



The **NEWSCASTER**

The Official Publication of the Winnipeg Amateur Radio Club

<http://www.mts.net/~warc>

April 2009

IRLP # 1066

VE4BB

Home Brew Night Show & Tell your favourite projects

Date: **April 20th, 2009**
Time: 7:30 p.m.
Place: **Dakota Collegiate**
661 Dakota Street

Other Important Dates:

WARC: Monthly Meeting dates - May 11, June 8.

Flea Market: April 19th, 2009

WSC: 2nd Thurs. of month - Breakfast Garden City Inn

ARES: May 9th CanWARN - Spotter Training

Other: April 14 MRS AGM
April 19 MARCC
June 21 MB Marathon

WARC: Executive for 2008- 2009

President	Geoff Bawden	ve4baw at rac.ca
Vice-Pres	Albert Sousa	albert.sousa at shaw.ca
Treasurer	Sue Collings	collings at mts.net
Secretary	Ruthie Maman	rmaman at mts.net
Membership	Mark Blumm	ve4mab at rac.ca
Program	Vacant	
Director at Large	Vacant	
Past President	John Pura	ve4qv at rac.ca

And now for a word from the President By Geoff, VE4BAW

And I am coming down to the last word ... only two months until the June election. We need keen energetic people to join the WARC Executive. The President is leaving, so are the Vice-President, The Treasurer and the Secretary. Plenty of prime positions to go around! Your club needs you to stand up and be counted.

Contact me at ve4baw@rac.ca to run for the executive. We need you!

Amateur radio is very exciting these days .. we have fifteen fine minds striving to become Hams at our course at Red River College. Dave [ve4dar] is trying to see what else he can get up to ... a CW course? An advanced course? A refresher? Busy guy ...

There might be a short familiarization course for youth at Field Day. It might be perfect place and time to get young people involved.

Speaking of SpaceCamp; after a one year hiatus it is back but at the University of Winnipeg. The organizers may be looking for help. Stay tuned.

Bill 5 is coming. That is the Bill that will ban cell phones while mobile [and also ban smoking while having kids in the car]. The Bill may also ban mobile amateur radio use. There is a Bill 5 Committee chaired by Derek, ve4hay and the Committee represents WARC, MRS, RAC, and ARES. Glen ve4gwn, Jeff ve4mbq, Al ve4aew, and your truly ve4baw are on that Committee and we are organizing our approach to the government on Bill 5. Letters have been sent in by each group and as a result of those communications I was invited by to represent Amateur

Our Vision To increase public awareness and respect for Amateur radio; to provide education and support in all aspects of the hobby to our members in a social atmosphere.

Radio at a Stakeholder Consultation with MIT legislative developers. MIT is Manitoba Department of Infrastructure and Transportation which has introduced the Bill into the Legislature. I noted that Amateur operators are an asset to public safety and that amateur radio mobile radio operation is part of our contribution to public safety. Banning mobile radio operation will reduce the capability and capacity of radio amateurs to assist when called upon. There will be fewer radios available and less skilled operators. Many agencies and groups have written the government to advise the government of the value of amateur radio. These are valuable in making our case. No other jurisdiction has banned amateur radio use and Manitoba would be the first. We are asking for an exemption for amateur radio operators or for federally certified/licensed operators.

Exciting times for amateur radio ... exciting times indeed. Stay tuned ... and get involved! We have an Executive to form, Rolf ve4vz needs help for Field Day, we need amateurs for Field Day ... we are short twenty volunteers for the Father's Day Marathon Event. Fill out a Marathon Volunteer form right now and email it to Jeff, ve4mbq@rac.ca.

Enough for now ... take care .

**Amateur Radio Service Centre
Industry Canada**

P.O. Box 9654, Postal Station T
Ottawa, Ontario, K1G 6K9
Telephone: (613) 780-3333
Toll free: (888) 780-3333
Fax: (613) 998-5919

E-mail: spectrum.amateur@ic.gc.ca

http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/h_sf01709e.html

IRLP Node 1066
145.450 MHz -600 KHz
(VE4WRS)

Comments or if you just want to reach us :

Winnipeg Amateur Radio Club
C/O VE4WSC
598 St. Mary's Road
Winnipeg, MB R2M 3L5

WARC Meeting Minutes April 20 2009

Taken by Ruth Mills VE4XYL

Meeting commenced at 19:30 hrs with 45 members in attendance.

Minutes Moved by Glen VE4GWN and seconded by Rolf VE4VZ they be accepted as Written in the Newscaster. Carried

Business Arising

Committee Reports

Education

David VE4DAR. Classes are held at Red River College every Tuesday and Thursday evening until June 29/09. With 15 students. Another idea David put out to the membership for feed back and that of possibly doing a summer camp exercise for students. Something simple and radio related. Two suggestions were made in response.

! To invite the Boy Scouts and the Girl Guides to our up coming Field Day event for an introduction as to what Field Day is all about.

2 Possibly organizing a CW class. Adam VE4SN volunteered to teach.

There was a definite support by all.

SPACE CAMP

Alan Thoren VE4YZ reported that a space camp is available again this year. No definite dates in place as yet, but all is in the works. There will be a balloon launch and a lot of emphasis as to why Amateur Radio is so important to Space Camp. The web site is wincube.ca

ARES report by Jeff VE4MBQ

Up coming operations are Canwarn Spotter training to be held Sat. May 9, at East Selkirk Rec. Center. Those who will be attending, please notify Jeff VE4MBQ by Thursday April 30.

ON GOING OPERATIONS at EMO since Thursday March 25th with 17 ARES members involved.

RECENT OPERATIONS. In support of City of Winnipeg flood operations, active or stand by, since March 30th, 80% of WARES membership and 7 non members participated in the City Winnipeg operations or with VE4EMO. 35 ARES vests jointly owned by ARES & WARC were received on April 2 from cresting provider. 5 were loaned during flood operations. The cost of 35 vests were \$887.58 which ½ was paid for by WARES and ½ by WARC Eight ARES members were on alert for possible ice run 00:01-03:00 hrs. Friday April 10. Ice jam did not develop, no call out required.

MANITOBA MARATHON

SUNDAY JUNE 21. Recruiting began Jan 15th. To date we have 55 volunteers and still need 20 additional radio operators.

DX by ADAM VE4SN.

DX is starting to improve and contests are still on. CW is the best way to go as so many countries don't speak English all that well but are great CW operators.

BILL C5 COMMITTEE by Geoff VE4BAW.

Letters against the banning of mobile radio use have been sent to the Government. The information has been taken, but to date no answers have been received. We need 3rd party letters to let the government know why mobile radio use is so important. People responses in regards to this issue are very important. Further thoughts can be sent to Geoff VE4BAW. A committee meeting to sit with the government is planned as to why we need to change Bill C5.

FIELD DAY REPORT BY Rolf VE4VZ.

Field Day has been booked for Friday, June 26th to Sunday June 28th at Birds Hill Park, site 6 group 2. Rolf is asking for help. Those interested can email him at ve4vz@rac.ca.

FLEA MARKET REPORT by Dick VE4HK.

Paid attendance was 173. A successful event and there will be a full report at our next meeting.

WSC by Adam VE4SN.

Red Cross 100th anniversary celebration Friday May 8th 10:00 hrs. until 18:00 hrs. The Red Cross emergency trailer will be at the Seniors Club setup with all sorts of Amateur Radio display and operators will be in contact with both Canadian and International Red Cross in regards to their type of celebration.

TREASURERS REPORT by Susan VE4SYM.

As of March 31st the Bank Balance was \$8605.84.

GOOD AND WELFARE.

Susan, VE4SYM having had the first hand experience with making of the coffee at the Flea market it was agreed that we need airpots on hand at our various events. It was agreed that we purchase 3, 3L airpots. 2 for WARC and 1 for

What have you done to 'promote amateur radio this week'

That line we credit to an old News stalwart, Peter Parker with using in his old VK1 and VK3 casts many years ago and it still stands true -WIA

to replace VE4XYL's that broke at one of our WARC events. Moved by Susan VE4SYM and seconded by Rick Lord VE4OV. Carried

50/50 draw was made and \$23.00 was won by Tom VE4HQ. Coffee break from 20.45 hrs to 21.00 hrs.

HOME BREW DISPLAY.

The following 5 items were presented and each of the presenters was given a prize of \$20.00

- | | |
|--------------------------|-----------------------|
| Rick Lord VE4OV | Antenna Tuner |
| Gord Finch VE4GF | Antenna Tuner |
| Robin Ozgro Call Pending | CW osc and xmtr. |
| Kumar Perera VE4WKP | |
| Supun Perera VE4WSP | AM Radio |
| Bob Jacobs VE4RCJ | Remote Antenna Switch |

RAC/ARES		
NATIONAL EMCOMM FREQUENCIES		
SSB	Frequencies	Tactical
75 M - LSB	3.675 MHz	Alfa
40 M - LSB	7.135 MHz	Bravo
20 M - USB	14.135 MHz	Charlie
17 M - USB	18.135 MHz	Delta
15 M - USB	21.235 MHz	Echo
10 M - USB	28.235 MHz	Foxtrot
CW	Frequencies	Tactical
80 M	3.535 MHz	Golf
40 M	7.035 MHz	Hotel
20 M	14.035 MHz	India
17 M	18.075 MHz	Juliette
15 M	21.035 MHz	Kilo
10 M	28.035 MHz	Lima
Digital	Frequencies	Tactical
80 M	3.596 MHz	Mike
40 M	7.096 MHz	November
20 M	14.096 MHz	Oscar
17 M	18.096 MHz	Papa

Contest Calendar

Extracted from <http://www.sk3bg.se/>
& <http://www.hornucopia.com/contestcal>

May

NCCC Sprint Ladder	0230Z	May 1
AGCW QRP/QRP Party	1300Z	May 1
MARAC CW QSO Party	0000Z	May 2
MARAC SSB QSO Party	0000Z	May 2
10-10 Int. Spring	CW 0001Z	May 2
10-10 Int. Spring	Digital 0001Z	May 2
Microwave Spring Sprint	0600	May 2
7th Call Area QSO Party	1300Z	May 2
Portuguese Navy Day	1500Z	May 2
Indiana QSO Party	1600Z	May 2
New England QSO Party	2000Z	May 2
	And 1300Z	May 3
ARI International DX	2000Z	May 2
RSGB 80m Club Championship	SSB 1900Z	May 4
ARS Spartan Sprint	0100Z	May 5
NCCC Sprint Ladder	0230Z	May 8
SBMS 2 Ghz & Up WW Club	0600L	May 9
VK/Trans-Tasman 80m	Phone 0800Z	May 9
EUCW Fraternizing CW QSO Party	1000Z	May 9
	And 1800Z	May 10
CQ-M International DX	1200Z	May 9
VOLTA WW	RTTY 1200Z	May 9
FISTS Spring Sprint	1700Z	May 9
50 MHz Spring Sprint	2300Z	May 9
SKCC Weekend Sprint	0000Z	May 10
RSGB 80m Club Championship	Data 1900Z	May 13
NCCC Sprint	0230Z	May 15
Feld Hell Sprint	Hell 200Z	May 16
EU PSK DX	PSK 1200Z	May 16
His Maj. King of Spain	CW 1200Z	May 16
Manchester Mineira All America	CW 1500Z	May 16
Baltic	2100Z	May 16

Run for the Bacon QRP	0100Z	May 18
NAQCC Straight Key/Bug Sprint	CW 0030Z	May 21
RSGB 80m Club Championship	CW 1900Z	May 21
QRP Minimal Art Session	1900Z	May 21
NCCC Sprint	0230Z	May 22
MI QRP Memorial Day	CW 2300Z	May 25
CQ WW WPX	CW 0000Z	May 30
Kids Roundup	1400Z	May 30
ARCI Hootowl Sprint	2000L	May 31


June

2	0100Z	ARS Spartan Sprint	CW
4	1700Z	10 meter NAC	CW/SSB/FM/Digital
5	1800Z	Digital Pentathlon	BPSK63
6	0000Z	Open Season Ten Meter PSK	BPSK31
6	0400Z	DigiFest	Digital
6	0600Z	Wake-Up! QRP Sprint	CW
6	1200Z	SEANET	CW/SSB/RTTY
6	1500Z	IARU Region 1 Fieldday	CW
6	1600Z	Alabama QSO Party	CW/Phone
6	2000Z	DigiFest	Digital
7	1200Z	DigiFest	Digital
10	0030Z	NAQCC Straight Key/Bug Sprint	CW
11	1700Z	NAC 50 MHz (Aktivitetest)	All
12	1800Z	Digital Pentathlon	MFSK16
13	0000Z	ANARTS WW RTTY	Digital
13	0000Z	Portugal Day	CW/SSB
13	1100Z	Asia-Pacific Sprint	SSB
13	1500Z	GACW WWSA CW DX	CW
13	1600Z	DDFM 50 MHz	CW/SSB/FM
14	0000Z	SKCC Weekend Sprint	CW
14	0600Z	DIE (Spanish Is.)	CW/SSB/RTTY
14	1400Z	SSA Månadstest nr 6	SSB
14	1515Z	SSA Månadstest nr 6	CW
17	1800Z	MOON	CW/Digital/SSB
19	1800Z	Digital Pentathlon	MT63
20	0000Z	All Asian DX	CW
20	0000Z	SMIRK	CW/Phone
20	0800Z	SCAG Straight Key Day (SKD)	CW
20	1400Z	Feld-Hell Club Sprint	Feld-Hell
20	1600Z	West Virginia QSO Party	CW/SSB
20	1800Z	Kid's Day	SSB
22	0100Z	Run For The Bacon QRP	CW
24	0000Z	SKCC Straight Key Sprint	CW
26	1800Z	Digital Pentathlon	Feld-Hell
27	1200Z	H. M. The King of Spain	SSB
27	1200Z	Ukrainian DX DIGI	RTTY/PSK31
27	1400Z	MARCONI Memorial HF	CW
27	1800Z	ARRL Field Day	All
27	1800Z	QRP ARCI Milliwatt Field Day	All

DIAMOND IMAGE

Floyd Rolph VE4 FDR
835 Cavalier Drive Tel: (204) 888-3227
Winnipeg, MB R2Y 1C6 Fax: (204) 831-6400

- South Western & Victorian home decor
- ty Beanie Babies
- Balloon bouquets & decorating
- Gifts
- Printing eg: Business cards, letterhead, envelopes
- Wedding invitations



Amateur Radio A Community Resource

RRC Basic Course is a Hit!

By David VE4DAR

Fifteen students enrolled in Red River College's Amateur Radio Operator Introduction course taught by 13 instructors from WARC. Classes began April 7 and will conclude June 25 with the exam from Industry Canada. We are using RAC's new Hamstudy 2009/2010 textbook, which features the information on the left page and the relevant questions from the exam bank on the right. Instead of having chapters, the text is divided into 100 topics like the exam. This "bare bones" text is being augmented by other sources. The students' background varies from no contact with ham radio to ham in the family to a grad from a 2-year RRC electronics course.

Gone are the days when an instructor wasted much of a student's learning time by merely reading from an overhead transparency copied from the student's textbook.

RRC's classrooms are equipped with modern ceiling mounted projectors, screens and Internet connections. With careful lesson planning, today's instructor can attach his laptop, use a program such as PowerPoint to emphasize the main points being made, and top it up with a short movie downloaded live from You Tube. For example, when presenting an overview of our hobby, I showed a CW operator, an American club's Field Day and contesting in Russia.

It's possible RRC may choose to offer this course again in the Fall. Meanwhile, if you know of someone who might be interested in taking the Basic Course or one of the other courses listed on my Expression of Interest questionnaire, please advise me.

Good luck to our students.

Flea Market

By Dick, VE4HK

The Spring WARC Flea Market returned to Heritage Victoria

Community Club, after a one year absence. Ruth Mills VE4XYL sold 27 out of 30 available tables, to sellers. There were about six extra tables set up in the foyer, along with several chairs,

so visitors could sit and enjoy a coffee break and an eyeball QSO with their friends. Many people attend the Flea Market just to chat with their friends. They don't make their way into the Flea Market area.

People started arriving by 9 am for coffee and refreshments from Ruth's Kitchen. Table setup was from 9:45 until 10:00 am. Vendors loaded their tables with goodies from 10:00 am until 10:30. Buyers were allowed into the sales area beginning at 10:30 am. Most attendees had completed their visit by 11:30 am. Tables and chairs were put away, and the rooms cleaned satisfactorily by 1 pm/ All the vendors that I spoke with were very satisfied with their sales.

Winnipeg ARES drew the winning tickets for their Silent Auction at 11:30 am. The winners were announced over the PA system. WARC door prizes followed immediately afterwards. There were a total of 9 door prizes this year. A list follows, showing prizes and winners.

Thank you to all the volunteers who assisted to make this Flea Market a success. I apologize for not recording all their names.

Special thanks to Ruth VE4XYL for her usual excellent job of preparing bunwiches, muffins and coffee for the Flea Market. Ruth's Kitchen has been an integral part of the success WARC has enjoyed over the years.

Congratulations to all the winners of the WARC door prizes, listed below

What have you done to "promote amateur radio this week"

That line we credit to an old News stalwart, Peter Parker with using in his old VK1 and VK3 casts many years ago and it still stands true -WIA

Prize	Donated by	Winner
ICFC318 S Sony clock radio	VE4TRO/VE4SYM	Alan Thoren VE4YZ
Analog Volt ohm meter	VE4TRO/VE4SYM	Milton Schenk
Lantern and battery	VE4TRO/VE4SYM	Darcy Wilson VE4DDW
Travel Mug	anonymous	Ed Oakes VE4OAK
bag of golf balls and cap	VE4RRB	Mary Bell xyl of VE4OL
roadside caution flasher and tire gauge	WARC	Irv Cosgrove VE4UG
hands free tripod flashlight	WARC	Rommel Policarpio VE4ESQ
60 piece set of storage containers	WARC	Ian Clark VE4CLK
dinner and a movie	WARC	Jim Sloane VE4AGS

WPGARES

By Jeff, VE4MBQ -Emergency Coordinator

I'm sure glad that we ran re-familiarization sessions at VE4EMO for the VE4MO Team in Jan., Feb. and Mar. since we operated there off and on from 25 MAR thru 25 APR supporting Manitoba EMO Flood Operations. Eighteen ARES members were involved with that operation. Thanks to VE4s: BN, EH, HK, SE, WR, DWG, ESX, GWN, HAZ, KAZ, KEH, JNF, MAQ, MBQ, RST, TRO, XYL, YYL.

Thirty-nine Winnipeg ARES members and affiliates were involved with Amateur Communications supporting City of Winnipeg Flood Operations. Our operations began Mon. 30 MAR and ran thru 16 APR and then went to a stand-by mode (as of this writing we still have members pre-designated for the Reception Centre at Century Arena in case communications difficulties arise). Thanks to VE4s:BN, HK, HQ, SE, SS, UG, VG, AFL, AJO, AND, BAW, BOY, BTY, CDM, CIB, CLK, CRS, DAR, EIH, ESX, GWB, GWN, HAZ, JNF, KAZ, KEH, LDI, MBQ, MMG, RAI, RCJ, RLF, RST, SYM, TRO, WTF, YYL and VA4s AJV & IAM.

Two ARES members were deployed as an ARES GO Team to St Adolphe 15-17 APR. Thanks to VE4s KEH & VID.

Five of the WARC-ARES "loaner" vests were loaned out to grassroots Amateurs who were participating in Volunteer Management communications from sandbagging sites. A comprehensive report will be provided to all volunteers as well as being posted on the Winnipeg ARES web-site www.winnipegares.ca. A number of Amateur organizations supported our Flood Operations – will recognize them in next month's report.

Welcome to new WPGARES member Craig VE4CDM and to new ARES Auxiliary members Irv VE4UG and Lawrence VE4SS.

Thanks to all who supported Winnipeg ARES either by participating in the Silent Auction at the recent WARC Flea Market or by donating prizes. Special Thanks to Rosi VE4YYL for organizing the Winnipeg ARES Silent Auction! Recruitment of volunteer operators for the 2009 Manitoba Marathon SUN 21 JUN is up to 56 volunteers as of this writing. We still need approximately 19 additional operators for the Manitoba Marathon. CANWARN Spotter Training 0930-1230h SAT 9 MAY in East Selkirk. If interested in attending please let me know by Thus. 30 APR.

Our next General Meeting is Tue. 19 MAY 1900h at Sir Wm Stephenson Library 765 Keewatin Street. Topic to be announced – may be the CANWARN Net Controller meeting for 2009.

WSC News

By Pat Giesbrecht VE4PLG, President

The Seniors will be having a demonstration and BBQ behind the club rooms at 598 St. Mary's Road on May 8th starting at 10 AM and going to 6 PM. This is in honour of the 100th Anniversary of the Red Cross. There will be a trailer set up from the Red Cross as well as demonstrations of Amateur Radio. The BBQ is ONLY from 4 PM - 6 PM. The Red Cross is putting on the BBQ and the admittance is FREE! Everyone is invited.



Tom, VE4HQ, one of the many volunteers at the ARES station set up at the flood volunteer centre.

The antenna at the Winnipeg Senior Citizens Club will be coming down in May so repairs can be done to it and the roof of the building. At this time we are not sure how long the antenna will be down. Everyone will be notified when the antenna goes back up.

WPGARES - Silent Auction

By Glen, VE4GWN

The ARES silent auction held at the WARC flea market on the 19th of April was a great success. We would like to thank the following organizations and individuals who made donations:

Jan Cote and his company DEKALB, Whytewold Emporium <http://wwemporium.com>, River Heights Family Chiropractic Center, Environment Canada, The Terry Fox Foundation, CTV, InterCity Auto Body, RBC Royal Bank Roblin & Harstone, Cabelas, Safeway Sargent, Winnipeg Goldeyes, TD/CT Roblin and Dale, CJOB, Manitoba Marathon, VE4GMT, VE4DAR, VE4APN, VE4CY, VE4HK & VE4MMG, VE4TRO & VE4SYM, VE4SE & VE4XYL, and VE4GWN & VE4YYL.

ARES also would like to thank everyone who purchased tickets. Without your support our auction would not have been a success.

Congratulations to our winners:

Lot #1 Dan, Lot #2 VE4ESQ, Lot #3 VE4ESX, Lot #4 another Dan, Lot #5 VE4BAW, Lot #6 VE4JNF, Lot #7 VE4XYL, LOT #8 Darlene (who is taking the current ham class), and Lot #9 VE4TV.

A very special THANK YOU goes out to Roswitha VE4YYL for the hard work she put into making this such a success.

Interested in Amateur Radio Courses?

By David VE4DAR

Now that a Basic Course is underway at Red River College, we are trying to determine if there is interest in other courses. Recently a "Expression of Interest in Courses in Amateur Radio" questionnaire was sent to hams on Derek's email list.

Among the courses listed were Basic Refresher, Basic, Advanced and 5 wpm CW. Respondents were also asked to submit contact information of others interested in becoming an amateur radio operator to me at ve4dar@rac.ca by April 30.

Please think about this and if you have any interest in taking one of these courses in the Fall, please let us know now so we can begin planning including designing the

course, and getting instructors, teaching materials and classrooms. Thank you.

News from the Net

When broadband technology failed hams helped out

On Easter Thursday vandals cut a vital fibre-optic cable bringing down telephone services, mobile phone and internet services in San Francisco's South Bay Area of California. It stopped telephone, mobile phone and internet services. Affected were 50,000 residents, many businesses were forced to close their doors and the emergency 911 system was not available for most of the day. Within an hour of learning of the outage police vehicles were dispatched to knock on the pre-dawn doors of members of the local emergency response team. Everything went to plan and radio amateurs were quick to activate to provide communications between the most affected areas of the outage. Officials are praising ham radio operators not only for their quick response, but also for coming through when state-of-the-art technology failed. Proving once again - When All Else Fails, Amateur Radio Works. The ham radio operators became the eyes and ears of police and fire services on the streets. No deaths or injuries were reported related to the outage. -- WIA

Thin speaker offers 'crisp sound'

Anyone who has struggled to understand speaker announcements at train stations will be heartened by work initially done at Warwick University in the UK. Engineers claim their new ultra-thin speakers, as well as looking good and being easy to conceal, will also deliver clearer, crisper sound. They are so thin, "paper thin" that they could be used as speaking posters to deliver adverts. The system, dubbed flat, flexible loudspeaker (FFL), started life as a piece of tin foil and some baking paper. Car manufacturers are also interested in the speakers because they allow sound to be directed which means, for example, music could be heard in the back of the car but not the front. But the design could make the speakers particularly useful for PA systems as the sound produced by FFLs can be directed straight at its intended audience. The sound, volume and quality does not deteriorate as it does in conventional speakers which means that public announcements in passenger terminals could be clearer, crisper and easier to hear." The firm hopes to launch its first commercial product later this year. -- WIA

A Beginners Guide to Repeaters,

By Ed Richardson VE4EAR

What is a Repeater?

A duplex repeater, in concept, is not really a complicated device. It's a 'duplexed' two-way radio set that listens on one frequency, then re-transmits what it hears on another; and does it simultaneously. In Manitoba, these systems are usually located in places of high elevation (on tall towers or buildings) and are equipped with large - efficient antennas, extremely low loss feedlines, and a transmitter and receiver that are very durable and rated for continuous duty. The end result? People using a repeater get much greater range from their radio equipment than would be possible talking simplex (from radio to radio). This is how an individual with a portable walkie-talkie (handheld) transceiver can communicate with people many miles away with good clarity.

Repeaters are found in virtually all applications that rely on wide area communications.

What is Simplex?

Simplex is point to point communications without the use of a repeater. Simplex operation utilizes the same frequency for receive and transmit. The commercial 2-way world calls Simplex operation "Talk Around" because you are talking around the repeater, not through it.

There are such things as Simplex Repeaters. These machines listen on the frequency for activity, when it recognizes something it will begin to record that activity for a pre-determined time; usually 1 minute.

A slang term for these is a "parrot repeater". After the activity ceases or the time has expired, the unit will repeat what it has recorded. This method of communications is somewhat cumbersome over a conventional repeater; because you are forced to listen to what you said earlier in time and the channel usage is problematic as you never know when someone else is recording; however it should not be discounted as these types of systems can be very beneficial.

What is Duplex?

The simple explanation of full duplex operation is like the telephone, where both people can talk at the same time. In contrast, a pair of handhelds operate in half-duplex mode because only one person can talk at a time. Since

the 'repeater' listens and talks at the same time in relaying your message, it operates in full duplex mode.

How does a Repeater work?

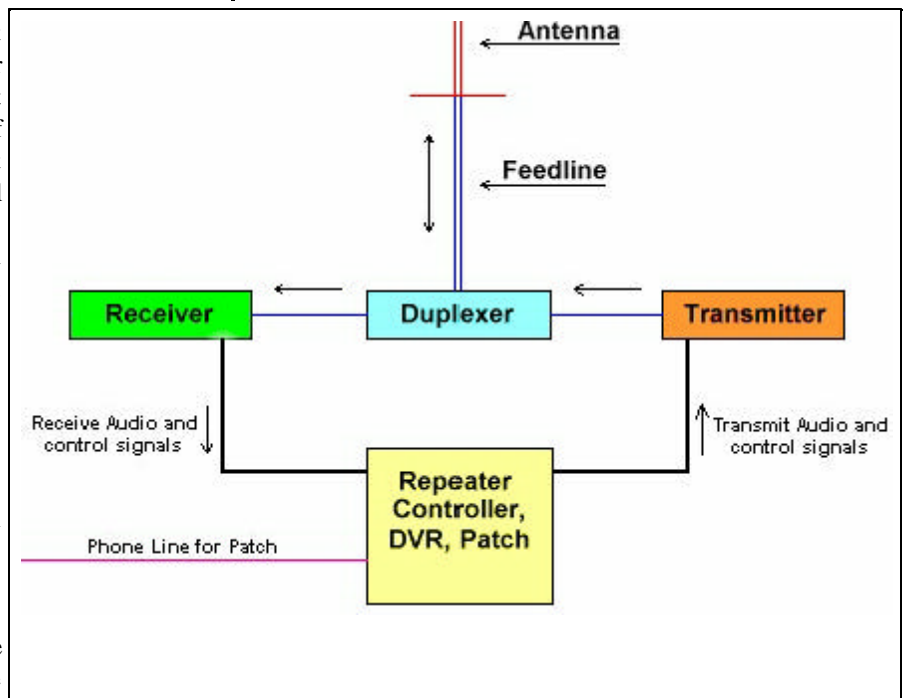
At first glance, a repeater might appear complicated, but if we take it apart, piece by piece, it's not really so difficult to understand. A basic repeater consists of several individual pieces that, when connected, form a functional system. Here's a simple block diagram of a repeater:

Antenna -

Most repeaters likely use one antenna for both transmitting and receiving. However it is possible to use separate antennas and in many case, more efficient to do so. The antenna is generally a high gain, omnidirectional design. For maximum range, the antennas are mounted as high as possible.

Feedline -

The feedline on most repeaters isn't just a piece of standard coax cable, it's what's called Hardline. This stuff is more like a pipe with a center conductor than a cable. It's hard to work with and expensive. So why do we use it? Performance! The signal loss is much lower in hardline than in standard cable, so more power gets to the antenna and weaker signals can be received. Since often the antenna may be located hundreds of feet away from the radio equipment, keeping transmission line losses to a minimum is very important. Hardline also tends to be more durable than standard cable, which increases reliability and helps us minimize tower climbs to replace it.



Duplexer -

This device serves a critical role in a repeater. To make a long story short, the duplexer separates and isolates the incoming signal from the outgoing and vice versa. Even though the repeaters input and output frequencies are different, the duplexer is still needed. Why? Have you ever been in a place where there's lots of RF activity, and noticed the receive performance of your radio degrades to some degree? This is called desensitization, or desense, and it's a bad thing on a repeater. The receiver goes deaf or gets desensitized from the strong RF signals being radiated in its vicinity and confused about which signal it should receive. The result is poor receive quality, or in extreme cases, complete lack of receive capability. Keep in mind that in this example, the radios are picking up radiated power from one another and that's enough to cause trouble. Now imagine how much trouble there will be if you not only have the transmitter and receiver close together, but connect them to the same antenna! Transmitting only a few hundred kHz away in frequency would blow away the input to the receiver if the equipment was simply connected together with a Tee. That's where the duplexer comes in; it prevents the receiver and transmitter from 'hearing' one another by the isolation it provides. And the more isolation the better.

A duplexer is a device that is referred to by several different names like cavities or cans. A duplexer has the shape of tall canisters and is designed to pass a very narrow range of frequencies and to reject others. There is some loss to the system because of the duplexer, however, the advantage of being able to use a single antenna usually outweighs the drawbacks.

The collection of the antenna, the feedline, the duplexer, and the interconnecting cables is frequently called the "antenna system".

Receiver -

Receives the incoming signal. This receiver is generally a very sensitive and selective high performance one which helps weaker stations to be heard better by the repeater. For optimum performance a wide dynamic range is required as the receiver must deal with both very weak and very strong signals. It's also where CTCSS (Continuous Tone Coded Squelch System) or "PL" decoding takes place.

Transmitter -

Most machines have a transmitter composed of two parts: an 'exciter' and a power amplifier. The exciter created low level RF energy on the proper frequency and then modulates it with the audio. The power amplifier stages simply boosts this level so the signal will travel further. Transmitters that are designed for continuous duty is preferred.

Controller -

This is the brain of the repeater. It handles station identification (through either CW or voice), activates the transmitter at the appropriate times, controls the autopatch, links or sometimes does many other things. The various models of controllers have different useful features like speed-dial for phone patches, a voice clock, facilities to control a remote base or linking, etc. The controller gives the repeater its 'personality'. Whenever you're using a repeater, you're interacting with its controller.

What is CTCSS or a PL Tone?

PL, an acronym for Private Line, is Motorola's proprietary name for a radio communications industry standard signaling scheme call the Continuous Tone Coded Squelch System, or CTCSS. General Electric uses the name "Channel Guard" or CG for the same system. Other names, such as Call Guard or Quiet Channel are used by other manufacturers. No matter what the name, the system is used to prevent a repeater from responding to unwanted signals or interference. Tone Squelch is an electronic means of allowing a repeater to respond only to stations that encode or send the proper tone. Any station may be set up to transmit this unique low frequency tone that allows the repeater to operate. If a repeater is "in PL mode" that means it requires a CTCSS tone to activate the repeater. In days of old, repeaters that used PL were considered to be closed or private. This is no longer the case as tone operation has become more the rule instead of the exception.

QTX~**By Derek, VE4HAY**

Did you know:

☺ 2009 edition of the Canada Day Contest is will be held on July 1, 2009. For more information please download the PDF file with the rules at:

<http://www.rac.ca/service/contesting/files/2009%20Canada%20Day%20Rules%20-%20English.pdf>

☺ The Manitoba Marathon Form is attached and that you need to complete it every year, when you volunteer. Please return it to Jeff, VE4MBQ or Geoff, VE4BAW.

