SHEPPARTON & DISTRICT AMATEUR RADIO CLUB

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

VK3RGV repeaters and transmitter operating frequencies

53.725MHz (1 Meg offset), In Service

146.65MHz (600 kHz offset), In Service

438.2MHz (D-Star) Off-air (to be re-installed) *

438.650MHz (7 MHz offset and 91.5 Hz tone access only), In Service

439.775MHz (5 MHz offset), In Service, _IRLP operational_ (node #6990_) See further info below_.

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

Club Network informal on air get togethers - Wednesday evenings. All welcome. Club call sign VK3SOL:-

2mx repeater 8.00pm 146.650 MHz, 3.63 MHz ± interference 8.30pm.

Meetings are held at 1 pm on the first Saturday of the month (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 – www.sadarc.org   Face book - www.facebook.com/sadarc.org   Info for the page contact

Denny French on   denny3782@gmail.com

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

The vintage radio club (including SADARC members) have a sked at 11.00am Sunday on the 2 mx repeater.

The following repeaters do not belong to our club but provide good signals for many members.

Mount Major VK3RDU repeaters and TX operating frequencies, 146.850 MHz and 439.875 MHz

UHF CB Repeater WBT03 Mt Wombat Channels 3- 33,   476.475 MHz, In Service   22/04/2019

(*) This service will be back on air as soon as practical.

President: - Peter Rentsch	VK3FPSR	peter@rentsch.com.au
Secretary: - Andy Ashley	VK3AJA	vk3aja@wia.org.au
Vice-President: - Barrie Halliday	VK3KBY	
Treasurer (acting): -Andy Ashley	VK3AJA	vk3aja@wia.org.au
Membership Sec (acting): - Andy Ashley	VK3AJA	"
Webmaster: - Ray Gardner ray@etheira.net	VK3YNV	Publicity Officer: - Vacant

Communications Managers (External Events):- Bruce (VK3PNF) 0427 715 663 & Darren (VK3HEN) Glasson

Tech. Committee: Geoff VK3ZNA, Ray VK3YNV & Rodney VK3UG

Newsletter: - Rodney VK3UG (Editor) rodlynn6@bigpond.com   Peter & Andy (Printing/ Distribution)

Presidents Report April 2019.

Thank you to all those who attended our April meeting. Numbers were down a little but it was still a great attendance. Our new venue seems to work very well with a much more congenial atmosphere for discussion. What I did notice is that because of the acoustics in the room it was very easy for multiple groups to be having a discussion without having to raise voices to get over the other discussions occurring. We will test it out further at our next meeting in May where we will have a **BBQ**.

The weekend following our meeting we had our annual get together with the BAREC Group. What magnificent day weather wise I chose this year. It could not have been better. (Finally, I got one right, perhaps I should now resign from picking the date and quit while I am ahead!) Numbers were well down on other years but a great day was had by all.

I note that the IRLP is now back up on Mt Wombat and connected to the Grampians Linked Repeater System. I personally have no issue with it being linked to this system; in fact I think it is a great idea. As a Club we need to discuss this and without being critical it needs to be a Club decision. Thank you to the Technical Committee for getting this working very well for all our members to utilise.

I have arranged for Nic VK3BA to be guest speaker at our June meeting and he'll explain what has been involved in establishing the linked repeater system, how it all works & also will show us how to operate IRLP.

Our next meeting will be a BBQ. Our **BBQ will be at 11.30 am** followed by a quick meeting at about 12.30pm. After the quick meeting and weather permitting we will then car pool and venture up to Mt Wombat and have a look at all the work that has been carried out. A number of our members have not seen Mt Wombat since the changes that have occurred. I encourage all members to attend if possible as this is an opportunity to see the equipment that we use and have it explained to us in detail by members of the Technical Committee.

That's it for this month and I look forward to seeing you all on the 4th May. (***Note the BBQ, Ed***)

Peter – VK3FPSR President – SADARC

Calendar

4th May – Regular Meeting at Vision Australia – **BBQ @$11.00am** followed by a brief meeting then a Car Pool trip to Mt Wombat weather permitting. **(BBQ 11.00am or 11.30am? Get there at 11am best. Info as supplied to Ed)**

11th & 12th May - Mills on the Air Weekend

1st June - Regular Meeting at Vision Australia followed Nic VK3BA talking on the Grampians IRLP Link.

6th July - Regular Meeting at Vision Australia

Repeater News.

- **All of our current repeater services are back on line (with the exception of D-Star which will be re-installed soon after many years out of service). We have the following in service, 6 mx repeater, 2 mx repeater, the 5 MHz frequency split UHF repeater with newly installed** IRLP **and the 7 MHz frequency split UHF repeater.** All up and running just before Easter.

- Good to have the abilities of Josh available as he made short work of aligning the cavities of the UHF CB repeater on 2nd April before its re-installation. It was interesting to see how far off the cavities were in their tuning. It is a wonder it worked at all. A Spectrum Analyser with a tracking generator are essential if a good job of tuning such high Q devices (measured at around 1800) is to be undertaken. A few of our club members do have such devices.

- On 4th April Josh, Ray VK3YNV, Kevin VK3BPH and Rodney VK3UG went to Mt Wombat. The UHF CB Repeater was re-installed, the DC controller was installed, some wiring tidied up and the 6mx repeater removed for an overhaul.

- On the 15th April Josh and Ray did the final restoration and upgrades of the repeaters on Mt Wombat installing the new 5 meg split UHF repeater which is a new (to us) repeater of around 50 watts output (currently ≥ 20 watts) compared to the FM828 in service up until now. The new repeater has **IRLP** so go for it if you want to talk here and there beyond our area. The 6 mx repeater had electrical storm damage with a shorted protection diode and burnt PCB tracks, which Geoff repaired.

Right hand rack on the repeater site.

Left photo from the bottom – AC to DC Power Supply, 6 mx repeater, 2mx repeater and 5 meg split UHF repeater (with IRLP).

Right photo from the bottom – 5 meg split UHF repeater (repeater shows in both photographs), 12 volt power distribution panels, and at the top the UHF CB repeater (CB cavities in background).

- It was agreed and passed at the meeting on 6th April that a new 6 dBd gain antenna be purchased to replace the current 6 dBd 2mx antenna on top of the tower. The price quoted complete with installation is very reasonable. It will arrive in 4 to 6 weeks time.

SADARC MEETING MINUTES 6 April 2019

Held at Vision Australia Centre, Channel Rd. Shepparton 1:00 pm

In Attendance were;
 VK3AJA Andy, VK3FPSR Peter, VK3UG Rodney, VK3KBY Barrie, VK3ZNA Geoff,
VK3ASK Peter, VK3FBGN Peter, VK3OV Pat, John "Stevo" Stevens, VK3DMD Doug, VK3COP Ron, VK3PGK Graeme, VK3ZYZ Denys, VK3TJS Jacek, Josh, VK3POP Greg, VK3YNV Ray, VK3EB Dallas.

Apologies;
VK3ZE Huntly, VK3DSF Max, VK3AO Alan, VK3BPH Kevin, VK3PNG Bruce.

Minutes of last meeting read by Peter, moved by Ron, Second by Peter, all agreed.

Correspondence;
In Email from Parks Vic, Re Mills on the air (Days Mill)
VK3SOL Licence renewal (Paid by Andy)
PO Box renewal, (Paid by Andy)
WIA Insurance invoice (Paid by Andy)
Out;
Parks Vic, Re Mills on the air.

Reports;
Financial, Read by Andy,
It was noted that Andy has NO info at all from previous Treasurer and NO access to SADARC funds, therefore has no report to read apart from current bank balance. It was also noted that Andy as new treasurer has paid several bills from his own personal bank account and will be reimbursed when He has access to funds. This was moved by Dallas and second by Barrie. All agreed.

Technical report;
Read by Rodney.
It was noted that works are nearly completed at Mt. Wombat with UHF CB repeater back on air, all damage from lightning has now been rectified and 6M repeater will be reinstalled soon. (Has been done now)
Report moved by Peter, second by Graeme, all agreed.
Great work team!

Geoff has noted that a new 2 m antenna has been quoted to have installed to replace faulty one (Amount Omitted from this document) Peter S. has moved we go ahead with installation, this was seconded by Geoff, all agreed.

Gen Business;
Jacek spoke about looking out for portable buildings and will keep an ear out for available sites to put it.
Andy spoke about a relationship with The Men's Shed, and how this may be beneficial.
Ray spoke about expanding the club into electronics as well as radio.
Shepp News needs to be advised of new club rooms, Andy will sort it out.
Andy spoke about Mills on The Air and anyone interested to contact him. Info on SADARC website.
Next Sunday is the BBQ at Goulburn Weir with BAREC, please come if you can.
Andy suggested as He is now in charge of Membership and has no info. On members, that He will start fresh when subs are due.
Please wait till then to pay.

It was suggested we do a visit to Mt.Wombat after next month's meeting perhaps car pool from club rooms?

All agreed.

Meeting Ended at 2:12pm

Rodney had his 15 min of fame, very interesting!!!
He has nominated Geoff Angus for next time, should be good!

Other Repeater News

- I had a phone call from Daryl VK3KL telling me of the latest development of the Mt Gwynne UHF repeater on 439.650 MHz with tone access on 123 Hz. Very recently they have been hooked up to a state wide repeater linking system. He suggested having a listen to the repeater on Mondays at around 9.30pm when there is quite a hook up around the state. Not all within the SADARC area will be able to receive it and I for one can't - maybe as suggested by Hilton VK3AHY that I may be in a null in the antenna pattern as I easily get into VK3RMM. To get onto that service use IRLP node #9503 via our 5 meg split UHF repeater if you can't access it directly.
- Within seconds (and I do mean seconds) of the UHF CB repeater being re-commissioned and in service on 4th April it was being used extensively. The repeater has had a replacement antenna fitted, the FM828 repeater was largely replaced with a fresh unit, a thorough retune of the cavities (they were miles off tune), and a better mounting set up in the hut. This thanks to the combined efforts of Geoff VK3ZNA, Ray VK3YNV and Josh his son. All reports indicate that the repeater is working as well as it ever has.

Editor's Ramblings

- Max VK3DSF wasn't at our last meeting on the 6th April as he was away celebrating his 94th birthday. Hope you had an enjoyable time for the 7th. Not far into the future (November 13th) we have another birthday for a member in his 90s – Ron Burns VK3COP who will also reach 94.
- Ray and Denyse demonstrated a small kit set transceiver at the 6th April meeting. I understand that an article on this interesting little kit will be presented to the Editor for inclusion in the newsletter later on.
- Our entry in the Shepparton News in their Billboards section will be changed as our information has altered recently.
- Contact email addresses for committee members will be published soon, too.
- One of our forthcoming activities will be the club having a display of amateur radio at the Echuca Steam Rally over the June Queen's birthday weekend.

IRLP   Part I   This is a repeat of Peter's original articles in 2011 and reprinted in 2016

As I and a few others use IRLP on a regular basis I thought I would inform others as to how the system works. A number of members have made comments that they are not sure how to use it and are interested to become au fait with the procedures.

IRLP usually operates on 2m or 70cm. It is method of communicating long distance via a Computer, a Radio and using the local repeater. By long distance I mean anywhere in the World where there is an IRLP Node. A special Microphone is required that can generate the DTMF tones. Each IRLP Node or location has a 4 digit number. This list of Node numbers can be found at the IRLP web site. The address for this web site is

. The site carries lots of other information about IRLP that is far greater in depth than this little editorial.

To operate IRLP you listen to check that the local repeater frequency is not in use. If it is clear you then announce your call sign and that you wish to use the IRLP. After releasing the PTT you then press the PTT again and key in the number of the IRLP Node you wish to contact. After keying in the number release the PTT and listen. If you have been connected successfully to the Node you dialled the Node will respond with a connection message.

After connection it is normal to wait about 10 seconds prior to putting out a call. Effectively you are connected to a repeater that you normally can't hear so you need to make sure you have not interrupted local traffic. It IS acceptable to call CQ, in fact, if you really want to make a contact, it is preferable to say "This is VK3FPSR calling CQ, is anyone available for a contact?" as opposed to "VK3FPSR Listening" ...silence for 2 minutes, followed by a disconnect. However 3 x 3 x 47 CQs are unnecessary and should be left for CW/SSB frequencies where tuning around is the observed practice.

Once your connection is made and you have a contact you carry out a normal conversation. I find it is better if you leave a pause between overs for the system to catch up or in case someone else wishes to join your conversation.

At the conclusion of your conversation you need to disconnect from the Node you are connected to. Simply announce that you are going clear of the Node and key 73 into your Microphone keypad. This will disconnect you. The Node that you had been connected to will now announce that you have been disconnected.

IRLP   Part II

Continuing on in the use of IRLP. Last month we discussed the basics to get you up and running. We spoke about connecting to a node and the protocol required to make that connection and the how to contact somebody at the other end.

IRLP nodes have time outs on them just like any normal repeater. These time outs vary between 1 minute and 4 minutes, so if you speak too long you time out and drop off. The time out facility on the IRLP node is controlled by the software on the nodes associated computer, not necessarily by the repeater itself. Therefore, if the node is set to time out after 3 minutes and the repeater is set to time after 4 minutes you will time out after 3. The time outs for the repeaters and nodes are affected by the times set on both receive and transmit repeaters and nodes.

Occasionally when you try to disconnect at the end of a session the system will not disconnect. If this occurs then the system will automatically disconnect after 15 minutes of inactivity. This is not an ideal situation as it means that repeaters at both ends of the connection are still connected and that can then interfere with any local communication that may be wishing to use the repeater. The auto time out is really only a last ditch fail safe fix, so I suggest that if you can't disconnect immediately leave it for a minute or so and try again.

In your reading about IRLP you may have come across the term "reflector". A reflector in IRLP parlance is a computer that is connected to multiple nodes. It allows many nodes to be inter connected simultaneously. The time out process is overridden by entering a sequence of codes known to the reflectors administrator. A normal IRLP connection gives you a one to one connection whereas connecting through a reflector gives you

a one too many connection. To connect to a reflector you use a four-digit number the same as you would for a normal node. These reflector node numbers are found on the IRLP web site.

Most IRLP communication is through repeaters that use 2m or 70cm. Occasionally you will find a node that uses 6m or another frequency. Foundation licensees need to be aware of what frequency the nodes they are calling are on. If it is a frequency that under their licence rules they are not permitted to use then that is what applies except if it is in another country. Therefore if I, as an F call contact a node that is on 6m in Australia I am outside my band allocation and should not use it, but if I contact a node in the USA that is on 6m I am permitted to use it. Note that at this time I am not aware of any nodes anywhere in the world that use anything but 2m or 70cm.

IRLP   Part III

In this final chapter on IRLP we will look at how the procedure actually works and what are the mechanics behind it as well as some additional comments on the use of IRLP.

You may recall in the last article I spoke about Nodes and Reflectors. Nodes allow connection from one person to another via their local Node. Reflectors allow connection from your Node to many Nodes. IRLP etiquette asks that if you are talking to a person for a period of time that you use their local Node and not the Reflector. This frees up the Reflector for others to use and it also reduces the workload on the Computers handling the communication.

Just as an aside issue there is an IRLP Net held each day out of the USA. Anybody is welcome to call in. It is very well managed as they ask for calls from different areas of the USA, then Canada and South America, then Europe, then Asia, then Australia and New Zealand finishing with any other areas not covered. You need plenty of time because the whole thing takes about three hours and it means that you are connected to IRLP for that length of time. I joined in once and I was well received.

Another item of if interest in regard to IRLP is Google Earth. By down loading a link to Google Earth from the IRLP web site you can see once you load Google Earth what Nodes are connected at a given time. It also shows you what Nodes are connected to what Reflectors. It updates every five minutes so as you see who is connected. It does not give the call sign of who is connected, just the Node number.

In simple terms the following explains the process. The system starts by receiving audio into a radio that has been modified to interface with a computer (using the IRLP interface board). When a signal is received by the radio, the Carrier Operated Squelch (COS) state changes. This change is then sent to the interface board, which tells the computer that the COS line is active. This change is picked up by the IRLP software and the computer starts sending a packet stream containing the audio from the receiver.

This audio is picked up by the connected computer(s) and played out the sound card. The IRLP software detects the incoming packets and sends a PTT signal to the link radio. Hence the audio from one end is heard on the other.

The following diagram explains the processes in a graphical format.
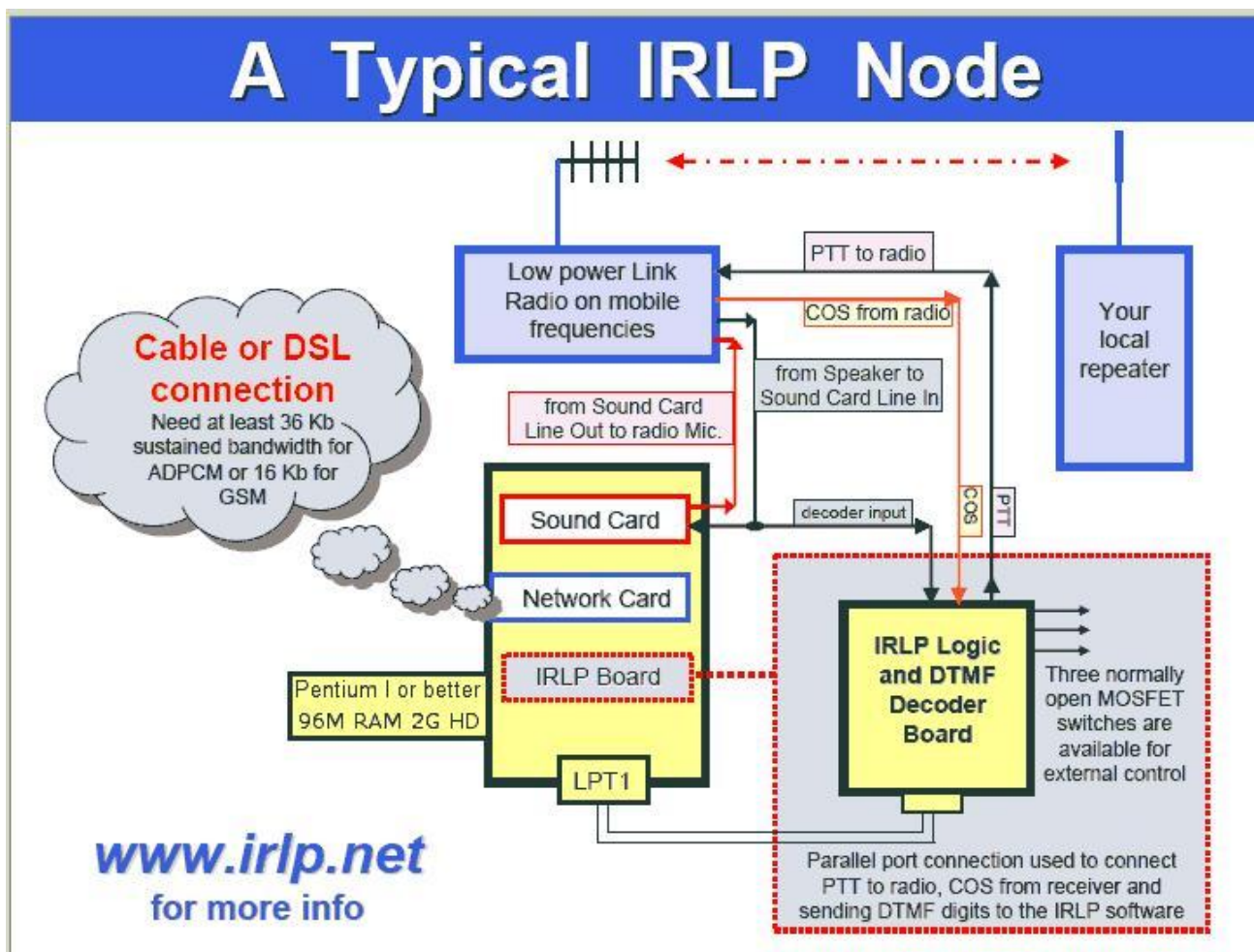
I hope this illustrate how IRLP operates. I enjoy using it and have made a number of contacts overseas. I regularly contact a Node in London and chat to somebody over there who has now become a friend. I could not do this on HF whenever I wanted to but I can using IRLP.

If you wish to find out more information about IRLP there are two good web sites to use. The first one is:

www.irlp.net. This site gives you all the information you need to use IRLP. If you are into more of the technical aspects of IRLP or require some inside knowledge on troubleshooting then I suggest you look at http://garymcduffie.com/irlp/. The Yahoo group for IRLP web site is also very helpful when there is a problem to be solved.

That's it for this series of articles. I hope you have found them useful.
I wish to acknowledge the www.irlp.net web site for much of the information contained in these three articles.

Cheers & 73,   Peter VK3FPSR

"Josh and I went up on Monday (15th) and installed the KL450 70 cm repeater 5 MHz split with IRLP node 6990. As well as the repaired 6M repeater.

I've set it up so that we are linked by default to the VK Repeater network on 9503. You can check what other repeaters we are linked to from this link.
 http://status.irlp.net/index.php?PSTART=11&nodeid=9500

Anyone can still use the IRLP to link to wherever they like by disconnecting from 9503 (just send 73 on DTMF) and re-linking to wherever they wish as normal. When they finish and disconnect, or the link times out through inactivity. The node becomes idle (20 minutes of inactivity will automatically disconnect).

Every 10 minutes the IRLP software checks if the node is linked and if it's not linked, and then will automatically reconnect to the VK repeater network on 9503. For interest the data from the IRLP node is being logged into a database, and Josh has pulled out the DC supply voltage into a graph that shows, by inference the site activity.

http://www.sadarc.org/index.php/vk3rgv-voltage/

Regards   Ray   VK3YNV"