



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

President:- Peter Rentsch
 Vice President:- Phil Dwyer
 Secretary:- Darren Glasson
 Treasurer:- Greg Keegan

VK3FPSR
 VK3ELV
 VK3HEN
 VK3PXA

Presidents Report March 2013.

Thank you to all those that attended the last meeting. Prior to the meeting we had an executive meeting. This was followed by a BBQ and we christened the new Club BBQ. After the meeting Rodney presented a talk on Power supplies. The topic covered was the difference between a linear power supply and a switch mode power supply. This discussion came about due to the fact that the power supply up on Mt Wombat was damaged by a lightning strike and had to be repaired. Thank you to Rodney for his presentation at short notice and also thank you to Rodney for the work he has carried out on the power supply to get it repaired and back in situ so quickly. A thankyou also to Dennis VK3ZYZ for the time he spent and the components that he donated to the club used in the repair. Dennis did not charge us for his time, so the Club is again grateful to someone volunteering their time.

Whilst in the thankyou mode. A special thanks to all those that attended the working bee at Duncan's VK3DCX – SK QTH to remove all his antennas and the tower. All went very well and was efficiently accomplished. Jan, Duncan's partner wishes to thank all the Club members for all their efforts in removing and tidying up everything.

On the social calendar is the annual get-together with the Midland Amateur Radio Club. This will be on Sunday 21st April at Goulburn Weir for lunch. Please supply your own food and drink and there are plenty of BBQ's on site. Last year we held a Car Boot Sale and this year I suggest that we do the same as last years was very successful. There is no charge for the Car Boot Sale, just bring you excess treasures and who knows what you may sell. Please note that only goods of an electronic nature are to be sold at this event.

In May our guest speaker will be Mark Tell from ACMA, so please mark the date in your diary.

At our April meeting we will have a special guest speaker. Our speaker will be Peter Freeman VK3PF, editor of the WIA Magazine, participant in the National Parks Activation Program and more recently he has been heavily involved in SOTA. Peter, I believe is the first recipient of the Shack Sloth Award in Australia under the SOTA Program. Come along and hear Peter tell us all about SOTA Activation and Chasing.

That's it for this month and I look forward to seeing as many of you as possible the next meeting..

Peter – VK3FPSR
President - SADARC

(Editors Note : Late addition to the Newsletter From Peter VK3FPSR)

It is with regret that I announce the passing of Allan Dobson, VK3AYD. Allan passed away on Monday night the 25th March.
Allan was a life member of SADARC and made many valuable contributions to the club in the past. He will be sadly missed. Our condolences go out to his family and Friends.

Minutes of SADARC 2nd March

Meeting opened 13.05

Present/Vk3hen,vk3fpsr,vk3pop,vk3pgk,vk3mac,vk3elv,vk3cop,vk3pxj,vk3eb and vk3dag.

Apologies/ Vk3fbng,vk3vce,vk3tex,Norma(swl),vk3fjhm,vk3faln,vk3alf and vk3caf.

Previous Minutes

Correction to call vk3pgk not pgm.Aceptedvk3cop 2nd vk3dag.

Correspondence/ scout hall hire fee

Outward mail/ Nil

General business/

BBQ with midland club will go ahead on Sun 21st April BYO everything. There will be a low key boot sale if you would like to sell some gear. Hope to put some information on vkham for anyone who would like to join us.

The new BBQ was used before the meeting and done a great job.

A working bee will be organized at Duncan's(SK) to remove antennas hope to have a bbq on the day.

Tech Report/ Only 2 mtr repeater running at present, surge from lighting took out the power supply. Rodney had a look at the power supply and took it to Dennis Parcel who did a great job to get it up and running .It was then proposed to give Dennis a letter of

thanks and also one to Bill Crocker for their efforts to keep the repeaters going and improvements that they have done.

It was also mentioned that the club should pay membership for Dennis for a year. V_k3dag/ web site coming along and around 90% complete.

A motion was raised to upgrade some equipment 1st Rodney/2nd Phil (re letter last month) still waiting for any response from members all present members (3hen,3f_{psr},3pop,3pgk,3mac,3elv,3cop,3pxj, and 3dag) agree with the improvements.

The guest speaker next month will be Peter Freeman(vk3pf).He will give a talk on contesting and other aspects of amateur radio.

Meeting Closed/15.10

TECHNICAL COMMITTEE REPORT – March 2013

Services now Operational

All analog repeater services were returned to normal service on the 6/3 following the damage caused by the electrical storm on 14/2. With each visit to the site since 14/2 more evidence of damage to the site becomes obvious. The most obvious was the Motorola power supply, but since then a power point has been found with welded contacts, and the tone mains fail alert on the two metre repeater had blown diodes. Hopefully there are no further pieces of equipment with lurking faults in them waiting to unpleasantly surprise us. A surge diverter and a step-down transformer have been added to the supply line to the equipment in the building to give additional near lightning strike protection. Additionally extra earthing has been added to that which was originally installed several years ago by Neil VK3KAL and Ray VK3RW. More may be added later on.

70cm D-Star Repeater

The repeater is not operational at this stage and it has been out of service for around four months. Toby VK3PNF has done extensive testing of the repeater having obtained information from **Icom** and other sources. Toby is of the belief that whatever is wrong with it that it will need to be returned to **Icom** for service. **The repeater had a warranty of two years – unfortunately it is out of warranty.** The club will need to decide what way we handle this situation as soon as possible.

The internet was dis-connected from the repeater late last year as the club voted not to continue to spend \$600 per year on the internet connection. If anyone has ideas on how a reasonable cost internet connection can be obtained please advise the club committee of the results of your investigations.

70cm Analogue Repeater

The repeater is working as normal, but a replacement higher gain antenna will be installed soon to improve its performance. At the same time the transmitter performance will be checked.

2 metre Analogue Repeater

The two metre repeater continues to provide good performance throughout the club's area, this being the prime communications medium for club members.

6 metre Analogue Repeater

This repeater is working well with an increasing number of users. Once members use it, it becomes obvious to them that this is a good repeater. However, it does have some inadequacies and once the upgraded repeater Phil is working on is installed complete with an upgraded antenna system, it will give solid performance into areas that are currently subject to interference or weak signals.

Miscellaneous

The remainder of the central hut mast is to be removed from inside the hut. A general clean up around the site, and checking of coaxial and 12 volt DC cables is to take place. The antenna systems at the meeting hall are to be checked. Who has a key to the compound where the tower is located?

When

It is hoped that a number of these projects on Mt Wombat will be dealt with in the coming months – April or May with a working bee or two. If you can assist with a working bee we'd like to hear from you.

Below is a précis of the work projected to be done into the future. The technical committee isn't the font of all knowledge. Members may have ideas on other things that may be desirable to do up on the mountain and what they can help with. The whole site is gradually being upgraded to provide better service to our members.

- Install the heavy duty 70 cm repeater antenna onto a hut mast and commissioning it. (Increase antenna gain, giving better range) See if any other improvements are desirable.
- Checking all the lattice mast cables and connections – some are to be shortened. (A general tidy up)
- Install the upgraded 6 metre repeater and upgraded cavities. (Better performance in weaker areas, and its performance will be better than two metres as six metres 'bends' around corners better) Two cavities have been replaced so far.
- Purchase and install another folded dipole to the six metre antenna on the main mast, when purchase approved. Cost about \$700. (This will improve the coverage of the six metre repeater by 3 dB, as the capture area of the antenna will then be similar to the two metre antenna.)
- Repair remainder of lightning damage in hut. See above. (Safety)
- Tidy and label all DC cables and Coaxial Cables in the hut. (Easier to work in the hut)
- Possibly purchase and install a DSP module in the two metre repeater, cost around \$160. (It will give better quality audio with weak input signals)

- Possibly purchase and install a DSP module in the 70 cm analog repeater, cost around \$160. (It will give better quality audio with weak input signals)
- Build a 20 amp cold stand-by power supply. (Back up to take place of main supply in case of its failure)
- Return D-Star to service. (Been out of commission for around 4 months, information being sought to get it up and running again) See notes above.
- General tidy up around the site. Check door locks. (Better access to hut and less likelihood of fire damage)
- Check the antenna mast and antennas at the club station. (Some concern about the safety of the wooden mast and the performance of some antennas) Who has a key to the compound?

Rodney Champness VK3UG on behalf of the technical committee, Ray VK3RW, Phil VK3ELV and Geoff VK3ZNA.



Mount Wombat Antennae and a great view!



Another photo of the Mt Wombat coverage area.

Following is the data on the proposed addition to the 6Meter repeater system:

BASE STATION > SIDE MOUNT FOLDED DIPOLES

FOLDED DIPOLE ANTENNA 35 - 70 MHz

MODEL 614

MODEL 614

MODEL NO 614

FREQUENCY RANGE 35 - 70 MHz

IMPEDANCE 50 ohms

BANDWIDTH 2 MHz

VSWR 1.5:1

GAIN UNITY

BEAMWIDTH E 90°

BEAMWIDTH H variable

POWER 250 Watts (input)

LIGHTNING DC GROUND

TERMINATION 'N' FEMALE

WEIGHT 9kg

DIPOLE LENGTH 4000 mm

MOUNTING TUBE Ø 50mm

MOUNTING TUBE LENGTH 3000 mm

PROJECTED AREA 0.39 m²

LATERAL THRUST * 0.660 kN (@ 175 km/h)

* In accordance with AS 1170 : Part 2 "SAA Loading Code - Wind Forces"

FEATURES

Vertically polarized, broadband, unity gain antennas suitable for side mounting to a tower or mast, or side mounted dipole arrays.

Wide bandwidth makes this range of antennas suitable for duplexing applications.

CONSTRUCTION

VHF dipoles are constructed using heavy duty aluminium. The antenna requires a mounting clamp and spacing from the mast may be varied. Anti-vibration straps supplied as standard.

NOTES

Coverage pattern will vary from basically omnidirectional to cardioid depending on the spacing of the dipole from the supporting mast.

Refer to radiation patterns.

Stainless steel optional to order.

Shipped with illustrated installation instructions.

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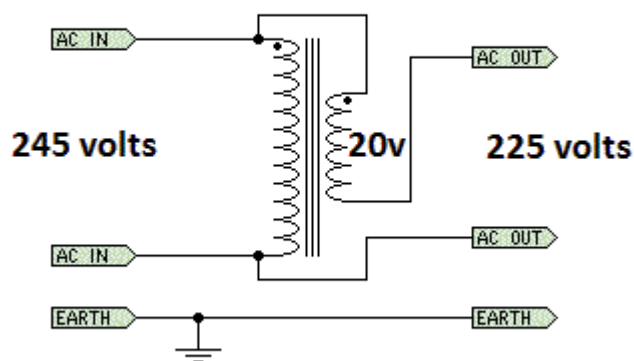


A Bucking, Good Idea.

After our repeater power supply was repaired, Rod ran some tests on it to make sure all was OK, however there was a problem with it going over voltage briefly at initial turn on. It turns out that it is designed for 220 volts (European) AC. While this is not a problem for a lot of modern equipment with switch mode or linear voltage regulators, for some equipment like ferro resonant transformers it is. To make matters worse our mains voltage is usually around 250 volts, somewhat higher than the 234 volt specification. We could not really run the risk of possibly damaging our equipment, but a 240 volt to 220 volt transformer that can handle 6 amps is around \$300.

Ray came up with the idea of using the secondary winding of a smaller transformer to knock the voltage back and Rod obtained a suitable one for around \$30 and wired it to suit. It is called a Bucking Transformer.

BUCKING TRANSFORMER



This is not a dodgy fix at all. It is quite legitimate as the heavy current secondary winding can handle the current and the lower rated primary carries very little current. Because of the phase reversal (cancellation) the secondary voltage is subtracted from the input voltage. I guess this method was probably used a lot in the past with a lot of valve equipment and also why a lot of people have forgotten it and newer people have never used it.

By Phil VK3ELV

That's all for this month thank's to all who contributed

Les, VK3TEX, Newsletter Editor.