Manitoba Repeater Society

The Repeater

Summer 2006 — Distributed to all Current Members

Notice of Semi - Annual Meeting

Date: August 19th, 2006
Time:
Place: MARM grounds

The agenda will include approval of the minutes of the annual general meeting, business arising, a treasurer's report, a membership report, and a technical report. These reports will be followed by new business.

Important Dates:

MRS: Thursday at 9:00 pm MRS Semi-Weekly Net
Sunday at 1:00 pm - MRS Semi-Weekly Net

WARC: Summer 2008 - Wpg Hamfest / RAC AGM

ARES:
WSC: 2nd. Thursday of each month - Breakfast
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
Daily 14:30 UTC	MB Wx Net 3743 KHz
Weekdays 9:00	Seniors morning net 147.390 MHz +
Wed. 02:00 UTC	MB IRLP Net 147.27 MHz +
Wed. 9:00 pm	Six Meter net 50.238 MHz USB
Thursday 9:00pm	MRS Net 147.390 MHz +
Sunday 9:00pm	MRS Net 147.390 MHz +
Sunday 7:30 pm	VE4BDN net 146.940 MHz -
Monday 7:30 pm	VE4HS net 146.880 MHz -

President's Report
by Ed, VE4EAR

Greetings everyone and welcome to our summer edition of the MRS newsletter. I hope everyone is enjoying the fantastic weather and still finding time for radio activities. Please take a few moments to sit back and catch up on the projects the MRS has underway and some of the plans for the coming months.

Late Breaking News! We have finally heard from CBC regarding the VE4MAN repeater site and the issue of payments for use of that site. You may recall that over a year ago, CBC dropped a bombshell on MRS (and all other amateur groups across Canada) when they demanded that we pay $2400 per year for co-locating our equipment on the CBC facilities. Clearly MRS (and other clubs) could not afford to pay this fair market rate and after much letter writing to the CBC, our MP's and to RAC, the issue seems to have been resolved. RAC and the CBC were able to negotiate a contract that would allow the annual fees to be waived provided the co-located repeater is used to support an emergency exercise in coordination with the provincial emergency measures organization and a formal report submitted. Bottom line is we will be able to keep the VE4MAN site at Starbuck and we just need to document our emergency exercises.

The new MRS executive has had several long discussions on how to increase the technical participation by our members. One of our mandates is to educate our membership in the technical aspect of repeaters, and V/UHF equipment. By doing so, we hope to build a new team of experts that can assist the technical crew in the maintenance and expansion of our system.

One of our first steps is to re-introduce our portable and mobile test station. This set up will allow you to quickly test your power output deviation, receive sensitivity, and CTCSS or DCS operation. Repairs and adjustments are up to you! Look for us at major meetings, flea markets and larger amateur gatherings.

M.R.S. Current Fee Schedule

Current & Renewal Members
$25.00 per calendar year

New members only - Pro-rated quarterly

January to December	$25.00
April - December	$18.75
July to December	$12.50
October to December	$ 6.25

- First time members are no longer required to pay a one time only initiation fee of $10.00 on top of the regular fee. Their membership fee is pro-rated for the first year only.

- Family membership is for each additional members residing at the same residence as the initial member. $10.00 each

Industry Canada Amateur Centre

Voice 1-888-780-3333 (toll-free)
Fax: 1-613-991-5575
E-mail: spectrum.amateur@ic.gc.ca
Web: http://strategis.ic.gc.ca/spectrum

The Repeater Advertising Rates:

All advertising is black & white and must be submitted in electronic format.

full page $75.00
½ page $40.00
¼ page $20.00
bus.card $10.00

For more information or to place an ad please contact any executive member.

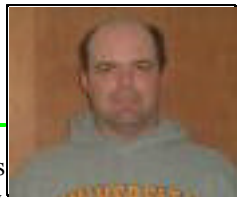
Comments or if you just want to reach us :

Newscaster Editor
Manitoba Repeater Society
C/O VE4WSC
598 St. Mary's Road
Winnipeg, MB R2M 3L5
http://www.ve4.net/mrs/

Have you read a good technical article and would like to share it with others? Send it along to any member of the executive and we will try and include it in the next edition of our newsletter.

While making plans on how to spend the rest of your summer, please try and include the MRS Semi-Annual General Meeting, scheduled once again for the MARM Fest. This event will be held on August 18 – 19 at the Manitoba Agricultural Museum in Austin. The actual MRS semi-annual general meeting will take place on August 19th at 13:30 hours at a place yet to be determined. This meeting is your opportunity to review what has been going on and what the plans are for the rest of the year. It's also an excellent opportunity to bring forward new ideas and let us hear your feelings.

So far summer has been good, HF propagation is poor, but there has been some great openings on 6 and 2 meters. Perhaps try your hand at a little VHF DX over the coming months. Let me know how you did when we meet in Austin!



Technical Committee
Submitted by Gord, VE4GLS

Hello all, Sorry my email updates have been few and far between lately. This year I have been busy with other duties and time has been short for hobby endeavours.

We have been having trouble in a few areas of our system and hopefully we will get these problems sorted out soon. So far the system in and east of Winnipeg seems to be working ok. There are several problems to report on the

M.R.S. Current Executive

President	Ed Richardson	VE4EAR	254-8425
V/President	Al Seddon	VE4AJO	889-9692
Secretary	Dick Maguire	VE4HK	256-3143
Treasurer	Harm Hazeu	VE4HAZ	669-6425
Membership	Roy Maguire	VE4EN	669-1355
Technical	Gord Snarr	VE4GLS	746-2743
Directors	Yori Tsuji	VE4ACX	453-3786
	Walter Bezpalko	VE4VB	284-3054
	Bill Simm	VE4ALW	857-9266
	Phil Barton	VE4QB	253-0505
Past Pres.	Derek Hay	VE4HAY	257-1420

western side of the system and the link to Brandon is currently not available. It will likely take us some time to complete the repairs to several of our sites to get this link working again.

Repeater listing/Status:

VE4WPG - 147.39+ MHz, Winnipeg,Richardson Bldg.

Winnipeg repeater, working well. Some reports of diminished range may be related to some new installations close to our antennae on the Richardson Building. We may try a different antenna.

VE4VJ - 443.500+ MHz, Winnipeg (VE4WPG site)

Wide area UHF repeater at VE4WPG. Operating normally.

VE4WRS - 145.45- MHz, Winnipeg (VE4WPG site)

IRLP/Phone patch repeater at VE4WPG. IRLP has been down due to hardware failure, the WARC/MRS technical committee will be replacing the computer as soon as we can get one loaded up and installed.

VE4MAN - 146.61- MHz, Starbuck

Starbuck repeater, some major problems at this site.

- -VHF antenna requires replacement. New one at site waiting for riggers to install. should happen soon...
- -Links 2 and 3 are dead. L2, the west link to PLP, has a receiver problem and causes an intermittent "dead carrier" on the system. It may or may not be disabled; we hope to repair this very soon. Link #3 to Morris has a dead transmitter, we have a new radio for this link. Hope to have both these links going again within a week or two.

VE4CDN - 145.27- MHz, 127.3Hz tone, Morris.

Repeater working well. No link, we are updating the link to run full duplex between Starbuck and Morris for a higher quality link between Morris and Winkler VE4TOM. Hope to have this done in July.

VE4PLP - intermediate linking site

Cross link repeater, intermediate site between Starbuck and Bruxelles. One UHF radio seems to be dead. We are planning to replace these radios with new MSRs to improve reliability. Likely August. This system is required for the link to work to Bruxelles and Brandon.

VE4MRS- Inter-tie site, Bruxelles

Bruxelles-Brandon link site. Due to a lightning strike in late June this site is currently off-line. We haven't had a chance to check the site yet, hopefully the damage is minimal. It is hoped that we can check for damage on the way to the Int'l Hamfest. . No promises as to when this site may be running again but we will do our best.

VE4NEP - 147.21+ MHz, Minnedosa

Reports are that this site is working fine. Plans are underway to link this site up with the VE4MRS site. As soon as equipment can be acquired and other problems taken care of, this will be scheduled.

VE4GIM - 146.85- MHz, Gimli

Gimli repeater. Reports are that there is an audio problem at this site. We were hoping to upgrade the link radio this month but with other problems we may not get to it for a while. One or two of us might visit the site and check/adjust the audio as time allows. Thanks for the reports! There is a possibility of us moving the site about 6 miles south and 100' higher. Which will provide for a much better link path.

VE4MIL - 145.21- MHz, Milner Ridge

The Technical committee stopped in at this site back in June, after a storm passed through and found that the site was without power. A quick reset of the circuit breaker and all is well once again. The Milner Ridge repeater is operating normally. Links to Falcon Lake and Winnipeg are also working good. Reports are that the link to Selkirk is not working; we will look into this as soon as time allows.

VE4EMB, 147.36+ MHz, Hadashville

The Hadashville repeater is working well. Some noise on the link from Falcon Lake.

Pinetree inter-tie upgrades:

Members of the MRS technical committee traveled out to this site, at the beginning of June and installed a new Link radio for the Falcon-Milner link. At the same time they tested the other radios, and all seems fine. The Falcon Lake repeater is working well and linked most of the time to the west. The link radio at Kenora is not installed or not operational so the east link is not available. The Kenora/Western Ontario group is working on this and will likely have it up any time.

BARC inter-tie

The VE4HS site reportable has an antenna problem which may need to be replaced. It was hoped that the site would be operational for the CANWARN season, but this is looking unlikely. When we here what BARC is doing we will let you know.

Selkirk Inter-Tie

We are still experiencing some noise on this link when it is up. We might try installing a tone board to eliminate this annoyance.

Priorities:

We want to establish the links to Morris and Brandon again as soon as possible. We have parts on order for PLP, have equipment almost ready for Morris and Starbuck. We hope to have a look at VE4MRS as soon as we can get there so we know what we need and start on repairs.

Minutes of Annual General Meeting
April 20,2006 - Winnipeg, MB

MRS Annual General Meeting held at Winnipeg Seniors Radio Club Boardroom. The Meeting began 7:00 p.m. VE4EAR presiding with 24 members present. VE4EAR made some welcoming remarks, followed by introductions

Minutes of August 20, 2006 semiannual general meeting approved as e-mailed to members. Moved - VE4HAZ, Seconded - VE4SE CARRIED

Treasurer's Report

Presented by VE4MHZ. See attached Financial Report, and Auditor's Report. Move acceptance of both reports. Moved - VE4MHZ, Seconded - VE4HAY CARRIED

VE4MBQ questioned self insurance

VE4MHZ explained that MRS currently has set aside $1500.00 for self insurance. The executive adds $500.00 annually. Will top out at $3000.00, which is typical replacement value of a complete repeater setup.

VE4KEH questioned $500.00 per year

VE4MHZ advised that MRS saves $500.00 per year, by not insuring our equipment. We insure only for Public Liability and Public Damage.

There are very few cases in our area of severe damage to a repeater, usually due to lightning strikes.

VE4MHZ presented proposed 2006-07 budget. See attached copy. Add $100.00 to budget to cover donation to Tom Blair Scholarship fund. We are currently $200.00 over budget.

VE4SE questioned worth of phone patch.

Several members stated that the phone patch is worthwhile, and should not be decommissioned.

VE4EAR stated that MRS requires the phone line for IRLP connection.

VE4MBQ noted that phone patch could be invaluable in case of an emergency which swamps cell phone circuits.

VE4WKL questioned membership revenue of $3000.00

VE4MHZ replied that figure was a little low, usual income is closer to $4000.00. VE4WKL then questioned the deficit. VE4MHZ answered that she reduced the budget a bit, so should be no problem.

VE4KEH questioned donations

VE4MHZ noted that VE4RSR donated $100.00 cash, VE4HK donated $200.00 for a tower he took down and sold, along with a few smaller amounts.

Move approval of proposed budget. Moved - VE4MHZ, Seconded - VE4AEW CARRIED

Membership Report

Presented by VE4EN. Currently 117 paid up members. Expect lots of renewals at the Flea Market April 23. There are a few new amateurs who have first year free.

Move acceptance of Membership Report. Moved - VE4KEH, Seconded - VE4QB CARRIED

Technical Report

Presented by VE4GLS. MRS had a busy summer. VE4ACX is hoping to get rid of "furniture" (repeaters, duplexers etc. etc. in his living room)

-VE4ACX realigned a small glitch in VE4HS. VHF side causing some noise problems

-VE4CDN link is down. This is not a problem during flood operations, since VE4EMO can work direct to Morris

-MRS plans to link to VE4TGN, a new repeater located at Winkler. (not ours) Repeater is 147.33 MHz, positive offset. This repeater offers excellent coverage in southern Manitoba.

-VE4WRS phone patch has some noise. Sounds like cross channel. Some deliberate noise during IRLP nets. Technical Committee may install tones.

-Discussed jammers on repeaters. Best to completely ignore them.

-VE4MAN MRS purchased a brand new 874F Comprod 4 bay folded dipole antenna. This will replace an old Sinclair antenna. We are working with CBC staff to have it installed, when CBC is having tower work done. VE4ACX may change out duplexer.

-VE4MIL works well

-VE4VJ excellent coverage, some interference due to location on the Richardson Bldg.

-VE4WPG same as VE4VJ

-VE4CDN working great with tone squelch

-MRS is considering a link from VE4PTG repeater to VE4PLP in Portage la Prairie. Portage group needs funds for equipment purchases.

-VE4HS at Bruxelles is not MRS repeater. Belongs to Brandon group. MRS plans a UHF link to VE4NEP at Minnedosa. Coverage of VE4HS is good

VE4DY asked for information about Comprod antennas

Various members noted that Comprod made an excellent product. Commercial quality, compares favourably with Sinclair

VE4GLS stated that Pinetree Group intends to upgrade VE4FAL to VE4MIL link.

VE4KEH asked about reports of low audio from VE4GIM

Various members reported that the Gimli repeater was working well

A discussion about linking to Interlake group through Arborg repeater followed. This will be for future development.

VE4ALW asked about installing APRS at VE4HS

VE4GLS replied that VE4HS site belongs to Brandon group. We are working on it.

VE4KEH asked if MRS has enough equipment for planned projects

VE4GLS replied that generally there is sufficient equipment, but we need 1/2 inch and 7/8 inch Heliax. We gratefully accept donations of Heliax and equipment

Move acceptance of Technical Report Move- VE4GLS, Second - VE4AEW CARRIED

New Business

VE4EAR requested guidance and input from the membership. Let executive know what you want.

VE4VZ asked about an MRS portable repeater, VE4ACX responded that he has a portable repeater which MRS can use when required

VE4MBQ asked how helpful were survey results. VE4EAR advised that the comments were good. VE4HAY stated that 18-20 members responded. Direction was good. Members requested improved communications to the west. Suggestions were useful at the executive meetings. A discussion ensued

VE4MBQ asked about a 6 meter repeater. One would work well between Winnipeg and Emerson. Unable to track down a 6 meter repeater in Winnipeg. VE4VZ suggested changing local repeater communications in Winnipeg to 70 cm A discussion followed

VE4EAR stated that good ideas were shared tonight. Please let any member of the executive know of your ideas.

Elections

VE4EAR began elections by thanking departing members of the executive VE4MHZ and VE4WKL for their service in the past few years.

Call for further nominations - None received.

Move nominations close -VE4HK, Seconded - VE4VZ CARRIED

Each member present received a ballot form and voted

VE4WKL and VE4SE acted as scrutineers and counted the ballots

Executive for 2006-07 VE4's ACX, AJO, ALW, EAR, EN, GLS, HAZ, HK, QB, VZ and Past President VE4HAY

Move destruction of ballots - VE4HAY, Seconded - VE4HAZ CARRIED

Notices for the Good and Welfare of the Club

VE4EAR announced that visor cards are available at the front for pickup

VE4MBQ thanked MRS from ARES and CANWARN for use of MRS repeaters

VE4HAY spoke about Foundation Licence. Contact VE4HAY or VE4SN for more information. Also see next TCA Magazine for more information.

-currently in place in Australia and Great Britain
-distinctive call signs
-will allow 10 watts on HF bands.
-simple test
-younger age

-still in development stages. IC wants your input. Google Foundation licence Australia or Great Britain for more info. A discussion followed

VE4MBQ solicited volunteers for the Manitoba Marathon June 18. See latest edition of MRS Newsletter

VE4EAR noted that the Manitoba Marathon has permission to use MRS repeaters

VE4MBQ advised CANWARN spotter training will take place in Beausejour, Saturday, April 22, 9:30 am

VE4HK stated that the WARC Flea Market will be April 23, Heritage Victoria Community Club

VE4KEH noted the WARES Silent Auction plus 50/50 draw

VE4EAR thanked VE4ACX and VE4GLS for all their help. Membership is very grateful

VE4EAR thanked VE4AND for opening the Seniors for AGM and for executive meetings. He also thanked the Seniors for allowing MRS to hold meetings in their boardroom

VE4VZ announced that Adam Novak VE4ANG became a silent key a few days ago.

VE4GLS thanked VE4VB and VE4RE for donating repeaters and other equipment to MRS

VE4EAR suggested holding the semi annual general meeting at the Marmfest. He also asked about holding special presentations or discussions at future AGM's

VE4EAR made closing remarks, No further business,

Adjourn 8:18 p.m. VE4EN

Membership Report
By Roy, VE4EN

Little change in our membership numbers again this year. Currently it stand at 145 with 17 Life and Specials. For all snail mail recipients , please note the year on the mailing label that you are paid up, i.e. 05 or 06. We will be making a drive to get all delinquent members of the last few years to again renew and keep their membership current.

CANWARN Spotter Training
By Jeff, VE4MBQ DEC Manitoba ARES

Thirty-five Amateurs attended CANWARN Spotter Training in Beausejour Sat. April 22. CANWARN is a joint program between ARES and Environment Canada, Spotters do not have to be ARES members to participate. Participants included Terry VE4UZ from Neepawa and Bill VE4ALW from Portage la Prairie – not exactly an Eastman only crowd. The ARES slides from that session are on the WPGARES web-site, you can take a look at:

http://www.winnipegares.ca/canwarnResources.htm

Spotter Training participants were: VA4NRM; VE4s: WTF, XM, QK, TG, GCL, VID, EDE, PN, DU, GN, BAW, DWG, ZP, UZ, HLO, ALW, CY, DJ, GWB, AGS, UN, NME, RLF, GMT, WKL, HGD, FJG, RS, AJR, AEY, IJL, AJO, MBQ; Sean Bawden and Anne-Marie Palfreeman. We have identified two additional CANWARN Net Controllers, VE4s RS and RLF. There will be two ARES members on-call daily to act as CANWARN Net Controller 0930-1730h and 1730-2130h daily from 15 MAY thru 10 SEP. Special thanks to Richard Holder VE4QK and Brad Honke VE4XM for making the necessary arrangements in Beausejour and also thanks to the RM Of Brokenhead/Town of Beausejour Fire Department for use of the training room in their Fire Station.

The MAY WPGARES General Meeting featured the 2006 CANWARN Net Controller Briefing, 86% of the Net Controllers attended. CANWARN Net Controllers in attendance were VE4s: JNF, RLF, DWG, KEH, HAZ, HK, MMG, CRS, SE, GWN, ESX, RS, ALW, RST, FV, ACX, MBQ and VA4AA. Meeting notes and PowerPoint hand-out have been forwarded to those who weren't able to attend. We have recently developed a procedure for an ARES member on duty at VE4WWO who may receive a distress call. It was considered insufficient to only pass "distress" traffic to the Severe Wx Forecaster.

As of 4 JUL2006 VE4WWO in the Prairie & Arctic Storm Prediction Centre has been operated six times this season due to occurrence or possibility of severe weather (28 MAY, 15 JUN, 18 JUN, 23 JUN, 30 JUN, 1 JUL). There have also been six orientation or familiarization visits by new and experienced Net Controllers alike. We will need an additional four or five Net Controllers in 2007, if even remotely interested please get in touch.

An excellent way to get some hands-on experience at VE4WWO is to take a shift with an experienced Net Controller for the ARRL-NOAA SKYWARN Recognition Day in DEC. It is usually the first SAT in December, we operate VE4WWO for 24 hrs, to date it is the only Canadian Weather Station that participates.

Some feedback would be appreciated for a Spotter Training session location in late March or early April 2007.

RAC Bulletin
Amateur Radio Restructuring

Are you concerned about the future of Amateur Radio in Canada?
Should we encourage Industry Canada to make changes to broaden the entry into the Amateur Radio service?

The Committee on the Restructuring of Amateur Radio in Canada, chaired by Midwest Director Bj. Maden - VE5FX - has designed a questionnaire to gather information from Canadian Amateurs about their thoughts on the future of the service.

Your input to this questionnaire is critical to help the committee to determine the direction which Amateur Radio might take. A link from the RAC WEBsite
http://www.rac.ca/regulatory/restructuring.htm will take you to the Restructuring page, where you can:

1. Download a copy of the article on Restructuring from the last issue of TCA.
2. Download a PowerPoint presentation, complete with presenter's notes, which can be used with your club to explain the concepts of restructuring and to encourage discussion.
3. Link to the survey, which takes about ten minutes to complete.

The survey is available in both English and French.

Please complete the survey. We need YOUR opinions!

News from the net

No more batteries for handhelds

Fuel cell-powered mobile phones may be on the cards Richard Wilson on the ElectronicsWeekly.com website on May 18 reported that a fuel cell developer is looking to use fuel cells in mobile handsets. The following is a summary of the article: US fuel cell developer MTI Micro has entered into a partnership with mobile phone firm Samsung Electronics which could see fuel cells used to power commercial handsets for the first time. The firm's Mobion direct methanol fuel cell (DMFC) technology has been chosen to power a series of prototypes designed for Samsung's mobile phone and mobile phone accessories. The advantages of fuel cells over today's battery cells are potentially longer runtimes and instant recharging. According to Peng Lim, president and CEO of MTI Micro: "Our goal is to make Mobion a standard power source used for powering all types of mobile products, and under this agreement, our work with Samsung on mobile phones and accessory applications will be a major step in achieving that goal." Last year another US-based fuel cell firm, PolyFuel claimed to have passed a milestone in the development of direct methanol cells with a device operating for more than 5,000 hours. This, the firm said, is beyond the minimum necessary to commercialize fuel cells, which must last for between 2,000 and 3,000 hours, equivalent to the life of a rechargeable battery. According to market watcher, Frost & Sullivan the market for micro fuel cells for consumer electronic devices should reach approximately 80 million units by 2012. -- WIA

UK to auction off International Amateur Band

Ofcom Launch Consultation on Plans to Sell-Off Amateur Satellite 10 GHz Allocation. The United Kingdom regulator OFCOM has announced a consultation on its plans to sell off 10.475 to 10.500 GHz. This, the top half of the internationally agreed Amateur Satellite Service 10 GHz allocation. This vital Amateur Satellite allocation at 10 GHz was recently used by the AO-40 satellite. Other Amateur satellites currently under construction such as the P3E and the Mars Orbiter will be using that segment. Anyone can respond to OFCOM - it is not restricted to UK nationals. It is not necessary to answer all the questions in the response form (page 6). A response to Question 1 that just related to 10 GHz would suffice. The consultation announcement - Award of available spectrum: 10 GHz, 28 GHz, 32 GHz and 40 GHz can be seen at

Http://www.ofcom.org.uk/consult/condocs/10ghz/

That last years Ham of the Year, Murray Ronald VE4RE has won Manitoba Business Magazines Best in Business Practices award for 2006 for his company Prairie Mobile Communications

Are You Connected?

Connection Research Services (CRS) and CNET.com.au are releasing the second annual Connected Home Report, a large-scale study of Australian consumers and the usage of and attitudes to connected home technologies. Key takeaways from this years Connected Home Report include Mobile phone and PC use is booming: Ninety-eight percent own a mobile phone. Nearly 90 percent of respondents live in a household with at least one PC, and nearly one-third have two or more. Nearly one in two homes have laptops. DVD players are almost universal, and DVD recorders are now in a quarter of all homes. Games consoles are in 18 percent of homes and that percentage is growing. LCD, plasma or projection TVs are now in around 20 percent of homes. Most respondents are now on broadband, and use the Internet for an average 11 hours a week per person. -- *WIA*

Mass Amateur Satellite Launch

Mass Amateur Satellite Launch Due to technical problems the launch of the 13 Amateur CubeSats, which was scheduled for The 28th of June, has been postponed until the 26th of July. *--IRTS NEWS*

Treasurers Report
By Harm, VE4HAZ

Year to Date Financial Report

The financial position of the Manitoba Repeater Society Inc. as of June 30, 2006 is as follows:

Opening Balance as of Jan 1, 2006	$5053.99		
Self Insurance	($1500.00)		
Subtotal		$4733.91	
Deposits:			
Memberships	$2165.00		
Donations	$ 150.00		
Total Deposits		$2315.00	
Cash Available for Use		$5868.99	
Withdrawals:			
Equipment Maint	$ 471.00		
New or Replacement	$ 0.00		
Newsletter	$ 134.62		
Insurance	$ 0.00		
MTS (phone patch)	$ 275.46		
Licenses and Fees	$ 0.00		
Misc	$ 303.86		
Total Withdrawals		$1184.94	
Adjusted bank Balance			$4684.05

The Budget (YTD)

Expenses	Actual		Budget
Equipment Maint	$ 471.00	$ 700.00	
New or Replacement	$ 0.00	$3500.00	
Newsletter	$ 134.62	$ 400.00	($ 265.38)
Insurance	$ 0.00	$ 600.00	($ 600.00)
MTS (phone patch)	$ 275.46	$ 600.00	($ 324.54)
Licenses and Fees	$ 0.00	$ 50.00	($ 50.00)
Misc	$ 303.86	$ 200.00	$ 103.86
Total expenses	$1184.94	$6050.00	($4865.06)

THE POWER SUPPLY
By Al, VE4AJO

The function of the power supply is to convert sinusoidal current and voltage to a direct current and voltage to supply connected devices and to provide isolation from the AC line.

The AC input should have some filtering to eliminate noise from the line disturbing the supply as well as preventing noise from connected equipment getting back into the AC source.

In this version of the power supply the filtered and fused AC line feeds the primary of the transformer. The

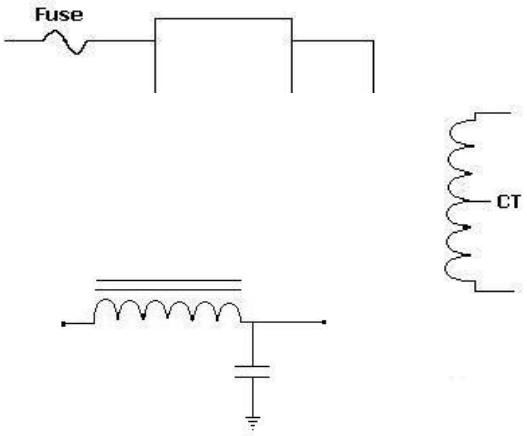


Figure 3

input circuit contains the ON-OFF switch, the fuse – maybe only the hot side of the AC line, and the LC filter network. The fuses maybe replaced by a circuit breaker which will double as a switch. The transformer may have a double primary thus enabling the use of 120 volts or 240 volts. For 120 volt operation the primaries are wired in parallel and in series aiding when connected to 240 volts. Care must be taken that the primary is phased correctly or the output voltage will be zero.

The transformers function is to change the voltage to a value after rectification, filtering, and regulation to provide the proper current at the correct voltage for operation of the attached equipment. The transformer also isolates the AC line from the equipment.

The rectifier may be a two diode unit using the centre tap of the secondary as the return or a four diode unit fastened directly to the chassis which acts as a heat sink. At this point in the supply each diode drops 0.5 volts when conducting. The current in the four diode unit drops 1 volt and the two diode unit drops 0.5 volts. Using the centre tap the output voltage is half that of the bridge unit. With the two diode unit approximately twice the current is available. Both examples are full wave rectifiers.

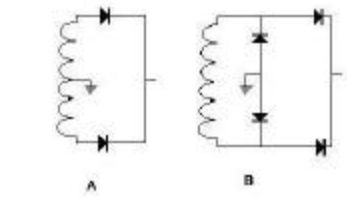
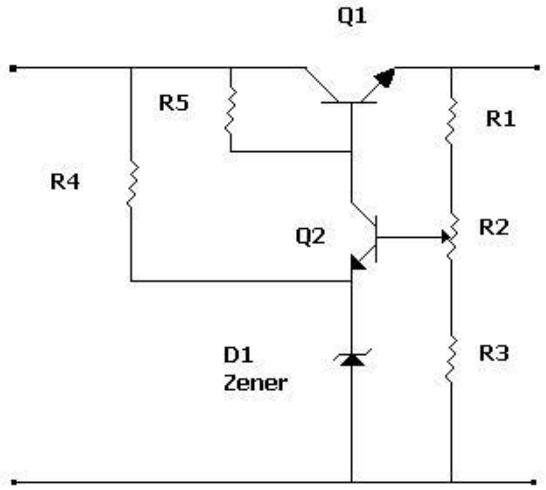


Figure 2

Today the filter is simply a high value capacitor connected to the output of the rectifier and to the ground return. Because of high current and the low voltage demand of the equipment a high value choke is not used in the filter due to the voltage drop of the wire and the large size necessary to pass the required current with minimum voltage drop. The weight of the whole power supply is also a consideration. Ferrite material used as the core material can reduce the amount of wire needed for a given inductance if an LC filter is required.

One of the common regulator circuits is the series pass regulator. This design is used in most three terminal chip regulators and is the basis of all more complex regulators. The name series pass is taken from the fact the transistor Q1 is in series with the load. Q1 may be thought of as a common collector and therefore has a voltage gain of less than one. It also has a high current gain. Q2 is a comparator comparing the emitter voltage as established by Zener diode D1 to the scaled output of the power supply by R1, R2, and R3. R2 is the voltage adjustment control and feeds the base of Q2.

As an illustration of how this circuit functions assume



an output voltage of +12 volts across R1, R2, R3, in parallel with the load and an input voltage of +18 to +20 volts. Then there will be 6 to 8 volts dropped across Q1 and if D1 is a 5 volt Zener there will be 5.5 to 6 volts at the base of Q2. Q2 is conducting and passing enough current to drop the voltage at the collector of Q2 and the base of Q1 to +12 to +13 volts. Q1, a common collector amplifier would then have a voltage of +12 volts at its emitter and across the load.

If the arm of Q2 is moved up, there is more forward bias on Q2 – more current through Q2 and R5. The voltage at the base of Q1 decreases and the output voltage decreases. The voltage drop across Q1 increases. Moving the adjustment arm of R2 downward reduces the forward bias on Q2, increasing the collector voltage and the base voltage of Q1. This allows Q1 to conduct more current and raise the voltage across the resistors R1, R2, R3 and the attached load. The voltage drop across Q1 decreases. If the load demands more current the base voltage of Q2 decreases raising its collector voltage and the base voltage of Q1, reducing the impedance of Q1 and allowing the output voltage to increase to its preset value. The voltage drop across Q1 decreases.

Because Q1 is passing the total load current a heat sink is required to keep the temperature of Q1 within safe limits.

One of the problems of this type of regulator is the failure of the series element, Q1. If it should fail shorted the full potential of the power supply is now impressed across the load with catastrophic results. Who wants 20 volts or so across their new rig? The device to protect the load is the cro-bar circuit.

The cro-bar circuit is placed between the regulator and the load. When, or better if the regulator output rises above +13 volts the zener conducts and the voltage across R1 triggers the SCR. The SCR shorts the power supply output to the ground return, opening the fuse thus disconnecting the power supply from the load.

The regulator and cro-bar circuits are simplified to show function. The modern circuit is more complex with generally amplifiers added to correct smaller excursions from the correct values.

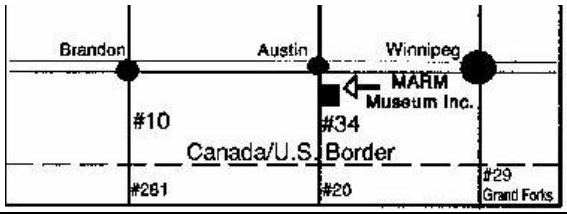
Ed's note: If you liked this article, pleas let me know and we can try to continue to have them.

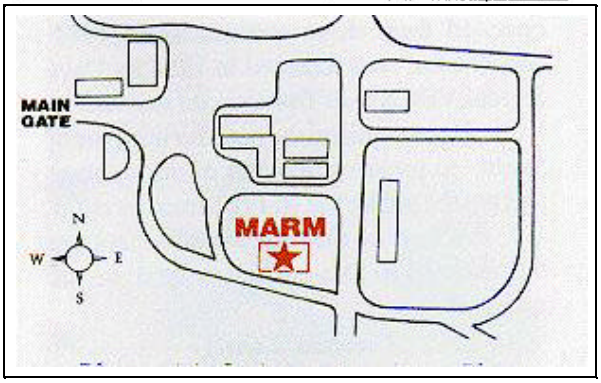
MARMFEST 12

August 19, 2006

Manitoba Amateur Radio Museum

on the grounds of the
Manitoba Agricultural Museum
at
Austin, Manitoba





QTX~ By Derek, VE4HAY

Well things are certainly happening at the Manitoba Repeater Society. Some good and some bad. We have been plagued by a number of equipment failures, which the technical committee is working on, and hope to have the repeaters affected back in full operation by the end of summer.

A team of people went out to look at moving the repeater site from Gimli to Winnipeg Beach, and it looks like this will be happening. So what does this mean. The repeater will be 16 Km south of its current location and about 150 higher in the air. And since we all know that antenna height means everything, this should result in a much better signal for the VE4GIM repeater.

We will be setting up a VHF repeater at our linking in the Bruxelles area. This repeater will be linked to the wide area linking system and will provide fill in the coverage along HWY 1, 2, part of 3 and 16. Thus ensuring that the traveling HAM can stay in contact. As well as CANwarn and ARES abilities will be greatly improved.

Behind the scenes work is happening on the linking of the VECDN repeater in Morris to the VE4TGN repeater in Winkler. This is hoped to be working by Spring of 2007.

The technical committee is looking for volunteers to help with all this work. If you have equipment &/or experience in the technical aspect of radio, please get in touch with VE4GLS. To get all of our projects done, we need your help.

Manitoba Repeater Society

2006 Project & equipment requirement needs.

Project #	Decscription	Equipment	Cost
1	Link transceiver VE4MAN	Used GE Exec II UHF	Stock
1		Crystal for above	Purchased
1		Misc parts	
2	VE4MAN VHF Antenna	Labour to install 210-C4	$ 500.00
2	Remove old Cabinet at 800'	Labour at same time as above	$ 100.00
3	VE4PLP - link to VE4PTG	Install damaged Palomar controller	stock
3		Used UHF link radio semi duplex	stock
3		Crystal for above	$ 35.00
3		Omni or home made beam antenna	$ -
3		6' of Transmission cable & Connectors	stock
3		Duplexor/Res lock	N/A
3		Turn Existing UHF antenna to VE4HS	Done
3		Power supply	stock
3		Cabinet	stock
3		Misc parts	
4	VE4GIM	Move to new towerapprox 16 Km south	Unknown
5	VE4MIL upgrade	Replace 3 UHF antennas with higher gain	$ 517.50
6	VE4CDN Link toVE4TGN	Install UHF link radio to Winkler	
6		Install run of transmission cable	? Stock
6		install UHF beam	stock
6		Install Power supply	stock
6		Misc parts	
7	VE4NEP	Install Controller	$ 500.00
7		Connect Existing VHF radio	stock
7		Install 2 used UHF link radios	
7		Install new UHF Res Locks	$ 800.00
7		Install 2 runs of Transmission Cable	
7		Install 2 UHF link antennas from stock	Stock
7		Install 1 power supplies	$ 150.00
7		Insulate & Seal Cabinet	$ 100.00
7		Misc parts	
8	VE4CDN Link to USA	Install UHF link radio to ???	
8		Duplexor/Res lock	$ 400.00
8		Install 2 diplexors (combiner/spliter)	$ 120.00
8		install UHF beam	stock
8		Install Power supply	stock
8		Misc parts	
9	VE4ARM/VE4MTR	Install used rack from stock	Stock
9		Install Palomar controller	Stock
9		Link in Existing VHF repeater	Stock
9		Install 2 used UHF link radios	Stock
9		Install new UHF Res Locks	Stock
9		Install 2 runs of Transmission Cable	
9		Install 2 UHF link antennas from stock	$ 400.00
9		Install 1 power supply	Stock
9		Misc parts	
Total			$ 3,622.50

Transmission cable is an unknown. Some will be able to come from stock while some will have to be purchased (used)

We are in need of long runs of 7/8" Heliax or LMR-400 transmission cable. If you know of roll ends or good quality used cable available please contact anyone on the board.