

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

#### VK3RGV repeaters and transmitter operating frequencies

53.725MHz (-1 MHz offset), In Service 146.65MHz (-600 kHz offset), In Service 438.2MHz (-7 MHz - offset -D-Star), In Service 438.650MHz (-7 MHz offset and 91.5 Hz tone access only), In Service 438.900MHz (-7 MHz offset- DMR repeater), In Service 439.775MHz (-5 MHz offset), In Service, IRLP (node #6990) VK3RDS, 438.7625 MHz (-7 MHz offset DMR repeater) Shepparton on test @ VK3YNV QTH

Access to most analogue repeaters is by sub-audible 123 Hz tone or noise/carrier mute (less sensitive). Club informal on air get togethers - Wednesday evenings. All welcome. Club call sign VK3SOL:-2mx repeater 8.00pm 146.650 MHz, The vintage radio club have a sked at 11.00am Sunday on the 2 mx repeater.

Meetings occur on the first Saturday of the month from 10 am for informal chats and technical talks. A BBQ follows (a gold coin donation) then the business meeting at 1 pm (except January when no meeting occurs) at Vision Australia, Channel Road (just off the southern end of Archer Street), Shepparton. Variations in these times, days and location are normally notified in the preceding newsletter. Website – <u>www.sadarc.org</u> Face book - <u>www.facebook.com/sadarc.org</u> Info for the page contact - Denny French on <u>denny3782@gmail.com</u>

Note: Want to get your licence? SADARC has examination assessors, contact the secretary for details. The following repeaters do not belong to our club but provide good signals for many members. <u>Mount Major VK3RDU repeaters, TX operating frequencies, 146.850 MHz and 439.875 MHz</u> <u>UHF CB Repeater WBT03 Mt Wombat Channels 3- 33, 476.475 MHz, In service</u> 25/2/2020

**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 or working at heights doing antenna work. You do so at your own risk.

President: - Peter Rentsch	VK3FPSR	<u>peter@rentsch.com.au</u>
Secretary: - Andy Ashley	VK3AJA	<u>secretary@sadarc.org</u>
Assistant Secretary:- Geoff Angus	VK3ZNA	
Vice-President: - Barrie Halliday	VK3KBY	
Treasurer: -Andy Ashley	VK3AJA	secretary@sadarc.org
Membership Sec: - Andy Ashley	VK3AJA	"
Webmaster: - Ray Gardner ray@etheira.net	VK3YNV	Publicity Officer: - Vacant

Communications Managers (External Events):- Bruce (VK3PNG) 0427 715 663 & Darren (VK3HEN) Glasson Tech. Committee: Geoff VK3ZNA, Ray VK3YNV, Josh Gardner & Rodney VK3UG – with power to co-opt. Newsletter: - Rodney VK3UG (Editor) rodlynn6@bigpond.com Peter & Andy (Printing/ Distribution)

## **Presidents Report February 2020**

Thank you to all those members who were able to attend our first meeting for 2020. We had a good roll up even though it was a very hot day. Our regular chef in the form of Bruce was back and he again did a great job on the BBQ.

This year as a Club we have hit the ground running with the Radio Australia event. The Technical Committee plus a few others have been very busy getting everything ready for the 14<sup>th</sup> & 15<sup>th</sup> March. There has been a huge amount of work done to date but I am confident we are well prepared and the event should run very smoothly.

To help it run as smoothly as possible we need as many people as we can muster to help sometime over the weekend. The event runs for 48 hours and we will all need a break at sometime. A number of people will be required at our Club Rooms as that is where those travelling will gather prior to going to Radio Australia. No job will be difficult; we just need people to make themselves available for a few hours to help. So, I hope at our next meeting we have lots of volunteers to help. This is a real opportunity for us to really put our Club on the map.

This is a great opportunity for the Club to promote both itself and Amateur Radio in general. We will require many of our members to assist on the weekend so please make yourself available.

We have not had many of our own members place their name on the website to register their interest in operating from RA. If you are interested please put you name down sooner rather than later because once the list is full we cannot create more spaces.

That's it for this month and I look forward to seeing you all on the 7<sup>th</sup> March for our usual BBQ followed by the meeting and planning of the RA weekend..

Cheers for now.

Peter Rentsch President

### **CLUB CALLANDER**

7<sup>th</sup> March – Meeting at the usual location. Final planning for the Special Event Station

## 14<sup>th</sup> & 15<sup>th</sup> March – Special Event Station at Radio Australia Shepparton

4<sup>th</sup> April – Meeting at the usual location. De brief on Special Event Station

 $2^{nd}$  May – Meeting as usual. Information to follow.

# Broadcast Australia (BAI Communications) – Radio Australia, Shepparton & Amateur Radio

Broadcast Australia, now known as BAI Communications, were for many years contracted to transmit the Radio Australia programs from several HF broadcasting locations within Australia, but predominantly from Shepparton. There were sites at Lyndhurst, Carnarvon, Darwin and Brandon which have all closed down – some quite a few years ago. Shepparton has been the longest continuously running station soldiering on after the closure of the other stations. Regrettably back in 2017 on the 31<sup>st</sup> of January the Shepparton station was also closed. This was a great disappointment to many people. Despite many representations to have the service restored this was not to be.

As a BAI employee, Rex James VK3OF, approached management to see if amateur radio operators could gain access to the extremely high gain antennas at Shepparton for a short period. BAI have very graciously granted amateur radio operators the opportunity to explore the use of such high gain antennas for the weekend 14/15<sup>th</sup> March.

Additionally this opportunity gives amateurs throughout the world the chance to operate to and from an amateur station (Shepparton) which high lights the use of probably the only ex broadcasting station antenna system in the world by amateur radio operators. It is only through the exceedingly generous support from BAI that this very unique and maybe once only opportunity has come about.

This provides an opportunity for amateur radio operators, who are only allowed a peak output power of 400 watts when compared to 100 Kw of Radio Australia transmitters, to hopefully achieve some remarkable communication outcomes. Amateurs have been experimenting with all sorts of communications systems but have never had the opportunity to use such high gain antennas.

This will allow amateur radio communications to gain an insight into how amateur communications would function in this unique situation. From the past Radio Australia was involved in moon bounce in collaboration with CSIR (predecessor to CSIRO) with 50 kW transmissions on a frequency of 21.5 MHz and 17.84 MHz in November 1947. These were we believe the first successful moon bounce experiments in the Southern Hemisphere. With improved technology would this be possible to be tried sometime over the 14/15<sup>th</sup> March period.

What about trying some of the digital modes particularly if the Ionosphere says there is no propagation success likely on some bands. These modes and our ubiquitous use of Single Side Band and Morse Code promise to make this weekend a significant high light of amateur radio communications in 2020.

Amateur Radio operators are experimenters into new communications techniques, what would we find out with the use of such high gain antennas that could be added to our communications knowledge of high frequency communications?

Thank you BAI, we are most grateful for this opportunity to work with you to achieve this remarkable weekend of opportunity, which I'm sure will be recognised worldwide.

Now to the nitty gritty of making this happen. The club at its last meeting approved our clubs input to make this happen. A group consisting of the Technical Committee, President and a number of others not involved directly in physically making this happen have been pooling ideas and now constructing the hardware to safely connect amateur equipment to the magnificent antennas at Radio Australia. Several meetings have taken place (and many many emails) to get things rolling in the right direction and also to see how it can be logistically organised for best effect.

We have been mindful of the fact that these antennas can generate quite high voltages on them if not electrically earthed. Suitable baluns to convert from the 300 ohm balanced lines to 50 ohms unbalanced with DC earthing have been constructed. The antenna switching from the three operating positions are being constructed along with coaxial cables to go from the antennas to the operating positions. Nearer to the 14<sup>th</sup> and 15<sup>th</sup> these physical components will be installed and tested and fixed if necessary. The site antenna switching and antennas slewing (changing of antenna transmission direction) will also be tested.

Things like when can amateurs come on to the site, what facilities will be used or need to be brought on site. The alerting of amateurs throughout the world that a special communications weekend is occurring through the generous permission of BAI Communications is occurring. General publicity for amateur radio in general and our club of course. We are only allowed six people at a time on site so amateurs need to log in on the clubs website to get a time to observe or operate. Note that this is not a tour of the site. Icom is generously supplying some equipment on loan to operate but we can bring our own equipment if so desired. As this is a special event it is necessary that we log all contacts and in some cases our CQ calls. Some of what we are doing could be of scientific interest, such as the moon bounce.

We have had very few club members log onto the section of the website to do with this special event. The club website address is shown on the first page of the newsletter. If you are interested you need urgently to book yourself a two hour time slot before they are all taken. We also need members to assist with many things as the whole event is 48 hours which will mean we need more members than we currently have assisting for it to work well.

Make sure you attend the meeting on7th March, so that you can be involved and take part in this once in a lifetime event. Radio Australia – This is your chance to use Beeeg antennas on the amateur bands on the 14/15<sup>th</sup> March – in some cases over 20 dB gain and 90 metres high. Be in it to win it!

Rodney Champness 24/2/2020

#### SADARC Feb. 2020 meeting

1/02/2020 2:00 pm

Apologies: VK3PR Stewart, VK3NQS Colin, VK3MRO Tibor, VK2ACR Rob, VK3JNC Ian, VK3HEN Darren, VK3KJB John.

In Attendance: VK3AJA Andy, VK3FTRK Geoff, VK3FALN Alan, VK3ZE Huntly, VK3TJS Jacek, VK3ZYZ Denys, VK3AFD Arthur, VK3PNG Bruce, VK3TEX Les, VK3PGK Graeme, Josh G. VK3KBY Barrie, VK3YNV Ray, Bill C. VK3ASK Peter, VK3FNQS Jason, John "Stevo"VK3UG Rodney, VK3EB Dallas.

In: Reminder for VK3SOL renewal.

Out: none

Peter will provide a list of equipment for sale from an Amateur that is moving to a new house. Financial report: read by Andy, Second Kevin. All agreed. Peter is closing Radio Books, will bring books into SADARC for members to purchase at bargain prices.

Radio Australia:

Special event at the former Radio Australia site,

Peter spoke about the scope of the opportunity at old RA site. Discussed was the commitment of the club and what will be required to be done.

The event will be 14-15 March 2020; Peter has applied for special call sign for event, waiting for reply. **(Obtained VI3RA)** 

Geoff spoke about the equipment required and the test that was done during the week.

Denys has made a suitable balun for the test. Geoff spoke about the frequencies we may use and the antenna orientation at site

NOTE this is NOT an open day and only 6 people are allowed onsite at a time, this will be organized by SADARC.

Andy has noted that VK5QD Aubrey, will be at the site and will be involved in the event. We need to make sure He is kept in the loop. Andy will email him regarding this. Andy also noted that Aubrey is very keen to be involved and will make sure contact is made.

Geoff also spoke about the possibility of a museum at site and further talks will be made on this subject.

This was all put to a vote, moved by Ray, second by Denys, all agreed.

Jason has moved that SADARC be involved in the future museum second by Peters S. all agreed. Kevin has moved that we get a \$500 prepaid Visa card or a card from Bendigo Bank for the Technical committee to use, second by Barrie. All agreed.

Peter has agreed to oversee publicity. Further jobs be allocated before event.

General Business:

Andy spoke about his long service leave. He will be camping somewhere across the west. Geoff A. will take over as secretary till Andy returns, Andy can still function as treasurer during March/April/May. As will have internet access.

Andy hopes to be able to check in perhaps nightly on HF to some SADARC members. He has purposely decided not to get a satellite phone during his trip and will rely on HF and Amateur bands!

Meeting concluded at 2:45 pm.

#### **Editor's Meanderings.**

- The 6 mx repeater is suffering with some form of interference from time to time, possibly a weak carrier which is holding the mute open.
- The UHF CB repeater appears to have either an antenna or a coaxial cable problem as signals need to be strong into it and the signal out is weak. Have Corellas attacked the antenna or coax cable?
- I have installed one of Ray VK3YNV's VHF/UHF diplexers in my vehicle. Now I can operate on 70cm and 2 mx mobile with band specific antennas. The diplexer works well. There will be an article about these efficient devices later on. Ray will be selling a few of them too at a very reasonable price.
- Note this month that there will be no technical tuitional talks and no morse code tuition. However, the usual get together at around 10 am and the BBQ will occur. See you there.

# This is the second article on Les's Mobile Amateur Radio Installation. BONDING:

Bonding is a very important step to make sure all parts of your vehicle are at the same potential on the earth return circuit to limit the noise pickup from the automobile engine and associated electronics...

There is a very good article by the mobile Guru K0BG from the states, who has a fantastic web site which delves into all aspects and the theory behind bonding, so I will not go into it fully here but I did follow most of his advice on his web site, and I will explain with photo's where I put the bond straps and what they consist of.

Picture 1:



This shows the right hand side of the bonnet hinge strapped to the front top quarter panel. All the straps were made from quarter inch strap I acquired from a fellow Ham and I had a stack of lugs all the same type in one of my junk boxes. They were soldered at each end and made pretty with heat shrink. So there was zero cost outlay in materials for my straps, so that was great! The left side of the bonnet also had an equivalent strap to the right one, so no need to show another picture...



Strap on rear end exhaust pipe to the chassis. I used a modified Stainless U bolt and clamp with nylock nuts to hold onto the thread. I scraped away the muck to reveal bare metal to the clamp for better conductivity. I had concern the nylon in the nuts would melt from the heat, but so far this has not occurred. The other part of the strap shown in the pic, bonds the chassis to the body. (Can't be seen here...)



Bond from one side of vehicle exhaust to chassis and other side of bolt on chassis to the body (not shown)



Clamp at left side of exhaust closer to the front of the motor (V8). The right hand side is the same and both also tie to the vehicle body. All up on the underside of the vehicle I have two straps from the exhaust manifold to the chassis/body, one at the rear end at back of exhaust pipe, a bond at each corner from chassis to body. Total of seven points under the vehicle from chassis to body. There is no need for more, that's plenty...



One strap from engine block to body. (Can be seen in the background, out of focus...)



Front right door to body, using existing bolts. Left door the same. I have tried to utilise any existing bolts that I could, to negate any drilling required.



Rear left door to body using existing hardware. Same on the opposite side.

So in summary, I bonded the doors to the body, exhaust to the chassis, bonnet to the body, chassis to the body and one from the block to the body....

I didn't bond the rear tailgate and window as I had concerns drilling into the gutter channel where the water runoff is, so I left it, better safe than sorry with water leaking into the vehicle...

Well that was it for the bonding, not hard but a bit time consuming as it took a full two days with soldering the straps and assembly and a few holes were tapped to accept 10mm blots for some of the mounts.

I couldn't really do a before/after comparison of engine noise because when I did the bonding I did it as a lead up to the radio install so I had no way to gauge how effective the bonding is in reducing noise and increasing grounding efficiency... Just had to suck it and see as they say...

With the bonding done and dusted, I went about getting the other gear that I needed for the installation. The IC-7100 came next, I was fortunate to pick one up in the local area.

A trip down to Melbourne to the toy shop came next to pick up the two antennae and other bits and pieces. The heavy duty antenna bracket for the HF antenna I knocked up at my place of employ, having to weld extra plates onto it to strengthen, the drilling out U bolt hole etc....

I then had to wait almost 4 weeks for the Bull Bar to be made and then shipped down to Victoria from Queensland and installed professionally on my vehicle...

Then once the Bull Bar was installed I could proceed with the rest of the install.

That will be covered in the next article on my mobile install adventure....

Stay tuned!! Until next time, 73 from VK3TEX Les!

I consulted with Les on the following points. For the flexible straps the braid from pieces of RG213 cable are quite suitable. Where the braids are attached to the vehicle use silicon sealant or as I do I paint all terminations to stop moisture getting in and causing corrosion and poor earthing. Either works. With the earthing/bonding straps keep the braid as short as practical whilst ensuring that there is adequate flexibility and no chance of fatigue fractures with the braids moving around in use, particularly exhaust to chassis connections. The third part of Les's article will appear next month. (Editor)