viewed as a test bed for the hardware AMSAT hopes to launch on its Phase 3E Eagle satellite.

MORSE CODE REQUIREMENT ENDS FRIDAY, FEBRUARY 23 IN THE USA

February 23, that's when the current 5 WPM Morse code requirement will officially disappear from the Amateur Radio Service Part 97 rules. Effective that date, applicants for a General or Amateur Extra class Amateur Radio license no longer will have to demonstrate proficiency in Morse code. They'll just have to pass the applicable written examination.

New Argentine Amateur Radio satellite now in orbit:

AMSAT-LU (Argentina) has announced that Pehuensat-1, the second Argentine Amateur Radio satellite, now is in a 635 to 640 km sun-synchronous polar orbit (97.92 degree inclination). It was launched January 10 from India. Once activated Pehuensat-1 will transmit voice messages in three languages -- English, Hindi and Spanish -- on 145.825 MHz followed by AX.25 1200 bps packet. Named after the native Patagonian Pehuen tree, Pehuensat-1 was developed by the Argentina School of Engineering at the National University of Comahue, the Argentina Association for Technology and Space and AMSAT-LU. More information is on the AMSAT-LU Web site <http://www.amsat.org.ar/>. To determine the next pass at your location, click on the small revolving globe

off of the coast of Argentina, select your location from the map, and then select PEHUENSAT-1. Reception reports are welcome
<<http://www.amsat.org.ar/?f=z>>. --
AMSAT-NA; AMSAT-LU

ANTIQUÉ WIRELESS TECHNOLOGY SPINS FOR FESSENDEN TRANSMISSION CENTENNIAL

A Christmas Eve CW transmission from the SAQ Alexanderson alternator site in Grimeton, Sweden, drew a raft of reports, 166 in all, most from Europe. SAQ's 200 kW signal on 17.2 kHz was barely readable in North America, however. The holiday transmission from the historic site on Sweden's west coast marked the 100th anniversary of Reginald Fessenden's landmark voice broadcast from Brant Rock, Massachusetts, on Christmas Eve 1906.

"The conditions this time were not the best," Lars Kålland, SM6NM, said of the December 24, 2006, transmission. "It was much better in the last winter transmission, 19th Feb 2006. The transmission was received in the USA, but very weak." Far better reports showed up from various points in Europe. Lubomir Bobalik, OK2BVG, reported that SAQ was 15 dB over S9 in the Czech Republic.

RADIO AMATEURS SUPPORT EMERGENCY SERVICES, FORECASTERS IN ICE STORM'S WAKE

Amateur Radio Emergency Service (ARES) and other ham radio volunteers in Oklahoma assisted after an ice storm blanketed the state on January 12 before moving into the Eastern US. Section leaders continued in asking radio amateurs to monitor local VHF and UHF repeaters throughout the storm. ARRL Oklahoma Section Emergency Coordinator, Kevin Atnip, KD5WUP, said ARES teams were on duty in several counties, and there was a constant requirement for volunteers.

The above Material is republished from the The ARRL Letter's Vol. 26, No. 03/04/05, 2007

SMALL ADS

FOR SALE:

PROCEEDS TO MARC

Some of the items from donation of equipment by family of Ron Jones. More items to be listed.

Tecktronics Oscilloscope Model 545A w/Manual, reported to be in excellent working condition.
Packard Bell Computer w/12 in. color monitor, speakers.
Large assortment of all kinds of useful parts, components.
Large assortment of resistors, capacitors, etc.
For info - Paul VA2YQ 514 482 3642
<va2yq@marc.ca>

**Tommy Letts, VE2BG
remembered,
by
Frank Edwards, VE3ER**

Tommy Letts, VE2BG was a very early amateur radio operator. He probably was on the air around 1920. I remember him showing me a QSL card of his with his original call, just two letters, no "VE" prefix. I recall him telling me that he worked for a short time with Lee Deforest, the inventor of the triode vacuum tube and that was probably around 1915 in New York, when Deforest set up a broadcast transmitter in that city. Later, he worked for Emile Berliner, the inventor of the lateral-cut gram-o-phone disc record in his Montreal shop.

(<http://www.collectionscanada.ca/4/4/m2-3005-e.html>)

(<http://memory.loc.gov/ammem/berlht/ml/>)

Tommy had many early 78 rpm records in his basement in the 1930's, which he was rather secretive about, although he did give me a few of them. These records had a small centre label on them and were quite heavy, but recorded on one side only. Tommy was a great craftsman and I believe that he spent much of his time with Emile Berliner in the lab, fabricating various mechanical recording and sound reproducing machines.

After leaving the Berliner Gram-O-Phone Company, Tommy worked for The Montreal Light, Heat and Power Consolidated, which was appropriated by Hydro Quebec in 1944. Although not a professional engineer, he worked with the engineers in their office in Montreal.

Tommy's transmitter, consisted of the typical home-built relay rack of the 20's and 30's. The racks had no side panels, the idea being that everything was experimental in ham radio in those days and this type of installation made it easy to make changes. He used a 203A in the final class C amplifier, (about 70 watts) modulated by a pair of 211's in parallel, class A, through a choke. This is not a very efficient method of modulation, but Tommy got it working to perfection, using one side of a hydro 1/4 kw transformer as a choke. He used a Jenkins and Adair condenser microphone and again, not very effective, but he made up for that by using 3 201A's in cascade as an audio amplifier.

When metal tubes came out in the 1930's, he replaced the audio amplifier with one consisting of one 6SJ7 and two 6C4's. His audio amplifier was assembled in a box with the microphone spring-mounted on the front and the whole unit secured to a vertical pipe on the operating table.

In those days, variable frequency oscillators were seldom used, as they were rather unstable so Tommy used a crystal controlled 47 oscillator tube, followed by a 46 buffer tube into a 210

tube to drive the final. The 210 tube operated as a doubler on 10 and 20 metres. Fundamental crystal frequencies were for 160, 80, 40 and 20 metres. The main power supply, mounted on the bottom shelf of the rack, used a 1/4 kw 220 - 110 volt hydro transformer and a pair of 866 tubes. A medium voltage power supply, using a 83



tube was located on the second shelf of the rack. Various meters, including RF ammeters, were mounted in appropriate locations and band changes were made by plug-in coils in each stage. Tommy's receiver in the 1930's was a National FBXA with a pre-selector.

In those days, all amateur radio operators used 600 Ohm "zepp" feeders and long wire antennas. Tommy lived on the second floor of a semi-detached home on Victoria Avenue in Longueuil, next to a large open lot. He had two 60 foot poles and a 133 foot antenna with 45 foot tuned feeders, end-fed. Tuning was accomplished by adjusting two capacitors in the feed lines for equal maximum RF current (2-3 amperes) in the feed lines. Co-axial cable was yet to be invented.

I do not recall ever seeing any spark equipment in 2BG's shack, although I'm sure he started off with spark in the early 1920's. I remember an early TV receiver he had with which he received the odd transmission from KDKA. This was a mechanical "flying-disk" machine with a neon bulb output behind a 4 or 5 inch magnifying lens. I

think it was made by Farnsworth. The transmission frequency, which was experimental, was slightly above 160 metres.

Tommy and his wife Edith, had twin daughters who, if still alive, would be about 90 years old. He loved to have people visit his shack, as did most Hams, so they could show off their equipment. He always welcomed me to his shack - I was 10 to 15 years old at the time - and he helped me to get my license in 1938. Tommy was born on March 7, 1887 and passed away on January 26, 1974.

*Ancaster, Ontario, Canada,
January 27, 2007.
Frank Edwards, VE3ER.*

Preparations are under-way for the 2007 Jay Challenge in Jay Vermont.

For those of you who have been to it in the past, you know how interesting this series of events can be and how beautiful the area is. If you are interested in participating this year, let me know.

Here is a description of the event: The Jay Challenge is a three day event from Friday July 27th to Sunday July 29th 2007. This will be the fourth year that Amateur Radio operators cover this event.

The first day is a 26 miles boat race across Lake Memphremagog in the Eastern Townships from Magog to Newport Vermont.

The second day is a 30 miles cross-country Mountain Marathon to the top of JayPeak Vermont.

The third day is a 60 miles cross-country Mountain bike race to the top of JayPeak and around the area surrounding Jay.

What is expected from the Hams: The Hams will be manning check points along with other volunteers, to pass traffic. We will be operating on the JayPeak repeater for the event. For the Friday event I need 4 to 5 Hams For Saturday 10 to 12, For Sunday 12 to 15.

What is supplied to the Hams:

We will be lodged in comfortable accommodations for the duration of the event, starting the evening prior to the event. Anyone coming for 1, 2 or 3 days will be welcomed. I urge anyone interested in this event to visit the event website at

www.jaychallenge.com/jaychallenge.htm

And then contact me at va2ry@rac.ca
Ray Faguy, VA2RY

M.A.R.C Goes MOD

The Montreal Amateur Radio Club is now accepting membership renewals via PayPal (tm). This is the result of it being informally discussed at Board of Directors meetings and as well more than just few people suggesting it might be more convenient for them. What really got the ball rolling finally was that Michael Pawlowsky, VE2MUD said that he would join if we had that option available so James, VE2VE set up a page and the rest we can say is history. You can find the on-line page at:

<http://www.hay-net.net/~ve2arc/memform/>

Please let us know if this is a useful payment option.

73, The Information Technologies Group.

James Hay VE2VE, Vernon Ikeda VE2QQ

FYBO 2007 (Freeze Your Butt Off) QRP Contest by

John Grow, VE2EQL

FYBO 2007 (Freeze Your Butt Off) QRP Contest

We operated at 1640 Ft. Above Sea Level on the side of Mount Mansfield, Vermont. We used the yard of N1BQ, Brian Riley. This has been the 5th. FYBO contest. The Arizona Scorpions QRP Society hosts it. The whole ideal is to operate Outdoors, using QRP frequencies and low power. The number of contacts and temperature is part of the scoring.

We started off cold at 11F went up to 18F and back down to 6F. It was a fairly nice day otherwise. It snowed

lightly most of the afternoon and the wind in the forecast never really materialized. Seab (AA1MY), Brian (N1BQ) and John (VE2EQL) braved the cold, sheltered by a tent. We ran an Icom IC70-3 with a 250 Hz filter. We set up two 176-foot doublets about 40-50 feet above ground with a good take off angle from a good downslope to the West. They were ladder line fed to a pair of ZM-2 based tuners. They were N-S and NE-SW. On 20 meters they had such sharp lobes that many stations heard on one simply weren't there on the other. We did some great DX; we worked JR0BAQ in Niigata, Japan also running QRP, Jim Larsen AL7FS in AK and a lot of CA and WA. We also worked NM and AZ. We had 77 QSO's with 46 SPCs representing 34 states, 2 provinces and one DX country. We had about a half dozen busted contacts where they faded to nothing halfway through. Using the scoring rules, we figure that our score for Multiple Operator, Single Station to be 190016 points. We have won the 2005 and 2006 FYBO contests. We expect to be top scorers this year. Pictures can be viewed at <http://web.mac.com/brianbr/iWeb/FYBO2007/N1QS%20Pix.html>

75th. Anniversary Event – Special Event Station – Montreal Shriners Hospital by John Grow, VE2EQL

Sometimes during the warmer Month of May, we plan on setting up a Special Event station at the Montreal Shriners Hospital. In 2001, we did a special event station, which was very successful. This year, we plan on advertising the station via selected media outlets, and various Amateur radio groups. The goal is to increase awareness of Amateur Radio and the Shriners Hospital through the Kartem Radio Club. We will operate a HF and VHF station. We will require help with setting up antennas and the station. We will also require help in operating the station at various times. A special Shriners Hospital QSL card will be issued. Hopefully, we can create a Special Event Certificate of the station. Hams who want the special event certificate and donate a small

fee via the MARC will be mailed the certificate.

Milton Hamfest (Milton Vermont) February 24th. 2007

Mark your calendars for the Milton Hamfest. This Hamfest in beautiful Vermont, is only 1 ½ hour drive from the Champlain Bridge. Take the YL, drop into the Hamfest, attend a forum or two, and then head off to Burlington, just 15 minutes away. This is the 25th year of the Hamfest. It attracts attendees from all over Vermont, New York, and New Hampshire & Quebec. Best of all Canadian Money for the Hamfest entrance is accepted at PAR. To date, there will be 3 commercial vendors attending. Look for Radio Oasis <http://www.radio-oasis.com/home.html> Quick Silver Radio Products <http://www.qsradio.com/> & The largest Amateur Radio Dealer in New York, KJI Electronics <http://www.kjieletronics.com/index.shtml> The Hamfest web site is <http://www.ranv.org/milton.html>

Editors Note: John Grow VE2EQL has been asked to give two talks at Milton. His forums have had the highest attendance in past years. He will be presenting "Portable Antennas" and "What happens when all Hell breaks loose" or "When the stuff hits the fan"

HF Digital Voice

At the January MARC meeting an interest presentation on HF Digital Voice was given by Francois Daigneault, VA2AAY

If you are interested in this subject, you should go to the ARRL website,




<http://www.chbrain.dircon.co.uk/dv/hf.html>

where you will find an article by Charles Brain, G4GUO, and Andy Talbot, G4JN titled **Practical HF Digital Voice** - High-quality voice communication is possible without exceeding SSB bandwidth or expensive broadcast studio equipment.

The following link shows the current digital voice station at G4GUO using conventional IC706 http://www.arrl.org/tis/info/HTML/digital_voice/index.html



[Where did this come from?](#)



Tél.: +1 (514) 745-7550
 Fax: +1 (514) 745-7553
 e-mail: info@cigentec.com
 web: www.cigentec.com

John H. Grow

4511 Dobrin
 St-Laurent, QC
 Canada H4R 2L8

Battery Chargers &
 DC Power Systems
 Chargeurs d'accumulateurs &
 Systèmes d'énergie CC.

75th. Anniversary Fundraiser WE NEED YOUR SUPPORT

Every Amateur Radio Club is faced with expenses, and operating costs. Not to mention the upkeep and maintenance of various repeaters. At the last Board of directors meeting, we discussed various options to raise additional funds for the VE2RED repeater installation and other projects. In addition to the MAB Montreal Association Blind) request for help to fund part of a new radio purchase. Our request for any donations, did not bring any response.

We decided to sell advertisement space, and open it up to anyone who will support the goals of raising funds to support the Montreal Amateur Radio Club. The rates are as follows:

Business card	\$ 5.00 per issue	Quarter page	\$ 7.00 per issue
Half page	\$12.00 per issue	Full page	\$20.00 per issue

We publish the "Marcogram" from September to May, which is eight issues. This year we added June, which becomes a free month. So we actually publish nine issues. We have a list distribution of about 200 persons. A business card placed for 8 issues would only be \$ 40.00.

We are asking for all members to try and contribute either via a donation, or asking a friend or family who has a business to place an ad.



Justin Grow

Dell Direct Store, Montreal
Sales & Finance Representative
Promenades St-Bruno

Place your order online:
www.dell.ca/directstore
enter ID# 5386 to order

Dell Canada Inc.
Regional Sales Office
1010 Sherbrooke St W, Suite 720
Montreal, Quebec H3A 2R7

Dell Direct Store: 450.461.9595
Office: 1.800.999.3355 ext 5386
justin_grow@dell.com

Proposal for MARC Digital Net: Jim Nagle, KF4OD

A few years ago a number of members of my home radio club (www.viennawireless.org) thought it might be useful to have an informal net that would help familiarization with amateur digital modes. The net now meets every Tuesday at 2000 on 3577MHz-USB. The current sign in mode is Olivia 8/500.

I would like to propose a similar net for MARC for Thursday nights at 2000 on 3577MHz-USB. For coordination as we start up the net we could use one of the local repeaters. The first net would take place on Thursday 01 March.

This would allow us to have a brief Q&A at the monthly club meeting the day before the net. I suggest we start with the PSK31 mode. For this mode there are a number of soundcard utilities that are available by free download. For coordination as we start up the net we could use one of the local repeaters. One recommendation would be PSK31 Deluxe available at the Ham Radio Deluxe website (<http://hrd.ham-radio.ch/>). For experimentation with

PSK31 and other modes I recommend MixW (www.mixw.net). There is a cost to use MixW after the trial period but the software is widely supported and incorporates most of the digital modes.

The purpose of the net would be to give us the chance to experiment with the digital modes. Receive only participation is also possible.

MARC DIGITAL NET MARC DIGITAL NET DE KF4OD/VE2 KK



LAURENTIAN BANK
OF CANADA

Irene Lesnik
Manager
World Trade Center

391 St. Jacques Street West
Montréal, Québec H2Y 1N9
Tel.: 514.284.3901 ext. 222
Fax: 514.843.7361

RADIO HF**TELEPHONE & FAX: 450-671-3773**

C.P./BOX 67063-Lemoyne
St. Lambert, Quebec
J4R 2T8

SANS-FRAIS/TOLL FREE:
1-800-463-3773

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