GATEWAY

The Official Magazine of the Gippsland Gate Radio & Electronics Club Inc.

July 2021

RØDE Wireless Microphone

Baudot & Telnet

Windows 11

And More

16/07/2021 (b) update

WIA Affiliated Club

Cover photo, We are back – from lockdown, (don't speak too soon) so Roll up, Roll up.

Contents.

Note: - club meeting minutes are now via a link in club emails sent out by the secretary.

Event Queue

July:

16th	General meeting, see club emails, Due to latest lockdown, now online
17th	160 80 and 40M using SSB, CW and RTTY OR PSK – Courtesy WIA

August:

6th	Prac/Natter night, see club emails
14-15th	RD or Remembrance Day Contest – Courtesy WIA
20th	General meeting, see club emails
28-29th	ALARA contest – Courtesy WIA

October:

2-3rd	Oceana contest – Courtesy WIA

Club run events are only possible with the involvement of ALL members.
Without volunteers to coordinate and participate in club events the club will fail to prosper

GGREC President's Message

Hello GGREC Members.

It was great to see such a good turnout of members getting together to enjoy both the Mid-Year lunch and at the July Prac night. We will be continuing with the Prac nights in the Guide hall as it is good for members and good for our Club.

Work is underway to get VK3RWD back up and running and to re-connect with Echolink and IRLP. The Committee is also looking into the best way to link VK3RWD to VK3RGW and beyond. There are a couple of options available but we need to pick the best option for our Club Please let me know if you would like to get involved in this project.

We will be introducing a new agenda for General Meetings, removing the boring stuff and replacing it with good stuff. Your feedback is welcomed as we will change the agenda to meet your needs.

This month we have a guest speaker - Peter Cossins VK3BFG, giving us an insight to Digital Amateur Television (DATV). It has been a while since we had a DATV presentation and I can't wait to see what developments have been made since then.

Due to the latest Covid lockdown, announced Thursday, Peter's talk has been cancelled

Our Friday meeting is now online – see club emails

Kind regards,

Bruno Tonizzo VK3BFT

President GGREC Inc.

From The Editor

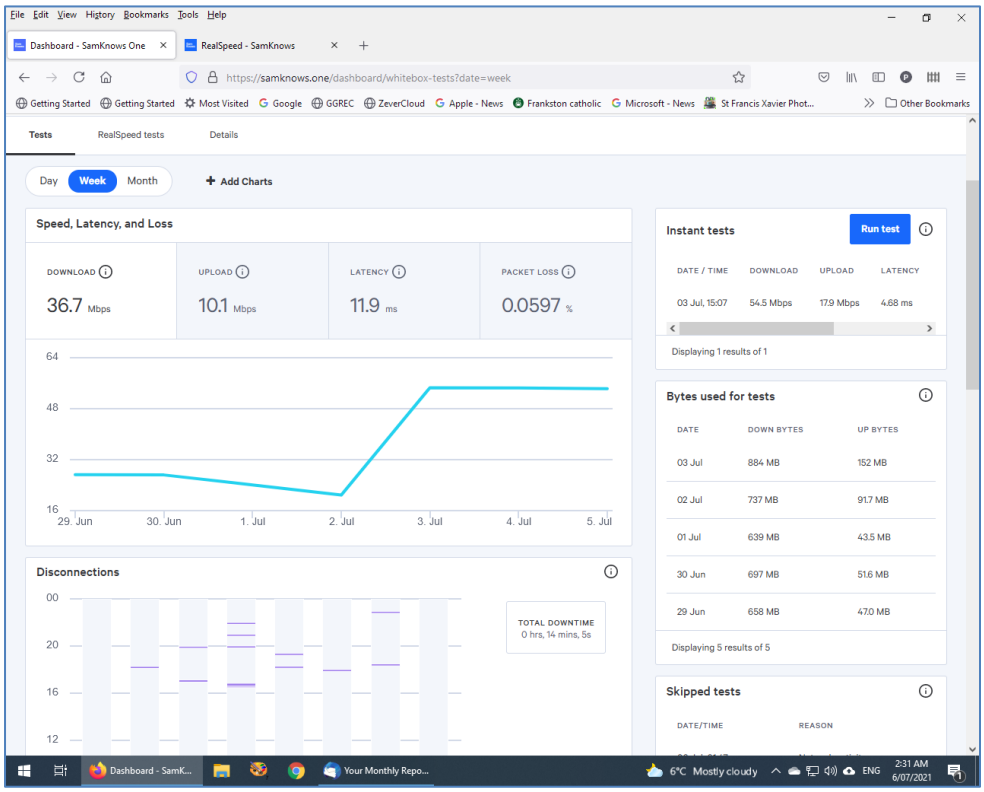
The other day I received a message from Telstra that my NBN link was down and that I was now in 4G mobile backup mode.

This is the first time I have used that feature in anger – the NBN has been incredibly stable so far.

So I stated investigating it. NBNco said there were no issues at my address, and Telstra had no outages listed on their site – so what gives?

So I just left it to its own devices, as the 4G backup was giving me a fairly near identical service, a bit slower, but nothing obvious unless I went looking. Even the landline phone was up. Actually this all happened when Marianna was having one of her epic discussions with her mother. The call had a blip, but it didn't drop out. Actually the landline service is a real feature, in that call costs are a thing of the past. Marianna can yak as long and as often as she likes with no additional costs. So we run as many calls as possible on the landline rather than use a mobile phone. Save $$$$

However after many hours into the next day, with no outage reports from either Telstra or NBNco, I decided to have a closer look, the first thing been to reboot the NBN box (not the Telstra router/modem) and the service was restored – kind of, with a not asked for, or mentioned by either Telstra or NBNco, upgrade to 50 Mbps.



I was on the base 25Mbps service, fine for me, for the most part I only noticed when I was doing bulk uploads, not that often for me.

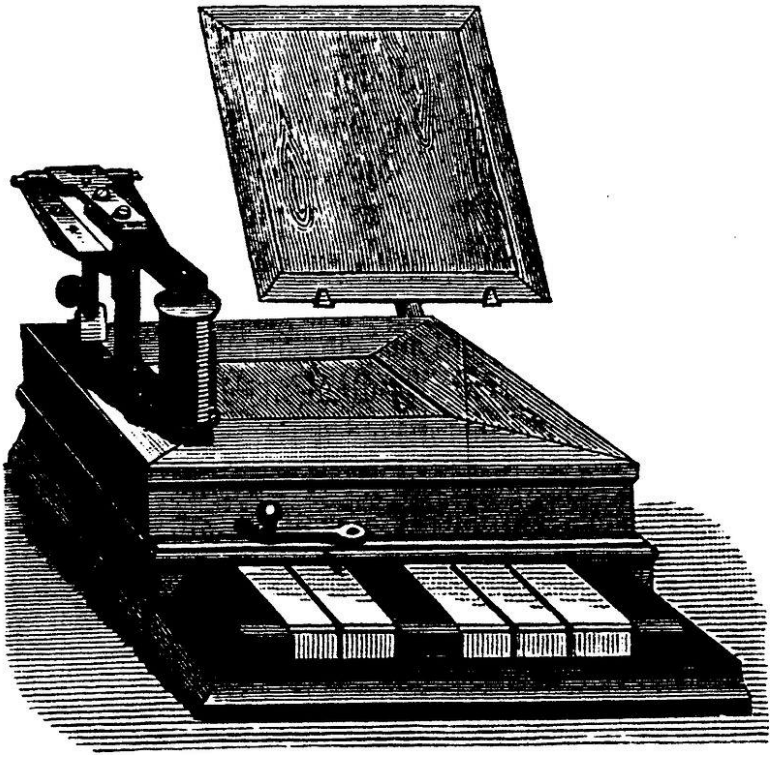
So I now have at this moment 55.28Mpbs down and 18.71Mbps up, *nice.*

What happened?, is it a mistake and I'll go back to 25Mbps, who knows.

Time will only tell.

Paul VK3TGX

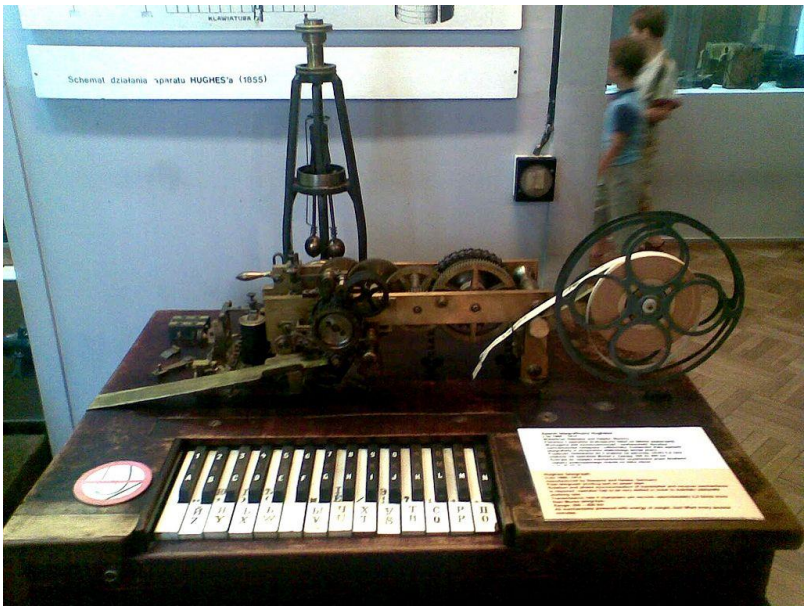
Baudot & Telnet



After the wide adoption of Morse code communications, there was a desire to automate the system, so that highly skilled operators were no longer required. (And I assume they never had enough telegraph operators)

Attempts were made to automate Morse code, however with only fairly simple mechanical devices available, an alternative code was soon devised.

Known as Baudot code, Later called ITA1, the original Émile Baudot code was modified by Donald Murray, then later on by Western Union to add control characters to enable a mechanical page printer. The Baudo original machine, shown here, required the operator to know all the character codes and enter them using two hands to simultaneously press the keys at the same time. There was nothing other than a telegraph type sounder on the receive side.



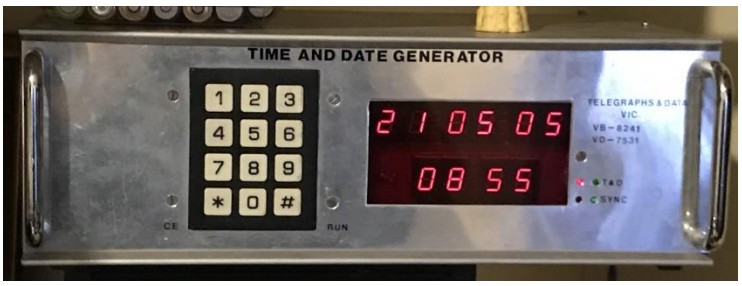
Slowly the machines improved to allow the printing of messages on paper tape, later on full page printers and typewriter style keyboards became normal, where the later control codes came to be, Carriage return, Line feed, Space, etc. This code became ITA2, or International Telegraph Alphabet 2.

Many variations were made to the code to allow it to be used in other parts of the world, like the MTK-2 Russian code, and the US Weather code, with meteorological symbols.

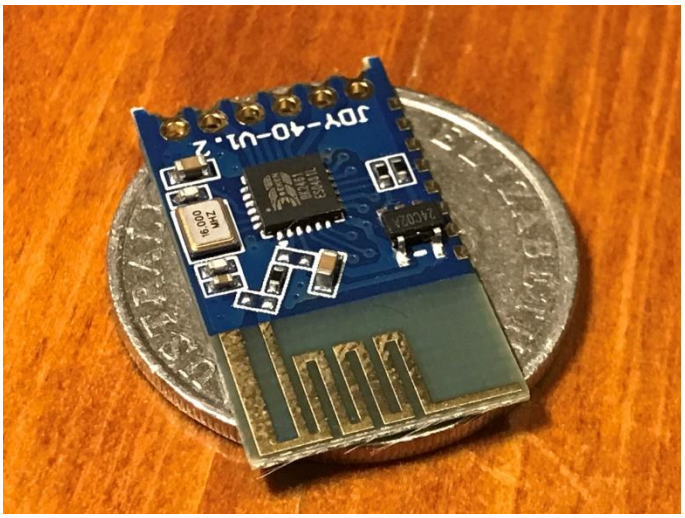
Lower case letters were also added, by fudging a 3rd shift state, however these machines appear to be quite rare. (Morse had no lower case, so why add extra complication…..)

As for the original 5 key sender, the code must have been sent a lot slower than the 50 baud that I know of from working with the later machines at Telstra & their Telex exchange. (Now long gone) I have heard the code going through high speed relays, and about the only thing you can recognise is the 'RYRYRYRY' sequence, commonly used for testing that pretty much produces a '1010101010101' bit sequence, or 'revs' as it was called (maximum reversals?) as the relays all but buzz with this sequence.

This is all a bit of a blast from the past for me, and I am into the process of writing some Python code to take in 50 baud TTY (ITA-2) and output it as ASCII (7 bit) this will then be presented to my network as Telnet. The source will be that time and date generator I featured two months back. Now don't get me wrong, this thing is not super accurate or you beaut in any way, it's just a handy source of telex date for me to play with. (And very retro) No, the point is more to get me into Python and to play with a bit of networking. I also have a ready source of ASCII 1200bps text to also put up as a Telnet source. I would then like to pass this data onto some Arduino type devices – as it's about time I got some creations online (see below) – kind of bring me into the current era of Wi-Fi, IOT, etc. I've always had a bit of a desire to hook odd things together, so putting this *ancient* (to use the young ones crap terminology) Telex device 'on line', and potentially blasting its signal half way around the planet seems oddly satisfying.



I was going to make a stand-alone Baudot to ASCII converter, however as the data is going to end up being fed into a computer, why not just get that computer to do the translating.



As part of my IOT (Internet Of Things) efforts, I just bought one of these, it's a serial port to Wi-Fi adapter. Here you can see it sitting on a ten cent coin, so these things are tiny.

Normally, to get a project to connect to the internet via Wi-Fi you tend to need a processor with a bit more clout than an 8 bit Arduino, the type that I typically use in my devices.

As my projects usually live on just a bit or serial data – very little bandwidth, things like Nixie tube clocks etc., then these little boards may be the answer I've been looking for. They behave like an old-school intelligent dial up modem, however instead of talking to a phone line, they talk Wi-Fi, but take the same commands as the old modems. On the modem you would give the command 'ATDT 0397705061' and it would dial, and connect to a modem on that number. With these a command 'ATDT 192.168.0.8' will connect you to that IP address.

Well that's how the WiFi64 modem I made up a few years ago performed, and how the documentation of this purports to do. Of course there are a few catches, and extremely poor documentation does not help. For one I'm hoping this module can save its settings and just connect when powered on, however it probably won't be that simple. So I better get my telnet sources (Time & Date generator, etc. etc.) online, so I have something to connect to.

These modules cost just 92 cents from China (plus postage etc.) so they look like a nice solution for getting my 'things' online. I like using flea powered little boards like these, so that hopefully the hackers won't get far – hopefully too simple to enrol in a bot-net, unlike a headless Raspberry Pi, where you have no idea what's going on under the bonnet.

Paul VK3TGX

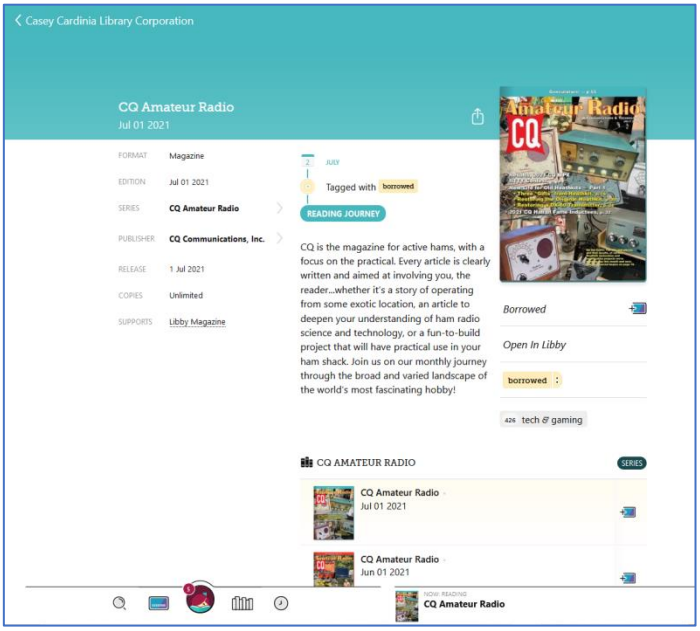
Your local library for Amateur Radio and technical Magazine

You might not be aware of, but your local library network has evolved beyond dusty bookshelf and ghostly figures roaming in between these, geeks, book worms or lost souls on the search for some excitement and knowledge. The library gone fully digital with a huge selection of books and magazines available on-line for free.

All you need to do is to open this magic door to the virtual world of libraries with your own *library card*.

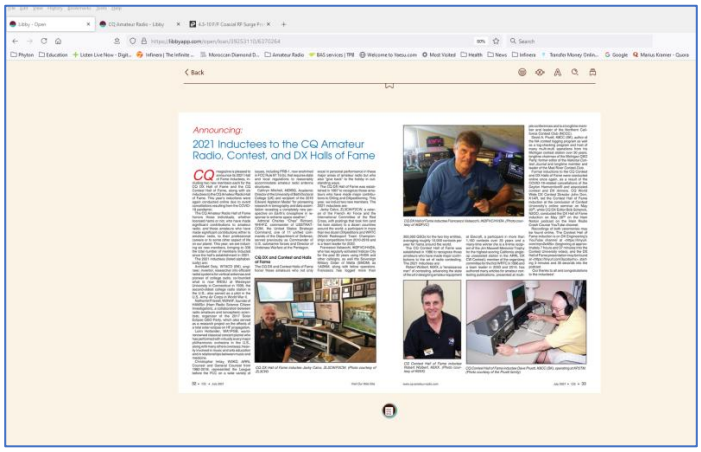
My personal favourite is the US printed *CQ Amateur Radio* magazine, one of the best printed HAM oriented publications you can find, besides the German *CQ-DL* magazine of course.

In this library system you can virtually borrow the magazine for 14 days for free, set reminders when a new issue is available and read it at your own convenience at your home PC or any other device.



So how does it works and looks like?

When you borrowed the magazine it becomes available on your virtual library book shelf and can be accessed for the 14 days duration, much like with real prints you can extend it or reserve an item if it is out. I speculate they only allowed to loan out a specific number at the same time.



The reading app all web based (you can get Android or IPHONE apps too) It provides very useful features for reading

I use most is the zoom function button (I call it that, not sure what its official name) .

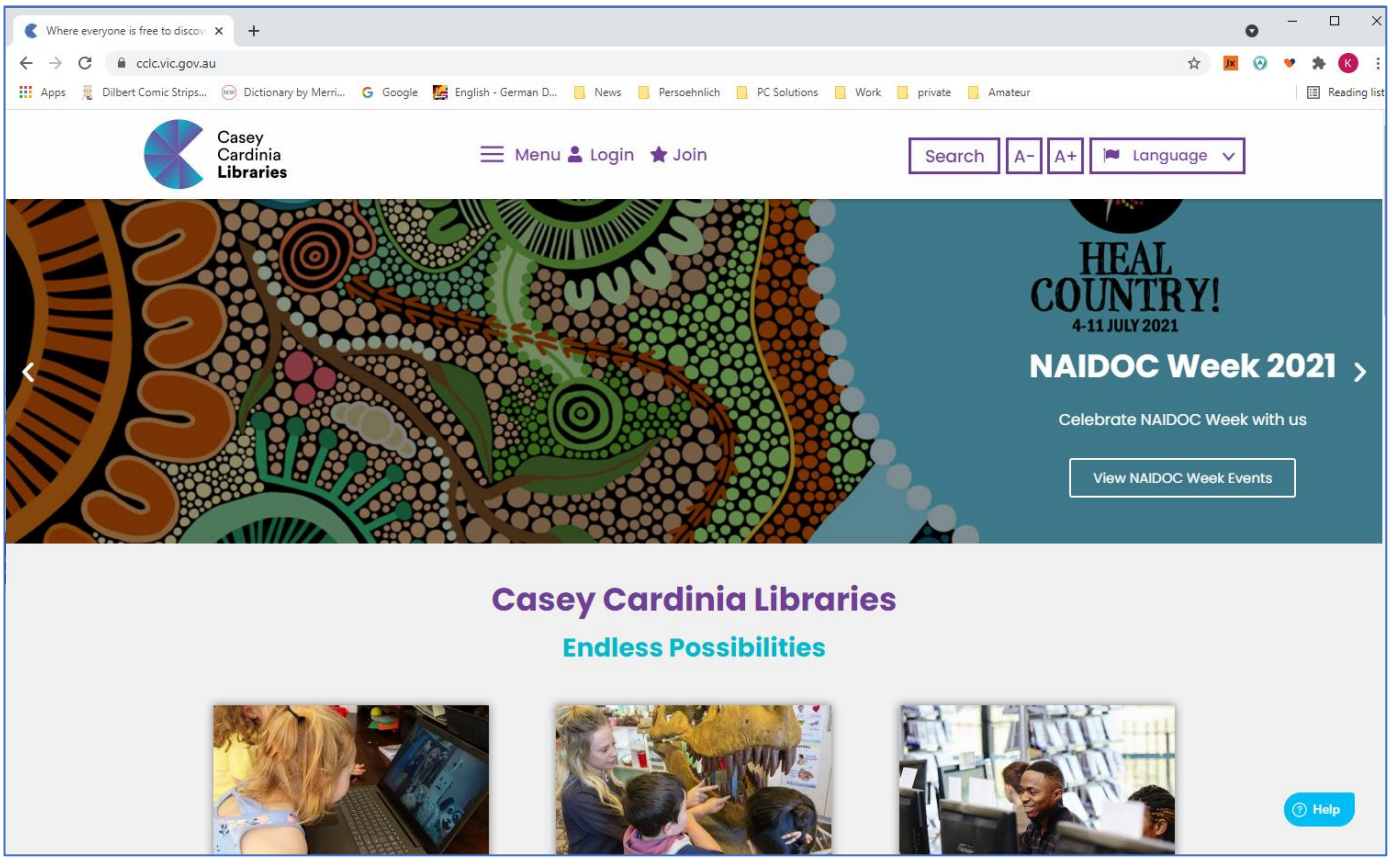
This button will open the page in a new view and you can adjust the font size to suit your needs, very handy for vision impaired or people like me who like to read 1.5 m from the screen …

Other functions are embedded links, search function, bookmarks and highlights.

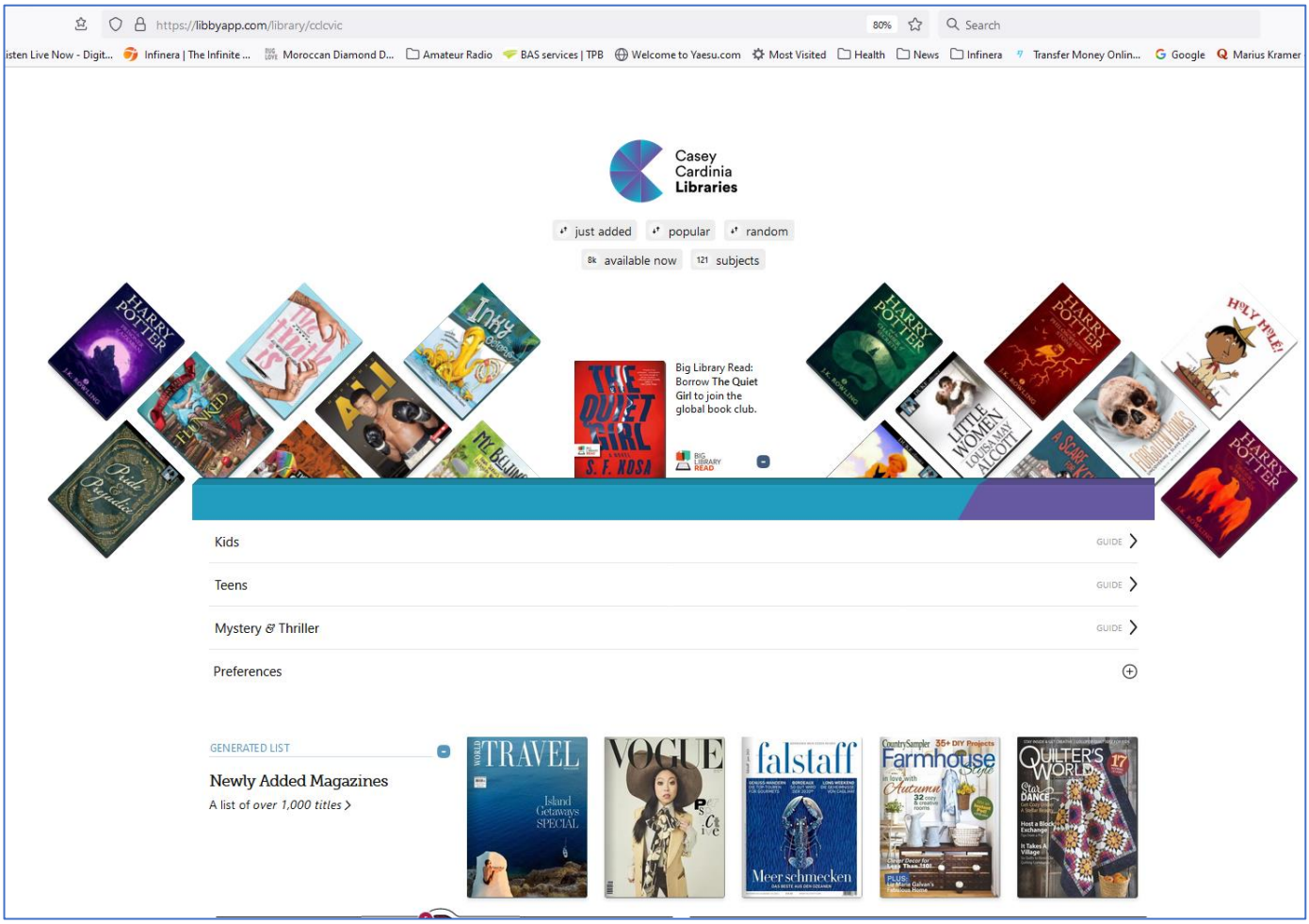
So how do get access to this magazine and many others for free?

A short guide based on the Casey Cardinia Libraries network

Go to https://libbyapp.com/library/cclcvic either login if you already a member of the library system or create a new account and join the network. It is very intuitive to use and to join. The example on the right side is from the Casey Cardinia Library Network in our club area, but many other libraries might be using a similar system.



After you have logged into your account you will get access to a wide range of books and magazines. Play around and explore, as said it is very simple.



The whole think is so simple and doesn't require any more detailed explanation. There are also apps for ANDROID and IPHONE available to read on the go.

Unfortunately the CQ Magazine is the only amateur radio related magazine available, but there over 8,ooo publications available some might be of interest to you.

So create an account login and explore the many available resources.

73 de Klaus VK3IU

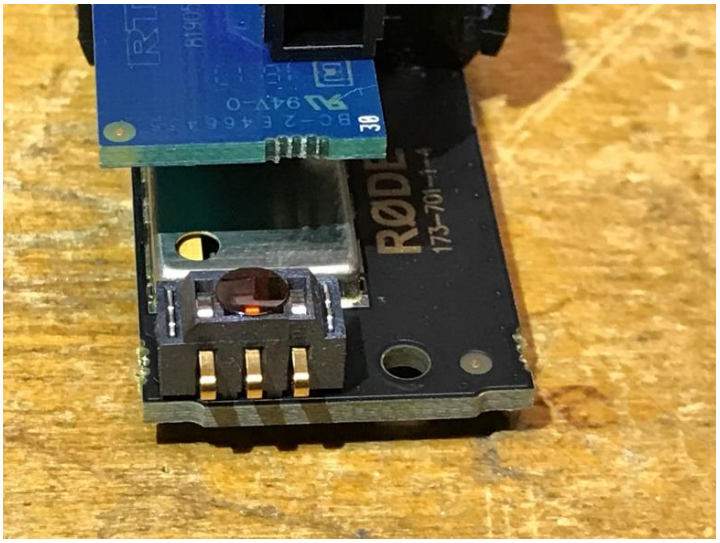
RØDE Wireless Microphone

The ‘other day’ when I was at church setting up the PA, our last hand held wireless mic decided to go mute. This thing is fully digital, RF wise, so I did the regular computer/digital thing of shutting it all down and re-starting it, the base/receiver goes through some form of bootup procedure. It could see the mic, but no audio was to be had.

This is the second of these to die, however the failure point of the first one was a lot more apparent, with the plastic casing just below the wind shield having pronounced cracks, to the point the wind shield end was starting to become detached.

I had brought the first one home to pull apart and investigate, however the ‘nut’ holding the microphone element in place was defying every effort I made to undo it, it appears to have some form of red ‘lock tight’ glue, so getting ‘stuck in’ with a spanner was only succeeding in destroying the plastic case, so I had given up with that one and just put it aside. A new microphone without a receiver was going to set us back $400, as we had only got about 3 years out of the first one, this seemed a bad investment. The originals been ‘donated’ to us.

The second dead Rode was a lot more forgiving, the large nut undid without much effort, however plastic cracking was also evident on this one – so the same failure point.



With the mic element removed, the source of our problems was immediately evident, the element assembly connects to the main circuit board by some spring contacts, so if the element is loose / 'floating about', then this connection will be lost – no audio.

These microphones are usually handed to a set of regular volunteers who voice various parts of the service. I'm assuming that after doing their bit, the mic is placed on the pew (bench seat) beside them. The trouble is there are several parts of the mass where everyone gets up, says a few words then sits down. Unfortunately a round mic on a sloping flat bench seat it going to roll, then when everyone sits down, it will invariably get sat on. If you look at the first pic of the mic sitting on top of the receiver and imagine it been pushed down by someone's bum, where will all the stress be? – Right where it cracked. I haven't actually seen this happen, or coaxed this out of anyone, however I cannot think of a better answer.

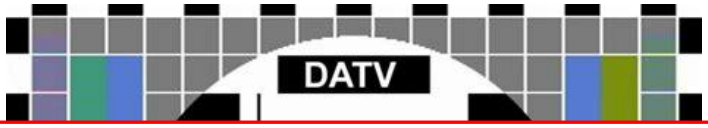
The most surprising thing is where they are made….

Paul VK3TGX

July Guest Speaker

I am pleased to announce that Peter Cossins VK3BFG will be our guest speaker at the July General meeting. Peter will be giving is a talk on Digital Amateur Television (DATV) and the DATV repeater VK3RTV. **Peter Cossins** and the amateurs associated with the VK3RTV digital-ATV repeater organized the first world-wide **DATV** QSO Party in August 2011 to help celebrate the 100 Years of the Amateur Radio Victoria organization providing support for ham radio.

Please come along for what should be a very informative presentation.



Due to the latest Covid lockdown, announced Thursday,
Peter's talk has been cancelled, Sorry
Hopefully we can re-schedule it

Our Friday meeting is now online – see club emails

Bruno Tonizzo VK3BFT

Electronics Magazines

GGREC was contacted by VK3ZJK informing us that he has advertised 160 electronics magazines on Gumtree. If you are interested, please contact Allan - allan@applecomm.net to see if they are still available.

Bruno Tonizzo VK3BFT

Windows 11

Windows 11 is coming, Good you may think. To me Windows 10 has been a bit of a pain at times, mainly due to the constant 'Feature' updates that it receives. I thought the constant security updates were bad enough but, to me, these feature updates are more problematic. Luckily for me I have survived them so far, something many users have not, quite often necessitating the re-installation of Windows.

In my case, having to format my hard drive and re-install everything would be a game stopper for me, as quite a few pieces cannot be just reinstalled for various reasons, one being the current version is an upgrade – done over the 'net and no longer available, Yes one should keep the original installation source, however some vendors don't allow this, or require a one off validation phase to make it run – and that cannot be done in 2021.

One of the problems these days is software availability, quite a lot of modern wares are mobile only, great if you use it 'on the go', not so if your usage requirements is on your main PC. Windows 11 has the answer (of sorts) in that they are including an integrated Android emulator. Not so great if your favourite app is on IOS only, however these days most software (I hate the App word) seems to come out on both platforms, although the lack of the Google play store could be a problem, with only the Amazon store at this stage.

And now the bad news, Microsoft is intending Windows 11 only for newish computers, nothing older than 2 years. There are basically 3 requirement hurdles to get over – with price not being one as it will be a free upgrade to Windows 10 users.

1. **TPM 2.0**, Trusted Platform Module, this is an IC that stores and generated cryptographic signatures – primarily used for security, by generating hopefully unbreakable digital signatures. This has been out since 2000, even my *ancient* Dell 32 bit laptop has 1.4
2. **UEFI Secure boot**. Another security feature where your PC looks for and verifies a digital signature from your OS (Windows) before allowing it to load and boot.
3. **A recent 64 bit CPU**, On the Intel 'i' series, that is an 8th generation or later, or the equivalent Atom, Celeron etc. *Sorry no more 32 bit.*

I don't know about you, but that kind of means I will have to chuck out every computer I own, as nothing will run it. In my case it is usually the CPU that is the problem.

So for now I'm stuck on Windows 10, not that Win11 has actually being released so far, only Windows insider builds and an early leaked version. Going by Microsoft's usual track record of 10 years of support (which I consider woefully inadequate) meaning 2025, so we have a few years to sus things out, however as time quickly gets away from most people, consider it as just around the corner. Time to look at your options. (Mac mini anyone? Time to jump ship?)

So what are our options (and the club's, it has a PC)? Run an unsupported OS, not a good idea if you have an online life. Try an alternative OS, like Linux? Great if your life is primarily online and all you basically need is a browser as you do everything in the cloud, not so good if you have an absolute pile of Windows software, like radio control & setup, contest logging, etc. etc., you know, all those lovely things that keep your radio shack ticking. Yes Linux has Wine, a Windows emulator that runs a lot of Windows software, but not all, and the experience differs A LOT.

Maybe dual boot, Linux for online, Windows 7 etc. for our radio/electronics lives.

Paul VK3TGX

Interesting YouTube Videos

USB device discovery *(Warning - HEAVY)*
https://youtu.be/N0O5Uwc3C0o

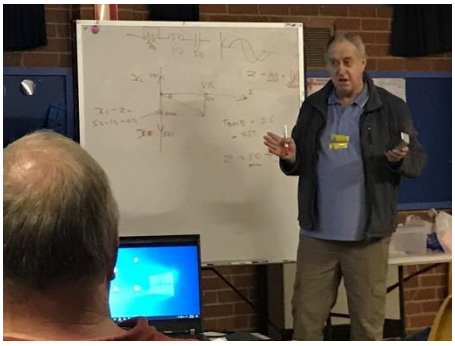
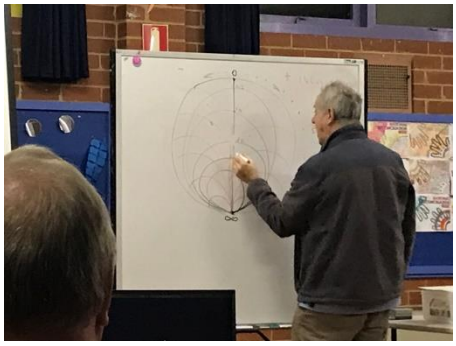
Wildlife / Security / Timelapse Camera Projects with an ESP-32 CAM
https://youtu.be/FmlxC0goKew

Mid-Year Lunch




Prac/Natter night



WIRELESS INSTITUTE OF AUSTRALIA

WIA Affiliated Club

The GGREC is an affiliated club of the WIA

We also give Thanks to

Jaycar Electronics

ALTRONICS
Build It Yourself Electronics Centre®

For their generous support over the years

Club Information

Meetings 20:00hrs on third Friday of the month at the
Cranbourne Guide hall, Grant Street Cranbourne
Prac/Natter nights first Friday in the Peter Pavey Clubrooms Cranbourne 19:30hrs
Visitors are always welcome.

Office bearers

President	Bruno Tonizzo	VK3GHM	Web Master	Mark Clohesy	VK3PKT
Admin Sec	Miguel Vaca	VK3CPU	Magazine Editor	Paul Stubbs	VK3TGX
Treasurer	Klaus Illhardt	VK3IU	Property Officer	'committee'	
General 1	Bruce Williams	VK3BRW	Assoc. Secretary	Miguel Vaca	VK3CPU
General 2	Leigh Findlay	VK3FACB			

Call in Frequencies, Beacons and Repeaters

The Club Station VK3BJA operates from the Cranbourne Clubrooms.
6m Repeater Cranbourne VK3RDD, In 52.575 Out 53.575 CTCSS none
70cm Repeater Cranbourne VK3RGW, In 431.425MHz Out 438.425MHz CTCSS 91.5Hz
VK3RGW Repeater supports Remote Internet access (IRLP), Node 6794 **offline**.
70cm Repeater Seaview VK3RWD, In 433.575MHz Out 438.575MHz CTCSS 91.5Hz **offline**
Simplex VHF - 145.450MHz FM, Simplex UHF - **TBA**
VK3RLP Beacons 1296.532MHz & 2403.532MHz **(currently offline)**

Membership Fee Schedule

Pensioner member rate $40.00, Extra family member $20.00
Standard member rate $50.00, Junior member rate $25.00
Fees can be paid by EFT to BSB 633000 - Account 146016746
• Always identify your EFT payments
• Membership fees are due by each April Annual General Meeting (AGM)

Magazine Articles to editor@ggrec.org.au Cut off, 10th of the month
All other Club correspondence to: secretary@ggrec.org.au
or via post : GGREC, 408 Old Sale Rd, Drouin West 3818
GGREC Web Site & Archive may be viewed at: www.ggrec.org.au
Website errors, contact web master: webmaster@ggrec.org.au
Facebook Page www.facebook.com/GippslandGate