Shepparton & District Amateur Radio Club
and Electronics Club
Founded 1979   Incorporation No A6677   P.O. Box 692, Shepparton 3632

May 2024 Newsletter
Next Meeting Saturday June 1st.

SADARC COMMITTEE

President:- Peter Rentsch – VK3AXI   Vice-President:- Barrie Halliday - VK3KBY   Secretary:- Rob Hose - VK3BLD   Treasurer:- Ian Saunders – VK3YYY   Membership Sec:- Ian Saunders - VK3YYY   Assistant Secretary:- Peter Rentsch - VK3AXI
Webmaster Graeme Martin – VK3VSM and Ray Gardiner – VK3YNV
 Hamfest Co-ordinator:- Peter Rentsch - VK3AXI
Newsletter (editor):- Peter Simpson – VK3ASK
Technical Committee: Geoff VK3ZNA, Ray VK3YNV, Denys VK3ZYZ, Josh Gardiner & Robert VK2RK – power to co-opt.

To contact any member of the committee above, email committee@sadarc.org and specify who you wish to communicate with and the subject. Items for the newsletter newsletter@sadarc.org

Communications Manager (External Events): Darren Glasson (VK3HEN) – subject to confirmation.

Meetings the first Saturday of the month from ==10 am== for Arduino training, plus informal chats and technical talks. A BBQ follows (a gold coin donation). Main meeting 1 pm (except January when no meeting occurs) at 360 Health Centre, 18 Channel Road (250 metres from Archer Street), Shepparton.

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

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.

25/08/2022

VK3RGV repeaters and transmitter operating frequencies from 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), Now back 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 is 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 2 pm & 8 pm

The Vintage Radio Club – 2 mx repeater 11 am

A number of semi-private HF skeds take place either daily or weekly, locally or further afield.

Website – www.sadarc.org or www.sadarc.org.au   Face book Page – Shepparton and District Amateur Radio Club   Direct Link: https://www.facebook.com/groups/481867453084459

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Next Meeting

The next SADARC meeting will be held on Saturday June 1st, starting at 10am.

The venue is the home of Geoff Russell and the details are as follows;

Address; 485 Ardmona Road Ardmona.

Note; Partners are very welcome to attend.

The meeting will kick off at 10am with general chat and Arduino if anyone inclined.

The lunch is a roast of Lamb and Chicken, with Baked Vegetables etc., water and soft drinks also provided.

We will then have more chats and a run down on Geoff's ham setups.

Note that the lunch is being provided by Geoff, which is an extremely generous gesture.

A box will be on display at the venue for those who would like to contribute to the food costs.

If you haven't been to Geoff's home in the past, then the following may help.

From Mooroopna, take the road to Echuca and then turn
After 3KM turn left towards "Cornish Head West".
Then turn right at T intersection in Ardmona Road.
Geoff's property is on the left, where you will see a large radio tower and his
callsign VK3GSR on the front gate.

Diary Dates

June 1st;   social Day at the home of Geoff Russel, VK3GSR
July 6th;   Regular meeting at club rooms
August 3RD;   Regular meeting at club rooms
September 8th;   Hamfest

Presidents Report May 2024

It is heartening to see such good attendances at our meetings. Members attend, contribute and chat to each other on the many and varied aspects of Amateur Radio. Great fellowship and support is offered by members.

In my last Presidents report I touched on four key points that I want to expand on over the next few months. This report was to look at what we perceive is our image, what others perceive is our image and what our image really is (thankyou Graeme for your contribution).

I have decided to defer this discussion for now as I believe there is a more important issue we need to deal with. This issue is simply put, respect. This is not a report about Amateur Radio but it is a report on the success or failure of the Club.

As adults we should deal with issues in a respectful way. Respectful to the person suggesting something and respectful to other members of the Club who are listening to what is being said.

There is no place for grandiosity or inflated egos fantasizing about power, success, or importance. Nobody within our Club is any more special than any other member, nobody is in anyway more exceptional or better than anyone else. We all have talents and a role to play in the success of our Club. Feeling entitled

to special treatment whilst showing a lack of empathy for others feeling and needs will lead to exploitation of others and lead to disharmony amongst the group.

We are all in this Club to learn and we are all here because we want to be not because we have to be. Envy, jealousy and extreme competitiveness lead to a sense of arrogance and a sense of superiority over others and the outcome of this is that we treat adults like children and talk down to them and make them feel small and insignificant. This treatment leads to feelings of being punished for not getting it right.

Nobody should feel as though they are being punished because they do not know, not as technically savvy or trying something that they have not done previously. They should be encouraged, tutored, and helped through the problem in a non-threatening manner with full self-awareness of your methodology, good impulse control and an emotional acumen that is beyond reproach.

I look forward to catching up with you all in a couple of weeks at VK3GSR's QTH for a great day.
Cheers,
Peter Rentsch
VK3AXI
President

Minutes from May 2024 Meeting

In Attendance: VK3AXI Peter, VK3BLD Rob, VK3YYY Ian, VK2RK Rob, VK3ZYZ Denys, VK3ZNA Geoff, VK3GSR Geoff, VK3MFE Mark, VK3VSM Graeme, VK3ELV Phil, VK3FALN Alan, SWL Josh, VK3OV Pat, VK3YNV Ray, VK3JSD Stevo, VK3EB Dallas, VK3TJS Jacek, VK3ASK Peter, Andrew McClusky SWL, VK3BPH Kevin.
Apologies: VK3TEX Les, VK3KBY Barrie, SWL Bill, VK3 KFM Kevin.
President Peter opened the meeting at 13:03.
The minutes of the previous meeting were included in the newsletter.
Kevin VK3BPH Moved the minutes be accepted as read. Seconded Rob VK2RK.
All in favour.

Correspondence:

Inwards: Insurance Certificate

Peter pointed out that WIA Members pay less for insurance than nonmembers. Moved Alan VK3FALN Seconded Peter VK3ASK.

Treasurers Report:

Tabled by Ian VK3YYY.

Ian VK3YYY moved that the treasurers' report be accepted. Seconded Geoff VK3ZNA.

All in favour.

Technical Report:

Ray VK3YNV reported that the 80 Amp power supply is now installed, as well as the Power Management unit on Mt. Wombat. We now have a back-up Power management unit.

Ray reported about problems with the IRLP repeater locking on transmit.

He also reported that issues with the 6M repeater appears to be desensitizing.

The last bewsletter had an article about a possible replacement 2M antenna.

Ray Moved that the Technical Report be accepted. Seconded by Geoff VK3ZNA. All in favour.

General Business:

Peter VK3AXI reported on the Heathcote event.

He thanked Geoff and Mark for the link on Saturday broadcast.

There is an article on the forum about vintage radio equipment from a deceased estate.

The Hamfest is in planning and will be held in September.

Rob VK2RK moved that Pat VK3OV be liaison with St Augustine for the hall hire. Geoff VK3ZNA seconded. All in favour.

Jack will organize the food again.

Graeme VK3VSM suggested we create a business card to promote out hobby. Moved by Mark VK3MFE seconded by Deny VK3ZYZ.

Josh reported on a new font which could be advantageous for our use. Peter VK3ASK will use the font in the next newsletter.

Peter VK3AXI suggested we have a 'Man Behind the Mike' session again. Mark will be first at the July meeting, followed by Geoff VK3GSR in August.

There is a large quantity of radio gear that has been donated to the club.

Rob VK2RK moved that we hold the equipment for the clubs use when we find a permanent home, and that we allow Geoff VK3GSR to have the Ham frequencies installed. Seconded Stevo VK3JSD.

Several members spoke about projects that are in progress.

The next meeting will be on 1st June at Geoff VK3GSR home in Ardmona. Bring your partner.

Meeting closed at 14:30

Editors Comments

Our April meeting was another well attended day with plenty of lively discussion about topics such as the repair, or replacement of the 2-metre aerial on the Mount Wombat Tower and changes to the club website.

No decision has been made about the antenna issue, but I am sure there will be plenty more discussion over the next few Months.

We did not have access to our regular club room, but 360 Health were happy for us to use the main building, which turned out to be a great room for our meeting.

This newsletter has a couple of changes, which I am hoping improves the overall quality of this document.

There is a new front page with modified logo, plus I am now using a different font, which hopefully makes reading easier.

Thanks to Josh for his hard work in creating the new front page and for recommending the new font.

I plan to continue my article about my love of radio in this issue and you will also find interesting articles from Rob VK2RK on Echolink and an article from Denys VK3ZYZ about a new VFO project.

Also, attached to this newsletter is a pdf file with the details on our annual Hamfest, which is being held on September 8th.

See you all on June 1st, for a great social day at the home of Geoff VK3GSR.

73's

Peter Simpson VK3ASK

Heathcote Rail Trail Marathon Report

Below a report from our President Peter on a Day that He and Darren had supporting the Heathcote Marathon

Report on Darren VK3HEN and my VK3AXI Communications Assistance for the Heathcote Rail Trail Marathon.

As per last year Darren and I travelled to Heathcote to assist the Sandhurst Club with there comms for this event. This year both Darren and I were posted to our same locations as last year. The event gets underway at 8.00am with participants taking part in full marathons -42K or half marathons or work as a team for relay marathon.

Approximately 200 people are involved in the event.

It is our job to call back to base when the first runners from each category go through our checkpoints. Runners for the different events are identified by different coloured bibs they are wearing. It is not too onerous task. Only if there is emergency do we become more crucial but as far as I am aware there have been no emergencies in the last couple of years.

Kevin VK3CKC on his trike pictured below follows the group as a tail end Charlie. Once he has passed your checkpoint all is clear for you to leave. His trike is fitted with a camera video ing the event, a 2M radio for comms to each location and this year he also had APRS so as we on the checkpoints knew where he was. It all works very well and is professionally organised. Thanks to Darren for helping out again this year.

The two photos below show some of the contestants just prior to start and then Kevinn VK3CKC on his trike talking to me at my location.

Peter Rentsch VK3AXI

My Love of Radio by Peter Simpson VK3ASK

Last month I wrote about my early days of building crystal sets, small valve and transistor radios and the many attempts in improving reception.

After spending many years listening to ham radio operators on the air, I decided that this was definitely the hobby for me.

I had advanced from the 5-valve radio to my Halicrafters communications receiver, started a course through the WIA to obtain my licence and had been fortunate enough to meet a number of active hams in my local area.

They all gave me plenty of encouragement and assured me that if I put my mind to the course, I could very soon have an amateur licence.

Until this time my aerials had only been long wires strung across the back yard at a height of 2 to 3 metres. They pulled in the local signals, but my ham friends convinced me that I needed a decent mast with a height of at least 40 feet, or 12 metres.

I saw in the ARRL handbook a design for a 40-foot mast using 3 lengths of timber, So, off I went with Dad to purchase 3 20-foot lengths of 4x2 rough hardwood and a nice big piece of redgum for a base.

After assembly and painting, I had my mast hinged to the redgum base and all ready for the big launch. Guy wires attached and a centre fed antenna, it was time to lift this work of art into the air.

Oh boy, what a struggle, because I had used hardwood, the mast weighed a ton and took 4 strong men to get the mast vertical. I realised later that the design had recommended a lighter timber such as treated pine, or Oregon, oh well you learn many lessons the hard way.

In 1968 I finally got my amateur licence with the callsign VK3ZWG. I found the regulations exam quite easy, but the theory exam was not multi-choice in those days, you had to draw circuits of different stages of a transmitter, such as the local oscillator, or the operation of the final with pi coupler.

The Z callsign in those days meant that you could only transmit on 6 metres or above and to get a full call required you to send and receive morse at 10 words per minute.

I was informed that 2 metres AM was very popular at that time and so I decided to build a 2-metre converter for receive and a 10 watt AM transmitter.

The receiver part was fairly straight forward, I built up a 2-metre converter, designed by Harold Hepburn VK3AFQ, which covered the 144 to 146 MHZ band with an IF output on 14mhz.

By this stage I had pensioned off the old Halicrafters receiver and was now the proud owner of an Eddystone 888 Receiver. This is a ham band only receiver, built like a battle ship, lovely big tuning dial and has a unique variable selectivity arrangement, where a shaft with cogs moves the slugs in and out of the IF transformers to vary the selectivity.

For the transmitter, I built a 10-watt unit, single Xtal and QQEO3/12 output valve. This worked well with my home-built modulator, but only having 1 Xtal was certainly a limitation. Oh for Denys and Arduino back then.

For the 2mx antenna I purchased a channel 5a TV antenna, which is tuned just below the 2mx band, with a minor trim the antenna was perfect.

This was mounted on a length of water pipe, strapped to the side fence, with the good old Armstrong method used for rotation. Couldn't afford a real rotator back then.

In the early 1970's I realised that less people were using 2mx AM and many had moved to the higher end of the band and were now using FM rigs, so I managed to buy a 2nd hand Vinton radio, which had 2 xtals and had been converted to the 2mx repeater frequency, located at Mount Dandenong. Very restricting, but at least I once again had other hams to communicate with.

In 1973 I passed the morse test and was issued with the callsign VK3AFE, time to get onto HF at last.

At that time transceivers were out of my budget, so I decided I would build a good old HF AM Transmitter, to go with the Eddystone receiver.

There were still plenty of AM signals on 80 and 40, and I thought this would be a good way to start.

I managed to obtain many parts from a deceased estate, including a Geloso VFO, some 807 valves with ceramic sockets, some Ex TV-power transformers and a Geloso Pi coupler.

Off to Magraths in the city to buy the largest aluminium chassis I could find, the remaining components and I was all set to go. The transmitter consisted of the Geloso VFO driving a pair of 807 valves with 850 volts on the anodes. Using one

of the old TV transformers and a voltage doubler circuit, I was easily able to generate this high voltage.

The Geloso Pi Coupler and some old tuning gangs provided the tuning for the finals.

This transmitter worked beautifully on 80 and 40 metres, but there were a couple of problems.

The 1st was the fact that I could not find a modulation transformer, hence could not modulate my AM carrier.

The 2nd and probably the most important issue was that by the time I was anywhere near completing this project, I discovered that almost all hams, on all HF bands, were now using single sideband and really had very little interest in the few remaining AM transmissions.

By this stage I had started work at HSV7 in Melbourne and had contact with many active ham radio operators, none more important than my very good friend Lou Destefano VK3AQZ, who had just passed his full call requirement and suggested that he and I should build our own SSB transceiver.

This started a whole new round of projects, which I will cover in the final instalment next Month.

Peter VK3ASK

The SADARC HF net on Echolink

Rob VK2RK, kindly forwarded the following article regarding the HF net being available on Echolink

All future net audio will be broadcast on the VK2RK-L Echolink NODE

This is a one way only, meaning you will not be able to talk back on the link, its intended for those with high noise that are not able to receive all of the RF traffic, they can now listen to all that VK2RK station receives and retransmitted to the NODE Link.

Note there exists a slight delay on what you hear on the NODE, meaning what you hear has already happened.

What is Echolink (https://en.wikipedia.org/wiki/EchoLink)

EchoLink is a computer-based Amateur Radio system distributed free of charge that allows radio amateurs to communicate with other amateur radio

operators using Voice over IP (VoIP) technology on the Internet for at least part of the path between them. It was designed by Jonathan Taylor, a radio amateur with call sign K1RFD.

The system allows reliable worldwide connections to be made between radio amateurs, greatly enhancing Amateur Radio's communications capabilities.[2] In essence it is the same as other VoIP applications (such as Skype), but with the unique addition of the ability to link to an amateur radio station's transceiver. Thus any low-power handheld amateur radio transceiver which can contact a local EchoLink node (a node is an active EchoLink station with a transceiver attached) can then use the Internet connection of that station to send its transmission via VoIP to any other active EchoLink node, worldwide. No special hardware or software is required to relay a transmission via an EchoLink node. Before using the system, it is necessary for a prospective user's call-sign to be validated. The EchoLink system requires that each new user provide positive proof of license and identity before his or her call-sign is added to the list of validated users. There is no cost for this service, and it ensures that this system is used only by licensed amateur radio operators.

The software is written to run on 32-bit and 64-bit versions of Microsoft Windows. Another edition of the software runs on Apple mobile devices (iPhone, iPod touch, and iPad), and is available from the Apple App Store.[4] Qtel is an open-source version of the software available in many Linux repositories. An Android version is available on Google Play and several other Android app repositories. In late 2023, EchoLink released a cross-platform Web browser based edition (EchoLink Web), which runs entirely within a Web browser.

Software Download available here

https://www.echolink.org/download.htm

EchoLink® software is offered free of charge to licensed Amateur Radio operators worldwide, for Amateur Radio use only. Please note that you must hold a valid Amateur Radio license in order to use EchoLink. After installing the program, you must provide proof of license if you wish to use it; see **Authentication** for more information.

Authentication

With the recent changes to a class licence, if you don't have a current copy of your licence issued under the non-assigned system then you will need to contact the ACMA for a certificate that shows you are a licenced operator. With this you need to include some form of identity the likes of a drivers licence photocopy.

Then you will be issued a node number.

Now you can setup you software to operate on Echolink.

Apply for a NODE number here "https://www.echolink.org/validation/"

Hardware

The requirements are very simple, if you don't wish to use a radio you can listen and talk on the Echolink computer.

However if you wish to connect a radio to it so that you have access to the RF part of your node, you can build a very simple interface to route the audio to and from the computer to the radio, The PTT can be achieved using Echolink VOX facility.

There is plenty of information on line on how to configure and use Echolink so I refer you to Google for a more concise explanation.

External VFO for Kenwood Transceivers by Denys VK3ZYZ

My current project is an external VFO for the TR2520S radio.

The original VFO has a dial calibrated from 000Khz to 600Khz. So the working frequency is not directly readable from the VFO dial. An external frequency counter is available for the radio that takes a number of signals from the TS520S and displays the signal frequency. These are (at least I think they are)

The VFO frequency…

5.5Mhz to 4.9Mhz

Carrier crystal (depending on USB/LSB/AM).3.3950Mhz-3.3965Mhz

And 3.3955Mhz

(I have not taken the carrier frequency changes into consideration but use a fixed value.)

HET crystal frequency, depending on the band selected.

160M = 10.695Mhz (1.8 to 2.4Mhz)

80M = 12.395Mhz (3.5 to 4.1Mhz)

40M = 15.895Mhz (7.0 to 7.6Mhz)

20M = 22.895Mhz (14.0 to 16.6Mhz)

10M = 36.895Mhz (28.0 to 28.6Mhz)

10M = 37.395Mhz (28.5 to 29.1Mhz)

10M = 37.995Mhz (29.1 to 29.7Mhz)

The radio appears to be able to work out of band!

My VFO is an attempt to get around these shortfalls by having the correct frequency displayed and staying in band!

Once again, the Arduino VFO has been pressed into service. This VFO generates a 5.5Mhz to 4.9Mhz frequency, actually, this is limited to stay in the HAM bands, not as the original.

Then, an external 16 stage divider divides the HET frequency down to a lower range to allow the Arduino Nano to count it. The resultant count is used to determine the current operating band so the VFO display can be indicating the operating frequency.

So far, my proto lash-up seems to be working on my test rig as I do not have a radio to experiment on.

Watch the forum to see how it goes.

http://www.sadarc.org/xenforo/upload/index.php?threads/ts-520s-vfo-using-the-arduino-nano-vfo-board.545/

There is a short delay on getting boards made as my iMac has died so some hoops need to be jumped through to get the files back.

Denys VK3ZYZ.

To complete this Newsletter, the following was written by a VK6 Ham and is an important message for us all.

Code of Conduct for Amateur Radio Operators

The Radio Amateur is CONSIDERATE and RESPECTFUL…never knowingly behaving in such a way as to lessen the pleasure of others.

The Radio Amateur is LOYAL…offering encouragement and participation to the global amateur community.

The Radio Amateur is PROGRESSIVE…keeping abreast of science, striving to build and operate their station above reproach.

The Radio Amateur is FRIENDLY…patient; offering friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

The Radio Amateur is BALANCED…radio is a hobby, never allowing it to interfere with any of the duties owed to home, work, school or community.

The Radio Amateur is SUPPORTIVE…knowledge, station and skills always ready for service to country and community.