



The Repeater

Spring 2010

Distributed to all Current Members

Notice of AGM

The Manitoba Repeater Society will hold the Annual General Meeting April 13, 2010 1900 hours at the **Norberry-Glenlee Community Centre 26 Molgat Avenue** which is behind the AutoPac Centre on St Mary's Road. You may park in the Louis Riel School parking lot after hours.

For directions to the Community Centre visit <http://www.Mb-Repeater-Society.ca>

President's Report

From the desk of Ed VE4EAR

Welcome to the spring edition of the MRS newsletter. We have had worse winters for weather and I am sure that no one will complain about the early spring thaw. Please take a few moments to sit back with this edition of the MRS newsletter and catch up on the projects that are underway and some of the plans for the coming months.

It appears our network has also made it through the winter relatively unscathed. Check out Gord's technical report for all the details.

The club appears to be in a strong financial position and this is a good thing. We should have the resources again this year to tackle some of the larger projects and expansions we have been planning. See Harm's financial report for more details.

One of the fixtures of spring is our MRS Annual General Meeting! This year we are trying a change in venue and adding an exciting and topical presentation in an effort to encourage a larger attendance. This year it will be held at the Norberry Community Center, 26 Molgat Ave, just off St. Mary's Road. The business meeting gets underway at 7:00 pm and the presentation will follow immediately. The AGM is an opportunity to review the last year's technical progress, establish a budget for the upcoming year and of course elect a new executive. It's also your opportunity to bring forward new ideas and let us hear your feelings. If nothing else, please join us for a coffee and doughnut.

The presentation at the AGM will be an Introduction to digital modulation and the effect on repeaters. There are currently at least 3 digital repeaters operational in Winnipeg and very likely another 2 or 3 will be added soon. I hope you will join us after the AGM to learn about some of the new digital standards and what we can expect in the future.

Please see the article later in the newsletter concerning D-Star repeaters.

At the AGM a new executive will be elected. If you have an interest in joining the MRS executive, we would be glad to hear from you. Both administrative as well as technical positions are available. If you or someone you know is interested in running for an executive position, please contact Dick VE4HK as soon as possible.

I know I am looking forward to an active and exciting year ahead for amateur radio and in particular, the Manitoba Repeater Society. I look forward to sharing some of these experiences with you.

73

Ed Richardson
VE4EAR

Technical Report

From the desk of Gord VE4GLS

MRS Technical Report

13 March 2010

Overview

This year the "Ides of March" are delivering some really welcomed spring weather. We are hoping to do some early catching up on our repeater system maintenance since there are a few details we want to take care of during warmer weather. The Starbuck site requires some upgrades and a link radio at WPG needs to be replaced to facilitate linking to and from points west.

We also hope to install a radio at Buydens Hill to replace the GE Master II repeater that took a lightning hit two years ago. We have had to work on that particular radio several

times since and are still running into trouble with it, so it was decided to replace it with one of the MSR-2000 Motorola radios that we hope will be more reliable.

Flooding in the Red River Valley is likely again this year so there may be ARES traffic on some of the repeaters that reach into the south and northern Red River areas. All MRS repeaters in these areas are functioning well, however the link to the south (Morris) may not be available. We do hope to get the Morris link going again but it may not happen in time for flood operations. The Morris repeater is directly accessible from Winnipeg from base stations with an unobstructed southern view.

Another future upgrade we are considering is the replacement of the WPG controller. As simple as it sounds, it is really quite difficult to find something that will do what the current controller does as well as adding 1 or 2 more links, possible VoIP, and similar command structure. The executive is looking at several models and deciding between them is quite a task; it seems all have faults or limitations. We should have some ideas which way to go soon.

Note: The current Palomar RBC-700 series Repeater controllers are about 20 years old, this is the controller we use for all of our backbone repeaters except Morris. They have been quite reliable, but parts are beginning to be phased out for them and future repairs may be difficult.

Repeater status (west to east):

VE4MRS 145.31- (Buydens Hill)

The repeater is currently off air but may be back on the air shortly. We plan on replacing the VHF radio and add a CTCSS tone that will be 141.3Hz. Links are operational from Brandon east through the Portage and Starbuck system after it's recent upgrades.

VE4PLP 147.165+ (Portage La Prairie)

The new repeater has been installed along with a Palomar RBC-700 controller. The link radios have been updated to MSR-2000 UHF duplex radios as well. This is really a completely new system. We also replaced the original repeater radio with a General Electric Exec II duplex transceiver. The original duplexer filter cans are the only part that is original. A second cabinet had to be added to fit the large link radios. Many thanks to Manitoba Hydro for providing us with feedline, and an excellent antenna position for our repeater there. Signal reports have been really good.

VE4MAN 146.61- (Starbuck)

Our repeater here is working great, lots of range and very sensitive receiver. It is picking up some noise once in a while so we are hoping to add the CTCSS squelch to this site soon. We plan on replacing two link radios soon as well; the link #2 and link #3 to Portage and Morris. We have some surplus GE Exec II UHF radios almost ready to go for the site. This should improve the link stability to Portage, and get the Morris site on-line with the system again. We (Yori) is also working on a new duplexer filter for the site that might be ready before spring. This might help improve the VHF signal even more.

VE4CDN 145.27-/127.3Hz Morris

The Morris repeater is working great as a stand-alone system. We installed a new multi-link controller a few years ago and did have the system linked to Starbuck but the older link radios failed and haven't been replaced for some time. The link system at Morris is operational now and as soon as the link radio is installed at Starbuck we should have Morris linked in once again. Once that link is working we will get permission to install the antenna and feedline for the link to Winkler.

VE4TOM 147.33+ Winkler

Also working great as a stand-alone repeater. This site is also combined with an APRS digipeater that covers the Pembina Valley area and well into the Red River valley. Walter, Bill, and I installed a link radio and antenna at the site to link the system there to Morris. Once the Morris and Starbuck side is completed, Winkler will be linked to Starbuck and the rest of the MRS system. This should greatly improve coverage for Canwarn and general 2m mobile in Southern Manitoba.

VE4GIM 146.64- Gimli

This site is working great. We had some audio trouble on the link at Winnipeg that has been corrected last year so the link should be solid now.

VE4WPG 147.39+/127.3Hz Winnipeg

The full CTCSS (tone squelch) has been installed on this repeater so you need to transmit the 127.3Hz tone to access this repeater now. This helps to minimize the noise created up at the repeater site by all the different services operating in close proximity of our equipment. We know this may inconvenience some regular operators but most equipment is capable of transmitting the proper tone and if you need any help with programming your radio(s) please let us help you! Most of our repeaters will be going this route eventually.

L2 radio was removed for servicing due to receiver trouble. It requires re-alignment or replacement; we hope to have it back up before the meeting. This radio links WPG to MAN.

Some more equipment has been installed on the roof close to our antennae array so the range on this repeater may have changed in some directions. There is really nothing we can do about this. We may look at re-positioning our VHF antenna but doing so is very cumbersome and involves a whole bunch of engineering paperwork that can get costly.

VE4WRS 145.15- Winnipeg IRLP node 1066 and telephone patch

The IRLP and phone patch have been working great. We have since installed a UPS that should absorb any power outages (up to several minutes) so we don't have to manually start up the system.

VE4VJ 443.500+ Winnipeg

VJ is working well with no major changes in range etc. It picks up interference once in a while so we will be installing full CTCSS shortly. The tone will be the same as for WPG, 127.3Hz.

VE4MIL 145.21- Milner Ridge

This repeater is working great. Links and repeater range are stable and we don't have any updates planned for this site right now. Access to the site had changed a bit due to updates on the nearby grounds. Grand VA4GD is watching this site for us and keeps pretty close tabs on the system up there. Thanks Grant!

VE4EMB 147.36+ Hadashville

This site is operating as a stand-alone repeater. The link is not available at this time. We are looking into alternative linking systems for this site. The repeater is working well but there is a fault in the feedline or antenna that likely limits range just a bit.

VE4FAL 146.64- Falcon Lake (Pine Tree Repeater system)

This is the interface point between MRS and the Pine Tree Group systems. The repeater is working well and usually linked to the west. The link east is working but intermittent. Some upgrades are in the works at Kenora that should enhance the east link somewhat.

Just a quick rundown of the planned projects for March onward:

- Install L2 at WPG to enable link to MAN and west
- Install L3, L2, and CTCSS at Starbuck
- Install CTCSS at VE4MRS and re-enable the repeater there
- Install CTCSS on VE4VJ at the WPG site

Planned for Later when time/funding are available:

- Install feedline and antenna at Morris for link to Winkler
- Replace link radios at several MRS sites not yet updated
- Replace controller at WPG site.

-Special Thanks to Al VE4AJO, Yori VE4ACX, Walter VE4VB and Bill VE4ALW for all the great work this last few months.

-Thanks to Murray VE4RE and Prairie Mobile for their support and providing us with some great repeater sites!

-Thanks to Barry VE4MA and Manitoba Hydro for providing tower space at Portage, and installing the antennae and feedline for us!

-Gord VE4GLS

Technical Chair, Manitoba Repeater Society

D-STAR Proposed System

(Note – This is not an MRS initiative but is being reproduced here for the benefit of all members)

Some of you may have heard a rumour by now about the possibility of a D-Star digital repeater being installed in Winnipeg, either, as a topic of discussion on a local repeaters or as a conversation at a local ham coffee gathering,

At this time, I would like to confirm there IS a significant initiative underway by Manitoba ARES to bring about the installation of a D-Star Digital repeater system in the capital region - serving Winnipeg and surrounding areas.

There are a number of reasons for this, which I will outline for you , but first I will give you some background information.

Background - What is ARES

Amateur Radio Emergency Service (ARES) is an amateur radio public service program – operated by Radio Amateurs of Canada (RAC) on this side of the border, and similarly, an ARES program operated by the American Radio Relay League (ARRL) exists with our neighbours in the United States of America..

(www.rac.ca www.arrl.org)

The reason that Amateur Radio Emergency Service (ARES) exists - is to assist and support our emergency response agencies and various levels of government in times of crisis, and during interruption of communications on so forth.

As with all amateurs, we take our initial course, get our amateur license and use the hobby as a fun past time and get involved in things like contesting, DX, CW, EME, ATV, digital modes, APRS, IRLP, Echolink or where ever else each of our personal interests in this great hobby takes us.

What may be a little different with the ARES amateur operator is being part of an organization with a nationally developed formal training plan for ongoing emergency training, invitations to participate in provincial and federally organize emergency training programs, a schedule of ongoing meetings, familiarization tours at various fixed emergency stations, participation in disaster exercises, and the possibility of being "called out" to assist in an emergency that can occur with little or no warning.

To be able to respond to these call outs, ARES members generally have an inventory of mobile and portable equipment suitable for rapid deployment, along with various pieces of support materials which may include a go-kit stocked with batteries, power supplies, additional feed lines, antennas, repair tools and so forth that can be brought to a site and establish a field station where previously none existed. In many cases, it is kind of like "Field Day", but on one hour's notice, and we didn't know where we were headed till the call came in.

Now none of this enthusiasm and communications capability would really matter except for somewhere to use it, and that is where our "clients" or what we may refer to as "our served agencies" comes into play. ARES members in Manitoba serve and supports a number of emergency agencies and programs which includes: Manitoba Emergency Measures Organization, Manitoba Health Disaster Services, Public Safety Canada, Environment Canada, City of Winnipeg Emergency Program, as well as support of a large number of communities and rural municipalities in the province.

ARES in Manitoba has supported these various agencies in a number of recent situations such as the major Manitoba flood in 1997, during the Year 2000 precautions, during the events of September 11, 2001, the Flood of 2009, and many smaller events such as during forest fires, telecommunications disruptions due to fibre optic cable damage, just to name a few.

Most recently, members of ARES monitored the HF bands at the amateur station at Public Safety Canada for the first two days after the devastating earthquake in Haiti - seeking information on conditions there that would be of assistance to the officials at Public Safety Canada and Department of Foreign Affairs in the time prior to the arrival of foreign aid teams with emergency telecommunications gear.

So now you know a bit about what ARES is, and some of what we do.

Our Situation

Over the past decade, we have seen huge advances in consumer electronics and communications capability. This has taken the place both in "our world" as members of the general public, but also in the business world and in the world of emergency planners and emergency response agencies.

This has resulted in an influx of cell phones, smart phones (iPhone/Blackberry) running mobile applications, province wide trunking radio systems, voice of IP technology, satellite phones, GPS equipment, wireless internet cards for laptops, Bluetooth integration of devices etc. into the day-to-day of the business world.

Yet as recently as just a few years ago, the systems with several linked amateur FM voice repeaters was much more communications capabilities than many agencies could imagine, yet now these same agencies may now have dozens of trunked radios allowing province wide communications, blackberries or iPhones along with laptops and wireless cards for their field staff, supplemented by an inventory of several satellite phones for good measure. They live in a very data intensive world.

As emergency response agencies turn to ARES to support them if a disaster threatens to interrupt their communications, a "voice only" system suddenly appears to really limit their ability to communicate, and certainly limits our ability to assist them.

Our Solution

And this is where the ICOM D-star system joins back into this explanation.

D-star is different and it's an entirely digital signal that has capability for movement of data. For us, that is the strong selling point of D-Star.

D-Star is an *open standard* developed by the Japanese Amateur Radio League - a national organization of amateurs not unlike RAC or ARRL.

It is a standard that all equipment manufacturers have available to them - though currently only ICOM has marketed compliant equipment.

There is also amateur produced software, accessories and add-on's that are now readily available.

The repeater system is totally digital - there is no conversion to, or from an analog format.

The equipment and repeaters for 2M and 70cm bands are digital voice and support low speed data.

The equipment for the 23cm band has a digital voice mode, and a 23cm digital data mode and specific repeaters that handles voice and a separate one that handles 128KB digital data.

And for most of the available ICOM D-Star mobile and portable equipment – simply add a compatible GPS signal, and now you can transmit your location at a pre-determined interval and/or every time you transmit – using the data portion of the transmission. This DPRS position data can be seen by other D-star users, plus can be seen on the internet – same as APRS can.

What D-Star IS:

D-Star is efficient and a channel has a band width of 6.25khz.

D-Star is very good for point-to-point communications – especially like from a remote emergency site to an emergency operations centre or between Municipal Emergency Operations Centres and the Provincial Coordination Centre.

D-Star allows easy movement and distribution of data.

D-Star can integrate with other digital modes – example HF digital modes for long distance movement of data, then into D-Star for “local delivery”.

D-Star access of the “gateway” allows long distance connectivity – somewhat similar to IRLP – though can locate a station even if you are not sure where they are.

D-Star (ICOM) 2M and 70cm hand-helds and mobiles have modes that are compatible with the existing local analog repeater equipment.

D-Star is another mode of amateur radio.

Our D-Star repeater installation will be “open” and available for use by all amateurs – with the obvious exception being those few occasions when 1 or more band(s) may be needed to support ARES operational requirements.

What D-Star IS NOT:

D-Star is NOT a *replacement* of the current analog voice repeaters, it is a supplement or compliment to them.

The current analog FM voice repeater systems will still be here decades from now. Your analog FM amateur radio (non-D-Star equipment) is not compatible with a D-Star digital repeater.

D-Star may not be for everyone.

As stated earlier – it is another mode in this hobby – though one that ARES units can make good use of for support of our served agencies.

The move forward

On February 19, we held an informational meeting regarding our D-Star initiative with the Manitoba ARES Executive, the RAC Section Manager for Manitoba, the President of Manitoba Repeater Society and the President of Winnipeg Amateur Radio club. This meeting featured an in depth presentation by the ICOM Canada Senior Technical Service Representative about the D-Star equipment and its use.

We at Manitoba ARES Executive are committed to this initiative and are moving ahead with the installation of an entire suite of four D-star repeaters representing three amateur bands to be located near downtown in Winnipeg. The Capital Region installation will include the following equipment:

ICOM 2M digital voice repeater,
ICOM 70CM digital voice repeater,
ICOM 23CM digital voice repeater,
ICOM 23CM digital data repeater,
ICOM D-star controller and gateway software installed on a server.

The system will be on an uninterruptable power system, and have generator backup. Antenna Installation height will be approximately 75 metres above ground. The system server will be connected to the internet, which will allow use of the remote connectivity features of D-star.

The internet connectivity will also provide us with the ability to route messaging, email and data files between computers in the emergency operations centers via 1.2Ghz radio to ARES personnel at a remote location, and future, planned HF data integration will allow cross country data movement even in the absence of local phone and internet systems.

Further info – Links to D-Star Info on the web:

<http://en.wikipedia.org/wiki/D-STAR>
<http://www.dstar.ca/>
<http://www.dstarusers.org/>
<http://www.icomcanada.com/dstar/index.htm>
<http://www.dstarinfo.com/>
<http://www.d-rats.com/>
<http://www.jfindu.net/DSTARRepeaters.aspx>
<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=17070>
http://www.dvdongle.com/DV_Dongle/Home.html
<http://www.usmartdigi.com/>

Thank you to:

This is a project would not be proceeding without the generous support by a number of partners. I would like to thank::
ICOM of Canada - Jim Backeland: VP/General Manager, Eric Meth VE3EI: Technical Support Representative
Micro-HighTec Comm Ltd. – (Winnipeg ICOM Dealer) – George Hill
Public Safety Canada,
Manitoba Emergency Measures Organization,
the efforts of the members of the Manitoba ARES Executive – Wayne VE4WR, Gord VE4GLS and Jeff VE4MBQ.

The future

Will there be other D-Star installations? We are not 100% sure, but we sure hope so. The capabilities are a good fit for ARES requirements, so in an ideal world there would be a basic D-Star installation near most major population centres around the province that have an amateur radio presence in them.

Finally, if you have suggestions, comments, criticisms, ideas, would like to find out more about the initiative, would like to assist with this initiative or would like to find out more about ARES - we'd like to hear from you. Contact me at : ve4dwg at mts dot net

August 15, 2009 MRS Semi Annual General Meeting

Held at Marmfest Austin MB

Meeting began 2:03 pm VE4ALW presiding

Each person present introduced him or herself

Minutes of Annual General Meeting approved as published in MRS Newsletter

Moved VE4DAR
Seconded VE4GWN
CARRIED

Treasurer's Report

Presented by VE4HAZ. See accompanying report

Move acceptance of Treasurer's Report

Moved VE4AJO
Seconded VE4GLS
CARRIED

VE4HAZ reported that MRS books for 2008-2009 were audited by VE4SYM. She found books acceptable. See accompanying letter

Membership Report

Presented by VE4HAZ. Currently 113 members. See accompanying report

Move acceptance of Membership Report

Moved VE4UA
Seconded VE4GWN
CARRIED

Technical Report

Presented by VE4GLS. See accompanying report

New Business

VE4GLS discussed plans for upcoming year. See accompanying report

VE4GLS then advised audience of plans for Teulon repeater. The Interlake ARC has asked MRS to take over ownership of VE4TEU repeater, near Teulon MB.

VE4HK read minutes of MRS May executive meeting concerning presentation by VE4IJL and VE4AEY.

VE4SE asked if there was a time limit to the sale from IARC to MRS

VE4GLS stated there was no time limit

VE4GWN asked if MRS executive has technical staff to maintain Teulon repeater

VE4GLS replied "Not really"

VE4DAR questioned a trade off, maintaining current repeater svcs taking on new repeaters

VE4HAZ stated that there was considerable income from commercial two way radio users on the tower. Memberships barely break even annually.

12 members voted to go ahead with negotiations on taking over Teulon repeater, 4 voted no, the balance present abstained

Dave Wood VE4KU questioned what happened with communications tower at Winnipeg Beach.

VE4HK stated that Prairie Mobile Communications took the tower down

VE4GLS noted that the Teulon tower would overlap VE4GIM. It would provide better coverage of western Interlake

VE4GWN asked about status of VE4MAN

VE4GLS replied that status was unchanged. There are some restrictions on accessing the tower. Cannot be on site if winds over 60 kmh, or icing conditions occur

VE4GWN asked about a 6 meter repeater, which was mentioned at previous general meetings

VE4GLS and VE4ALW replied the 6 meter repeater is a dead issue. Technical Committee has too much other stuff to look after.

VE4GWN thanked the Technical Committee for their work on the repeater system in the past year

Notices for the Good and Welfare of the Club

VE4HK stated the WARC Flea Market is scheduled for October 18 at Heritage Victoria Community Club

VE4DAR advised that a new Amateur Radio course will be held, beginning at Red River College, in September. See upcoming Leisure Guide for details. Cost approximately \$150.00 plus textbook
The Winnipeg Seniors VE4WSC will be holding a CW course 5 wpm this fall. VE4SN in charge
There is a possibility of an advanced amateur class in January

No further business

Adjourn

VE4GWN 2:39 pm

M.R.S. Current Executive

President	Ed	VE4EAR	ve4ear AT rac.ca
V/President	El	VE4AJO	ve4ajo AT rac.ca
Secretary	Dick	VE4HK	ve4hk AT rac.ca
Treasurer	Harm	VE4HAZ	ve4haz AT rac.ca
Membership	Harm	VE4HAZ	ve4haz AT rac.ca
Technical	Gord	VE4GLS	ve4gls AT rac.ca
Directors	Yori	VE4ACX	453-3786
	Walter	VE4VB	284-3054
	Bill	VE4ALW	williamr AT rac.ca
	Phil	VE4QB	fphilb AT rac.ca
Past Pres.	Derek	VE4HAY	ve4hay AT rac.ca

M.R.S. Current Fee Schedule

Current & Renewal Members \$25.00 per calendar year

First time New Members	Pro-rated quarterly
January to December	\$25.00
April to December	\$18.75
July to December	\$12.50
October to December	\$6.25

Family Membership is for each additional members residing at the same residence as the initial member is \$5.00



MEMBERSHIP APPLICATION / RENEWAL

(Please note: membership year is January 1st to December 31st)

Mail to:

**Membership Manitoba Repeater Society
C/O VE4WSC
598 St. Mary's Road
Winnipeg MB R2M 3L5**

Call Sign _____
Surname _____
Preferred First Name _____
Mailing Address _____
City _____ Prov _____
Postal Code _____
Home Phone _____
Work Phone _____
E-mail Address _____

<p>Club use only</p> <p>Date _____</p> <p>\$ _____</p> <p>Cheque/Cash/Money Order</p> <p>Recpt _____</p> <p>Card Issued _____ Year _____</p>

Renewal New New Ham RAC Member

First Time Member Pro-Rated

Class of Member: Regular \$25.00 Addn'l Family Member \$5.00

Jan to Dec \$25.00
Apr to Dec \$18.75
Jul to Dec \$ 12.50

Newsletter by E-mail or Snail Mail

Would you be willing to help out on work at various repeater sites ? YES NO

Optional Information:
Current Occupation: _____

If Retired Former Occupation: _____

Skills: _____