



The **NEWSCASTER**

The Official Publication of the Winnipeg Amateur Radio Club
<http://www.virtualmultimedia.com/warc/>

November 2002

Free to Members

Microwave (24 GHz) and Moon Bounce (EME).

By Barry, VE4MA

Date: November 18, 2002
Time: 7:30 p.m.
Place: Sturgeon Creek Regional Secondary School

Other Important Dates:

Articles: November 26th - Deadline December Newscaster

WARC: December 9 - Xmas party in the Cafeteria,
January 13, February 10, March 10, April 14 - Cafeteria,
May 12, June 9

WSC: Nov 25th 20th Anniversary - New Horizons R.C.
Dec 8th - Open House - Talk to Santa
Dec. 10 - Xmas Party Assiniboia Christian Centre
Dec. 18 - Annual General Meeting - All to Attend
June 9 - 20th Anniversary of WSCRC

ARES: Dec 7 - CANWarn Recognition Day

Other:

Nets: Daily 01:00 UTC	MB Evening Phone net 3760 KHz
Daily 01:30 UTC	Prairie traffic Net (CW) 3660 KHz
Daily 02:30 UTC	Aurora #2 net 7055 KHz
Weekdays 9:00am	Seniors morning net 147.390 MHz
Wed. 9:00 pm	Six Meter net 50.240 MHz.
Thursday 9:00pm	MRS Net 147.390 MHz +
Sunday 1:00pm	MRS Net 147.390 MHz +

News Winnipeg Senior Citizens Radio Club By Gil Frederick, VE4AG, President

The Christmas Dinner/Party is top of the agenda at this time. Date is Tuesday, December 10, location is the Assiniboia Christian Centre, 3390 Portage Ave. at Rouge Rd., and tickets are \$15.00 each. Dinner will be catered – turkey, with all the trimmings – with musical entertainment following. We will also have a raffle, and door prizes. Premises are handicapped-friendly – there is ample parking, and we have the large gym with ample space for moving around in. Please buy your tickets soon – we need to have the count in just a few weeks. Tickets are available at the Club during weekdays, or you can mail payment to the Club – we will then mail or deliver your tickets, or hold them for you at the door to the dinner if you prefer. Cheques should be made payable to Gladys Haldane-Wilson, the Accountant for ticket sales. If you require further info, call Gil at 888-2473. The Phone Committee will be calling all members soon. This event is open to members, their families, friends, and others in the Ham fraternity.

November 25, 2002 is the 20th anniversary of the founding of the nucleus of the present WSCRC, then called “New Horizons Radio Club”, with reserved callsign VE4WSC. First officers were: President- Albert Diamond, VE4AIP (now VE4AX); Secretary – Gil Frederick, VE4AG; Vice-Chairman – Terry Green, VE4AJA (now VA3TG), Treasurer – Joe Ozero, VE4IO. Next June 9 will be the 20th year since the founding of the Club under the name “Winnipeg Senior Citizens Radio Club VE4WSC, with

WARC: Executive for 2002-2003

Past President	Darcy Wilson	VE4DDW
President	Louis Gaudry	lcaudry@mb.sympatico.ca
Vice-Pres	John Pura	ve4qv@rac.ca
Secretary	Ruthie Maman	rmaman@mb.sympatico.ca
Treasurer	Fred Venema	fvenema@shaw.ca
Membership	Mark Blumm	ve4mab@rac.ca
Program	Glen Napady	ve4gwn@rac.ca
Director at Large	Rick Allan	rickalla@mts.net

incorporation being July 25 of 1983. Only 20 years old, but it seems so much longer!

We are sorry to list a founding member, Gareth Evans, ex-VE4ANT (one of the original 12) as a Silent Key. The obit says that internment won't be until November 22, and there will be a Memorial service on the same day- at Windsor Park United Church, 1062 Autumnwood Dr., at 11:00 a.m. We hope to see many members out to this service.

The regular monthly breakfast will take place on November 7, at the Canad Inn Garden City, McPhillips at Jefferson, beginning 9:00 a.m. Everyone welcome! Our last Board meeting before the Annual General Meeting will take place on Wednesday, November 20. This is a very important meeting, and we urge ALL Board members to attend.

The Annual General meeting, to which ALL members of the Club are urged to attend, will be held at the Clubrooms on December 18th, beginning at 10:00 a.m. It is at this meeting that we elect the new Board & Executive for 2003 – hear annual reports, and conduct regular Club business. All members have a vote, and can present motions, and we hope all who can make it will come out.

We had a resignation from the Board, in the person of Harsha, VE4SAI. Harsha was the Board member reporting for Computers; this position has been filled by George, VE4GOM. Grant, VE4HGD, is in charge of the Club's 'operational' computers. George, 4GOM, reports that the BBS is now operating as a Packet Station, on 145.07. The group in charge of the BBS is Henry, 4AUT, Jim, 4MT and John, 4LU. We thank Werner, VE4UA for his further help with the BBS operation.

We welcome a new member to the Club; Ray Bond, VE4BND.

Our 'antique' display room is receiving more exciting items. If you haven't seen the display for some time – come and see the latest additions.

We were sorry to hear about the ladder accident which befell Abe, VE4ZI. We hope you have a speedy recover, Abe.

The Old St. Vital BIZ will not be putting on their Christmas street party this year. During this event, our Club members acted as Santa's 'helpers', getting the kids to talk to Santa by Ham Radio. We also had an open house – with from 500 –1000 visitors coming through our premises. However, because we have always been involved in this civic affair, on a motion by Ed, 4YU, the Board has approved the opening of the Clubrooms on Sunday, December 8, from 12 noon to 3 p.m. for an Open House, inviting kids and parents to visit take a tour of the displays and operating rooms, and experience talking to 'Santa' by Ham Radio, as before. Volunteers are 4YU, 4LIL, 4SN, 4XPX, 4AND, 4AX and 4GOM – others are welcome to volunteer.

Our Club took part in the recent W.A.R.C. Flea Market – with a table of 'goodies' from our surplus stock. George, 4GOM was the member in charge.

The Club was represented at the recent 'Technology Celebration' put on by the Winnipeg Foundation, at the Hotel Fort Garry, on October 17, by Gil, 4AG and xyl Beryl. This fete was to honour patrons of the Foundation, and to highlight grants made to organizations in the technology sector, (we received a grant for the Satellite station), as well as to showcase the new website that was just being put on-line (a demonstration of the homepage was given). You can access this at: <http://www.wpgfdn.org>

Also, on Oct. 30, Adam, 4SN and Gil, 4AG attended the Award ceremony put on by the Manitoba Council on Aging, at the Legislative Bldg. 31 individuals and 9 organizations were honoured by the Manitoba Government. Adam was proud to accept the Certificate of Appreciation awarded to WSCRC because of its ongoing support and actions benefiting Manitoba Seniors. It will be displayed in the Board Room, along with a photograph of Adam receiving the framed Certificate from Diane McGifford, Minister in charge of the Seniors Directorate. Eventually, you can view these on our VE4WSC homepage.

In closing, another reminder – BUY YOUR CHRISTMAS DINNER TICKETS NOW! Please!



Industry Canada Amateur Centre
 Voice 1-888-780-3333 (toll-free)
 Fax: 1-613-991-5575
 Email: spectrum.amateur@ic.gc.ca
 Web: <http://strategis.ic.gc.ca/spectrum>

Comments or if you just want to reach us :

Newscaster Editor
Winnipeg Amateur Radio Club
C/O VE4WSC
598 St. Mary's Road
Winnipeg, MB R2M 3L5
<http://www.virtualmultimedia.com/warc>
 Newsletters - past issues
<http://www.ve4.net/newsletters.html>

WPGARES
Jeff Dovyak VE4MBQ

2002-03 WPGARES Executive took office at our Annual General Meeting 15OCT.

Executive is:
 President Richard Kazuk VE4KAZ
 Vice President Tim Rhind VE4TJR
 Secretary Dick Maguire VE4HK
 Treasurer Susan Collings VE4SYM
 Fund-Raising Co Chairs Dick Maguire VE4HK
 & Mariska Maguire VE4MMG

Preparedness and Response:
 Emergency Coordinator Jeff Dovyak VE4MBQ
 Assistant EC Richard Kazuk VE4KAZ
 Assistant EC Wayne Schellekens VE4WTS
 Web-masters Ian Clark VE4CLK
 & Don Gerrard VE4DWG

We would like to thank outgoing Executive members Tom Mills VE4SE and Jim Ross VE4AJR for their guidance since inception of WPGARES.

Thanks to all our supporters that stopped by the booth at the Fall WARC Flea Market to participate in the WPGARES 50-50 draw. The winner was John Foster VE4JNF, whose prize was \$79. Thanks also to three other supporters that made contributions to us:

Al Eros VE4ZB for a tripod and mounting hardware, Rosi VE4YYL and Glen VE4GWN for their cash donation.

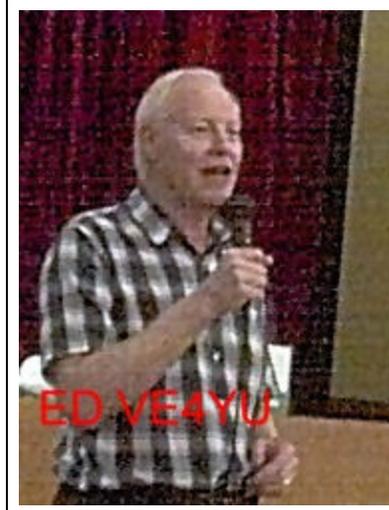
Recent order of WPGARES logo clothing has arrived. Some additional golf shirts, t-shirts and touques are still available. If interested contact MBQ.

Next WPGARES General Meeting is TUE 19NOV02 1900h at Sir Wm Stephenson Library 765 Keewatin Street. Topic is an overview of Head of the Red Regatta Packet Operations.

CANWARN Net Controllers will be operating VE4WVO in the Prairie Storm Prediction Centre as part of National Weather Service SKYWARN Recognition Day. Our main goal will be to make contact with CANWARN Net Controllers in Alberta and Saskatchewan, as well as NWS Offices in North Dakota and Minnesota. At this point we are planning to run 9 hours, 0800-1700h local - any interested Controllers should sign up ASAP with MBQ. Anticipate a planning meeting at PSPC TUE 03DEC 1900h for CANWARN Net Controllers that have signed up for this event.

From the Planning Chair:
Glen, VE4GWN

Hi everyone. I trust all had a great time at the flea market. I'm not writing a report on that, but going by what I saw I believe it was a success. Dick, VE4HK and Mariska, VE4MMG together had done a wonderful job of CO-chairing this event.



Now for my report. Thank you Ed for your presentation, sorry for the short notice on the date change. Bringing your key collection was an added bonus. You didn't convince me to become a contester, but I do have a better understanding about the topic, more respect for testers and will continue to reply to testers when I can. The URLs Ed mentioned are:

<http://www.hornucopia.com/3830score> <http://www.rac.ca>
<http://www.lists.contesting.com/383> & <http://www.arrrl.org>
 For those of you who were looking forward to Adam's program on propagation, don't worry that will come soon.

November 18th meeting Barry, VE4MA is scheduled to give a presentation on his experiences with microwave (24 GHz) and moonbounce (EME). Barry is featured in an article in the January/February 2002 issue of "The Canadian Amateur" and in the October 2002 issue of "QST" (part 1 of 2). Truly a modern pioneer in our hobby. (As usual, the program is subject to change with minimal notice)

December will be our Christmas party. I don't have all the details yet, but I know that we will NOT have the Intermods this year.

I am waiting for responses from some agencies I have approached to come to give us a presentation, but I'm slowly running out of ideas. If anybody has an idea please pass it on to me by phone 831 8082 (evenings) e-mail ve4gwn@rac.ca or on the VE4WPG repeater.

"Do more then belong, participate" --unknown.

Minutes for W.A.R.C. October 21, 2002

Submitted by Ruthie, VE4CRS

John Pura VE4QV called meeting to order and welcomed members at 1930 hrs. Introductions followed. 43 members and 5 visitors attended.

Motion to accept minutes as printed in Oct. Newscaster by Dick VE4HK, seconded by Derek VE4HAY. Carried.

Correspondence

John offered members to have a look at brochures of summer RAC conference.

Treasurer's Report VE4FV

Reported that takeover of Treasury now completed.

Auditor of financial records of WARC: Ed Henderson VE4YU: -

The information provided by WARC past treasurer, Susan Collings VE4SYM seems to be complete and correct and represents the true financial position of WARC as of July 31, 2002. All records appear to be in order and have been well maintained.

WARC's real assets as of July 31st, 2002, \$ 4885.29.

Motion to accept auditor's report by Rick VE4OV, seconded John VE4JNF. Carried

WARC monthly income statement for September 30, 2002:

Total Revenue	\$ 152.00	
Total Expense	\$ 196.70	
Net Income/(Loss)		\$ (44.70)
Bank balance		\$ 4688.59

ARES Tim VE4TJR

New WPGARES Executive for 2002-03 took office on Oct. 15, 2002 at Annual General Meeting.

Executive:

President	Richard Kazuk VE4KAZ
Vice President	Tim Rhind VE4TJR
Secretary	Dick Maguire VE4HK
Treasurer	Susan Collings VE4SYM
Fund-Raising Co Chairs	

Dick & Mariska Maguire VE4HK & VE4MMG

Emergency Coordinator	Jeff Dovyak VE4MBQ
Assistant EC	Richard Kazuk VE4KKAZ
Assistant EC	Wayne Schellekens VE4WTS

Thanks to: All who participated in 50/50 draw at WARC Flea Market won by John VE4JNF (\$79.-), Al Eros VE4ZB for tripod and mounting hardware. Rosi VE4YYL and Glen VE4GWN for cash donation.

WPGARES clothing order under way (ballcaps and golf-shirts). Call VE4MBQ if interested. Secretary's addition: - T-shirts and toques also available.

Next WPGARES meeting on Tuesday 19NOV02 at Sir Wm Stephenson Library 765 Keewatin St. Topic – overview of Head of the Red Regatta Packet Operations.

Programs Glen VE4GWN

Change of program for tonight: - Ed VE4YU "Contesting can be Fun."

November program: - "Moon Bounce" VE4MA.

Xmas party planning in full swing.

Reminded members that he is always open to suggestions for programming.

Membership Mark VE4MAB

Total of 201 members. Will be giving out membership cards this evening.

Flea Market Oct. 20, 2002.

John VE4QV declared Flea Market to be a success, well organized with a good turnout. Dick VE4HK: - 207 people attended. \$261.40 earned; \$195.00 revenue from tables; \$420.00 revenue from door. Thanks to all who helped.

New Business John VE4QV

Items executive currently working on: -

- ☺ Ham radio displays targeting young people at a mall and perhaps June Children's Festival to expose younger crowd to ham radio.
- ☺ Membership suggestion survey how to make club better, profile what members are interested in for the club, and who is interested in volunteering their talents.
- ☺ Recruiting coordinator
- ☺ HF contesting teams
- ☺ WARC hats and name-tags.

Good and Welfare

WSC will be honoured at end of month by province for great service for seniors. There will be official ceremony.

December 8, 2002: - WSC Open House from noon – 3PM. Paul VE4PXP will be Santa Claus. 3 years ago 1000 people attended.

Vern VE4VQ reported Girl Guides on the air.

Wayne VE4WR Report:

- On Oct. 30 full dress rehearsal of emergency exercises in Altona.

- Letellier: - Emergency response repeater, 50 watts, on grain elevator.

- EMO equipment on Woodsworth Bldg.

- Marine channel 84 repeater for all of rural Manitoba – VHF emergency frequency – PMTS service. Amateur radio is playing important part. Goal to get Aboriginals licensed.

Tom VE4SE: - Feb. 8, 2003 – Ham Fest in Grand Forks.

Rick VE4OV: - Lee Smith CKVN is still on air at same time as new station CHNR is being tested on 100.7 FM.

Bob VE4MAQ: - Jamboree on the air was successful. Thanks to those on air who helped out.

- Nov. 16, 2002 doing communications for Festival of Lights Parade.

Dick VE4HK for MRS: - Spent 16 hours of work setting up and improving repeater on Richardson Building. Thanks to all who helped. Signals improved.

Gord VE4OK: - International Space Station on Air – Freq. 144.490/145.800.

Bob VE4ZAP: - Suggestion to upgrade WARC logo. Suggestion to have contest for logo and possibly include in new survey. Commented that there was such a contest about 2 years ago, and official club colour is blue.

Tom VE4SE: - Suggestion to include survey in all mail outs or in Newscaster.

Winner of 50/50 draw: - Bob Poole VE4MAQ

Meeting adjourned at 2010 hours.

News from the Net

Netherlands is Set to Abandon the Morse Test

Rob van den Ent, PE9PE, reports that the Netherlands' national amateur radio convention took place over the same weekend as our RSGB HF and IOTA Convention, the 12th and 13th of October. He says that the Dutch radio regulatory authority used the occasion to announce that if, as expected, Morse code is lifted as a mandatory requirement for an HF licence at next year's World Radio Conference, the authority would immediately eliminate the Morse code test in the Netherlands. At the same time, current VHF licensees would get direct access to the HF bands without further examinations. - RSGB

1st 5MHz Contact with Canada?

Pete Mercer, GI4VIV, worked VA2BY on 5280kHz CW at 0023UTC on the 22nd of October. He believes this to be the first two-way contact with Canada on the 5MHz experimental band -- RSGB

Contest Calendar

November

IPA Contest	CW	0600Z	Nov 2
		1400Z	Nov 2
Ukrainian DX Contest		1200Z	Nov 2
ARRL Sweepstakes Contest	CW	2100Z	Nov 2
North American Collegiate ARC	CW	2100Z	Nov 2
ARCI Running of the QRP Bulls		2100Z	Nov 2
IPA Contest	SSB	0600Z	Nov 3
		1400Z	Nov 3
High Speed Club CW Contest		0900Z	Nov 3
		1500Z	Nov 3
DARC 10-Meter Digital Contest		1100Z	Nov 3
Japan Int. DX Contest, Phone		2300Z	Nov 8
WAE DX Contest	RTTY	0000Z	Nov 9
OK/OM DX Contest	CW	1200Z	Nov 9
Anatolian ATA PSK31 Contest		1800Z	Nov 9
LZ DX Contest	CW	1200Z	Nov 16
All Austrian 160-Meter Contest		1600Z	Nov 16
ARRL Sweepstakes Contest	SSB	2100Z	Nov 16
North American Collegiate ARC C	SSB	2100Z	Nov 16
RSGB 1.8 MHz Contest	CW	2100Z	Nov 16
CQ Worldwide DX Contest	CW	0000Z	Nov 23
ARRL International EME Contest		0000Z	Nov 23

December

QRP ARCI Holiday Spirits Sprint		2000Z	Dec 1
QRP ARCI Topband Sprint		1800L	Dec 4
ARRL 160-Meter Contest		2200Z	Dec 6
PSK31 Death Match	PSK	0000Z	Dec 7
TARA RTTY Sprint	RTTY	1800Z	Dec 7
TOPS Activity 80m Contest		1800Z	Dec 7
ARRL 10-Meter Contest		0000Z	Dec 14
Great Colorado Snowshoe Run		0200Z	Dec 15
AGB Party Contest		2100Z	Dec 20
OK DX RTTY Contest	RTTY	0000Z	Dec 21
Croatian CW Contest	CW	1400Z	Dec 21
DARC Christmas Contest		0830Z	Dec 26
RAC Winter Contest		0000Z	Dec 28
Stew Perry Topband Challenge		1500Z	Dec 28
Original QRP Contest	CW	1500Z	Dec 28

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Working your first Amateur Satellite! **Submitted by Chris, VE4SET**

http://www.qsl.net/vk3jed/1st_sat.html

It is a common perception that it requires sophisticated equipment and large circularly polarized antenna arrays to work amateur satellites. While this may be true for using some of the high altitude 'birds' or on the higher bands such as 23 cm, it isn't the case for all satellites. There are several low Earth orbiting satellites which can be worked with relatively simple transceivers and antennas. This article will concentrate on voice operation, as I have no experience at all with digital satellite operation.

Amateur voice satellites can be divided broadly into two groups. Firstly, there are the traditional "linear transponder" satellites. These satellites receive a specific range of frequencies (typically 40 - 100 kHz) in one band, convert them to another band using a mixing process similar to that used in a super heterodyne receiver and amplify the converted signal for transmission back to Earth. Linear transponders are capable of relaying several different signals simultaneously. More recently, some satellites have been carrying crossband FM repeaters instead of linear transponders. These repeaters are similar to their familiar terrestrial cousins in that they receive an FM signal on a specific channel, demodulate the signal and retransmit the signal on a new frequency. Unlike linear transponders, but like conventional FM repeaters, these satellites can only carry one QSO at a time. Most amateur voice satellites use linear transponders (there is only one known orbiting FM repeater accessible in VK at the time of writing).

To successfully work an amateur satellite, you need to have transceivers suitable for the satellites you wish to work. For linear transponders, SSB and CW transceivers on the bands of interest are required. For the FM repeaters, either a dual band FM transceiver with crossband transmit/receive capabilities or separate 2m and 70cm FM transceivers are suitable. A related issue is which bands to use. FM users don't have much choice. All of the FM satellites (operational or proposed) use 2m and 70cm, with one of these bands being used for the uplink, the other for the downlink. There are a wider variety of frequencies in use by linear transponder satellites. The suggested bands to try for a first attempt are 2 metres uplink and 10 metres downlink. If you have 2 HF transceivers, it might be worth trying the 10m/15m satellites as well.

For antennas, an existing HF dipole and VHF/UHF omni directional antennas will work in a pinch. The typical VHF/UHF collinears typically have a low angle of radiation, and better results may be obtained with a simple ¼ wave ground plane, or for the more serious, a turnstile antenna. If you have crossed Yagis and AZ/EL rotators, all the better

(but then this article isn't aimed at you in this case! :-)). Finally, though not essential, it is very strongly recommended to have a computer, satellite tracking software and an Internet connection available. The Internet connection is for downloading the latest Keplerian elements for the tracking software (and the software itself if you don't have any), as well as checking satellite home pages for transponder schedules and other information. Besides, the Internet is fun when the birds aren't overhead!

Working your first satellite! This isn't anywhere near as daunting as it sounds. The first thing is to have a look around your shack and see what equipment you have. If, like many amateurs, you have FM only radios on VHF/UHF, then you are limited to the FM satellites. Those lucky ones with all mode transceivers can also try their hand at the linear transponders. The rest of this article will concentrate on FM operation as nearly everyone has FM gear for 2m and 70cm, and the operating techniques are easier to master. If SSB or CW satellite operation interests you, it's a natural progression to move on from FM. For those interested in exploring SSB/CW operation via linear transponders on satellites, there are several excellent introductory articles on AMSAT's web site.

First, time for an inventory, as the gear you have available will partially determine the satellite to use. As the satellite bands are outside the Novice voice segments, Novice operators will need to upgrade to a Limited, Intermediate or Full call, if they aspire to working satellites. At the time of writing, which satellite to work is an easy choice, as there is only one FM satellite available, namely the South African SUNSAT (OSCAR-35). This satellite is capable of transmitting 10 watts on either 2m or 70cm, and is usually configured to uplink on 70cm and downlink on 2m. Because of the high transponder power and relatively low orbit (650-850 km altitude during passes over VK), handheld transceivers are sufficient and will give good results. Regardless of the rig you use, it has to be capable of tuning in 5 kHz or smaller steps, to enable you to follow the Doppler shift as the satellite passes overhead. As an example of what SUNSAT is capable of, I have worked SUNSAT from within a moving tram, using a pair of handheld transceivers! However, replacing the standard rubber duck antennas with high performance whips is strongly recommended. Home operators will most likely use their existing omni directional or beam antennas. Modern omnis tend to have a very low angle of radiation and therefore may not give good results when used to work satellites. However, as most modern rigs put out 35-50 watts on 70cm, the extra power should largely compensate for the antenna's radiation pattern. If you can use a ¼ wave or turnstile though, then you'll enjoy better satellite performance. If you have a beam, you will need to track the satellite as it passes, especially at low angles, where the beam's gain will be useful. And finally, don't forget an

earpiece or headphones. You will be operating full duplex (i.e. being able to transmit and receive simultaneously) and without headphones, feedback can be a problem. With them, you'll be able to hear what you sound like while you transmit, which will be helpful for correcting for Doppler shift.

During your preparation, log onto the Internet and check the SUNSAT page at

<http://sunsat.ee.sun.ac.za/index.html> (click on the Amateur Radio link for the skeds), to find out when the transponder is scheduled to be active over Australia and the frequencies that will be used. (usually 436.291 MHz up and 145.825 MHz down) The times given on the SUNSAT page are the actual switch on and switch off times for the transponder. The satellite may not be visible in your area for all of this time. If you have tracking software, download the latest Keps while you're online and run a simulation of the pass. The software will allow you to know where the satellite will be at any given point in time, the maximum elevation of the pass and the exact times it will be visible, and often, the amount of Doppler shift that will be present. If you're using minimum equipment (e.g. a handheld with a rubber duck), are in difficult terrain or are going to be working the satellite from a difficult situation (e.g. while on a train or tram), this information can be crucial to your success.

Also important to know is the amount of Doppler shift that will be present on the uplink and downlink frequency. Doppler shift is a phenomenon that all of us will recognize in a different situation. Imagine you're waiting at a railway crossing. A train passes at high speed, blowing its horn. As the train passes you, the pitch of the horn appears lower than when it was approaching. That apparent shift in frequency is Doppler shifting caused by the relative speed of the train to you shortening, then later lengthening the wavelength of the sound as seen by the observer. On board the train, the pitch of the horn does not alter, but the pitch of the bells at the crossing does. When a satellite passes overhead, the transmitted and received signals are affected in a similar way. With the satellite passing at 27,000 km/h or more, a signal at 436 MHz can be shifted by up to 10 kHz from its actual transmitted frequency. Some satellites are designed with this in mind, and have AFC (Automatic Frequency Control) circuits to partially compensate for Doppler shift. Doppler shift is only significant for FM satellites on 70cm or higher bands. On 2m, the 3 kHz Doppler shift can usually be accommodated by an ordinary FM receiver, provided it's on the correct frequency. Here's some more information on Doppler shift for those interested.

As the satellite approaches, you should be listening to the downlink frequency, with the uplink ready to transmit when needed. Remember to allow for any Doppler shift (for FM, it will only be significant on 70cm – around 5-10 kHz). If the uplink is on 70cm (usually the case for SUNSAT), tune 5-10 kHz below the nominal uplink frequency (the Doppler

shift will make it arrive at the satellite on the correct frequency). If the downlink is on 70cm, you'll have to tune the 70cm receiver 5-10 kHz above the nominal frequency. SUNSAT's transponder usually sends over a minute of data or a voice preamble before it's available for use. While this may be a waste of time, this minute is also useful for signal checks and fine tuning your position if you're portable. When the data ceases, you'll hear FM receiver noise from the satellite. At this time, the satellite is ready for use, and you can put out a call. While calling, pay attention to your signal as heard on the downlink. Too much noise may indicate a need to move the uplink antenna, increase power or adjust frequency to compensate for Doppler shift. If you can't hear the downlink at all, don't attempt to transmit, as you may interfere with someone else. Also, keep things short while using the satellite. Only one person can use the transponder at a time and the satellite is usually only accessible for about 10 minutes. Others will appreciate your efficiency and courtesy. Most FM satellite contacts are usually an exchange of call signs, signal reports and occasionally a comment about the weather.

As the satellite passes, you will need to make occasional adjustments to the 70cm frequency as the Doppler shift changes, so that by the end of the pass, you'll be transmitting 5-10 kHz above (or receiving 5-10 kHz below, if 70cm is the downlink) the nominal frequency. From experience, the distortion caused by being off frequency isn't so noticeable, but it is much more difficult to access the transponder when more than 5 kHz off the correct frequency (SUNSAT is capable of correctly receiving signals up to 9 kHz off the uplink frequency, so the tolerance is pretty broad). Some tracking software is capable of telling you the exact amount of Doppler shift present at any given time as the satellite passes, provided you tell the software the uplink frequency (read the manual on how to do this). Once the satellite has passed, you can relax and plan your next attempt.

A quick run down on the results that are possible with SUNSAT. I have only ever used handheld transceivers to work this 'bird'. The typical station is:

Uplink - Icom IC-T81A handheld running 3.5 watts into a 70cm 1/2 wave ground independent handheld whip.

Downlink - Alinco DJ-500T handheld or Standard C58 all mode portable with a "ScanDucky" scanning antenna (roughly equivalent to a 1/4 wave on 2m).

Station monitor (for recording the passes) - Icom IC-R1 handheld scanner or Standard C58 with a Diamond V2000 triband vertical or a 2m 1/2 wave aligned to the satellite pass. This sits in the shack and feeds audio to a PC running audio recording software.

As you can see, this isn't a particularly sophisticated setup and is very portable. However, it is also capable of very good results with SUNSAT. With the above gear, I am able to work SUNSAT from a good outdoor location at up to

3000 km range (which is practically on the horizon). The above station is also capable of working SUNSAT from a train at up to 2000 km range or up to 1500km from a tram (the tram range is limited by downlink noise, not uplink power). Due to the flexibility of antenna alignment possible with a portable station, this setup often equals the performance of base or mobile stations running up to 10 times the power into a vertical antenna.

The most exciting part of satellite operation is the anticipation of the pass as the time approaches and the fast pace of operation, not unlike during a contest but with more order. It's a bit like a brief band opening on VHF/UHF, except that unlike ducting or sporadic E, satellite openings can be predicted to the second. With the advent of orbiting FM repeaters, it is now possible to enjoy the excitement of satellite operation without paying the earth in hardware (Almost any VHF/UHF operator already owns the necessary gear). However, a word of warning: For some people, the thrill of satellite operation can be addictive! You may find yourself trying unusual situations, or decide to invest in multimode gear and work some of the linear 'birds' that are up there. You have been warned! (and I have the audio clips and 2m all mode box to prove this theory!) :-)

To: Defense of Amateur Radio Fund (DARF)
From: Winnipeg Amateur Radio Packet (WARP)

First a bit of history:

The first meeting of the Winnipeg Amateur Radio Packet group was held in April of 1993. It started as an unofficial group of packeteers dedicated to keep the present network running and to provide support services to the various mailbox systems. In October, 1994 the first annual meeting was called and the group officially was born. The main function of W.A.R.P. was to increase the awareness and technical expertise of those interested in or who are currently using packet radio in the Winnipeg Area. Secondly, through membership funds, to enhance the packet network through high speed backbones, user ports, and increased network connectivity.

Over time interest in packet radio declined until in late summer of 2002 the surviving executive members of WARP decided that it was time to cease operations and dispose of the remaining assets. One of the founding principles of the club was that on dissolution, any remaining funds would be donated to an Amateur Radio organization selected by the club executive at the time.

As the President of WARP it is my last official act to present to DARF a money order in the amount of \$1,396.96, with the hope that this will be of some benefit to all Canadian Amateurs. -- Regards: Chris Setla, VE4SET

Member Recognition Reward Program



While the new membership campaign ended on August 30, 2002, RAC will continue to have an on-going membership campaign!

Besides attracting new members, RAC will recognize and reward those members who continue to renew their annual memberships on time by providing them with incentives. Those incentives will include quarterly draws, featuring prizes which will vary, depending upon dealer participation. While there could be more, we are promising at least twenty-five (25) prizes four times a year. However, the more members that RAC has, the more prizes that can be offered.

Here's how it will work: anyone who has been a RAC member for at least one year immediately preceding will be entered automatically into the draw during the quarter in which his/her membership expires.

For example, if a membership expires in August, a renewal notice is sent out by RAC in early June, advising of a "return date" which will be in advance of the renewal date. The member must respond by renewing on or before the "return date" in order to be eligible for the incentive draws. If not received by that date, the renewal will not be considered for the draw.

The intent of this program is to encourage annual membership renewal on time. It also, importantly, rewards those loyal members who have continued to renew RAC membership and thereby support Amateur Radio in Canada, year after year. Even with a "return date" slightly in advance of the normal renewal date, the renewing member will still have from six to eight weeks to reply and the renewed membership will still be for one full year. The early return date is needed to allow RAC HQ staff to deal with the membership processing in advance of the next issue of TCA, thus ensuring that magazine delivery to the member is uninterrupted.

Those members who joined RAC during the recent membership campaign, thereby having a chance at the eighty-one (81) prizes in that effort, will not be eligible for the new Reward Program until renewal after one full year of membership. Watch for the program to begin soon!

This is an exciting time in RAC's history and, truly, there NEVER has been a better time to join or to renew. Radio Amateurs of Canada is pressing forward with innovative ideas and contemporary thinking. Our email and telephones and postal boxes are open for your active participation. We want to hear from you so that we may give Radio Amateurs the best service and representation possible.

"We're ALL about Amateur Radio!" And we thank YOU for continuing to be part of it.

Let's Get It Right!

By David VE4DAR

It's my opinion that amateur radio in Winnipeg as a collective of knowledgeable, respectful and connected radio operators will die within 10 years. I believe our ham birthrate is diminishing to the point that we are about to become an endangered species. Even if we manage a steady state of bringing in a new licenced operator for every one that leaves (becomes inactive or dies), we are likely to lose our critical mass. That's the unknown number of hams needed to keep our hobby "alive".

At the outset I want to commend two groups that appear to be working to halt our demise: the Winnipeg Seniors Amateur Radio Club and the Sun Valley Venturers and Rovers ARES. They actively recruit, mentor, train and incorporate new members.

Our world has changed dramatically during the past 60 years. During the WW2 members of the Armed Forces were trained in various forms of communications and in electronics. For them to slip into amateur radio was relatively easy even though the testing standards were more rigorous than today. "When I was tested for my licence, we had to ..." falls on deaf ears of today's youth. In times past roles and expectations in our society were clearer and generally shared. A greater proportion of our society was living on farms or in small towns. A daily net contributed to one's feeling of security especially during the long winters. Messages were passed; ham radio tidbits were shared; and weather reports had relevance for farmers and travelers.

Today's folks use a phone; watch TV or go to the Internet for the same info. The majority considered speeding in a vehicle and running red lights and stop signs as aberrant behaviour. There was a feeling of "we" instead of today's "me first." Much of our communication equipment was assembled and repaired by hand and only required tools many had in their shop. Surplus military transceivers and electronic kits were readily available. Today a host of activities, clubs, organizations and hobbies vie for our attention, time and money.

I think it's important to acknowledge the differences of the past and present as we plan for the future. I believe WARC has an obligation to develop and implement a comprehensive plan to recruit, mentor, train and welcome new members into our hobby. We need to do more than applaud new grads and new members at their first meeting. Perhaps our failure to make them part of the social fabric and

show them "the ropes" is one of the reasons we have to go begging for volunteers each time we have an event.

Here's my suggested approach: instead of just "signing up members," the Membership Chair could start by setting targets for renewed memberships and new recruits into our hobby. Monthly he could report on achievement against targets. The Member at Large could develop a list of interested Elmers and suggestions on how to work with trainees, and pair the Elmers with new recruits. The Elmers could assist the new recruit as he or she goes through the course, and into their first year in our club. The Vice President could be responsible for developing a training program aimed a youth. Instead of trying to recruit people randomly, we can approach existing groups. Obviously this is more efficient and relieves us of administrative details. We will require a training syllabus (they already exist) and excellent instructors. (I might suggest that long experience in the hobby doesn't necessarily imply good teaching skills.) Training location and perhaps costs could become the concern of the existing group we approach.

Now if we take a committee approach to these activities, the elected Executive won't feel they are doing all the work. The other side of that is that the members can get involved; acquire some new skills; and feel part of the club, not just "one for the count." This approach requires leadership from the Executive and perhaps a few extra meetings with their committee. Once committees (such as membership, training, Elmer, program) are established, we have some place for new members to be active.

Well, there's my opinion and suggestions. I think we have to do all of it to "get it right."

What do you think?

Winter CanWARN Reportable Weather

Submitted by Jeff, VE4MBQ

As there will not generally be a CanWARN net in operation this winter, all members are requested to phone your report in via the number you received at Spotter Training. All non-CanWARN members should use the public number 1-800-239-0484. The following weather conditions are reportable;

- * Low Visibility
- * Freezing Rain or Freezing Drizzle
- * Snowfall accumulations over 6-8 cm
- * Rain that changes to snow (when temps near zero)

The Handicap Ham

By Bruce Brown, VE4BLB

There comes a time when every new amateur radio operator will need help of one kind or another. If that person is blind, or otherwise handicapped, other forms of help may also be required.

For example, if you want to know which radios are best for a blind person, the Canadian National Institute for the Blind (CNIB) sponsors an amateur radio program that can provide various forms of advice via e-mail. The program also can document owners' manuals etc. in cassette or Braille format.

Additionally, the program is authorized to sell or lease Kenwood radios at a small discount.

Kenwood was chosen because their displays are more readable to a visually impaired person. Also, the various buttons have different shapes and arrangements which make it easier to operate when one cannot read the markings. They also have the optional voice synthesizers for most of their mobile and base radios. The synthesizers are part of the CNIBs' contribution, and are supplied to the buyer of the radio at no cost.

Another source of help for any handicapped amateur radio operator or a prospective one, is the various camps around the U.S. such as the Courage Handi-Ham Camp schools. These schools are held in Southern California in the winter and in Minnesota in the summer.

These camps cater to every conceivable type of handicap by offering services that a person may require to be away from the familiar home environment. They will provide an orderly for the severely disabled student or a hearing "wire" for the nearly deaf. (Yes, it is possible for the deaf to become a ham) The staff is also trained to help the students with their studies as well as their physical needs.

The end result is a person who can become a valued and respected member of the amateur radio community and better his or her quality of life. From there, the nets, rag chews, clubs etc. will put the person in touch with other hams who are (almost) always eager to help. All of us should keep our eyes and ears open for anybody who can "be a ham". As they say, "the sky's the limit" but we know different, don't we?

The President's Call

By Louis, VE4PLJ

Hello everyone. I hope everybody is doing fine. Well another Flea Market has come and gone. I'm sorry I couldn't be there but I was told all had a good time. For all the ones that helped out with setting up and taking down we thank you. The November program will be Moon Bouncing by VE4MA. I look forward to seeing you all at the November meeting.

Editors Ramblings

By Derek VE4HAY

Did you Know

That at the next meeting of WARC there will be a membership survey, which will help to guide the club for the years to come. It is very important that everyone fills out this survey and returns it.

A very generous ham has loaned indefinitely a communications trailer to both WARC & ARES. The trailer is 8' x 10' and about 7' high and is completely empty inside. Both groups will be asked to set up a committee on how to design the work area and how to equip the trailer for display purposes and to operate amateur radio for events like the Marathon, Field Day, etc... If you think you can help out on this project, please stay tuned for contact information once the committee is formed.

There are only 3 paydays until Christmas, so if you were thinking of purchasing that new rig for the XYL, (or yourself), better start the process now.

The Human Race is still scheduled to start on June of 2003. If you haven't already checked their website I suggest you have a peek at it.

<http://www.etcsl.com/humanrace/index1.html>

**DIAMOND
IMAGE**

Floyd Rolph VE4 FDR

835 Cavalier Drive Tel: (204) 888-3227
Winnipeg, MB R2Y 1C6 Fax: (204) 831-6400

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