

The Hamilton Amateur

MEETING NOVEMBER 19, 1994
NASH AUDITORIUM, CHEDOKE HOSPITAL
8.00 PM
SPEAKER ROBIN HAIGHTON VE3FRH
TOPIC AMATEUR SATELLITES [AMSAT]

EXECUTIVE 94-95

PRESIDENT	Lorraine MacPherson	VA3NZ	389-7653
PAST PRESIDENT	David Bruton	VE3DWJ	383-9808
VICE PRESIDENT	Bob Tenty	VE3TOK	385-4817
VICE PRESIDENT	Fiore Manga	VE3OQG	578-1789
SECRETARY	Jason Clarke	VE3ZYD	544-9970
TREASURER	Joe Urbanski	VE3OCD	388-8383
MEMBERSHIP	Jeff Smallwood	VE3NVY	547-3731

HARC COMMITTEE CHAIRPERSONS

HISTORICAL:	VA3GO	George Olenick	383-7338
BULLETIN EDITOR:	VE3SON	Jim Walsh	689-6839
EDUCATION:	VE3EKY	Bernie Granby	527-7175
HEALTH AND WELFARE:	SWL	Ellen Reinke	522-8909
STATION MANAGER	VE3PFT	Paul Coppin	627-5672
HOSPITALITY CO-ORD:	VE3OGQ	Mary Urbanski	388-8383
SWAP NET CONTROL:	VE3JWJ	John Johnston	578-4275
REPEATER:	VE3OCY	Don Graziano	
EMERGENCY CO-ORD:	VE3EIK	Pat Brennan	561-5413
VE3DC Licencee:	VE3FHQ	Glen Gibson	385-2786
VE3NCF Licencee:	VE3MWH	Mark Gibson	389-4308
VE3RCB Licencee:	VE3EIK	Pat Brennan	561-5413
DELEGATED EXAMINERS:			
	VE3EKY	Bernie Granby	527-7175
	VA3NZ	Lorraine Macpherson	389-7653
FIELD DAY CO-ORD:	VE3PFT	Paul Coppin	627-5672
FLEAMARKET 95:	VE3WVC	Bill Court	572-3755
PROPERTY:	VE3AHQ	Mike Panopolous	544-6796
PUBLIC LIASONS:	VE3PFT	Paul Coppin	627-5672
AWARDS & CONTESTS:	VE3AHQ	Mike Panopolous	544-6796
TECHNICAL:	VA3SP	Mike Spenuk	304-0980

The Hamilton Amateur Radio Club
General Meeting Minutes :
October 19, 1994

The Hamilton A.R.C. met at the Nash Auditorium on Oct. 19, 1994. The meeting was opened by our President, Lorraine (VA3NZ), at 8:15pm. Lorraine greeted everyone and then got to business. First Paul VE3PFT, was asked to make his announcement. Paul told everyone that his 5 wpm code course will be starting soon, and that who ever is interested in this course is to contact him at (905) 627-5672. Lorraine then asked Rick VE3OZY, to do his announcement. Rick spoke about the Canada Day Contest, and the picture that is on the front of "**The Canadian Amateur**". (Everyone applauded !!) Lorraine Thanked Rick on the good work.

Bob VE3TOK, then took the podium, and introduced the guest speaker, George Spencer VE3AGS. George took a moment to setup his presentation on the International Amateur Radio Union (I.A.R.U.). George brought in a slide show on the above topic, which took about an hour to show. The presentation was about the construction of the different regions and the laws regarding Amateur Radio... If you were not there, you missed out on a pretty interesting slide show.

COFFEE BREAK at 9:30pm ---- Meeting resumed at 9:55pm

Lorraine VA3NZ, asked the members if they would accept the minutes as written. Motion to accept, Bill VE3WVC, and 2nded by Jeff VE3NVY.

OLD BUSINESS: None...

NEW BUSINESS: Bill VE3WVC, spoke about our Hamfest on Oct.8th. Bill announced that we did a good job this year. the amount of vendors were up a little, from last year, and the attendance wasn't what we were expecting. Bill noted that we are gonna need more help with various jobs next year. Our next Hamfest will be in the same time frame next year. Bill sends out his thanks to Jeff VE3NVY, Emsly VE3JAI, especially the Kitchen Crew: Mary, Betty, Lori, Emsly's wife, and everyone else who helped to make this Hamfest as good as it was. "Thanks for the great work!!" By the way, the Grand Prize of the Kenwood TS850 was won by Greg VE3NXO of the Toronto area, Congratulations Greg!!!

Jeff VE3NVY announces that we are going to have a FOOD DRIVE for the month of November, and hopes that you will be able to help out with what ever you are able to spare. Jeff will be donating the food that we receive to the Salvation Army. So Please bring NON-PERISHABLE food items with you to the next general meeting. Jeff also spoke out in concern about the whereabouts of the HF Rig that was not supposed to be removed from the Red Cross Building. Paul VE3PFT told Jeff that the radio had to be removed for the fact that the radio had been tampered with, and that he had permission from Lorraine (the President) first before removing it from the premise.

Bob VE3TOK, announced that November's topic will be about Amateur Satellite (AMSAT).

Motion to adjourn was Bill VE3WVC and was 2nded by Fred VE3GCP.

Lorraine Macpherson VA3NZ
President

Jason Clarke VE3ZYD
Secretary

TUESDAY NITE SWAPSHOP HELD ON CLUB REPEATER VE3NCF 146.760(-600)
NET CONTROLLER VE3JWJ JOHN (905)578-4275
ALL ITEMS ARE LISTED ON THE SWAPSHOP FOR 4 WEEKS
LIST AVAILABLE ON PAKET AND PHONE BBS 905-575-4745

SWAP LISTING FOR NOVEMBER 1/94

VE3JVJ, MARK (905)574-4370

1- DELHI 72 FOOT SELF SUPPORTING TOWER, 9 SECTIONS WITH BASE.. \$450.00

VE3SE, JOE (905)680-1211

1- HF HOME BREW 600 WATT HF AMPLIFIER 20-80MHZ 3-811 TUBES \$150.00

1- COMMODORE 64, 1541 DRV. SP1000 PRINTER, DIGICOM TNC,
PHONE MODEM NO MONITOR \$200.00

1- DELHI 48FOOT TOWER ON THE GROUND \$150.00

VE3NYG, RUDDY (905)662-6163

1- DELHI 32 FOOT TOWER 4SECTIONS \$50.00

1- GEM QUAD ANTENA 10-15-20 MTRS \$50.00

1- CUSHCRAFT 2MTR RINGO RANVIEWSTAR 1000WATT \$20.00

1- LOWPASS FILTER DRAKE 1000WATT \$20.00

1- LOWPASS FILTER TAYLOR 1000WATT \$15.00

VE3WTE WHITY (905)547-0515

2- RG 213 44 FT OF COAX \$25.00

2- IBM MONO VIDEO CARD \$15.00

2- OAK COLOUR CARD \$25.00

2- 286 MOTHER BOARD 16 MHZ \$25.00

2- WELLAR SOLDER STATION \$25.00

2- YAESU FT-11R 2 HH DIGITAL \$400.00

2- STARTEC ATH15 FREQ COUNTER \$200.00

2- SHURE MICS 2 OF EM \$ 40. EACH ONE BASE ONE BOOM.

2- TOKYO HIPOWER HF CONVERTER 80/40/ 40 FT. DELHI TOWER \$100.00

1- CD BUCKMASTER HAMCALL 1992 \$25.00

1- 1991 CALLBOOKS N.A. AND INTERNATIONAL \$10.00

1- TURNER CUSTOM SPECIAL MIC. \$45.00

1- DEC VT240 DUMB TERMINAL, KEYBOARD, 9600 COMPATIBLE, MODEM \$65.00

1- COLOR HIRES MONITOR \$100.00

SWL, RON (905)388-7906

2- TWO JOHNSON FLEETCOM 504 UHF TRANSVRS \$25.00

VE3HLI, GERRY (905)528-7688

2-1975 QST'S, POPULAR ELECTRONICS, ELECTRONIC INLUSTRATED FREE

VE3KFI, ROLLY (905)689-4140

3- MIDLAND 23 CHANNEL CB MIC AND MOTORIZED ANTENA \$85.00

VE3UOO, HERB (905)844-9806

3- TR80 COMPUTER, 51/4 DRV.KEYBOARD, MEM EXPANS, MONITOR, PRINTER \$40.00

3- ZENITH DATA TERMINAL 6X9 \$35.00

3- MURA CBT-25 ANTENA TUNER, SWR/PWR \$25.00

N2KJA, LENNY (716)765-2149 N.YORK

3- STANDARD C1508A 2MTR H.H. 2 BATTERIES, WALL CHARGER,
SPEAKER MIC, \$250.00 OR TRADE FOR 2MTR MOBILE

VE3RMA RON (905)318-0532

3- ICOM 2AT H.H. THUMBWHEEL, WALLCHARGER \$125.00

VE3NYZ FRANK (905)389-0114

4- RADIO TECH MOD HAND BOOKS FOR ICOM AND KNWD \$25.00

VE3OII PHIL (905)578-9880

4- KNWD TH22AT 2 MTR HH, CIG ADPTR, WALL CHRGR, CASE
3 MONTHS OLD MANUAL WITH WARRANTY \$350.00 OR TRADE FOR 2MTR MOBILE

VE3BQB BOB (905)648-6703

4- RS HT202 2MTR HH. BRAND NEW \$225.00 OR TRADE 2MTR MOBILE

VE3OKA CARL (905)389-4307

4- AMSTRAD COMPUTER TRADE FOR 2MTR MOBILE

VE3MPO MIKE (905)332-6365

3- PHILIPS ELECTRONIC MULTIMETER, BENCHTYPE MOD-PM2401 \$25.00

3- MFJ-304 SHORTWAVE CONVERTER FOR CAR FM/AM RADIO

19-25-31-49 METER BANDS \$30.00

3- 6JB6A TUBE \$10.00

VER 2M 6ELMENT BEAM \$500.00

RON (905)388-7906

3- 715A PWR SUPPLY \$45.00 OR TND RCVR..

VE3JWJ JOHN (905)578-4275

2- YAESU FRG 8800 DIGITAL GEN COV. RECIEVER, \$450.00 OR B.O. OR TRADE.

VE3JIS JACK (905)648-6443

1- RS SX190 GEN. COV RECEIVER WITH VFO MINT SHAPE \$135.00

1- ROTORS -ALLIANCE WITH CONTR. \$55.00

1- CHANNEL MASTER WITH CONTR. \$55.00

1- SUPERIOR WITH CONTR. \$50.00

1- MICRONTA METER (SWR,POWER,MOD) \$27.00

1- STATIC SILVER EAGLE MIC \$80.00

1- KYOKUTO 2MTR DIGITAL MOBILE 1-10 WATTS. 144-148 RX 146-148 TX

MOBILE BRACKET, MANUAL \$125.00

VE3PFT PAUL (905)627-5672

3- HEATH IG 102 RF/AF SIGNAL GENERATOR \$40.00

3- TRS 80 MODEL 1 COMPUTER 2 DRIVES AND RS232 CABLE \$150.00

3- ARCHER COLOUR VIDEO ENHANCER \$45.00

3- ARCHER COLOUR VIDEO PROCESSOR \$45.00

3- CUSTOM CODE TAPES FOR BEGINNER \$12.95

3- 3 CASSETTES PACKAGE CODE TAPES 5 TO 12 WPM \$9.95 EACH OR 3 FOR \$25.00

ALSO CUSTOM ORDERS FOR SPECIFIC SPEEDS..

VA3NSN SLAVKO (905)692-4995

2- HTX202 HH. MANUAL \$175.00

VE3ZRO KEN (905) 544-7770

3- PACKARD BELL COMPUTER 8088-XT, MONO MONITOR, KEYBOARD, 51/4 DRV
BESTOFFER OR TRADE FOR TNC.

EMCAB-2

EMCAB-2 "Criteria for the Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters" was issued by Communications Canada as an Electromagnetic Compatibility Advisory Bulletin.

The RFI field for radio sensitive equipment is 3.16 volts per meter. IC admits this is approximately equal to 100 watts output at a distance of 10 meters, regardless of frequency. The level is 1.83 volts per meter for broadcast receivers, video and audio tape recorders, CD and record players, cable converters and audio amplifiers.

When this was first issued, it appeared that it might be a threat to Amateur Radio, but we had no definite data to establish how it might affect our individual stations.

Now we have some data from sample RF field strength values measured by the US Federal Communications Commission and Environmental Protection Agency.

120 watts into a dipole at 7-13 feet on 40 meters: up to 150 volts per meter measured 1-2 meters from the earth.

140 watts into a roof mounted vertical on 20 meters: 6-9 volts per meter measured in the home.

425 watts into a 3 element yagi at 25 feet on 10 meters: 8-12 volts per meter 12 meters from the base.

500 watts into a 5 element yagi at 20 feet on 6 meters: 37-50 volts per meter measured 10 meters from the antenna.

This information from The Canadian Amateur Radio Magazine will help you estimate the impact of this Bulletin on your station. IC admits it could force an amateur to increase antenna height or reduce power in the direction of the complainant. In a worse case, you might not be able to operate.

If you feel this Bulletin will cause hardship to you and Amateur Radio, Radio Amateurs of Canada asks for your support by writing to your MP with copy to The Honourable John P. Manley, P.C. Ministry of Industry. In each case the address is The House of Commons, 111 Wellington Street, Ottawa, Ont. K1A 0A6. The November issue of The Canadian Amateur has a form letter which you may use. Copies will be available at the meeting. A personal letter describing your own situation might be more effective.

FOOD DRIVE

November is food drive month. Please donate by bringing in non-perishable food items to help the less fortunate.

Bring your non-perishable food items to the meeting and we will collect them from you. All donations will be delivered to the Salvation Army.

Thanks from
Jeff VE3NVY
Jason VE3ZYD

MEMBERSHIP DUES

A reminder that your membership dues should have been paid. If you have not done so, bring them to the meeting or mail them to the club address attention membership.

FM MODE AMATEUR SATELLITES.....

Of the eighteen available amateur satellites that are presently in orbit, four offer, at various times, FM voice transponders for general use. Two of these, AO-21 and AO-27 operate on 2m and 70cm. Its not unusual to hear W6's calling W4's then w2's and VE7's on the two-meter output of one of these birds, a strange sound, as we generally think of VHF for short haul traffic.

Being low earth orbit, or LEO satellites, AO-21 and AO-27 are usually overhead for short periods, usually ten to fifteen minutes per pass. There are about six passes per day, three morning-to-mid-day and three at night.

OSCAR-21, or AO-21, has a unique 'repeater' on board that lets you input on 435.016 and output on 145.987. Well, you say, my FM rig doesn't offer those frequencies with such resolution. Not to worry, the 'repeater' captures the normal 5khz assignments that most FM rigs work by and FM receivers are broad enough to copy signals a couple of Khz off frequency. Thus, to copy it, tune to 145.990 or 145.985. When you listen for AO-21, you will soon notice that at the first part of the pass you can hear it better on 145.990 then as the pass progresses hear it better on 145.985. This is the result of the doppler effect: a higher frequency as the bird approaches your point on the earth and then a lower frequency as it moves away. On 2m this is usually about +/- 5khz. On 70cm it shows up as about +/-10khz. That effect also has to be considered on the uplink transmit frequency.

And in regard to transmitting, most 70cm radios don't operate normally in the 435Mhz range. Though, some can be tricked into working down there by using the 5Mhz down split. Some HTs will cover that part of the band without modification. In that case, the HT and an amp. will get you up to the bird's repeater. The rule of thumb for

input to AO-21 is to use 100W ERP. This can be achieved with as little as 10W out and a high gain antenna. A local W8 often works the repeater from a mobile installation.

Oh yes, the nice thing about the receive side is you can hear AO-21 with a rubber-duckie-equipped handheld.

Now that tracking programs are easily available through local BBS's and from AMSAT, the Amateur Radio Satellite Corporation non-profit organization that builds and launches these birds, a more accurate prediction of when the satellites are over your area can be calculated. To use these tracking programs you require a set of data for each satellite called it's Keplerian element set. This list of numbers gives the tracking program a reference point of where the satellite is at a given time and thus calculates from there when it will be overhead your QTH. Listed below is an element set for AO-21.

SATELLITE	AO-21
Catalog No.	21087
Epoch Time	94197.22316383
Element Set	489
Inclination	82.9454
RA of Node	121.2318
Eccentricity	0.0036264
Arg. of Perigee	5.6499
Mean Anomaly	354.5058
Mean Motion	13.7452090
Decay Rate	.00000094
Epoch Rev	17357

73 to all and good listening to the "birds".

Art Rae VA3RAE



VE3ITY BORIS (905)388-6200

4- APPLE 2 PLUS COMPUTER WITH 2 DRIVES AND CARD, 64K OF MEMORY
TTL CMOS CHIP CHECKER IDENTIFIER, EPROM 64K PROGRAMABLE CARD, Z80 CARD
GREEN SCREEN MONITOR. EVERYTHING IN WORKING ORDER...\$150.00 OR B.O

WANTED

SWL, RON (905)388-7906

1- JOHNSON MESSENGER RADIOS WANTED

VE3NVY, JEFF (905)545-6788

1- LASERJET PRINTER FOR IBM WANTED

VE3RMA, RON (905)318-0532

3- PRINTER FOR IBM COMPUTER 9 OR 24 PIN WANTED

VE3BAL, PHIL (905)934-6295

3- 2MTR ALLMODE BASE OR MOBILE WANTED

VA3PGN PAUL (905)637-5476

4- EGA MONITOR WANTED

RAC's Need For Membership Is Critical

From Farrell Hopwood VE7RD, President of RAC

RAC is dedicated to representing the interests of amateur radio, but we cannot be successful until we truly represent the majority of the Canadian amateur population! Remember, strength in numbers is critical to the defence of our hobby as many other users compete for segments of our bands. We also face a most serious threat from government who plan to react to neighbour complaints of RF interference by severely restricting transmitter power levels (EMCAB2) without ever imposing immunity standards on home electronic devices. It will take strategy and organizational strength to stop such unfair moves. RAC has mailed an offer to the clubs asking for help in recruiting! RAC's need for members is critical!

RAC is looking to clubs across the country to help increase its membership. As sponsors of amateur radio classes, our clubs are

in a prime position to promote membership in the national organization to a market of people with a very keen interest in the hobby the "non-ham" who is registering for the basic course. We are appealing to club instructors to act as agents to promote our national organization, and suggest that clubs include a RAC membership as part of the course fees. RAC has mailed an offer to clubs and course instructors proposing a number of incentives to participants in our drive for new members.

Please support the effort put forward by the many volunteers within RAC. The very future of our hobby depends, to a large degree, on the strength of your national organization. For more information contact RAC General Manager Debbie Norman at telephone: 613-634-4184, Fax: 613-634-7118.

HARC Chatterbox

Purpose: To help Club members, especially Jim.

The Chatterbox is a conduit for the exchange of information tidbits between members.

What is the Chatterbox?

It's just a column in this newsletter. You will fill it. In doing so, several things will be accomplished. First, we'll have something to read each month. Secondly, you'll have a place to pose your questions, or ask for help. If you're shy, you can ask questions anonymously. Thirdly, you will be able to share your acquired information with other Club members.

If you're trying to put up a tower, but have run into difficulties (technical, political, or otherwise) the Chatterbox may benefit you. Another Club member may have been in the same predicament, and may offer you advice.

Having trouble setting up your station? Looking for ideas on keeping the peace with your neighbours, or your spouse? Looking for ways to get those RF cables from your radio to your antenna? Mention it here.

This column will exist as long as you provide input.

How do I get my comments in the Chatterbox?

Sorry, we're not on the Information Highway yet, but we have made it to the collectors.

You can reach the Chatterbox using any of the following methods which look familiar to you, and with which you are most comfortable.

E-mail:

chatrbox%bnet.ve3qam.ampr.org@at.ve3uow.watstar.uwaterloo.ca

AMPRNET: chatrbox@bnet.ve3qam.ampr.org

PBBSNET: va3sp@ve3dtv.#scon.on.can.na

TELEPHONE: 905-304-0980

Letter mail: HARC Chatterbox
P.O. Box 91215
HAMILTON, ON L8N 4G4

Problems with respect to Amateur Radio? Looking for a buddy or two to experiment with; to try out a new band, or a new mode? Discovered a novel method of doing something (like soldering PL-259 connectors)?

The Chatterbox is the swap shop of ideas.

Presidents Report for November, 1994

There have been few changes this month. Paul Coppin has taken on the task of organizing the Field Day event. Bill Court is going to co-ordinate Fleamarket 95, so has decided to step down from Membership duties and Jeff Smallwood VE3NVY is taking over these duties.

The Art Ferguson Trophy deadline is upon us and is now too late to put an entry form in the bulletin. I hope you have all taken time to write a short note to nominate the person of your choice. Pat Brennan will be looking for the completed ARES forms at the next meeting. Please note any change on the bulletin front page. The meeting is the same place same time. See you there. Betty Walsh won a cake as door prize last meeting.

Paul Coppin is now station manager and has the duties of taking care of VE3RCB station at the Red Cross.

Lorraine MacPherson, VA3NZ

Amateur Satellite Lecture

Date: November 19, 1994

Robin Haighton, VE3FRH is the AMSAT Area Coordinator for Ontario. He will provides us information about the fantastic world of amateur satellite communications. This year marks the 25th anniversary of the founding of the Radio Amateur Satellite Corporation (AMSAT) - a scientific, educational non-profit corporation devoted to providing satellites for the Amateur Service and disbursing information on how to use them to hams all over the world.

Jamboree on the air.

Thanks to all who entertained the Boy Scouts during the Jota Weekend in Camp Nemo! It's was a nice Sunday so we all took the equipment outside. Thanks to: VE3OZY, VE3AHQ, VE3LVY, VE3DVV, VE3TOK and a special thanks to Vic, VE3VMO with the "BAT" MOBILE hi!

Events for 1994/95

Nov	Nov 8 Deadline for the Art Ferguson Trophy
Dec	Students, have you entry in for the H.A.R.C. Scholarship Christmas Party - 14th at Burbanks more info later. \$20.00 per couple, cash bar.
Feb	The order of the Gavel CW Operating Award
Mar	Around the Bay Race
May	Home brew night - The Crawford Trophy
June	Elections Field Day

THE HAMILTON AMATEUR RADIO CLUB

P.O. BOX 91215, Effort Square Postal Outlet, Hamilton, Ont. L8N 4G4

Club Meetings: Meetings are held the third Wednesday of each month except July and August at the Nash Auditorium, Chedoke Hospital. Time 8.00 pm. Non members and friends are welcome, coffee and donuts on the house.

Executive meetings: The Board of Directors meets at 7.30 pm on the fourth Wednesday of each month except July and August in the Radio Room, Red Cross Building, 400 King St. E. Members are encouraged to attend.

Club station: The HARC maintains an emergency radio room in the Red Cross building, 400 King St. E.

Membership: Membership costs \$25.00 per club year, 1 September to 31 August. Additional family members {no bulletin} are 1.00 per year.

Education & license testing: Amateur radio license are conducted. License testing through the club is performed on the second Tuesday by appointment. Contact the appropriate person listed on the front cover. Just testee and testor to be present at the time of testing.

Repeater: VE3NCF 146.760 MHz {input -600}, located on the Hamilton escarpment is available for use by all amateurs. Special features {mail box, link info} are privileges of membership. Part of the VE3RPT link system. Contact the executive for codes.

Field Day: The HARC operates a multi station site during the Field Day. Contact the coordinator on the front page for information.

Swap Net: A swap net is held on VE3NCF every Tuesday night at 8.00 pm except during the summer. The buy and sell listings are also available on the club packet BBS VE3DC operated by VE3JSJ on 145.590 or via modem 575-4745.

Fleamarket: A fleamarket is held during September each year, usually at the Ancaster Fairground. Date will be announced in future bulletins.

Bulletin: The Hamilton Amateur, the official news bulletin of the Club is published ten times a year and sent to all members {families share a bulletin}.

Crests: Anyone wanting a Club Crest or a Club Certificate see membership chairperson listed on the front cover.