GATEWAY

The Official Magazine of the Gippsland Gate Radio & Electronics Club Inc A0016893M

May 2025

The Middle of Everywhere

LoRa Radio Data Links – pt2

Ruddy Kookaburras

And More

WIA Affiliated Club

Cover photo, Multifunctional HF RF Sampler project – come to our next prac night…..
(If you have any good photos, please send them in)

Contents.

3 – President's Report
4 – From the Editor – computer woes
5 – GGREC Hamfest.
6 – 2025 Proposed activities & A **Free Radio Tower**!
7 – The Middle of Everywhere Gippsland Rally
9 – LoRa Radio Data Links – pt2
14 – Ruddy Kookaburras
15 – Prac Night – in pictures (Multifunctional HF RF Sampler project)
16 – Interesting YouTube Videos
18 – Club Information

Event Queue

May:

16th.	8:00	General Meeting
17-18th.		Don Edwards memorial slow Morse contest – courtesy WIA

June:

6th.	7:30	Prac night
7 - 8th.		VK Shires Contest – courtesy WIA
20th.	8:00	General Meeting
21-22nd.		VHF UHF Field Days – courtesy WIA

July:

5th.	10:00	GGREC Hamfest Sale 2025 – see page 5
12-13th.		IARU HF World Championship – 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

President's Report May 2025

Hi Members,
This is the first Presidents report written by me since swapping over from club Treasurer to taking over the role of President from Fred Reid (VK3FWR).
For those that weren't at the Annual General Meeting (AGM). Fred had to step down due to ongoing work and family commitments and I take this opportunity to thank Fred for all his hard work and dedication that he put into this role. Also Leigh Findlay (VK3FACB) also had to step down as a committee member due to ongoing family matters. So I thank him for his contributions as well'
So what other changes have taken place on the Committee?

- Klaus Illlhart (VK3IU) is now back to being the Treasurer;
- Phil Pavey(VK3VB) is now our new Admin Secretary: and,
- Ian Jackson (VK3BUF) and Fred Reid make up the committee.
- Paul Stubbs (VK3TGX) continues as our Magazine Editor
- Mark Closey (VK3PKT) continues as our as our Webmaster
- Bruno Tonizzo (VK3BFT) continues as our Assoc Secretary.
- Mike Ide (VK3KT0) continues to look after our QSL cards.

Phil brings a lot of expertise to the Committee as he is a Certified Practicing Accountant (CPA), both his parents were active Hams and Phil has carried on that tradition and is involved in many aspects involving the hobby.
Paul Stubbs: who every Month somehow finds the time, to dig up items to write about and to produce the Magazine for all of us to read and enjoy.

Mark Closey: Is one of the unsung heroes of the club who, behind the scenes, looks after, updates and maintains our Website and Webmail.

Bruno Tonizzo: has for a long time been an active member of the club, filling most roles along the way and is currently our Assoc Secretary looking after our Government interactions and Responsibilities.

To our members that are currently undergoing major health issues, namely Rob Streater (VK3BRS) Louwe Ligt (VK3LLI) preventing them from turning up to club events. There are others in a similar boat. Our thoughts are with you.

So what's currently happening in the club?

At Prac nights we are currently building a multifunctional RF Sampler to allow you to interface your Transmitter/handheld to test gear such as Spectrum Analysers, Oscilloscopes, Vector Network Analysers (VNA) etc for analysis.

Our GM this Friday, starting at 8pm will feature a video , talk and display on the Story of "Heathkit" and its major contribution to Ham Radio, kit building and radio/ electronics teaching in America and worldwide. If you have a Heathkit kit sitting at home, bring it along as part of the show and tell.
We are currently working on an Event Calendar, which will include Field and other club events that will take place throughout the year. Speaking of which, our Ham fest, taking place in July is now down to only five tables for hire.

On a finishing note: Thanks to those that have renewed their membership and to the new members we have recently acquired, some of which are undergoing there foundation licences, I hope the club brings joy into your life and meets your aspirations.

Cheers and 73s
Bruce Williams (VK3BRW)
President GGREC

From The Editor

For this month's bit, it's about some failed computer repairs. Not that it's impossible to repair them it's just not worth the effort.

I was handed this MacBook laptop to see if I could get it going, the battery was cooked, the power pack was suffering lead/plug damage and it kept crashing – and of course he didn't have the password! – anything else?

Luckily the previous owner had setup an additional admin account with no password alongside their own with a password – kind of super stupid, like putting in the latest security in your house while leaving the keys hanging from a hook outside, next to the door.

I suspected the crook battery was a primary cause of it crashing, as the near dead power pack could not keep up with peak current demands, so a third party battery was sourced and fitted – yes much better, but not perfect, while it now ran stably it got upset when allowed to go to sleep – or close the lid. A look on the internet only found others with the same issue, no fixes or hints. So i tried a nice new Samsung SSD, figuring the computer may have been having trouble quickly writing it's state etc. in a timely manner before it went into low power mode – No, bad guess.

Oh well this thing is all but out of support, so kind of a waste of time, so I threw in the towel. The owner has paid for the battery, and the SSD will end up in my PC as the old one in there is due for a swap, so no losses my end. Good job I never ordered a new power pack.

Next is an old tower PC, quite old as in it originally hosted Windows XP. Recently on YouTube I watched a video about an operating system (as in OS like Windows, or Linux) Visopsys, written by one person - https://youtu.be/5MZljgXW2WA, quite an undertaking. Anyway I thought I'd give it a go, so I burned the ISO image onto a CD to install it on this old PC. Teresa (the donator) had it 'looked at' by her son, who made it safe for disposal by ripping out the hard drive, no problems I have a few old 160GB SATA drives. So all ready? I hit the power button – nothing, totally dead. Turned out the power supply was dead, with a violently blown fuse, and measuring as a dead short on the main filter caps. So in with a spare power supply. "Beep Beep Beep Beep" was the answer, after more agro it had a dead memory module. Luckily it had two, one should be fine for this OS. While Visopsys would boot from CD and go through all the install stuff, the computer would just not boot from the hard drive. So I tried another hard drive – no. It's probably this OS, let's just test the PC with….. Windows Vista – I have a few box sets of that! Not anyone's favourite OS, but perfect for testing here.

No luck, with Vista crashing at various points in the install. So what gives – has the PC copped a power surge etc., that destroyed the power supply and that memory SIM? Teresa said it just stopped – So what else is fried? - Oh well another one for the tip.

Paul VK3TGX

GGREC HAMFEST

GGREC HAMFEST SALE 2025

On **Saturday, July 5** the Gippsland Gate Radio & Electronics Club will be hosting a Hamfest sale . the venue is at the **Longwarry Public Hall, 14 Kennedy St** in Longwarry, approx 60km East of Dandenong, Vic. The venue is easy to find. It is just 3 km South of the freeway interchange, 150 metres South of the Longwarry train station and level crossing. Tea / Coffee and sausage sizzle will be available on the day.

For Buyers:
Doors open at 10:00 for buyers. Entry fee is $7 Entry includes a ticket for a Door Prize drawn at 1:30pm.

For Sellers:
Doors open at 8:30 for stall holders. Fees are $18 per table. Tables are approx 1.8 x 0.8m Tables must be paid for in advance of the event via EFT. A maximum of 30 tables are available. Table hire includes entry for two persons. **EFT use BSB 633000 Account 146016746** Bookings are not confirmed until a booking number has been issued by the booking coordinator. No trading before 10:00 am please.

Direct enquiries to Ian Jackson VK3BUF via:hamfest@ggrec.org.au or call 5644 3118

2025 Proposed activities

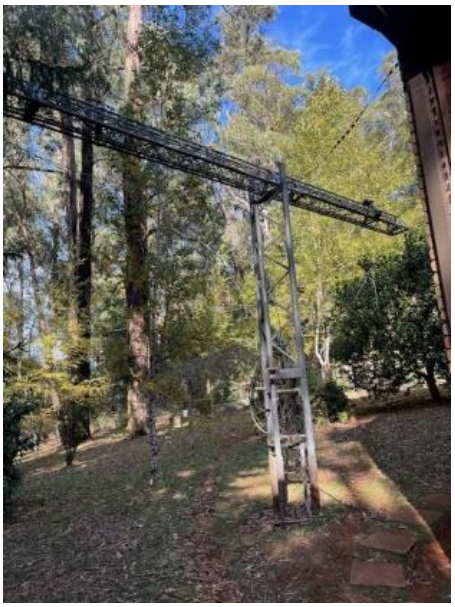
Date	Activity	Where / comment	Who
31 May @ 6pm	Club Dinner	Dandy Club	Helmut/Klaus
08 June 25	WIA VK Shires **Contest**	Home	
21-22 June	Possible VHF/UHF field day	Cranbourne with Club BBQ	Fred
05 July 25	HAMFEST	Longwarry	Ian
19 July 25	Trans-Tasman Low-Band **Contest**	From Club Rooms	
August, September, October	Bunnings Fundraiser	Bunnings	Klaus
16/17 August 25	Remembrance Day **Contest**	Club Room or encourage members to participate from their home	
Oct / Nov 25	Club BBQ	TBA POTA somewhere in a park	
16 Nov 25	Rosebud Radio Fest	Club Table	
December 25	XMAS come together	Club Rooms	

proposed	Possible Club activity	Set dates	

Secretary GGREC

Tower, Free to a good home.

We have a crank up tilt over tower (not a Nally tower) that is free to a good home.
It is a triangular tower bolted to a concrete plinth and if you are interested, you will have to arrange dismantling and removal.
The tower is located in Emerald, for more details please contact Phil Buggee (Bits of Italy) on 03 994 6692.



The Middle of Everywhere Gippsland Rally: A WICEN Outing.

In August 2023 I volunteered for a WICEN job providing back-up comms for the *Middle of Everywhere Car Rally* in East Gippsland. In that year I worked as assistant to Dale VK3DB who came in his 4WD equipped with his 2m radio, flowerpot antenna and years of experience. Came 2024 and I was offered a return job but things were vastly different this time.

Doing sterling work in 2023.
©WICEN 2023

When time rolled around for the 2024 event I was a tad reticent about volunteering (hey! I had had heart surgery that year, ok?), but I thought it perhaps best to get back onto the horse (?) so to speak. Things were, as I said, going to be different, it turned out.

I received and read all the prep literature; even printed it out and put it into nice folders, etc. I advised (or at least I thought I had) the co-ordinator, John VK3ZRX, that I did not have any VHF equipped of my own, expecting to be partnered with an experienced opp like previously. I booked the motel for Friday night. I packed lunch, a clipboard and everything. I was ready to assist at my second year of The Middle of Everywhere East Gippsland Rally. I drove the little Astra to Motel Morwell and got a good night's sleep.

But did I mention that things were going to be different this time?

Saturday 6am, departed Morwell for the assembly point in Heyfield. Arrived to find, as in 2023, a confusion of cars and clipboards. These were the rally organisers, not WICEN, but not to worry. I just had to find my partner/boss for the day. Err. Anyway, I was sure I would meet him at my S/S Point farther up the mountain, so I placed my issued Number Card in the rear window of the little Astra and followed my lead as we all snaked up the mountain.

Now, at this point perhaps I should point out that the little Astra has a manual transmission, and driving up that mountain I felt that I was actually IN the ruddy rally (pardon the language). Nevertheless, I got there, found my allocated Stop/Start Point and introduced myself to the rally officials. But where was my buddy/partner/boss?

Fortunately I did find a mound of earth from which I got mobile phone reception and I duly spoke to John VK3ZRX. Oh no. No radio gear? What to do? The rally was not due to start for about half-an-hour so there was just time to ferry up a 2m radio, a stick antenna and a massive battery. Also a card table. In the boot of the Astra I found something to sit on. So I was by myself. What did I say about it being different this year?

First things first. Everything is on 2 metres. We use a temporary repeater which is taken up the mountain a few days ahead by an intrepid team. Some S/S points can't always trigger the

repeater so relaying is often necessary. The first thing is to make contact with Base and have each Stop/Start point's callsign officially converted from VK3 to S/S numbers. This year I was Stop/Start 1. That done and preliminary niceties finished it was on with the main event.

The rally itself is indeed a stop-start affair. Car roars in, stops, waits for paperwork, the officials phaff about, the car revs like buggery and starts off again. As strictly back-up comms we (me) tick off numbers and relay them to Base. The officials have their own race radio system, PiNet, but it is terribly unreliable and that is why they employ the Wireless Institute Civil Emergency Network, of which I am proudly part. For now (Stop rolling your eyes, Bruce.)

The important back-up comms we provide often transforms into the only comms when things get going. We check cars through and relay information for the officials. Sometimes it gets serious. A car missing in the sequence is a concern, as well as the occasional spill. My S/S point also had The Ambulance, which was comforting and worrisome at the same time.

Ditto the allocated portaloo. (Actually, the portaloo did come in handy at one point when I successfully contacted base using my handheld radio from inside, but I digress.)

By lunchtime it became somewhat full-on so they managed to get a helper sent up to me during the break. Carl was great; still going for his Foundation and never covered a rally before, but a terrific worker with the clipboard. He jumped in and out of the stopping zone and even sent off a few numbers (under my strict supervision!). So I was now promoted not just to Independent S/S Comms Manager but to Supervisor/Instructor. Wow. I wonder what they will have me doing this year? (Bruce!)

Hey Base! Where's my lunch?
©Gerry Watts 2024.

Anyway, by day's end we had changed our callsigns back to what they ought to be, Carl had gone home, now an accomplished Assistant Operator, the Ambulance had departed, the Officials had retired. The portaloo remained for the Sunday circuit so eventually I was last to leave. I had to drive down the mountain and find Base so as to return the gear, a bit of a rally exercise on its own, but I finally got everything back before sunset. Drove home to Pakenham and a good night's sleep.

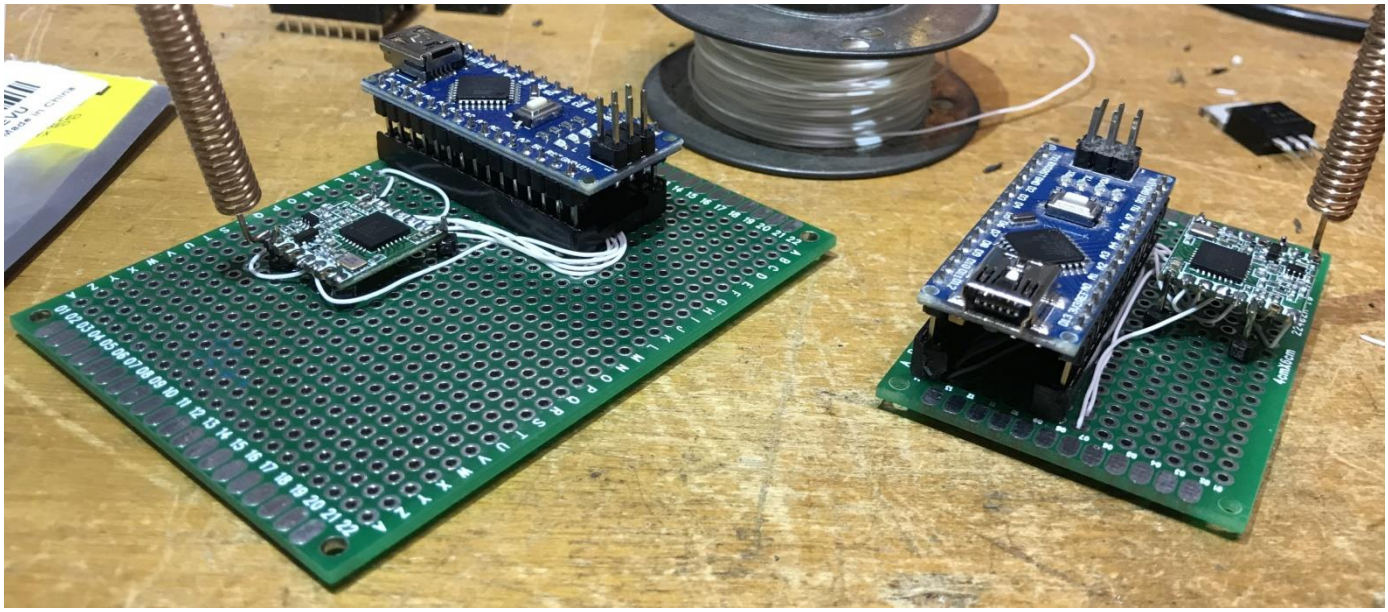
Carl is now VK3CWT*. He lives in Orbost. Listen out for him. Meanwhile, I've put my hand up for another WICEN exercise, the Templestowe Memory Walk. As for the 2025 Car Rally, there will be a Night Segment this year. I wonder how comfortable the Astra will be to sleep in. (Quit the eye-rolling, Bruce.)

Anyone wanting to get into WICEN activities: www.vic.wicen.org.au

*Note: There is an issue yet to be resolved with the qrz.com entry regarding this call sign.

Gerry Watts VK3ZXC

LoRa Radio Data Links – pt2



After building my two boards, one a transmitter, the other a receiver – which is actually not quite correct, as the actual LoRa modules are identical, as in both can transmit and receive, it is time to give them some tests. Whilst the transmitter just needs power to work, the receiver on the other hand only sends it's received data out the USB port, so if I want to go range testing I'll have to lug a laptop along, not the best idea I thought. Luckily the receiver was on the larger board so adding a display was the obvious solution. These days OLED display modules are the most popular, however I didn't have one, however I do have a small stash of LCD character displays, so use what I have.

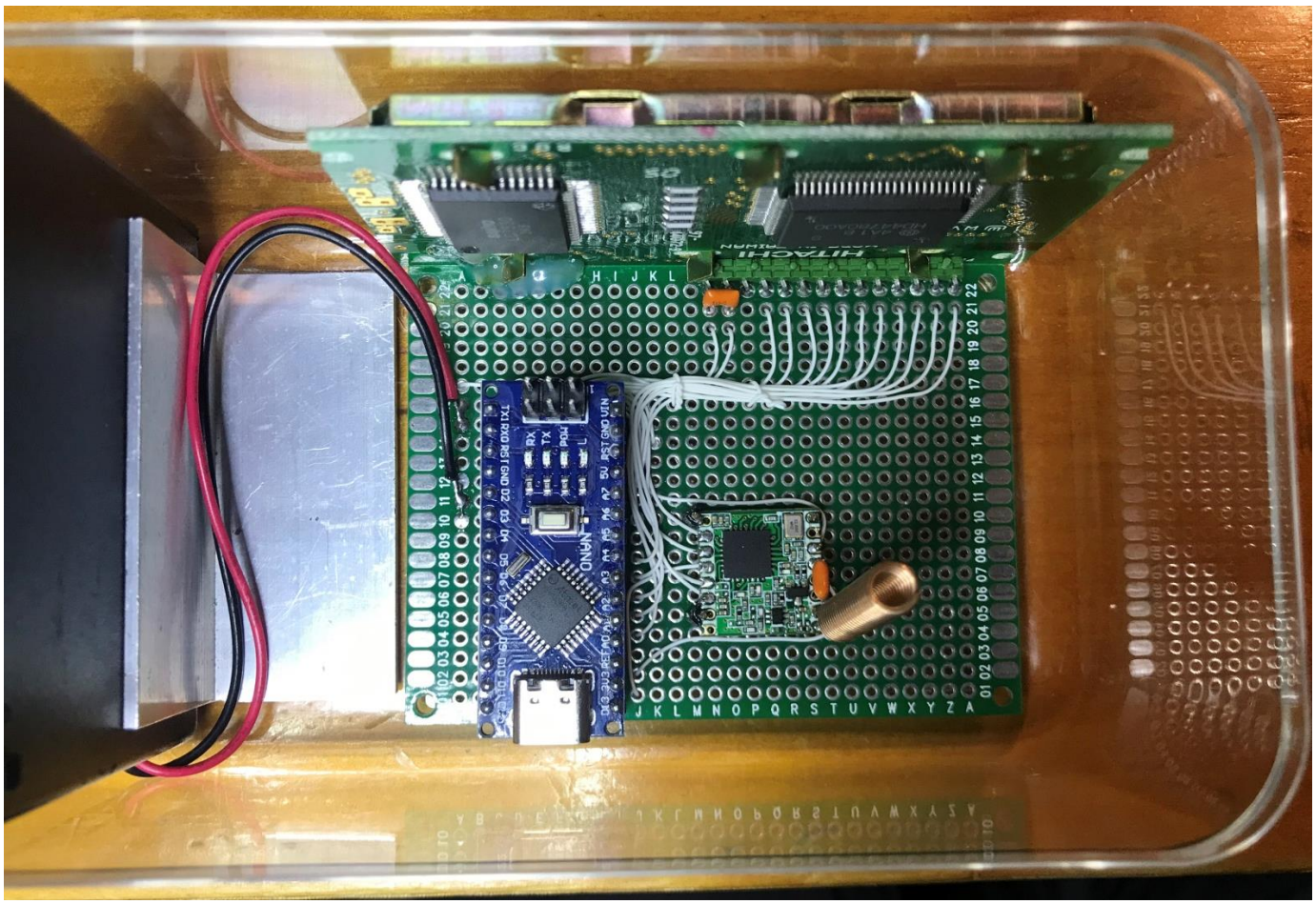
So with one of these attached, powered by four 'AA' calls, and plonked into a left over Ferrero rocher Chocolate box I was ready to go for a wonder.

These displays were once the go-to display for this type of work, only recently displaced by OLED's, However if you don't need graphics these can be simpler to talk to, not that you'd ever know being spoiled by the Arduino driver modules that kind of take all the fun out of it.

These displays use a parallel interface using either an 8 bit or a 4 bit data bus and control lines. At the minimum this means you use 6 pins, up to 11 pins. The minimum 6 pin results in a write only display, with every write actually requiring two writes to the HD44780 controller IC on the display, as you need two 4 bit nibbles to give you one 8 bit word. I went for the 11 pin version as that gives me full

read & write access to the display, plus I wanted to run a few tests on this display outside of the LoRa project. With this display and the LoRa module connected I was down to one digital pin left alongside two analogue inputs (ignoring the serial port) so my poor Arduino Nano is more of less done… However this is not entirely true, the 8 data bits feeding the display is actually implemented as a databus that can also be used by other IC's and modules, I should be able to connect a second LCD display, as they can share the data, R/W, and register select pins, the only one that needs to be dedicated to this particular LCD is the Enable pin. When it's not enabled it will ignore what the other pins are doing (By enable I'm talking the interface, not the actual display – it won't go blank when the enable pin is not active). In the past I've also hung a keypad across these lines and more or less used them both at the same time.

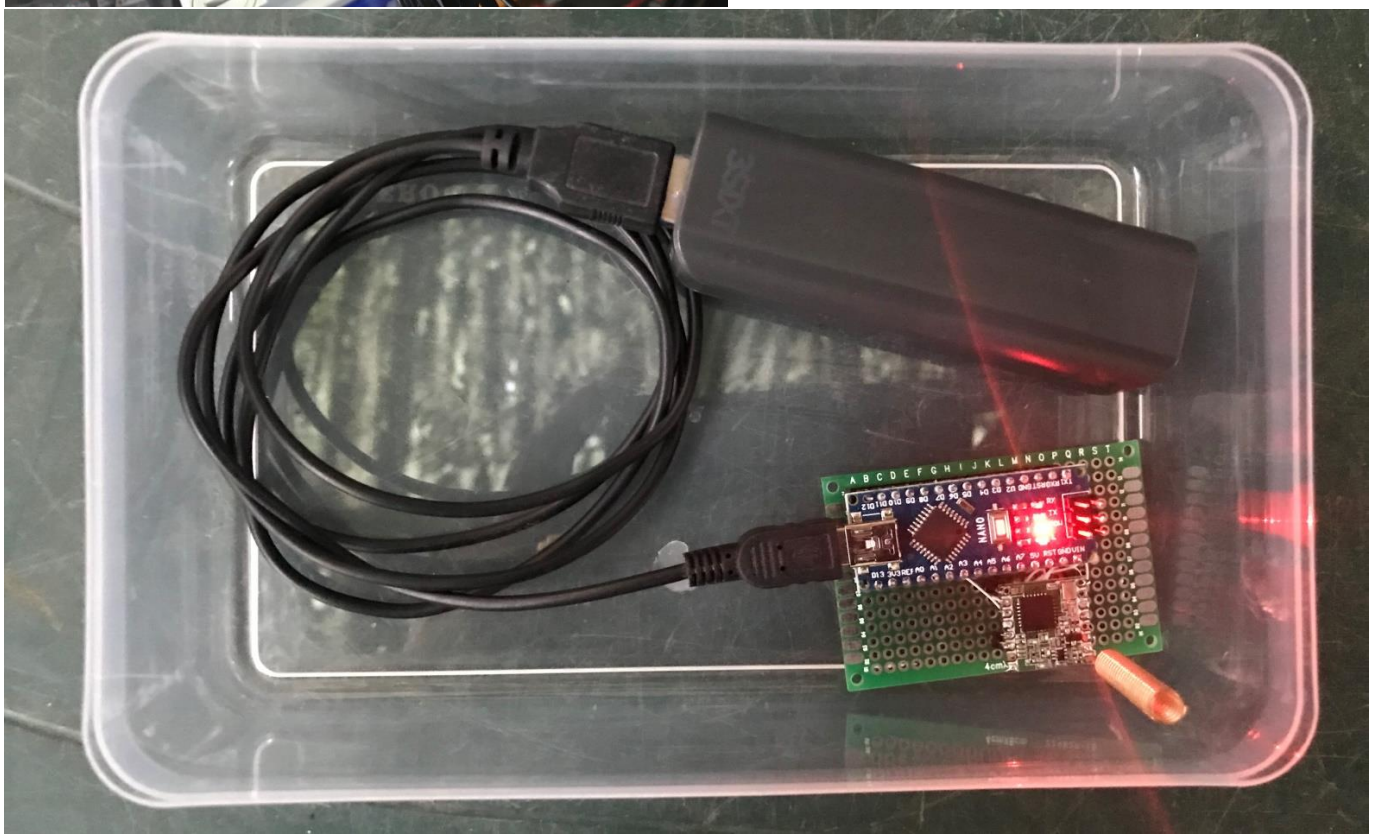
Actually I got a pleasant surprise when the display started, I'd thought it was a single line display, no it's a two line by 16 characters, allowing the signal strength text to have its own line. I had been contemplating turning the Rssi (Receive Signal Strength Indicator) into a little bargraph like's on most mobile phones, so it would only need one character position on the end, but no, I won't have to mess around with programmable characters to make that happen.



The display is right angle mounted off the proto-board, the display being attached to the side of the box with some double sided clear mounting tape. That piece of angle aluminium is stuck to the bottom of the Ferrero box with some more mounting tape, to hold the black battery box in place. I did not want to directly mount the battery box as you need to be able to remove it to change the batteries. The only downside here is the Arduino Nano's USB port is kind of inaccessible, the easiest solution here is to simply pull the Nano board out of its socket and reprogram it outside of the box.

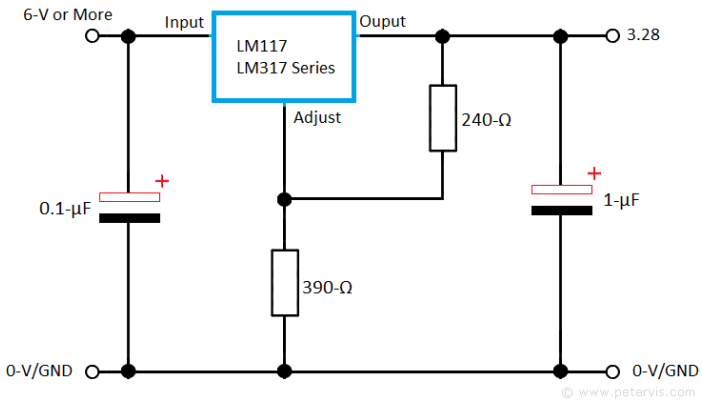
Jaycar sell a nice instrument case with a clear end, however $29.95 is .....

With the transmitter atop a battery box in my study I went on a wander, unfortunately I only got about two doors away before it dropped out, not exactly the 10Km mentioned in the data sheets, Yes I'm in the middle of suburbia, but still…



So I popped the transmitter into a plastic box (to ward off any showers) and popped it on the mounting pole of my Nally tower, this gave me a good block or two of range, still way below a Km, dang. The next upgrade will surely involve better antenna's, however that Ferrero box will have to go as there is no way that the thin plastic these are made of will support a BNC connector, so maybe I'll have to hand that money over to Jaycar.

One problem I have found is that trying to run these LoRa modules from the 3.3 V pin of the Arduino Nano is rather problematic, First as documented that output is not rated to supply enough current, however a bigger problem is with the Nano running of 5V via USB etc., it's I/O pins are talking 5V logic, not the 3.3 V the LoRa board is expecting. The poor input protection diodes in the LoRa module end up shunting these logic levels into the main supply to the chip as it tries to hold them to 3.3, the end result is rather overloaded I/0 pins on the Nano are now providing power via these protection diodes, that are shunting that into the LoRa supply rails, that is then putting that voltage back into the Nano's 3.3V line, jacking it all up to about 3.9V!



As part of my upgrades I replaced the low current 3.3V Nano rail with a 1A capable LM317 variable regulator.

This gave a nice 3.3V, however on connecting it to the LoRa board I started seeing 3.9V on its output – Now how can connecting a load cause the '317 to increase its output volts?

It was investigation this that led me to the 5V logic feeding the LoRa as the true problem.

On the Transmitter I just swapped the Nano from the 5V USB source to the 3.3V from the '317. I had noticed the Nano's 3.3 output was also up, but never having used that pin previously I just assumed it was simply not that accurate, however I did know the '317 was near spot on as I had measured it before connection. However after this supply upgrade I still cannot get any better range out of it! So time to run it up a mast? Just what do you need for the datasheet 10Km?

Here is the transmitter with its LM317 3.3V supply mounted in an old TV masthead splitter box, courtesy of a hamfest? back a ways.

It has the 'tabs' on the back/bottom to allow it to be pole mounted with the appropriate U-bolt. This will let me hang it off a portable telescopic mast I have, I don't plan on leaving it up there that long, just enough for some range tests. It's only hot melt glued in there, however this is way easier than trying to attach that clear box it was in to the top of a pole. The next step after this is to connect it to my 2M/70CM vertical stick.. I'll probably change the Tx message from hello to VK3TGX – at least I'm IDing my transmissions.

However I think I'm hitting the limits of what's possible here, if I want much more I'd probably be better off just using some Amateur radio sets, so I can send a DTMF command from say my car and get maybe a synthesized voice response back of whatever I'm monitoring. Heck if I get cheeky I could run it over the club's repeater… And with IRLP, world wide access….

With the Tx box about 8 to 10M up on my camping telescopic mast it made an extra block…
Of course it didn't work the first time I raised it – So glad I didn't tilt over the Nally….
$#$$%^# IC sockets.. (Admittedly NOT designed to have header pins shoved into them)

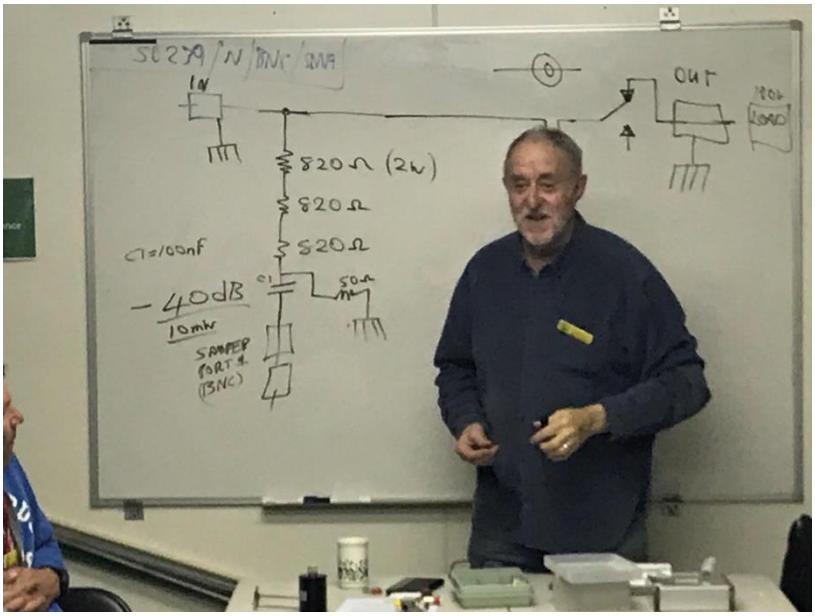
Paul VK3TGX

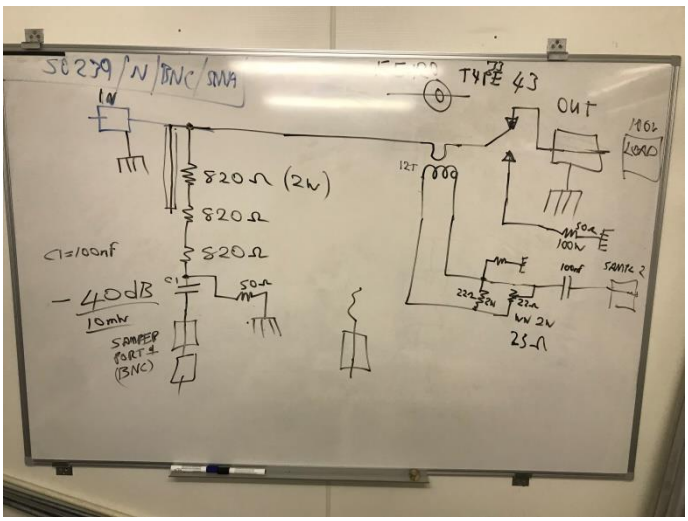
Ruddy Kookaburras

This poor fellow put cable ties all over his Yagi antenna to ward off the birds.

Gerry Watts VK3ZXC

Prac Night 2/05/2025





Multifunctional HF RF Sampler to allow you to interface your Transmitter/handheld to test gear

Interesting YouTube Videos

Is the Yaesu FTX-1 a True Game Changer?

https://youtu.be/UjcwJwk-Hng

Google's Quantum Core Just CRACKED The Observer Effect!

https://youtu.be/CpaAEG-3lQE

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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	Bruce Williams	VK3BRW	General 3	--	--
Admin Sec	Phil Pavey	VK3VB	Web Master	Mark Clohesy	VK3PKT
Treasurer	Klaus Illlhart	VK3IU	Magazine Editor	Paul Stubbs	VK3TGX
General 1	Ian Jackson	VK3BUF	Property Officer	'committee'	--
General 2	Fred Reid	VK3FWR	Assoc. Secretary	Bruno Tonizzo	VK3BFT

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 431.575MHz Out 438.575MHz CTCSS 91.5Hz
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
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