



REPEATERS VK3RGV 2m & 70cm  
VK3RGV B D-Star  
2m IRLP Node # 6992  
CLUB CALL SIGN VK3SOL

President:- Peter Rentsch  
Vice President:- Ed Roache  
Secretary:- John Waters  
Treasurer:- Ron Burns

VK3FPSR  
VK3BG  
VK3PXJ  
VK3COP

**DISCLAIMER.** No guarantee is given as to the accuracy of information in this newsletter.  
Warning:- There is a danger of electrocution or injury when working on electrical/radio gear.  
You do so at your own risk.

Hello everyone, welcome to the February 2012 edition of the SADARC Newsletter.

#### President Report – February 2012

A busy month has been had by many of the members with in our Club. Finally the 2M Antenna is working well on Mt Wombat as is the 6M. Thank you to all those involved in the working bee on the 18<sup>th</sup> February. Rodney has submitted a more detailed report so I will leave it up to him to elaborate on the progress of the day.

To all those who attended the February meeting thank you for your attendance and input to the meeting.

Part of the meeting was a survey carried out by me as to what you as members would like to see the Club do during the next 12 months. Many good ideas were forthcoming and they are summarised in the spreadsheet that follows. One of the most suggested ideas was that of guest speakers and I feel that is excellent. If we have good and interesting guest speakers then members will want to attend and be involved. I am happy to arrange the guest speakers if people can give me some names, so the next task is to furnish me with names and contact details of relevant guest speakers. I look forward with anticipation to hearing from many of you. I hope to have a guest speaker at the March meeting. If you have any feedback from this survey please let me know.

As the April meeting falls on Easter Saturday it was agreed that we move our meeting to the following Saturday. The venue is available and I thought if members were happy we would have a BBQ prior to our meeting. The executive already has a meeting planned for earlier that day so a BBQ would be convenient for the Executive. Also in April is our Annual get together with Midland Radio Group. This is still to occur and will be BYO everything at the Goulburn Weir. This is great day of socialising with our own member's and those of another Club.

So, I look forward to seeing as many of you as possible at our next meeting on the 3<sup>rd</sup> March.

Cheers & 73's

Peter.  
VK3FPSR

<b>Mt Wombat</b>			<b>Meetings</b>			
2 M Repeater	8 Votes		Guest Speakers	Educational	5 Votes	
70 cm Repeater	5 Votes			Technical	3 Votes	
ATV Repeater	2 Votes			IRLP	2 Votes	
APRS	2 Votes			First Aid	2 Votes	
				New Technology	1 Vote	
				Antenna Design & Maintenance	1 Vote	
<b>Mooroopna</b>				Member Pet Topics	1 Vote	
Antenna Work	4 Votes			Radio Maintenance	1 Vote	
Upgrade Course	2 Votes			Emergency Services	Wice n	1 Vote
Club Involvement in contests	2 Votes				Red Cross	1 Vote
Foundation Course	1 Vote				CFA	1 Vote
Tri band Beam	1 Vote		More Social Activities	With other Clubs	2 Votes	
				Local	1 Vote	
			Meetings to be Succinct		2 Votes	
			More Fundraising		1 Vote	
			Tea/Coffee to be in Main Hall		1 Vote	
			Start some Projects		1 Vote	
<b>Other</b>						
Finish In completed Projects			10 Votes			
Better Communication Between Members			2 Votes			
More Newsletters Articles from Members			2 Votes			

Minutes of the February meeting by John VK3PXJ Secretary:

Meeting opened. At 1 pm .

Apologies, Jack vk3tjs,,Jan vk3alf , Bill Crocker, Dave vk3vce ,Duncan vk3dcx , Tibor vk3mro, Steve vk3dag, Ian vk3jnc

Those that were present were Darrel vk3kl,Greg vk3zkv, Allan vk3ao,Brain vk3hbw, Kevin vk3bph, Ed vk3bg, Trevor vk3vg, Danny vk3fdth, Max vk3dsf, Patvk3ov, Rodney vk3ug, , John vk3fjhm, Les vk3tex, Phil vk3elv, Toby vk3pnf, Petervk3fpsr, Ron vk3cop,Allan vk3faln, Barry vk3kby,Bruce vk3fbng, Michel vk3fmaa, Darren vk3hen, Ian vk3chv, John vk3pxj.

Meeting of AGM minutes for 2010 was presented ,and was moved by vk3pxj seconded by Brainvk3..hbw as they were not available for the 2011 meeting.

Inward correspondence: account for the hire of the hall from the hall committee, Ballart news letter

Minutes of previous meeting ,be accepted moved vk3pxj ,seconded ,vk3faln

Finance report presented by Ron vk3cop ,seconded by vk3pnf

Suggested by vk3bg that we send a letter of thanks to the son of the late vk3arb reg thanking him for the very kind donation of the radio gear that was left to the club at this stage I have not been able To find any address to send a letter I am still trying.

Rod vk3ug presented a lengthy technical report.

GREG VK3ZKV, moved a motion that motion A regarding technical, committee have Ray Whales vk3rw to be moved to the title of CHIEF TECHNICAL OFFICER and PHIL DWYER[VK3ELV] to ASSISTANT TECHNICAL OFFICER

MOTION Also specifies that there is only 2 technical officers in the club at the one time.

All technical matters related to enquiries or purchases must be directed to the president of SADARC who will then contact the technical committee.

Once the president directs a technical matter to the technical ,officers, in email or letter they will review the subject matter and they will give the president their professional point of view in writing this will then be decided by club members for action.

Faults interference re/radio& antennas ,coax be dealt without notifying the members.

All future works on MNT WOMBAT for SADARC Must be directed to the TECHNICAL OFFICERS ,via the president in writing, for their approval.

All previous motions pertaining to the TECHNICAL Committee be RESCINDED forth with.

EG [TECHNICAL MATTERS ]means all RF ELTRONIC/DIGITAL ELECTRONIC/ ELECTRICAL ,SUPPLY/EXTERNAL PLANT TOWER&ANTENNAS

Motion was moved by Greg vk3zkv seconded by Brian vk3hbw, when motion was voted on it was lost by four for the motion and twenty against.

Motion B moved by Greg vk3kzv 123HZTONEACCESSforVK3RGV/2M/FM Must be activated on the rx[146.050mhz] prevent vhf or chatter interference from ballart or other sources.

This must coincide with the installation of a 9.dbd POLAR ANTENNA at club site MT WOMBAT

Motion moved GREG VK3ZKV seconded by LES VK3TEX.

Moved by PETER VK3FPSR that the motion be referred to the technical committee seconded by DANNY VK3 FDTM motion carried.

There is to be a working bee on mount wombat on the 18th February.

Moved Trevor vk3vg seconded by Allan vk3ao that we purchase 6mtr antenna from Greg vk3zkv.

Meeting on the 7 April be moved to the 14th April because of Easter sat falling on the 7th .

Motion moved by John VK3PXJ that no one person goes to mount wombat on their own for safety reason , seconded by Allan VK3FALN.

We have a booking for our comms day in September

We have 2 new members one DARYL VK3KL returning as an honorary member welcome back DARYL! And MICHAEL VK3FMAA welcome to you.

IT WOULD BE NICE IF WE COULD LEAVE THE LANGAUGE IN THE CAR WHEN WE ATTEND MEETINGS

Meeting closed at 3.40pm

## **February Working Bee at Mt Wombat**

Report from Rodney VK3UG:

### **Technical Report 4/2/2012 (Amended with further info 6/2/2012)**

#### **A BIT OF HISTORY & A GENERAL OVERVIEW**

In 1982 S.A.D.A.R.C. installed a two metre FM repeater in a newly built hut on top of Mt Wombat. This was a large project and major step forward by the club. Over time other services including some commercial services were installed in the hut. When they obtained their own sites or ceased use of radio services they moved out. Gradually more amateur services and the UHF CB repeater were added. Currently the hut houses six services :- six metre FM repeater, two metre FM repeater, two metre APRS repeater (being refurbished), 70cm FM analog repeater, 70 cm D-Star repeater, and the UHF CB repeater.

After 30 years things have changed. Various parts of the club installation on top of Mt Wombat need refurbishment, we are adapting to newer technology and we are expanding the range of facilities available. All of this does take time to do and the major works commenced around five years ago, although of course routine maintenance has been a continuing task. At this time, the beginning of 2012, the technical committee and the many willing helpers that are co-opted to assist we are hopeful that most refurbishment tasks will be completed within a few months. There are some long term projects that will be discussed later on at club meetings to see what the direction of the club may be in these areas. The technical committee does not instigate major projects but takes part in them and does do lesser things that they believe may improve the performance of equipment on site. We are amateur experimenters.

Services mounted on mountains are more at risk of damage due to more extreme weather conditions and do suffer accelerated deterioration particularly to antennas. Regrettably, because of the remoteness of such sites maintenance is not as easily undertaken or as quickly as many would like with the limited time available to those maintaining such sites. Repeaters such as ours form an important part of the fabric of the club allowing members to more closely liaise with one another.

#### **OVERVIEW OF THE 2 METRE ANTENNA SAGA**

Over the last couple of years there has been continual concern by members about the performance of the antennas used on the 2 metre analog repeater 146.650/146.050MHz, and questions have been asked as to why it was taking so long to fix. A fair question.

The large 9dB Polar antenna located on the top of the lattice tower developed a fault not long after it was installed and could not be used. It is not all that easy to access. It could not easily be removed as the weather must be just right – calm, warm, preferably dry, no thunder storms hence safety for the person working on the antenna and the antenna itself, plus when all of those conditions were met that someone suitably able and qualified was available to do the actual removal. Getting all these pre-requisites together at the one time has proved difficult.

Because of these problems the idea of having a number of antennas mounted on the equipment hut was approved with the fitting of an antenna mounting structure. This would make antennas easily maintained with minimal need of all the pre-requisites mentioned previously.

As an interim solution a second hand pager antenna was pressed into service and later on it developed a problem of crackling and this was taken out of service and a small folded dipole of minimal gain was put into service. The folded dipole had to have some work done on it too, a connector problem I believe. It was decided to purchase a new antenna of around 6 dB gain and mount this in place of the pager antenna. As seems to have been a continuing problem co-ordinating the necessary equipment, availability of someone to climb the mast and suitable weather meant that an opportunity to put the new antenna up was missed and it was then installed a month or so later in early December 2011. When it was placed into service noise was heard straight away although it was uncertain as to the source. A new antenna is not expected to have problems. After a short time the antenna system was noticeably causing problems of erratic noise on signals – much the same as when the pager antenna was installed there. There is some doubt as to where the problem lies as the pager antenna it replaced was found not to have a problem – perhaps a connector problem. The folded dipole has been pressed into service again. The sooner the large Polar antenna can be reinstalled the sooner some members will be able to reliably get into the repeater, particularly people nearly due north as Mt Major sticks above the horizon in that direction.

After the Polar 9dB antenna and the pager antenna were removed in early December, they were taken to Daryl's (VK3KL) place at Cobram for refurbishment. The 9dB antenna was thoroughly overhauled and now works very well and should go back on the hill soon. The pager antenna as I understand it had no fault found, so it makes you wonder if the new antenna is in fact faulty, although I have misgivings about it just the same. The 9dB antenna and the pager antenna are back in Mooroopna waiting an opportunity for the 9dB antenna to be reinstalled.

#### **APRS report**

Ray is waiting on a modem for the APRS repeater so he can finish it off. I believe Toby is following this up.

## **UHF repeaters**

Nothing really to report there. Down the track the 70cm analog repeater is likely to get an upgrade, but there are other projects to be finished first. There is a large antenna at my home. Ed brought it here to possibly go up the hill sometime or other for the analog repeater to improve its performance.

D-Starr, which is Toby's bailiwick.

## **Six metres**

There have been a number of tweaks done to the repeater over its time on the hill. Originally its performance was extremely poor due to computer garbage getting out of the computer on the D-Star service. Toby fixed that and the repeater started to perform quite well. There was concern that the repeater transmitter could not be got onto frequency (800Hz off frequency). It was thought the crystal may be at fault (it has happened before) and another crystal was obtained. It was subsequently found that the crystal was okay but a slight modification was necessary to the circuit to get it onto frequency. We now have a spare repeater transmit crystal. The work on the repeater has been a continual improvement with the original equipment conversion by Ray and then additional work by Ray, Philip and Geoff Angus (VK3ZNA). Geoff is keen on 6 metres and has helped although he isn't a club member. The audio quality was rather poor on weak signals for quite some time and this has been gradually improved by those doing the technical work on the transceiver. Phil put in a more recently converted transmitter exciter board and at this stage the repeater is working very satisfactorily.

However, there are a variety of things still to happen.

The broadband interference is being investigated which is causing some desensing of the repeater. Tests conducted Thursday indicate that the source is a power supply in the CFA equipment cabinet in the Strathbogie Shire communications hut nearby. This is to be followed up as soon as possible. Phil is in the process of converting a Philips FM814 to 6 metres. It may take the place of the Philips FM828 currently in use. This will depend on Intermod and 3<sup>rd</sup> order intercept figures making this worthwhile. It is all part of the amateur experimentation.

Digital Signal Processing is being considered to knock down the noise level on the receiver when the input signals are low.

Improvements to the antenna system are also planned but have not been finalised as this time. A large ex commercial antenna suitable for 6 metres has become available I understand on talking with Ray.

(Stop Press: This may occur on the 18<sup>th</sup> or 19<sup>th</sup> of this month)

The six metre repeater project has been an interesting and rewarding project as the performance of six metres is superior to that of two or 70 cm and will pleasantly surprise people. We encourage members to get onto six if they have the appropriate licence and equipment. A list of gear suitable to be used on this band can be obtained if required.

## **Miscellaneous**

Ray said that we need to tidy up the coaxial cables on the lattice mast and make sure all cables are capable of being used as one has a bad kink in it and needs repair. Some connectors will be needed to do this. There are some on site but probably not enough.

The antenna frame professionally built by Bill Crocker for the top of the hut has been fitted and antennas can now be installed.

Danny is getting the necessary TV antenna brackets and masting. With this in place the moving of antennas from the central mast on the hut can commence at leisure. The only down side of this is that the frame is relatively close to the bottom of the 6 mx antenna and the performance has been degraded by around 1.5 dB. This will mean that the 6 mx antenna will need to be put onto one of the new to be fitted short antenna masts on the building as soon as practical.

(Stop Press: - Pointed out by Greg Halley at the meeting of 4/2/2012 = we need an EMR report particularly on the 6 mx installation, we need a first aid kit and some hard hats on site. Spanners dropped off the top of the mast can kill people if they are hit. Hard hats were used at the December working bee.)

The area around the hut was cleaned up with bracken fern and other weeds were removed at the last working bee, and it is much cleaner than I ever remember it being. We need to keep on getting rid of the bracken fern though, as fresh new growth is again evident and we need to make sure that around the hut isn't a fire hazard. If it isn't kept clear our coaxial cables and mains cable we could have the plastic melted at a minimum if there was a fire.

### **Working Bee 18/2/2012**

The day started cool, clear and with little wind. Ian VK3CHV, Danny VK3FDTH, Greg VK3ZKV, Ray VK3RW, Philip VK3ELV, Steve VK3DAG, Clint VK3CAF, Daryl VK3KL, and Rodney VK3UG then journeyed up to our Mt Wombat repeater site to do a number of jobs, all arriving around 9 am to start work.

The 9 dB antenna that Daryl repaired was reinstalled by Ian and Danny as a team effort. Over the course of the day they removed the 2 metre folded dipole and the 6 dB (new) antennas both for repairs and I understand that Daryl is undertaking that job. They then installed the (new to us) commercial quality 6 metre folded dipole on the top section of the lattice mast. Following that the old (but good) pager 2 metre antenna was reinstalled further around from the D-Star antenna as the standby 2 metre antenna.

Part of the work for the day was to install four 5 to 6 metre masts onto the new antenna frame network on the hut and to put standby antennas on them. The tubing masts supplied to Danny VK3FDTH were of greater diameter than ordered and couldn't be installed. Danny and Steve are looking at either getting the money back on these masts or getting the correct size masts. Clint VK3CAF had some 5 metre tubing masts at his home nearby and two were obtained and pressed into service. The 6 metre antenna we had been using was transferred to one of these masts and above it the 70 cm analog repeater antenna was installed. The 6 metre antenna is now the standby and the

70 cm analog antenna is still the main. This antenna is a combination 2 metre and 70 cm antenna so can be used on either band.

All antennas and the heliax cables were tested by Greg VK3ZKV and found to be in good order with the exception of one that may be faulty, that will be checked later on.

Late morning Trevor VK3VG and his wife came along for a drive to see what the site was like. This work took from 9 am to around 4.30pm on the hill. Over the following 24 hours various tests were done on the performance on 6 Mx and 2 Mx with favourable reports all around on both repeaters. There are variations in signal strength over the day and night due to propagation variations.

The 6 metre radiation is down 3 to 4 dB at my QTH in Mooroopna. However, those to the North, North East and East are receiving the repeater much better. For example David VK3ANP still had quite a good signal with only 1 watt from his transmitter, whereas he normally uses 25 watts. Philip is experiencing an improvement in his ability to access the repeater by around 13 dB (40 watts was needed to get in at all previously, but now only 1.5 watts is needed for the same performance). I might also add here that Philip added a digital signal processing (DSP) module to the audio line in the 6 metre transceiver and that improved the general audio quality. This shows that the original 6 metre antenna is directional and that the new antenna has a more circular radiation pattern, which is what we want from the main antenna. It is also possible that the new main antenna being higher than the standby is picking up less interference from the next door building. The interference will still be investigated and overcome.

The 9 dB 2 mx antenna on top of the lattice mast shows a 1 to 3 dB improvement in signal strength at my QTH. In northerly and other directions signal strengths are said to be 2 or 3 S points greater.

The relocated 70cm main (and only analog) antenna is giving about the same signal strength as has been observed for some time.

Thank you to all who did specific jobs or who acted more in support roles as “Gofers” for the very effective outcomes of the day on site. Well done all concerned.

Smaller working bees are still necessary later on to finish off a few jobs on the site. There is the need to check the suspect coaxial connector on the mast that has been feeding the removed 2 mx antennas until recently. On the list is a general tidy up of cables on the lattice mast, keeping the surrounds clear of bracken fern and dealing with the 6 mx interference. None of these are urgent.

Rodney VK3UG, on behalf of the Technical Committee.

**Editors Note: On behalf of the club and all members I would like to say a BIG THANKYOU to all who participated for all your hard work and effort in making the working bee a success!!**





2m antenna atop the mast!



Danny VK3FDTH, Ian VK3CHV and the DAG!



Ray, Danny, Ian and Steve.



Work nearly done!!

## **Bruce VK3FBNG Trip to South Australia:**

Bruce VK3FBNG and Myrtles recent trip to SA.

We left Rochester on the 4th. of January and stayed at Mildura on the way to catch up with Noel VK3FI . Noel is set up well with radio and antennas, he has acres of land and a large radio shack. Noel and Jill put on a BBQ for Myrtle and I and really looked after us, Noel has done

a lot for amateur radio in Mildura over the years and is involved in the Mildura radio club, he is busy at the moment helping organize the WIA convention in Mildura in May. After staying at Mildura for 2 days we moved on to meet with Steve and Teresa at Merbein, note photo of Steve with his pet bird you hear when talking to him on HF, the house boat is Steve's also. Most of our time away was spent in Adelaide looking after the grand children. HF radio reception in Adelaide was a non event because on severe QRM. It was good though to be able to talk to the locals on a regular basis on 2 meters. went for a drive to Two Wells one day to catch up with an old friend John VK5PO, he has 2.5 acres of land with antennas taking up most of the land, we had a real good chat on old times together..

We had a good trip away and it was good to put faces to the some of my radio contacts. Back home now after a month away to a over grown lawn and garden and its time once again to get ready to assist with comms for the Southern 80 ski race.



Photo's Supplied by Bruce VK3FBNG.

## Southern 80 Ski Race Echuca Victoria 2012:

Special thanks to Bruce VK3FBNG, Darren VK3HEN, Michael VK3FMAA, Dave VK3VCE and Steve VK3DAG and his Dad for their hard work in helping out with the communications at the Southern 80.

Report by Steve VK3DAG and Photos taken by his Dad Rex,

Hi Everyone, I thought I might write about the experience of volunteering for a check point duties with the Southern 80 Ski Race for the Moama Water Sports Club. It all started when Bruce (VK3FBNG) and Darren (VK3HEN) came along to a monthly meeting last year and asks for volunteers. After Bruce and Darren explained what it was all about. Dave (VK3VCE) and I (VK3DAG) put our hands up.

The check point that we were given was CP8 and this was in the forest off Casey Rd. The amount of campers camped in the bush was like I never seen before. They were jammed in like sardines sharing each other's tent pegs. It was amazing to see so many campers. It's reported that about 50,000 people camp the Murray River from Torrumbarry to Echuca for the race. And I believe it.

Doing the checkpoint involves setting up the supplied radio box in the boat. Three coloured flags. And a log sheet to be able to track the boats as they go past your position. The radio allows you to communicate with all other checkpoints along the river. But mainly with Bruce at race control. From here you can receive instructions as to which flag to wave. When the race is going you display the green flag. If the skiers fall down you will display the Yellow flag. If the race has been called off you will display the red flag. It's strait forward. The log sheet is for anyone that asks if any particular boat has passed your position. You can report this information back. Helps track down any race boat stopped between check points.

The experience of sitting in a check point boat as these race boats and skiers approach is like this. Firstly you hear the propeller of the race boat before you even see it. The sound travels through the water into the hull of the boat your sitting in. It sounds like compressed air leaking. Then when you see the race boat approaching you can hear the engine super charger whining. After that you can hear the exhaust of the race engine as it roars past. Not to forget these race boats and skiers are travelling at around 160 kph. On average a race boat and skiers goes past about each minute. On Sunday the day of the main race there is about 200 race boats and skiers that will pass.

Each year the organizers of the ski race event have trouble in finding enough check point volunteers. If anyone is interested in doing a check point for next year's race. Get in contact with Bruce [bnglasson@bigpond.com](mailto:bnglasson@bigpond.com). And he can explain how you can volunteer. They will help you by giving you somewhere quiet to camp in Echuca. As well as replace the fuel that you use. If you have your own boat this will assist as well. A 12 volt boat supply or car battery is also needed to run the communication.

I hope this report was interesting as Dave and I enjoyed the weekend helping out. We met some interesting characters as well as seen some cool sights. And finally thanks to my Father Rex in taking the following Images shown and camp duties.

Cheers all,

Steven Hamer (VK3DAG).





Fast Boats!....



Dave and the DAG....



The boats travel up to 160Kph...



So do the skiers!!

## **Interesting Article by Phil VK3ELV:**

### **Whiskey Radio**

Firstly , I would like to apologize to Toby and all the D-STAR users for accidentally turning off the D-STAR repeater in early December. Maybe one day I will be forgiven, but it could have been worse... ..

I know of some amateur radio operators, in Cork Ireland, who share their repeater site with the local RTE television transmitter. This is equivalent to our ABC, with links to the whole southern part of the country. Guess what they did?

Now before you start hanging it on the Irish, may I just remind you that Marconi was Irish and radio may not be what it is today without Irish Whiskey drinkers. What is this “shite” (that’s what they would say in Ireland) , you might ask.?

And you thought he was Italian. Well his father was, but his mother was Irish, part of the Jameson Whiskey family. His mother was the one who could see the potential of what her young son was doing, and organized his moving to London. It was Jameson Whisky money from her family that set up the Marconi Radio Company... ..  
... No Shite.

Phil VK3ELV.

Editor's Note:

Thanks to all who contributed to this month's newsletter. The newsletter is only as good as the materials that are contributed by its members. I had an antenna article sent by Phil VK3ELV but unfortunately I could not publish it because my copy of OFFICE 2010 said it was corrupt... I will get you to resend me a copy Phil.

Next month I hope to start a new section in the newsletter called "SADARC SHACK'S"

This will be all about our member's radio shacks and antenna's, so if anyone would like to send a short article on their interest in AR and some pictures of the shack and antenna that would be great.

Cheers for now, Les, VK3TEX