

May 2021



World's Greatest Shave

Telex & Time

Shack Power

And More



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

Event Queue

May:

21 st	General meeting, in person, Guide Hall, Remember your mask!					
	Buy / Swap / Sell & Movie night					
29 th	Working bee (12 th June backup)					
29-30 th	CQ World Wide CW WPX Contest - Courtesy WIA					

June:

4 th	Prac/Natter night, in person, Guide Hall, Remember your mask!
12-13 th	VK SHIRES - Courtesy WIA
18 th	General meeting, in person, Guide Hall, Remember your mask!
26 th	Mid Year Dinner (Lunch), La Porchetta Pakenham, RSVP Bruno

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 May 2021

Covid has raised many challenges for GGREC but as more of us get vaccinated I think we can look forward to a brighter more active future. I have hired the Guide Hall for the June prac night as we cannot meet in the Club shack with the number of members that we would usually have at a prac night. This will continue if this move is supported by members as this is an additional cost to our Club.

The May General Meeting will incorporate a buy, swap and sell night so make sure you bring any surplus items along to sell and some cash to buy items you have been looking for.

Our mid-year lunch has been scheduled for Saturday the 26th of June at 12:00 pm. The venue is La Porchetta restaurant, 116 Princes Hwy Pakenham. Please let me know if you are coming as I need to firm up numbers by the 13th of June. RSVP to <u>president@ggrec.org.au</u>

We have a lot of catching up to do following the restrictive last 12 months so please support your Club and get involved with Club activities. The more you get involved, the more fun it is.

Kind regards,

Bruno Tonizzo VK3BFT

President, GGREC Inc.

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From The Editor



Death of consumer electronics

Today, after dropping Marianna off for some physio excise, I had an hour or two to kill, so I started wandering around the shops in Mornington. I have done this for many years, checking out the latest gear, that I usually didn't really need, but I liked keeping on top of what was out there, and having a play with the knobs, to see what 'it' could do.

Over the last several years I've become very dissatisfied, not in a way I would ever have thought would come to be, and that is everything I used to see has all but disappeared. In the picture above, all that is there are phone chargers, headphones and a few wireless speakers. All in glass cabinets, nothing to touch – or more properly, worth touching.

There used to be several isles full of equipment, now there is just this. So later on I wander into a JB-HiFi shop, lots of large TV's etc., Little to no sound gear, now they sell ...eek.. Vacuum cleaners etc., what on earth has that to do with their name,HiFi?

Over the last few weeks our council has been having it's regular 'Hard rubbish collection', I usually have a stickybeak, to see what is being tossed, have a laugh at the various exercise machines that were not so long ago on the TV, being promoted at the bee all of fitness – Ha!

So what stood out this time? Almost zero electronics. I have a nice collection of sub-woofers etc., all courtesy of 'road kill', this time around little to nothing. The odd TV and a number of printers, maybe cast-offs from online schooling/work from home during the covid lockdowns, but none of the equipment that normally goes with them.

In a way I know the answer, Mobile phones, however their actual impact I find rather strange, alongside the fact that many, many users know little to nothing about them. Like the number of people at church who have no idea how to scan a QR code, or even to set them to silent mode during the mass.

When I bought my first computer, I was straight into it, learning all I could. Fast forward to not so recently when I bought an iPad, (and a few Android tab's) they just don't have the same learning draw, the user interface is quite dumbed down, few to no technical setting, no access to the inner workings etc. No way to write a program like the old 8 bit computers – Yes Basic is rather limiting and usually slow, but way better that what is offered on a phone, nothing. If the makers aren't shoving a feature into your face, then it probably cannot do it, and you are all but actively discouraged from getting in and making it do it.

So where have all these giant's of the electronics industry gone? Have they lost their drive to wow us with their latest offerings? Looks like it, what's next to go, TV?

Things are a tad boring of late.

Pad VK3TGX

World's Greatest Shave

It was great to see GGREC members get together to support Pat Pavey VK3OZ with her quest to raise money for the Leukaemia Foundation's World's Greatest Shave event. Pat bravely had her hair cut off then joined the assembled members for coffee and brunch. Later on, Pat and Mike Ide also celebrated their birthdays with a slice of birthday cake back at Pat's home.

Bruno Tonizzo

I have raised just over \$1,000 for Leukaemia which will be used to help anyone with this illness and for medical research. I really want to thank club members for all their support,





Pat

Telex & Time



My first job was with Telstra, working in the Telegraph & Data section. Telegraph in my time meant Telex, (any actual telegraphy, as in Morse code gear was well gone by the time I started.)

This gave me an interest in the subject (and that it was used in amateur radio, RTTY) so any odds and ends that came my way were quickly grabbed – pity I didn't hold onto more...

This device is a 'Time and date generator', that I assume was part of a telex exchange. Back then Telstra actually had two telex systems, the main one that customers saw, was made by Ericsson's, and a second one that was used internally in Telstra (or rather Telecom back then) to pass customer orders etc. around. This exchange was built in house out of lots of TTL and RTL IC's, so I'm assuming this was made for that network.

When I acquired it, it had several leads hanging out the back for +5, -12V, +50, & -50V supplies. At the time I had a few switch-mode modules on hand that could supply this, so I fitted them, meaning it now only needs 50V to run. (All Telstra kit runs on 50V) These days, with me now long out of Telstra, a 12V (or 240V) supply would make more sense, however I'd rather now leave it alone, it ain't broke, so don't fix it... Now with my now renewed interest, I dug through my junk pile and found a 28V 400mA Dysan plug pack, 28V was good enough and it sprung into life. At 28V it was drawing about 200mA, so its power consumption is not that bad (almost amazing for old digital kit) so it now sits in the corner of my study as a flash clock.

Telex was sent to line as either Single current, or Double current. Single current was a loop with 40mA running in it, this was 'keyed' on and off to send data. It didn't travel that far down a phone line, so it was only used in the inner suburbs. Double current, which looks just like an RS232 type signal, but at +&-50V with 50mA line current, can travel much further down a phone line, so this was used for the outer suburbs (Vic had one telex exchange located in Melbourne)

Back then when I fitted the power supply modules into my 'clock', generating a plus & minus 50V from a single 50V was considered too hard, not worth the trouble, so the output stage was instead connected to the +12 and -12V supplies I just fitted, enough signal to drive a telex machine (that I don't have) and safe for connecting to a computers serial port (50V is guaranteed to bring on smoke, as many a Telstra tech can attest, at quite a cost to Telstra).

With my renewed interest, I thought it was about time I found out what it was actually sending out to the world, it's a pity I never did this whilst as Telstra, as 5 unit code, or 'baudo' machines were everywhere. I worked in the 'Technical Support Group' in Collingwood that repaired all the telex machines in Vic and beyond. (I believe there being only one other repair depot in Sydney) So all I had to do was feed the signal into a PC's serial port and run some RTTY software, right – Well actually - Wrong!

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The current program I have on my radio shack's computer, for RTTY use, is 'MMTTY' whilst able to send RTTY out the serial port, it cannot receive via that port, all incoming signals must come in via the sound card. It does all the 'Radio'TTY demodulation in software and has no support for external demodulators. (A pity as I have one I'd like to resurrect) So if I am to use MMTTY then I need to convert the signal to FSK audio – in short I needed a modulator.



My first thoughts went to my function generator, feed the serial TTY into the external modulation input, select frequency modulation, then feed that into MTTY – all done.

Well almost, then came a learning curve to get MTTY to do the right thing, the first was getting it to listen to the right audio input, then figure out why all the text was as letters, not numbers.

The latter turned out to be the 'UOS' button, which stands for 'Unshift On Space', a wording I am not entirely happy with. TTY, Baudo, ITA2, has two shift states, that are Letters and Numbers, there is no 'Unshift' state as such, it's not like a PC keyboard where you take your finger off the shift key, and it falls back to lower case, you are either in Letters or Numbers, there is no default. It's like 'Wrong' or 'Right', there is no default. (Only in marriage, she is right)

The function of 'UOS' is to put the receiver back into Letters mode, as that is probably the state required to read noisy and error filled text from a distant amateur station. To me this function should be called 'Letters on Space'. Anyway, turning this off let me see the date and time for the first time, all bare numbers, nothing between the fields, the only punctuation being a double space between the date & time sections.



On second thoughts, I also have this Codan RTTY terminal, but with no documentation. It does power up, however I have not gone any further. Does anyone out there have any info on this Codan 7816? All I can find on the net is this general description/feature set.

- All solid state
- Automatic Unattended operation
- Wide input signal range operates with most standard teleprinters
- Automatic Transmit and Receive mode switching
- Desk or rack mounting units available
- Designed for operation by non technical personnel

So I'm kind of thinking it should work with a double current telex machine, and as such accept input from my T&D generator. Maybe then I can wake up my old 'ETI magazine' RTTY demodulator and get a signal up on the Old Trio scope that I once used to tune in weak DX.





Looking at the back panel suggests that this thing has never been used, as it contains a set of 'new' plugs. The other noteworthy bit is the serial number, N° 40. In Telstra it was not uncommon to find old never used gear, quite often spares were bought and stored so that service could be maintained. It was these cupboards that sometimes made it to hamfests etc.



The insides are interesting, extremely well built with all wires nicely loomed up. One interesting bit is the MM5303 UART IC, normally these are used to turn serial data into parallel for a processor chip, however there isn't one here. An alternative use is to regenerate the signal, or alternatively change the baud rate, i.e. 45.45 to 50Bd. Going from a low rate to a higher one is easy, however going the other way is problematic, as you need somewhere to store the extra characters from a higher speed source – however there is no RAM in here.

The other bit is an XR2211, a PLL chip often used to demodulate FSK, while they do work, I've never regarded them as the best way to go, especially where noisy and interference laden signals are concerned. There is also an XR2206 function gen, most likely the FSK generator.



A while ago I was given this UART board; I have ideas of making a Baudo/ITA2 to ASCII converter out of it, by using an EPROM as a lookup table.

It would be nice to do this 'old school', in keeping with gear of that time, however this all depends on me being able to program this IC to receive 5 unit code, and send 8 bit code. A look at the data sheet has me worried – I'll have to find a more comprehensive sheet than the abbreviated version I now have.

In the end it can be done, but if it requires a heap of IC's, or a chip like an Arduino, I may just pass on the whole idea.

The whole point is to allow 'every day' ASCII gear to monitor a HF RTTY channel, rather than require specialist software on a PC – just a though now.

I've pretty well figured out the EPROM bit, now I just need a cooperative UART to finish it off.

Why?, 'cuz I feel like doing it... (tie together my ancient junk)



All was well, I had my T&D clock running in my study, then the other night, the screen was blank, a bit of probing soon showed my you-beaut Dyson plug pack had turned up its toes.

With the price of Dyson gear, I thought this thing should run forever, so I cracked open the case to have a looksee. This revealed droplets of what I initially thought of as water (from being left outside by its previous owners?). However 24Hrs later it was still there, water would surely have evaporated in this time, so maybe it was capacitor electrolyte?

Paul VK3TGX

Two Meter Contact Night

The 2M catch up on 145.450 MHz was held on Monday Night the 3rd of May. It was interesting to find out which stations I could hear well and which stations were too far away for me to receive any signal at all. Some members were able to copy all stations due to their station height above sea level.



Times have changed as 145.450 MHz used to be the primary contact frequency for GGREC members. I joined GGREC after talking to Reg VK3UK and Ivan VK3ARV on my 2M hand held radio from home soon after moving to Endeavour Hills. Reg, Ivan and Helmut were always available for a chat most days. Any Club outings always used 2M for communications.

I would like to again thank Mike Ide VK3KTO, Ivan Blezard VK3ARV, Paul Stubbs VK3TGX, Ron Lacy VK3FRDL Albert Hubbard VK3BQO and Klaus Illhardt VK3IU who joined me for a good catch up to see how the propagation was going between us on our Clubs 2M chat frequency.

Bruno Tonizzo

Working Bee Saturday the 29th of May



It's time to freshen up the Clubrooms and carry out some long overdue maintenance and repair on our station antennas. Ian Jackson has kindly offered to bring his boom lift along to help us fix the off centre fed and inverted L wire antennas that have fallen during the past months. We need a good turnout of members on the day to get this job done quickly as we are fast heading towards winter. If the weather is favourable, a sausage sizzle will be provided for lunch. It is your Club so come along to help make it even better.

Bruno Tonizzo

Measuring Radio Shack Power

Here is the output of my shack power monitor system

So this is my shacks power usage (mains not low voltage solar) the dial top left is instant usage as is the graph to the right of that it covers the last couple minutes.

The middle graph shows usage over a longer period the highest level far left is night time use so I am in the shack all turned on and as it is night time the 13.8VDC power supply is floating the battery.

Then you can see when I went to bed and it dropped down, the next smaller drop is sunrise and the solar kicking in and the 13.8VDC supply turning off as the battery is now topped off over the day by the solar system.

The right-hand side of that graph is when I go up and turned the shack back on. The little spikes are the fridge turning on it pulls about 100w when running and is cycling quite nicely. The graph to the lower left shows I use 12-16kWH per day and the far-right lower one shows I use 400-450 kWH a month for the shack.



All done with an off the shelf smart power plug

Mark VK3PKT

Interesting YouTube Videos



Hello, 450kV Tesla Coil & Robot Orchestra cover https://youtu.be/5M5ao1D4jWo



Abandoned Store Left in 1963 | Everything is Still Inside

https://youtu.be/Xi3eeSZFfCw





Including photo on front cover





The GGREC is an affiliated club of the WIA

WIA Affiliated Club

We also give Thanks to





For their generous support over the years







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	VK3BFT	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					
	*Klaus's positic	Klaus's position needs to be voted on at the General Meeting.					

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