SHEPPARTON & DISTRICT AMATEUR RADIO CLUB
Repeaters: VK3RGV 2m - 70cm - Packet.
Freq: 146.650 - 439.775 - Packet 147.575
Founded 1979
Incorporation No. A6677
P.O Box 692 Shepparton 3632

REPEATERS VK3RGV 2m & 70cm	President:- Peter Rentsch	VK3FPSR
VK3RGV B D-Star	Vice President:- Phil Dwyer	VK3ELV
2m IRLP Node # 6992	Secretary:- Darren Glasson	VK3HEN
CLUB CALL SIGN VK3SOL	Treasurer:- Greg Keegan	VK3PXA

Presidents Report February 2013.

Firstly let me thank Phil VK3ELV for both chairing the last meeting and his presentation on cavities. All reports indicated to me that it was a good meeting and those in attendance found it most interesting and educational.

Since my last report a couple of sad events have occurred. Firstly Duncan VK3DCX passed away in January. Members of the Club, Ed VK3BG, Pat VK3OV and I, attended his funeral. Two other amateurs also attended his funeral, Roger VK2RO and Daryl VK3KL. Duncan was great contributor to the Club when he was able, filling the role of Secretary for a number of years. Duncan rose up through the ranks of Amateur Radio fairly quickly moving from the F call to the Standard call and then the Advanced. He loved his DX'ing and made many regular and varied contacts all round the world. Our condolences go out to Jan and his family.

The second sad event for the month occurred to our SWL member, Bill Crocker. During the recent fires near Violet Town, Bill's property was affected. Bill had 350 acres of his property burnt and he lost approximately 70 head of stock. On talking to Bill about the event he said he had lots of work to do tidying up and replacing fences. Our thoughts go out to Bill at this difficult time and we wish him the best. For those that don't know, Bill is a great contributor to the Club with his engineering expertise. He was instrumental in designing the new tower setup on Mt Wombat and has recently been up to Mt Wombat with Rod and others to remove the old centre pole. Thanks for your help Bill and we look forward to seeing you when you get the opportunity to attend a meeting.

Please remember that prior to our March meeting there will be an Executive meeting at 10.30am followed by BBQ at 11.30am and then our normal meeting at 1.00pm. Greg has purchased the BBQ and this is our first opportunity to use it so it would be great to see many of you there.

Also 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 know what you may sell. Please note that only goods of an electronic nature are to be sold at this event.

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

Peter – VK3FPSR
President – SADARC

Minutes of SADARC 2nd Feb

Meeting open at club rooms
13.05

Present,
vk3dsf,vk3fjhm,vk3ov,vk3ug,vk3pgm,vk3vce,vk3chv,vk3faln,vk3dag,vk3tjs,vk3hen,vk3cop, vk3tex.

Apologies
Vk3caf,vk3hbw,vk3fpsr,vk3fbng,vk3bg

Previous minutes
Moved as correct vk3ov 2nd vk3cop.

Correspondence,
Inward qsl cards most passed out on the day.

Outward mail letter sent to Jan re passing of Duncan.

Technical report(Rodney)
70 cm d/star not operational at present Phil and Toby trying to get it back in to service.
70 cm analog repeater will get a higher gain ant soon.
2 meter analog working well.
6 meter working well but sensitive to interference phil working on a new repeater and a Better set of cavities hope to get 4/5 db improvement with new cavities.
Center pole on hut has been removed.
Batteries need to be tested on there capacity.
Ray suggested better earthing on the equipment in the hut.

General business,
Combined BBQ with midland club expected to go ahead as previous years.
Steve(vk3dag) has rebuilt club website it is around 80% complete any suggestions for improvements let him know. Any body who has old photos on the club for the history Page on the web site see Steve.

Pat(vk3ov) members list accurate for the nov last year.
New bbq has been brought and there will be a bbq at the next meeting.
Phil gave a very interesting talk on cavity filters ,how they are made and how they work.

Meeting closed14.15

Vk3hen,Darren

TECHNICAL COMMITTEE REPORT – February 2013

STOP PRESS 20/2/2013. Whilst the report below was correct up until 14/2/2013, an electrical storm went through the Mt Wombat area that evening. It caused a number of two way sites to have problems and so did we as our heavy duty power supply was damaged. It was brought down for repairs on 16th by Rob VK3ECH and Toby VK3PNF. It is at VK3UG's QTH. How soon it goes back depends on spares and available time. Currently the ONLY repeater on site operating is the 2 metre repeater running on its internal supply. There is no battery back up at this stage. D-Star was removed for service and is at Toby's QTH. The battery backup worked well and powered the site for more than 48 hours (as it was designed to do) keeping both the 2 FM and UHF CB operating. Not wanting to flatten and ruin the battery bank it has been disconnected until we can put things back to normal. Note a new commercial quality power supply capable of handling the site could cost the club around $1400. We are looking at our options. Have any members got some cheaper but good ideas? Any power supply installed on Mt Wombat must be of commercial specification and the average amateur power supply is not and could therefore be unreliable and cause serious problems to other equipment, as happened sometime back with the UHF CB repeater.

70cm D-Star Repeater

The repeater is not operational at this stage. Toby VK3PNF is working in collaboration with Phil VK3ELV and Ray VK3RW to get information on the system so it can be brought back into service. It has been out of service for around three months. 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 indeed a good repeater. It does however have some weaknesses which Phil VK3ELV is working to overcome. Six metres is more prone to interference from power lines, computers, vehicle electronics, etc. To overcome this Phil has built up a new repeater featuring the marriage of the best features of the Philips FM828, FM814 and PRM80 VHF transceivers as well as a number of his innovative ideas. Once it is installed this up-graded repeater will give solid performance into areas that are subject to interference or weak signals.

However, when the repeater was installed in early January it was found that the transmit cavities were unable to operate at higher power than the current repeater outputs. A couple of spare cavities are being worked on by Phil to overcome the cavity problems which appear to be problems of poor power factor performance at RF by ceramic capacitors within the cavities. Alterations are being made to overcome this problem and construction techniques are also being used to minimise any chance of corona discharge which can occur with high RF voltages being generate within such high Q tuned circuits. The results are promising and they should soon be working well. The final testing of the cavities will be done by Phil and Ray. Ray has the gear suitable to do the fine tuning.

Our cavities (suitable for 70 to 85 MHz originally) cost us $400 all up several years ago. Another club is having full size cavities made commercially for 6 metres which is costing them about $XXXX . Once the new repeater is installed improved performance can be expected. If then an additional folded dipole antenna is installed, coupled to the existing one, very good performance can be expected as the six metre repeater will have an antenna system of similar capture area to the two metre repeater antenna system.

Miscellaneous

The remainder of the central hut mast is to be removed from inside the hut. The batteries are to be tested for capacity. A general clean up around the site, fitting of more earthing cables and checking of coaxial cables is to take place. The antenna systems at the meeting hall are to be checked.

When

It is hoped that a number of these projects on Mt Wombat will be dealt with in the coming months – March and April with a working bee or two. If you can assist with a working bee we'd like to hear from you. Some work was planned for February but has been postponed due to the dangerous fire season we are experiencing. One member Bill Crocker lost fences, stock and feed due to the Violet Town fire.

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)
- Check and upgrade earthing cables since hut masts installed. (Provide some lightning protection)
- Check the batteries. (Need a charge/discharge cycle to assess capacity, may need new batteries in a couple of years.) Tested when power supply failure occurred on 14/2/2013 and kept all the essential services functional for 48 hours, and the battery voltage was still 12.6 volts at the end of that time.
- 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)
- 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.)
- 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)
- Return D-Star to service (Been out of commission for around 3 months, information being sought to get it up and running again)
- General tidy up around the site. (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)

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

With Apologies to Bruce VK3FBNG, the next article is presented from my "You forgot to put it in the last newsletter!!" file. Hi Hi …

Radio Tocumwal by Bruce VK3FBNG.

I Bruce VK3FBNG and Myrtle and Mike VK3NMK left Rochester for a camping trip to Tocumwal for a few days in early November but liked it that much almost 3 weeks went by before we came home. Myrtle and I headed off first and Mike arrived two days later, we camped at Apex Beach a lovely sandy area 2 KS down river from Tocumwal to set up our camp.

First job of course after the caravan was set up was erecting the squid pole and 20m of wire to the nearest tree. At the weekend Mike arrived followed by Steve VK3DAG with his Mum and Rex.Soon there were three antenna systems up the trees all within 100m. Steve was first on the air each morning on his way to work followed by Mike and I.

The fish were a non event but we all had a good time camp cooking, taking photos of the Kolas and chatting with the various travellers that stayed from time to time.I took along my new 2.5KVA generator and gave it a good work out keeping the power up to 3 sights and sawing wood with the electric chain saw, we had all the comforts of home with even a water pump to bring the water 50m from the river.Mike lives full time in his motor home, and travels around Aus and returns to his base at Moe from time to time. We all enjoyed his company and will keep in touch via HF radio as he travels North.
A great time was held by all.

Photos / No 6 frequent visitors, 8 Bruce and Myrtles caravan, 19 Mikes big catch, 20 Myrtle having a go, 26 Mike Relaxing, 39 Steve and Rex;s camp.

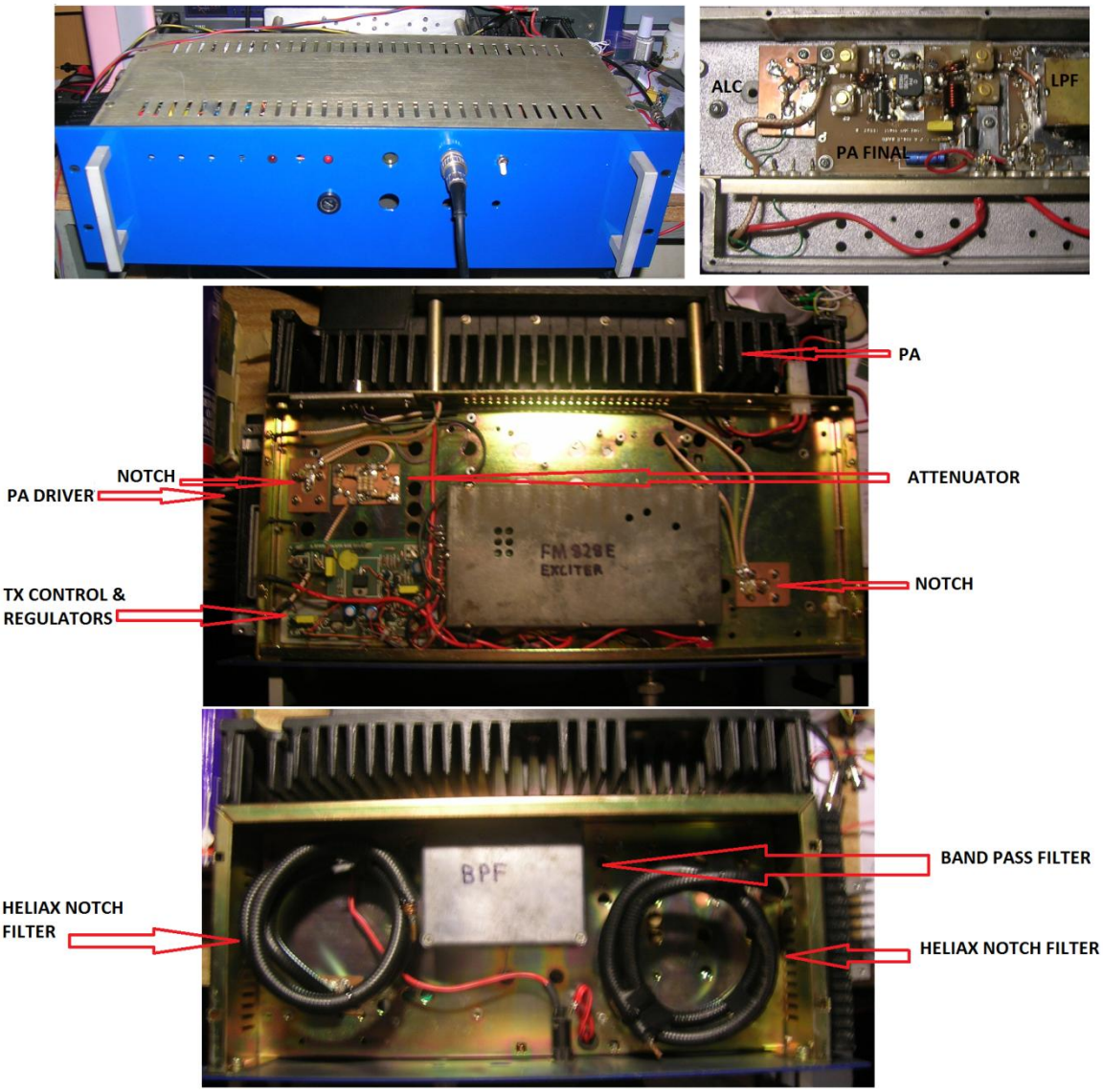
The following photos were kindly sent by Bruce VK3FBNG and also retrieved from the “You forgot to put it the last newsletter file!!”…

Great fun was had by all at the December Christmas breakup!




From Phil VK3ELV…

6 METRE REPEATER TRANSMITTER



Also from Phil VK3ELV,..

New Mode for VOICE DX

A number of Hams have been discussing the possibility of a digital voice mode with error correction that uses less bandwidth than SSB for about 10 years. Now it is here. Being open source the amateur knowledge of the world will perfect this and it will have greater range than SSB as well as fitting more stations on the crowded bands with less QRM.

FreeDV

FreeDV is a GUI application for Windows and Linux (MacOS and BSD are in testing) that allows any SSB radio to be used for low bit rate digital voice.

Speech is compressed down to 1400 bit/s then modulated onto a 1100 Hz wide QPSK signal which is sent to the Mic input of a SSB radio. On receive, the signal is received by the SSB radio, then demodulated and decoded by FreeDV.

FreeDV was built by an international team of Radio Amateurs working together on coding, design, user interface and testing. FreeDV is open source software, released under the GNU Public License version 2.1. The FDMDV modem and Codec 2 Speech codec used in FreeDV are also open source.

Why FreeDV?

Amateur Radio is transitioning from analog to digital, much as it transitioned from AM to SSB in the 1950's and 1960's. How would you feel if one or two companies owned the patents for SSB, then forced you to use their technology, made it illegal to experiment with or even understand the technology, and insisted you stay locked to it for the next 100 years? That's exactly what *was* happening with digital voice. But now, hams are in control of their technology again!

FreeDV is unique as it uses 100% Open Source Software, *including* the audio codec. No secrets, nothing proprietary! FreeDV represents a path for 21st century Amateur Radio where Hams are free to experiment and innovate, rather than a future locked into a single manufacturers closed technology.

NOTICE OF MOTION FOR THE MARCH 2013 MEETING

I move that the club purchase a commercial antenna of the same type as already used on the six metre repeater (Polar 614) complete with phasing harness and couple this to the existing antenna. The anticipated cost is approximately $700 – antenna, phasing harness and freight.

This will be moved by Rodney Champness VK3UG and seconded by Philip Dwyer VK3ELV, and is recommended by the remainder of the Technical Committee.

The reason for the notice of motion is because the expenditure of greater than $500 requires all club members to have the opportunity to vote on such expenditure. Members may vote Yes or No at a meeting and those who are absent from the meeting also have the opportunity to vote by mail (not

email) sent to the secretary within a month of the motion being tabled. A member can indicate their Yes or No to the motion by sending a letter to the secretary stating this. If no letter is received it will be taken that the member is in favour of the motion to purchase the antenna and accessories.

Whilst the six metre repeater works well, it has an antenna with a capture area about half the size of the two metre repeater antenna. We all know how much better the two metre repeater is with the larger antenna and the six metre repeater will be significantly improved by having a larger antenna too. The two metre antenna cost around $1300 about five years ago and this antenna and phasing harness will cost $700. With the improved repeater (similar in power to the two metre repeater) and addition of the extra antenna, areas with poor coverage will become very usable and extend the repeater mobile range into areas such as Bendigo, Wangaratta. Home station contact will be possible and quite practical into areas of Albury and some suburbs of Melbourne.

We would ask that members support this upgrade to the six metre repeater. See attached data on the antenna.

Rodney Champness VK3UG
(Editors Note: At time of writing this newsletter an attachment of the antenna data was not received from Rodney VK3UG, although if any member wants they can contact Rodney for the specifications.)

The following list of items is for sale:

1C7400 Transceiver. No hand mic. Original packaging.	$1200.00
1C7600 Transceiver. Faulty hand mic. 2.5 years factory warranty. Original packaging SOLD	$3400.00
Icom SM20 desk mic. SOLD	$ 150.00
MFJ-962D 1.5Kw Roller lnductor Tuner.	$ 300.00
SPE Expert 1K-FA Solid State 1 KW Linear Amplifier. SOLD	$3800.00
Duratech TS 1550 Soldering Station.	$ 50.00
MFJ-4125 25 Amp Switch mode Power Supply.	$ 200.00
Digitech QT-2202 Frequency Counter. 10Hz - 2.7Ghz.	$ 80.00
Powertech MP3099 Regulated Power Supply. SOLD	$ 60.00
Vibroplex Standard Straight Morse key.	$ 100.00
40M 2 Element Linear Loaded Beam by COM-AN-TENA.	$ 300.00

TET- EMTRON TE46 Beam Antenna (10, 14, 1:8,2L,24,28 Mhz bands) $ 600.00

Diamond X4OO 2M lT0cm Vertical Antenna. $ 120.00

Diamond CP6212 x 5/8 Wave) SM Vertical Antenna. SOLD $ 120.00

ONE MAN TOWER (Super Midi 10). Purchaser to dismantle. $1500.00

Alfaspid RAK Rotator and Controller. $ 900.00

ASC-48 ALPHA DELTA 4 way Coax Switch $ 180.00

YAESU FT-101E Transceiver. Hand Mic, YD148 Desk Mic. DC power lead $ 400.00

Collins KWM-Z Transceiver. With PM-2 Power Supply. No Mic.(TX fault. Low Output Power $ 500.00

All this equipment is for sale. It is all very clean and been looked after very well. I am in the processes of testing all the equipment as best I can and photos of the gear can be supplied on request.

Please contact Peter VK3FPSR on 03 5871 1000 BH or via email at pages.cobram@bigpond.com if you are interested. Please note this equipment will be advertised on VKHam if not sold prior.