



Founded 1979 Incorporation No A6677 P.O. Box 692, Shepparton 3632  
February 2022

VK3RGV repeaters and transmitter operating frequencies Mt Wombat

53.725MHz (-1 MHz), **In Service** 146.65MHz (-600 kHz), **In Service**  
438.2MHz (-7 MHz -D-Star), **In Service** 438.650MHz (-7 MHz 91.5 Hz tone), **In Service**  
438.9MHz (-7 MHz - DMR), **In Service** 439.775MHz (-5 MHz), **In Service**, IRLP (node #6990)  
476.475 MHz (+750 kHz) CB Repeater WBT03 Channels 3- 33, **In Service**  
VK3RDS, 438.7625 MHz (-7 MHz DMR) **Shepparton on test @ VK3YNV QTH**

The three following repeaters are not the clubs but are allied to the club in one way or another.

Mt Major VK3RDU, 146.850 MHz, 439.875MHz. Mt Bruno VK3RWC 147.325 MHz **(-1.6 MHz 123Hz)**

Access to most analogue repeaters is by sub-audible 123 Hz tone or noise/carrier mute (less sensitive).

Your TX offset shown in brackets

Club informal on air get togethers, all welcome. Club call sign VK3SOL:-

Wednesday- 2mx repeater 146.65 MHz 8.00pm,

3.63 MHz SSB ± interference 8.30pm,

Sunday - 2 mx repeater 146.65 MHz 8 pm,

& The Vintage Radio Club - 2 mx repeater 11 am

Meetings the first Saturday of the month from 10 am for informal chats and technical talks. A BBQ follows (a gold coin donation). Business meeting 1 pm (except January when no meeting occurs) at Flexible Learning Centre, 18 Channel Road (250 metres from Archer Street), Shepparton.

Variations in these times, days and location are normally notified in the preceding newsletter.

**Remember Covid rules and check the website for any changes re the meeting**

Website – [www.sadarc.org](http://www.sadarc.org) or [www.sadarc.org.au](http://www.sadarc.org.au) Face book Page - Shepparton and District Amateur Radio Club Direct Link: <https://www.facebook.com/groups/481867453084459>

Note: Want to get your licence? SADARC has examination assessors, contact the secretary for details.

**DISCLAIMER:** - No guarantee is given as to the accuracy of information in this newsletter. E. & O.E.

**Warning:** - There is a danger of electrocution or injury when working on electrical/radio gear or working at heights doing antenna work. You do so at your own risk. 27/02/2022

President:- Rob Hose

VK3BLD

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Vice-President:- Barrie Halliday

VK3KBY

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Secretary:- Arthur Duke

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VK2RK

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Communications Managers (External Events):- Bruce (VK3PNG) & Darren (VK3HEN)  
Glasson

Tech. Committee: Geoff VK3ZNA, Ray VK3YNV, Josh Gardiner & Rodney VK3UG – with  
power to co-opt.

Newsletter: - Rodney VK3UG (Editor) [rodlynn6@bigpond.com](mailto:rodlynn6@bigpond.com) , (Distribution) ?

## **Annual Report for the Shepparton and District Amateur Radio Club.**

### **2021**

It is with pleasure that I present the annual report for SADARC for the year 2021.

We again have gone through a year of turbulation. Meeting face being a rarity for the year. Meeting formats being changed at the last minute and then everybody having to adjust to the scenario that controlled us on the day. Through all this we have maintained a Club that has continued to survive but also continued to evolve into a flexible relatively well-oiled machine.

Meetings flowed well with new ideas, procedures, projects and debate carried out in a very respectful manner. This is indicative of the membership of the Club, the quality of members we have, the enthusiasm and the ideas. So, thank you to each and every one of you for contributing to a Club we all should be proud of.

Normally as part of my report I would list what events occurred at each meeting but with the meetings the way they were this year we either were on air or face to face. When we did have a face to face no guest speakers were organised as we were keen to catch up with members and have a chat. Who would believe that a hobby built around communicating with one another meant we still wanted to talk when we saw each other?

We continue to roll on as a Club with some small projects and some large projects. Hopefully this year we can get back to having a Ham fest, keep working on the Radio Australia dream and perhaps a new goal for this year could be a celebration of 40 years since the commencement of the use of the repeater site at Mt Wombat.

Some thankyou's need to be made. To the members of the executive and technical committee, thank you for the work that you have done throughout the year. To those that aren't on any committee but help out as best they can when they can, thank you. To all those members that turn up to the meetings both physically and on air thank you to you as well. It makes it worthwhile putting some effort into the meetings when you know you are going to get some appreciative members along.

As this is my last report as President of your Club, I would like to make some observations. Has the Club changed in ten years, well yes, very much so? When I took over one of the first meetings I chaired nearly ended up in fisticuffs. Two members pushing their own bandwagon and not prepared to listen. Thankfully we have now grown past that and listen, debate and suggest ways to better the Club.

We have beginners, we have people that are very knowledgeable, but we are all prepared to help each other to grow. The politics of Amateur Radio is avoided with in our group and those that are interested in that aspect pursue it elsewhere. I believe this is one of saving graces within our group.

My hope for the future is that we can continue to respect each other, question, query and enquire as you may learn something. For a number of years, I used to use a signature comment on my emails that read "aspire to inspire before you expire" I hope this is what I have achieved as my time as your President.

PS -I am not ready to do the last bit yet.

Respectfully submitted,

Peter Rentsch  
VK3AXI  
President SADARC 2020-2021.

## **SADARC - AGM 5<sup>th</sup> Feb. 2022**

President Peter declared all positions vacant and vacated the Chair.

Vice President Barrie assumed the chair for election of office bearers.

Secretary. Arthur accepted a nomination by Andy, seconded by Stevo, and was elected unopposed.

Treasurer/Membership. Ian was nominated by Denys, seconded by Peter, and was elected unopposed.

President. Robert (VK3 BLD). Was nominated by Ian, seconded by Denys, and was elected unopposed.

Vice President. Barrie to continue in this position. Nominated by Robert (VK3RK),

Seconded by Peter and elected unopposed.

Technical Committee. This committee to remain unchanged -  
Jeff, Rodney, Ray and Josh.

Website. Ray to continue to maintain website.

News Letter Rodney.

Social Media. Robert (VK2RK) to look after social media. (Suggested by Kevin and accepted)

Stevo offered a vote of thanks to the outgoing board for their work over the years.

President Robert (VK3BLD) declared the meeting closed at 3:20 p.m.

**Next Meeting 5<sup>th</sup> March**

# SADARC FEB. 2022 Meeting Minutes.

Club Rooms, Shepparton.

In Attendance: VK3AJA Andy, VK3ZYZ Denys, VK3FALN Alan, VK2RK Robert, VK3BPH Kevin, VK3TEX Les, VK3GSR Geoff, VK3AXI Peter, VK3KBY Barrie, VK3YYY Ian, VK3UG Rodney, VK2JKN Jim, VK3BF Alan, Josh, VK3AFD Arthur, VK3OV Pat, VK3ASK Peter, Bill C, Stevo.

Apologies: VK3ZE Huntly, VK3ZNA Geoff, VK3EB Dallas, VK3TJS Jacek,

Minutes last meeting: None. (Was Xmas lunch)

Inward: Bank Statement, QSL Cards,

Outwards: Consumer affairs statement.

Moved by Andy, Second by Peter, all in favor.

Financial: Moved by Andy, second by Rob, all in favor.

Technical: Ray has spoken about 2 M repeater still has a crackle, still looking at what is causing it.

Also have a n intermittent issue with digital service, 3g service drops out and requires reboot of modem, not sure what is causing this?

Ray spoke about power supply upgrades, new batteries, and new power supply. Both require replacing. This equipment is already owned by SADARC.

Rodney asked regarding 6m antenna possibly some signal direction issues particularly in the east.

Josh reminded us of the electrician still need to be found and complete work on Mt. Wombat.

Moved by Ray, second by Allan, all in favor.

It was mentioned that we will make Lou B. a complimentary member of club so he can join forum. Due to the work, he has done for the club indirectly.

Rodney reminded us that we should provide articles for the newsletter.

Rodney has had correspondence with the guy from Germany regarding Radio Aust. History. Rodney has provided the article to him.

Rob has spoken about Facebook page has grown significantly and is very popular.

Moved by Geoff, second by Kevin.

General business: Peter has mentioned certificates from the Xmas lunch can be delivered to those who went at lunch.

Rodney has mentioned that perhaps the HF and VHF nets should be moved to separate days and has opened this for discussion.

Ray suggested we do perhaps 9 am weekdays as a coffee net.

Rob has mentions that Wednesday night nets does overlap and perhaps this would be a good idea.

Rob has suggested Sunday evening at 8:00 pm for the VHF net. Moved by Rob, second by Jim, all in favor.

There was some discussion about people connecting via all-star instead of RF.

There was some discussion on a link of some sort for SADARC to extend coverage.

This has been handed over to the technical committee for recommendation. Moved by Barrie, second by Denys, vote is in favor.

Peter has made us aware the Property we use for club rooms for sale but not to panic.

Meeting closed. 2: 28 pm

## **President's Report (incoming President)**

This is my first report as President and my first duty is to thank the outgoing committee members for their tireless efforts to keep our club running.

As we adjust to living with Covid, I hope we can return to some of the activities that make our hobby great. The Ham fest is a great social gathering and provides a lot of interest from other clubs. I hope to see the Ham fest return this year. I would like to see a Field Day this year, as well as the Club getting involved with JOTA to promote our hobby to the younger generation.

The Technical Committee have done a fabulous job keeping all our radio gear running and I hope to support them in their continuing efforts. Many of us still embrace the basics of our hobby with projects that are both useful and interesting. Each meeting we see numerous displays of current projects. I would like to set aside some time at each meeting to allow one of our members to give a short presentation to highlight their project. If you would like to have the opportunity to showcase a project, please let me know. I have invited Robert VK2RK to give a talk about his latest project at the meeting on 5<sup>th</sup> March.

Finally, as a Club, we all need to contribute to our success. As such, I would like members to brainstorm ideas for the Club. Please bring your ideas to the next meeting so we can have a discussion.

Robert Hose

(President)

## For Sale:-

The windup tower that was used on top of Mt Wombat to support our repeater antennas was taken down and is stored at Bill Crocker's farm for the last five years. It has a substantial hinged base. Hinge it up with the second section telescoped into the base section then guy it ,etc. This is a heavy-duty mast and spent many years on Mt Wombat without evidence of deterioration. If you want to know more about it look at the forum section of the club's website.

The club is looking to sell it at a reasonable sensible price preferably to a member of the club.

## Editor's Ramblings

- Bruce VK3PNG at the time of writing this (22/2/22) was in the Echuca hospital. He is now home (27/2/22). We wish you a continuing speedy recovery Bruce, and we look forward to seeing you at the next meeting.
- The header page of the newsletter has been altered to reflect the changes in the club committee and one or two other changes. If you have any thoughts on changes or additions that you think necessary advise me at [rodlynn6@bigpond.com](mailto:rodlynn6@bigpond.com) . I have had one query at this stage. However, I may or may not be able to accommodate what you consider needing change, etc.
- Over the last couple of years, the start time of our meeting get togethers has been set at 10am which was to accommodate tuitional times to assist members. Currently members appear to start arriving at around 11am. Should I change the header to reflect this?
- The positions of Communications Managers have been confirmed. The distribution of the newsletter has not been finally organised. Hopefully this will be settled by the time of the next newsletter.
- Our AGM used to be in October and Peter VK3AXI suggested and moved that February would be a better time to hold the AGM. The meeting agreed and that is when it will be in future.
- Articles and items on what is going on are always welcome for the newsletter after all, it is a newsletter.

## Amateur Radio Voice linking protocols

### Preamble

Back in 1995 a voice transmission system was developed that allowed the transmission of sound via the internet, Voice Over Internet Protocol was born (VOIP) initially used largely in telephony reducing the cost of calls to the end user.

With development of system a switching system was created called Asterisk, this served in the role of an exchange and interface to the phone switched network.

The VOIP protocol provided several encoding systems that provided degrees in audio quality at the cost of bandwidth.

For more detailed information on the structure of VOIP

<https://www.eetimes.com/how-voip-works-protocols-codecs-and-more/>

### Audio codecs

G.711

Introduced in 1988, [G.711](#)—the international standard for encoding telephone audio on a 64-kbps channel—is the simplest standard among the options presented here. The only compression used in G.711 is [companding](#) (using either the [μ-law](#) or [A-law](#) standards), which compresses each data sample to an 8-bit word, yielding an output bit rate of 64 kbps. The H.323 standard specifies that G.711 must be present as a baseline for voice communication.

G.723.1

[G.723.1](#) is an algebraic code-excited linear-prediction ([ACELP](#))-based dual-bit-rate codec, released in 1996 to target VoIP applications. The encoding time frame for G.723.1 is 30 ms. Each frame can be encoded in 20 bytes or 24 bytes, thus translating to 5.3-kbps or 6.3-kbps streams, respectively. The bit rates can be effectively reduced through voice-activity detection and comfort-noise generation. The codec offers good immunity against network imperfections—like lost frames and bit errors. G.723.1 is suitable for video-conferencing applications, as described by the H.324 family of G.729

Another speech codec, released in 1996, is the low-latency [G.729](#) audio data-compression algorithm, which partitions speech into 10 ms frames. It uses an algorithm called conjugate-structure ACELP (CS-ACELP). G.729 compresses 16-bit signals sampled at 8 kHz via 10 ms frames into a standard bit rate of 8 kbps, but it also supports 6.4 kbps and 11.8 kbps rates. In addition, it supports voice-activity detection and comfort-noise generation.

VOIP Technology is used in Amateur Radio

Sometime after the introduction of VOIP in 2002 Jonathan Taylor develop Echolink this is basically a VOIP system with a modified control layer that allowed a point to point connection or a group connection as in a star topology.

With this the use of a radio was not necessary, one could connect to another amateur just using a computer

The system is still used today, its advantages are:

- a) Ease of use
- b) Easily interfaced into a radio

Disadvantages are:

- a) Poor security
- b) Audio quality only as good as the user implementation

### **IRLP (Internet Radio Linking Protocol)**

[https://en.wikipedia.org/wiki/Internet\\_Radio\\_Linking\\_Project](https://en.wikipedia.org/wiki/Internet_Radio_Linking_Project)

Very early in the development of the technology for Amateur Radio, Dave Cameron (VE7LTD) created the IRLP system This offered a Peer-to-Peer secure connection, later offering the ability to have a star topology allowing several nodes to be part of a local area network.

Technically IRLP can be used to communicate just using computer to computer as Echolink does, however it was from the very start designed to be part of an RF radio system.

It provided a very secure environment as it uses a unique user key that stops any traffic unless this key is known to the system.

The Audio quality is very good, mainly due to the restriction placed on home built interfaces that only a device built by VE7LTD is allowed on the network, with this audio quality is maintained in the network.

### **Allstar**

The late comer in the technology (2018) is the protocol Allstar, largely born to counter some of the security issues with Echolink providing either Radio or Computer connection and linking.

The only disadvantage is that any station can connect to any other group of stations bringing those connected to it in to the group, so the control of connections aside from banning users is not acceptable for radio repeater to radio repeater linking as the IRLP system offers.

### Conclusion

In all of the above modes VOIP CODECS are used with the aim on audio quality and allowed bandwidth.

Can these systems be called digital? No, they are analog in analog out at either a computer or radio, but the information transport is digital using packets in the VOIP protocol.

When any of the above systems are used, one must consider the security aspect and the kind of traffic to serve. Presently IRLP offers the best in security and audio quality.

