The Hamilton Amateur

The Hamilton Amateur Radio Club Newsletter — 75 Years of Amateur Radio 1932-2007

The Hamilton Amateur Radio Club
PO Box 91215, Effort Square PO
Hamilton, ON L8N 4G4
Est. 1932 Inc. 1956
http://www.hwcn.org/link/harc/

In This Issue

Did you know?

The Official Ontario Provicial Road Map, like the one in your car, is now available on line as a PDF series of 8.5" x 11" pages. Web address is: **http://www.mto.gov.on.ca/english/traveller/map/**

Future Meetings

Meeting room opens at 7:00 p.m.
Meetings begin at 7:30 p.m.

March 21st, bring your handheld tuned to repeater VE3NCF 146.76. John Vandenberg VE3DVV, will be walking us through the process of connecting to other repeaters on IRLP, (internet radio linking project). Now, using only your handheld, and linking through the internet, you can talk almost anywhere in the world that has nodes activated for IRLP. It is really impressive to demonstrate to a non-ham the power of amateur radio by contacting some place like Texas or Scotland using a few codes and your trusty handheld transceiver. Learn how now. Pactise with John's supervision. Join us to learn about this interesting topic at the March meeting.

April 18th, Laura Flatt a Spectrum Management Officer from Industry Canada will be speaking to us on the subject of radiocommunication interference. Laura has promised to arrive with the Spectrum Management interference locator van equipped with the latest RDF instrumentation. We hope it will be warm in April and members can come out to the parking lot afterwards to have a look at the equipment.

May 16th is the HARC annual Home Brew / Show and Tell night. Bring in something you have constructed and completed in the past year for use in Amateur Radio and explain or demonstrate the device. These items qualify for the Crawford Trophy competition. Following the home brew demonstrations, while the judges are deliberating, the floor will be open for members who would like to share an idea or show a piece of equipment useful in the shack. It is a meeting where members can learn from each other and appreciate what other radio amateurs are doing in the hobby. Please plan to attend and organize now your home brew entry or show and tell contribution.

The History of Coax Cable

This information was originally Posted On The "Towertalk" Internet Mailing List by Steve Lampen, and from other sources, and has been edited by John Hudak, VE3CXB for use here. Steve Lampen is a senior specialist for Belden Wire & Cable Co. in San Francisco.

Coaxial Cable Timeline

1884 - Coaxial cable patented in Germany by Ernst Werner von Siemens, but with no known application

1929 - First modern coaxial cable patented by Lloyd Espenschied and Herman Affel of AT&T's Bell Telephone Laboratories

1934 - First transmission of TV pictures on coaxial cable, from the Berlin Olympic Games to Leipzig

Club meetings – 3rd Wednesday each month – 7:30 pm (except July and August)
at Hamilton District Christian High School, 92 Glancaster Road
corner of Rymal Road (Hwy. #53) and Glancaster Road.
Parking on location. Complimentary refreshments.

1941 - First commercial use in USA by AT&T, between Minneapolis, Minnesota and Stevens Point, Wisconsin

What does "RG" mean, and where did it come from? RG means "radio guide" and was the original military specification for coax cable, starting in the 1930s. What does "RG#/U mean? The "U" indicates multiple uses.

So what do all the numbers mean? RG-6, RG-8, RG-58, RG-59, RG-62, RG-122, RG-213, RG-405 and on and on? The number is just a page in a book. RG-1 was the first page (and obviously not a very successful cable design). RG-6, the sixth page, was wildly successful. Most CATV/ broadband cable these days is RG-6. Since each RG number is just a page in a book, it really doesn't mean anything. That's why you can have RG-58, a 53.5 ohm design, right before RG-59, a 75-ohm design. While the military can pick whatever it wants, and pay whatever it costs to have cable built to match that impedance, the commercial world (your world) doesn't always have those options.

What do these numbers mean? Here's a quick guide to RG numbers and what they mean. These descriptions are "general" descriptions. You can probably find exceptions to every one listed if you look hard enough. Remember that "RG/Type" can mean just about anything. For example, don't assume that all RG-58s (or any other number) are the same!

Some of the criteria which define the type of coax are: is the centre conductor solid or stranded? If it is solid, is it bare copper, tinned copper, silver-plated copper, copper-clad steel or silver-coated copper-clad steel? If stranded, how many strands of what gauge and what are the strands made of?

How about shielding? Is the shield single braid, double braid, or braid and foil? What coverage is the braid and what is it made of? How many conductors of what size?

HARC 2006-2007 Executive

President
Mardy Eedson VE3QEE
905-648-0187 ve3qee@rac.ca
meedson@cogeco.ca

First Vice President
Brian Bowie VA3BMB
905-521-5729

Second Vice President
Mike Hewitt VE3MHX
n8tdd@netscaspe.net

Secretary & **Past President**
Roger Pimm VE3UFZ
905-560-2628
rpimm@cogeco.ca

Treasurer
Fred Robinson VE3GCP
905-575-5197
FredRobinson@MountainCable.net

Repeater Chairman
John Vandenberg VE3DVV
905-692-3802
JVandenberg@mountaincable.net

Director
Paul Selvey, VE3XPS
pselvey@cogeco.ca

There are dozens, maybe even hundreds, of coaxial cable designs that don't fall under any RG or Mil spec, such as 8214, 9914F, and so on.

In the world of coax you can have a "type" of coax. I'm willing to bet that most people think that RG-58 is 50 ohms. It's not, it's 53.5 ohms. However you can make an "RG-58/U Type". The word "Type" is the key. It means "sort of" in technical-ese. So our 50-ohm version is "sort of" like the RG-58 spec.

A Horse Of A Different Jacket? As the military itself changed the original spec of a cable such as RG-58, it brought out different versions. RG-58/A, RG-58/B, RG-58/C. Some of these could be considerably different from the original. One might have a stranded centre conductor instead of a solid one. Or it might have a special jacket compound so the chemicals in the jacket would not contaminate the dielectric underneath, called a "non-contaminating" jacket.

Then, not long after World War II, the military decided that the RG system was getting too unwieldy so they abandoned the entire system and replaced it with the current system. In the current Mil Spec system, coax falls under a heading of C17. Each time the spec is changed, a new letter is added. We're currently under C17G. This spec supersedes everything written before, not just C17A through C17F, but all RG numbers as well. To the people who invented the RG system, RG means nothing.

Of course, there were a few million customers, like you and me, who thought the RG numbers were fine. A large number of technicians who entered broadcasting after World War II came with extensive RG knowledge, so it was logical for those cables to continue. And, like any ancient religion, these numbers continue to be used (and modified) long after the High Priests (the military) had moved on.

A Difficult Ratio. One other question that often comes up is why 50 ohms and 75 ohms, or any other impedance, for that matter? These impedances were not chosen by accident. It was known in the 1920s that cables of different impedance worked better for one application than another. For instance, it was determined, through experimentation, that the best power rating was around 30 ohms. In other words a cable with a characteristic impedance of 30 ohms was able to handle high power most efficiently.

Because the impedance of any coax cable is the ratio of the sizes of the centre conductor and the distance to the braid (and the quality, or "dielectric constant" of the plastic in

between), you might wonder why we don't have 30 ohm coaxes.

To be sure, there are customers out there who would buy as much 30 ohm coax as could be made! The problem is that 30 ohms represents a ratio very difficult to make, so much so that it is quite likely that most of what you would make, you would throw away. Only a small percentage would be usable. The people who would die for 30 ohm coax are the really high-power people. Those are customers such as nuclear physicists (with some kind of atom smasher) or medical scanners, such as X-ray, CAT scanners or NMRI machines. They all use high power and would love to have 30 ohm coax. It would deliver their signal with even less loss (and higher efficiency). In fact there is anecdotal evidence that sometime after the war a famous nuclear lab wanted a lot of 30 ohm cable for their atom smasher. They were told it could be made, but that during the manufacturing process 90% of it would turn out to be substandard and would have to be thrown out. The lab said fine, they would take the 10% of good cable, throw out the other 90% and the lab would pay for the whole lot, good and bad. I guess when you're that powerful a customer then a 90% scrap rate is nothing. If you need it, then you've got to have it.

Those customers who wanted low-signal attenuation found that the ideal impedance was 77 ohms. But this was an odd number in terms of wire sizes. If you "fudged" just a bit to 75 ohms, then standard wire sizes and dimensions could be used. This was why all those low-power, low-voltage signal-carrying cables (baseband video, CATV/broadband, antenna lead-in) were all 75 ohms. And then there are customers who want to deliver high voltage. The ideal impedance for them is around 60 ohms. This is an eminently "makeable" cable, but it never really got started, mainly because it was soon realized that most high-voltage customers were often high-power customers too. Therefore, there really needed to be a compromise between voltage and current. And that compromise was 50 ohms.

So there you have a slight insight into how the coax cable that we all know and love today came about.

HARC 2006-2007 Chairs

Awards Chairman
Casey VanBroekhoven VE3CVP
905-385-8724 <ve3cvp@gmail.com>

Contesting Manager/Property
Rick Danby VE3BK
905-544-3253 <rdanby@sympatico.ca>

Education Chair /Flea Market
Mardy Eedson VE3QEE
<meedson@cogeco.ca>

Volunteer Examiners
Lorraine MacPherson VA3NZ
905-389-7653 <va3nz@rac.ca> and
Bernard Granby VA3XJ
905-527-7175 <berngran@hwcn.org>

Field Day Co-ordinator
David Bruton VE3DWJ
905-383-9808 <am983@hwcn.org>

Repeater Chairman
John Vandenberg VE3DVV
905-692-3802
<JVandenberg@mountaincable.net>

Health & Welfare Chairperson
Mary Urbanski VE3OGQ
905-388-8383

Hospitality
Bernie Granby VA3XJ
905-527-7175 <berngran@hwcn.org>

Membership Chair/Web Page
Emsley Mitchell VE3JAI
905-627-0333 <eamitch@mcmaster.ca>

Newsletter Editor
John Hudak VE3CXB
905-627-9475 <hudakjm@mcmaster.ca>

Public Liaison Co-Chair
Stanley Bolibruch VE3GFE
905-528-4002 and
Neil Galloway VE3VNG
905-383-6986

Swap Net Controller
Don Grisenthwaite VE3DDQ
905-388-1365 <ve3ddq1947@cogeco.ca>

Communication
Michael Kerbs VA3WXS
905-523-9005
<mkrebs@sympatico.ca>

QSL Card Galleries

On The Net - Ideas For Your New Card
by John Hudak VE3CXB

One of my interests in radio is in the so-called "paper ephemera". This is just a fancy name in the "collectables" world for collectable paperwork that is not a book or a magazine but contains some information of interest on paper. Things like letters written by famous people, etc. Well to me QSL cards come under the category of paper ephemera just as well as anything. And in fact I've come across the odd QSL card or collection for sale at yard sales and antique stores. They of course have very little monetary value, but may be interesting from a ham radio or short wave broadcasting radio point of view.

If you have an interest in "old" QSL cards then as it turns out there are a couple of web sites on the internet that show some of the interesting items from the early beginnings of our hobbies. There is everything from the "supposed" first ever QSL card to be sent out, to a card from Fred Schnell, 1MO, one of the first hams to have a transatlantic QSO. Or a card from Arthur Collins of Collins Radio fame, or Louis Varney of G5RV fame, and so on. Some cards are quite colourful and well made while others a plain and dull, and others can be downright unusual. One thing I did when I designed my own QSL card was to look at many of these QSL card images, both new and old, to get an idea for a design. If you're in need of a new batch of cards and a freshened up design you might also pour over these QSL card galleries to get an idea.

So, on to the web sites.

1) **<http://hamgallery.com/qsl/>**
This is a massive site with a number of categories, both old and new. It

took me hours just to go through the antique card section.

2) **<http://home.bresnan.net/~dxgallery/>**
Mostly newer cards from far off foreign places.

3) **<http://www.qsl.net/de0brf/index.html>**
Another massive listing that claims 88,000 QSL images in 472 galleries. Made a lot easier by sorting the cards into categories. Lot's of ideas if you're looking to design your own new card.

4) **<http://www.schmarder.com/qsl/>**
A nice collection of mostly commercial station's cards, including one from local station CKOC from 1935. Don't overlook cards from commercial or SWBC stations as sometime you can use ideas from these types of cards.

5) **<http://www.qsl.at/english/en_qslstory.html>**
This one is interesting as it tries to address the question of who sent out the very first QSL card.

6) **<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=8675>**
Once again, a collection of cards from commercial SW stations, but also a good source for some graphics for your new card.

7) **<http://www.qslcollection.co.uk/>**
A nice site from Britain.

So there you go. That should keep you busy for several months. If you are going to design your own card don't just put down the first thing that pops into your mind. If you enjoy collecting and sending out cards as part of this hobby then remember that your card is the face that you present to others, especially if your face is on your card. Take the time to see what others have done, pick something you like, or take ideas from several cards. If you have a graphics program on your computer, make a mockup to see how you like it. Or pick a QSL card printing company that will work with you to design a card. It's just a matter of giving them some ideas of what you want and then letting them run with it. Most will go back and forth with you, making changes until you get the card you like. Remember though that not all printers will do this. Some only work from standard templates and do not do custom work. Maybe your card will be the one that the other ham on the other side of the world will put up on their wall, instead of in the shoebox with all the other ho-hum cards they get.
Good luck.

Important Points

Executive Meetings
HARC Executive committee meets each month, except July and August. Members are invited to attend and participate. The meetings are on the Tuesday following the club General Meeting each month.

VE3NCF 146.760 - & 444.075 +
HARC operates VE3NCF repeater, located atop the Niagara Escarpment. It's open for use by all Amateurs. Special features are a privilege of membership.

Nets
HARC "check-in net" is held every Tuesday evening at 7:30 p.m. HARC "swap net" follows at 8 p.m. All contacts are welcome.

Examinations
Amateur radio license examinations are conducted the second Wednesday of each month, except July and August. Contact the voluntary examiners to make an appointment. There will be a fee for each examination.

Membership Information
Club membership, including all privileges, is $25 per person, per year, Sept 1 to Aug 31. Additional membership, for immediate family living in the same home, is $1 per person. One newsletter sent to each address.

The Hamilton Amateur
The Hamilton Amateur is published ten times each year (not in July or August). Deadline for article submission is the last Saturday of the month for the next month's issue. Preferred format is .txt file. Articles will be checked for spelling and grammar, but the author is responsible for factual content. E-mail submissions to Editor, John Hudak VE3CXB, <hudakjm@mcmaster.ca>

The More Things Change ...

The following quotation is from the June 1935 issue of Radio-Craft magazine. Submittted by John, VE3CXB.

"Ever since auto-radio installations became popular, a controversy has been going on ... between legislative authorities and insurance companies on one hand, and radio manufacturers and car radio owners on the other ... as to whether auto radio presented an accident hazard or not."

In May of 1935 the state of Connecticut introduced a bill which would provide a fine of $50 for anyone installing a radio in their car as it was felt that the radio would tend to distract the operator of the car. On the other hand the "Radio Manufacturers Association" of the time argued that there was not a single case where a radio in a car was the cause of a serious accident. Automobile owners argued that having a radio in the car tended to cause drivers to actually slow down, therefore the inclusion of a radio in an auto is actually a safety device.

This argument, which was being carried on over 70 years ago, mirrors the sort of arguments going on today as to whether or not the use of cell phones in cars constitutes a safety hazard. I suspose by extension this would also apply to the use of mobile 2m rigs or HF rigs in our cars.

Please welcome two new radio amateurs. From the left, Adam Mitchel VE3BAU, and David Malar VA3MLR, graduates of the HARC sponsored Basic Course, are congratulated by Mardy VE3QEE after testing at Mohawk College February 2007. Both new HAMs are HF qualified. Be listening for them on the air soon.

General Meeting February 21, 2007

by secretary Roger Pimm VE3UFZ

Mardy VE3QEE started the business meeting at 7:30pm this evening in order to give our guest speaker Eric Meth VE3EI time to set up and test his digital VHF radio equipment.

You may notice that your Newsletter is now being delivered in a #10 business envelope. Mardy has discovered that using the new envelopes (white) results in about 20% of the former cost of envelopes. On your behalf, the Executive is always on the lookout for ways to reduce expense.

Club Secretary Roger VE3UFZ moved that the minutes of the January General Meeting as published in the Newsletter be adopted. Seconded by Fred VE3GCP, carried. The club is once again in receipt of the Annual Return of an Ontario Corporation forms from the Ontario Ministry of Finance. This report must be filed by the club within 60 days of receipt according to sections 13 & 14 of the Corporation Information Act. It appears that the last time this filing was made by the club was in 1993. The paperwork has been completed and has been returned.

Treasurer Fred VE3GCP reported that the equipment that the club purchased from an estate has largely been sold on our club swap net or at flea markets. The club has more than broken even on this venture. Fred VE3GCP and Mardy VE3QEE looked after this task.

Mardy VE3QEE reported that there are now two new graduates from his Basic class. Adam Mitchel (attending tonight) and David Malar.

John VE3CXB has volunteered his services to help organize our 75th Anniversary celebrations. John recapped what has been done so far and heard suggestions by members at the meeting. Some of the ideas put forward by members for consideration were:

-creating a 75th Anniversary QSL card to be used by the contest group during 2007

-having a special event day, possibly at the contest site

-having a club picnic this summer

-having a special dinner, a club Birthday Party

-articles in newspapers

-an interview on the community channel Cable 14

-Obtain a new City of Hamilton flag. Have our Mayor present it to the club at our annual Christmas Dinner

-prepare a new 75th Anniversary banner for club events

-set up a table at craft shows to publicize our existence and years of service to the community

-publish articles of historical events in our Newsletter

Motion by Bob VE3MFM, seconded by Terry VE3AUB that the meeting be adjourned. Carried.

News Highlights

reported by Mardy VE3QEE

The executive voted to accept a proposal by Anita, VE3ANI, a professional web developer, to upgrade our web site, improving functionality and creating a new appearance to commemorate the HARC 75th Anniversary.

On Saturday March 24th HARC has accepted an invitation to operate a HAM station at the Erland Lee Museum, Birthplace of the Women's Institutes, during the museum's annual Maple Syrup Event. They expect 250 visitors. Contact our station 8:00 a.m. to 12:00 noon local time to say hello and get an anniversary QSL card.

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Contest Corner

by Rick Danby
VE3BK

Hi Guys,
The next contest we run at VE3DC is the Ontario QSO Party. If you have contested with the Contest Group before, you will notice some of the rule changes this year. The Contest Club Ontario (CCO of which we are a part) took over the contest from DX Ontario last year and have decided on some rule changes for 2007. You can get the rules and you will need the Multiplier List too at:
http://cco.ve3xd.com/oqp/index.htm

Contest rule changes which affect us are: The contest period is no longer the full 24 hours and bands above 2 meters are not included. What a bonus, we never did much above 2m anyway. We are always on 2m and 6m though. The rules look the same except for the times.....means 2pm on Saturday April 21,2007 till 1am and then back at it at 8am on the Sunday April 22, 2007 and quite at 2pm on the Sunday. Looks like an old man contest hi hi, with early start, time to sleep and early finish.....looks good to me hi hi.

The only other changes I see are that there is no 1st place in your county anymore and we will be HAL for Haldimand County now instead of HNO as they split up the counties so that Norfolk is on it's own. No problem, we will just have to get used to reporting HAL instead of HNO.

Let me remind you that this contest is a full out Multi-Multi setup, so we need everyone who can come out to join us. It is the Ontario QSO Party at the end of April. Reserve you time for it now. Some of our Operators have already picked their bands but we need to fill all the spots and have as many operators as possible to make it a relaxed fun time for all. So let me know if you can make notice some it or you want to run your radio or a band, we are very accommodating.

2007 MODE: **PHONE**

CQ 160-Meter W.W. Contest

CALL: **VE3DC** STATE or PROVINCE or COUNTRY **ONT**
CLASS: **X** **Multioperator** **Single Operator**

278	QSOs.	**1291**	QSO points
	x	**52**	Multipliers
	=	**67132**	Claimed score

Station Description: **ICOM 756 - AMERITRON 572**

Antenna(s): **160m Horizontal Delta Loop, Full Size Windom, Butternut used for RX as well as Magnetic Loop for 160m.**

Operators: **VA3DJ VE3BK VE3CXB VE3DVV VE3GCP VE3JAI VE3RYI**

Visitors: **VE3BAU Adam (a new Ham) and his companion Kassandra as well as VA3YP dropped by for a chat, taking a break from his contesting**

Remarks: Funniest thing was when Fred VE3GCP met Raco VA3YP. He took a break from the radio to meet Raco and asked him his call 3 times, "What is your call". He finally said:"Well if you are VA3YP, then who is this on the radio using VA3YP?" Of course it was one of the operators Raco had helping him at his MS station. We all had fun and for some an education on working the "Gentlemen's Band". Thanks to all that worked us. Everthing worked fine and we hope to work everyone on future contests.

Club competion: **CONTEST CLUB ONTARIO**

This is to certify that in this contest I have operated my transmitter within the limitations of my license and have observed fully the rules and regulations of the contest.

Signature: **R.W. Danby** *Call* : **VE3BK**

MULTIPLIER LIST

NAM:

CT	MA	ME	NH	RI	NY	NJ	DC	DE	MD	PA	AL	FL	GA
KY	NC	SC	TN	VA	AR	MS	OK	TX	CA	AZ	MT	OR	UT
WA	WY	MI	OH	IL	IN	WI	CO	IA	MN	MO	ND	NE	NB

NF QC ON SK AB

Above, a copy of the actual form submitted by Rick, VE3BK, listing a summary of the 160 meter contest results. Thanks to Rick for all the extra work done to organize participation ahead of time, and submit the results afterward. Not to mention the work sending QSL cards. Thank you Rick, our Contest Chairman!

News Highlights

— continued from page 5.

Plans are to operate an HF station and transmit near the ONTARS net or the Trans-Provincial net frequencies depending on conditions. Further details will be announced on the VE3NCF talk-in net on Tuesdays from 7:30 p.m. to 8:00 p.m. local time.

The Erland Lee Museum is located at 552 Ridge Road, Stoney Creek overlooking the escarpment. For more information go to their web page at <www.erlandlee.com>.

The purpose for our club's participation, is to publicize our existence and raise the awareness of Amateur Radio in the community. That purpose is one of our 75th Anniversary objectives. So here we go!

On the topic of awards, you may recall information published about the CW operating award in the January THA, and about the Award of Merit in the February THA. It seems no nominations have been received for either award to date, so the executive have agreed to leave the nomination process open for now. The criteria for each award remain as published.

HARC Director, Paul Selvey, VE3XPS, asked me to mention the very active Hamilton ARES group and to draw your attention to their web site at <www.ares-ham.ca> which Paul maintains. The web site features articles relating to ARES activity and also to many topics of general interest to local HAMs.

One interesting feature of this web site is a forum section where people can post comments for others to read and where you can respond with your thoughts. Check it out.

The next flea market in our area will be the one in Brampton run by the Peel and Mississauga ARCs. The event is called HAM-EX 2007 and occurs on Saturday, March 31st. It is, again, at the Brampton Fall Fair Grounds near the corner of Hart Lake Road and Old School Road. Vendors 7:00 a.m. and General Admissions 9:00 a.m.

The next flea market is coming in April in the Whitby area. On Saturday, April 21st the Durham Region Hamfest will be held, again, in the Iroquois Park Recreation Centre on Victoria Street at the corner of Henry Street. Vendors 7:30 a.m. and the General Admissions at 9:00 a.m.

Visit the <www.rac.ca> site for links to more detailed flea market info.

Memory Problems?

Two elderly couples were enjoying friendly conversation when one of the men asked the other, "Fred, how was the memory clinic you went to last month?"

"Outstanding," Fred replied. "They taught us all the latest psychological techniques - visualization, association - it made a huge difference for me."

"That's great! What was the name of the clinic?"

Fred went blank. He thought and thought, but he couldn't remember. Then a smile broke across his face and he asked,

"What do you call that red flower with the long stem and thorns?"

"You mean a rose?"

"Yes, that's it!" He turned to his wife. . .

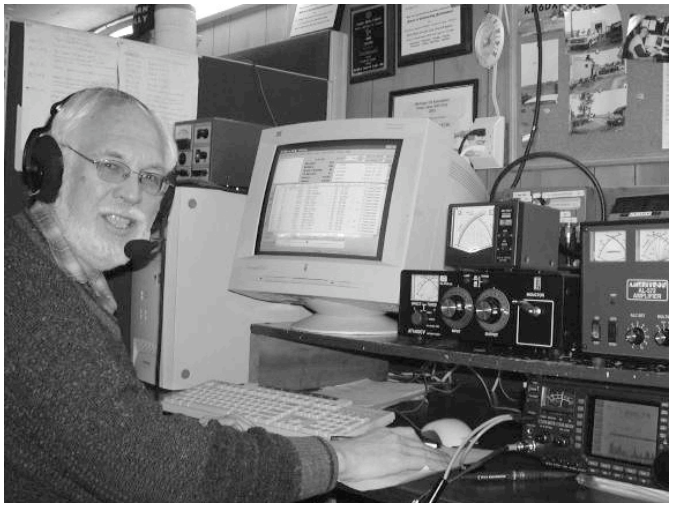
"Rose, now what was the name of that clinic I went to?"

Hamilton ARES (Amateur Radio Emergency Service) group meeting in February at the offices of Dofasco. Gerry Osborn, center, facing the group with a lap top computer, VE3GSO, is the local ARES Coordinator, and Lorraine Macpherson, VA3NZ is the City of Hamilton ARES Liaison. You will notice a number of HARC members attending and also a number of CVC people (Citizen Volunteer Communicators) who are amateurs that have city recognized CERV training. (Citizen Emergency Response Volunteers). Participation in ARES is open to any amateur. For information check the web at www.ares-ham.ca/

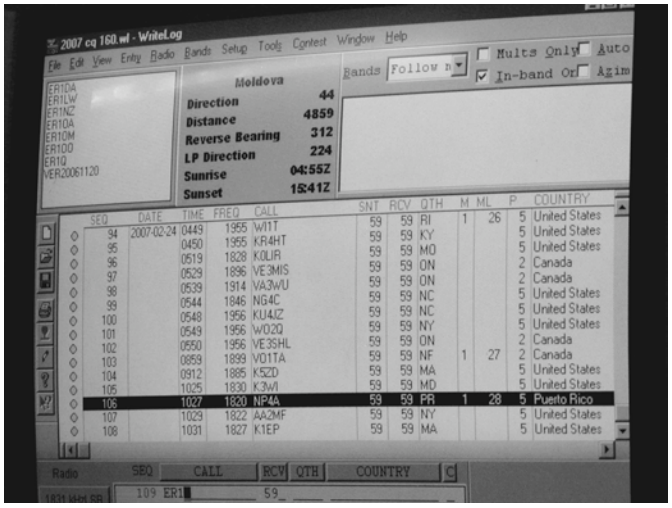
Operators Working the 160-Meter World Wide Contest

Emsley VE3JAI

Mark VE3RYI



John VE3DVV



Write Log screen

Fred VE3GCP and Adam VE3BAU

The gang with Kassandra looking on.