GATEWAY

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

January 2025

Rubber Coating Removal

Realistic DX-160 part 2

Leaking Dry Cells

And More

WIA Affiliated Club

Cover photo, Antennapalooza, courtesy of Ian VK3BUF.
(If you have any good photos, please send them in)

Contents.

3 – President's Message
4 – From the Editor, A new year
5 – Antennapalooza pics
6 – Rubber Coating Removal
7 – Leaking Dry Cells.
9 – Realistic DX-160 Comms Receiver #2.
12 – Interesting (and funny) YouTube Videos
14 – Club Information

Event Queue

Month of January 2025 YELLOW important Club events

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1	**2**	**3**	**4**	**5**
6	**7**	**8**	**9**	**9**	**11** Antennapalooza	**12** Antennapalooza
13	**14**	**15**	**16**	**17** General Meeting	**18** VHF/UHF Field Day	**19**
20	**21**	**22**	**23**	**24**	**25** GGREC Australia Day BBQ	**26** WIA Australia Day Contest & Airleague Day
27	**28**	**29**	**30**	**31**		

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 January 2025

Dear Members,

I hope this message finds you all well and excited for the upcoming events we have planned for the year.

I would like to start by thanking everyone who attended Antennapalooza.
It was a fantastic event, and I'm thrilled to say it was well attended by our club members. A special thank you goes to Klaus VK3IU, who shared his valuable experience on repairing vertical antennas. His insights were appreciated by all, and I'm sure many of us left with new knowledge and ideas to apply in our own setups.

During the event, I had the opportunity to connect with several other club presidents, which was a great chance to share ideas and discuss the future of our hobby. We're always looking for ways to improve and grow, so these discussions are invaluable for our club.

Looking ahead, I'd like to remind everyone of our Australia Day BBQ, which will be held at the clubrooms. This will be a bring your own everything event, so come along with your own food, drinks, and good company. It's a great way to celebrate the holiday and enjoy some time together as a club.

In addition, we need to start planning for our next Bunnings sausage sizzle. This event is vital for boosting our finances, and I encourage everyone to get involved. Whether it's volunteering or just spreading the word, every little bit helps to make this a successful fundraiser.

Finally, don't forget that at the next General Meeting, Klaus will be presenting his antenna repair talk again. It's always great to have him share his expertise with us, and I'm sure it will be just as informative as his previous session.

Thank you all for your continued support and involvement in our club.
I look forward to seeing you at our upcoming events.

Best regards
Fred VK3FWR
President GGREC

From The Editor

Welcome to the new year, I would have liked to present a range of photo's from Christmas etc. however none have been sent my way and I was far from perfect on the day. I got a bit of a 'why are you hear' look at the prac night the night before, so I must have looked bad, so time to not push my luck and leave the photo's to someone else.

Apart from that I had fond hopes of picking up a VLF station, Grimeton SAQ from Sweden on 17.2KHz, they generally run two transmissions a year, one for the anniversary of the station, 100 years ago, and also Christmas eve. Unfortunately I was booked for the exact time of the transmission, so I setup my receiver running into my shack PC recording all the audio, of course I received nothing.

I should probably have setup a test signal to see if I had it setup correctly, but I didn't have time, even though I had been looking forward to this for a while, it's just that the time clash didn't become evident till way too close. If it wasn't for the clash I would have just tuned up and down a bit to try and find them, so I wasn't too worried about being off a bit, or having to tune a bit above or below etc. However doing it 'unmanned' was a totally different game.

Subsequently I did find a design for a custom receiver and loop antenna designed for listening to them, maybe I'll get keen and build one

As for the magazine, it has been suggested by Klaus that I try an alternative to the regular 'Event Queue', so let us and Klaus know what you think.

As for articles, I am always open to submissions, I have a few radio repairs to go, followed be a possible resurrection of an old Tandy short wave radio that I used in my way younger years, that was subjected to 'inappropriate voltages in inappropriate places' resulting in some fried components, it could be interesting to see if I can get a crackle out of it, kind of like the various resurrection video's that adorn YouTube (Can we start this car that's been left to rust away in a jungle for 50+ years)

Heck, if I get enthused I'll have to get my old FT101 up and running, it went 'futt' and all the lights went out when I powered it up the last time – it did not receive much use, S9 noise here at my QTH is not exactly inspiring me to sit on the HF bands, so it just received the occasional power up to see 'is it still with us', however this time it protested then went to sleep.

Other than that I have the odd idea for a valve based project, a powered – dare I say, smart speaker, made from 1970's kit (and a somewhat newer Bluetooth module)

So as before there are club members with way more skills than me, so get soldering and typing.

Paul VK3TGX

Paul VK3TGX

Rubber Coating Removal

Many devices, tools etc., often come with a rubberized anti-slip coating. Trouble is it does not last that long before turning into a sticky tacky mess.

I had read online that WD-40 was good at removing it, I was doubtful, but with a few cans on hand I thought I'd give it a go.

I had an Aldi Infrared thermometer and a small USB battery pack, so time to try the WD-40, well I was not impressed, it didn't seem to do anything in both cases.

Now don't get me wrong, there is probably several formulas for that rubber coating, and on some it may work. I gave it a good shot on both items, no joy.

So I went looking for other likely liquids, Mineral Turpentine did nothing and Windex was no better. Methylated Spirits did have some effect, however in the end good old Isopropyl Alcohol (IPA) seemed the best, it's just a pity it's not more widely available.

Jaycar, and I think Bunnings sell it in very small bottles, making it a tad expensive for jobs like this where you tend to go through a fair amount of it. I bought a 5 litre bottle for $50 from Mektronics a while ago. (Internet) I'm always using it so the price didn't bother me, however they do have a 1 litre bottle for $15.29

I see IPA all the time in YouTube video's from the US, where it seems to be readily available from hardware stores, pity that does not extend to Australia.

It does not dissolve the coating; only soften it so lots of rubbing and frequent changes to a fresh cloth are needed. With my thermometer the black rubber left an obvious black mark on the paper towel, so the time for a fresh piece was obvious, however the coating on the yellow section, as well as the battery left little evidence so I had to just blindly change the paper, lest I just smear it all over the place and not actually remove anything.

In the end both items now have a shiny, almost slippery surface, so not ideal, but WAY better than the sticky mess they were before.

Paul VK3TGX

Leaking Dry Cells

Whilst working on the' Rubber Coating Removal' story, I remembered a wireless keyboard I have that also suffered from the sticky rubber problem. I had mostly removed the coating a while ago and thought I'd have another look, that was until I discovered the dreaded white crud coming from the battery compartment. Is it just me, or are dry cells getting worse? It used to be only a problem on rare occasions but now I seem to be seeing it all the time. I saw a YouTube storey where they called the effect 'En-shit-ification', where company's just keep slowly degrading their products, because they can get away with it and they save a few cents.

Anyway I had heard that vinegar was s good thing to use to neutralise the leaking goop/acid.

I had used some in the past by dropping it on with the end of a screwdriver, with no apparent effect, however this time I poured some into an old milk bottle lid, I then inserted the crusty end of one of the 'AA' calls and was greeted by quite a reaction, way more than from just dabbing it on.

So with a fresh cap full and with the battery terminal springs that had easily separated from the case, I gave them a good dunk – more fizzing was the result, so obviously the dabbing on was far from ideal, better than nothing I suppose, but if you can get the terminals free from the plastic, definitely a better way to go.

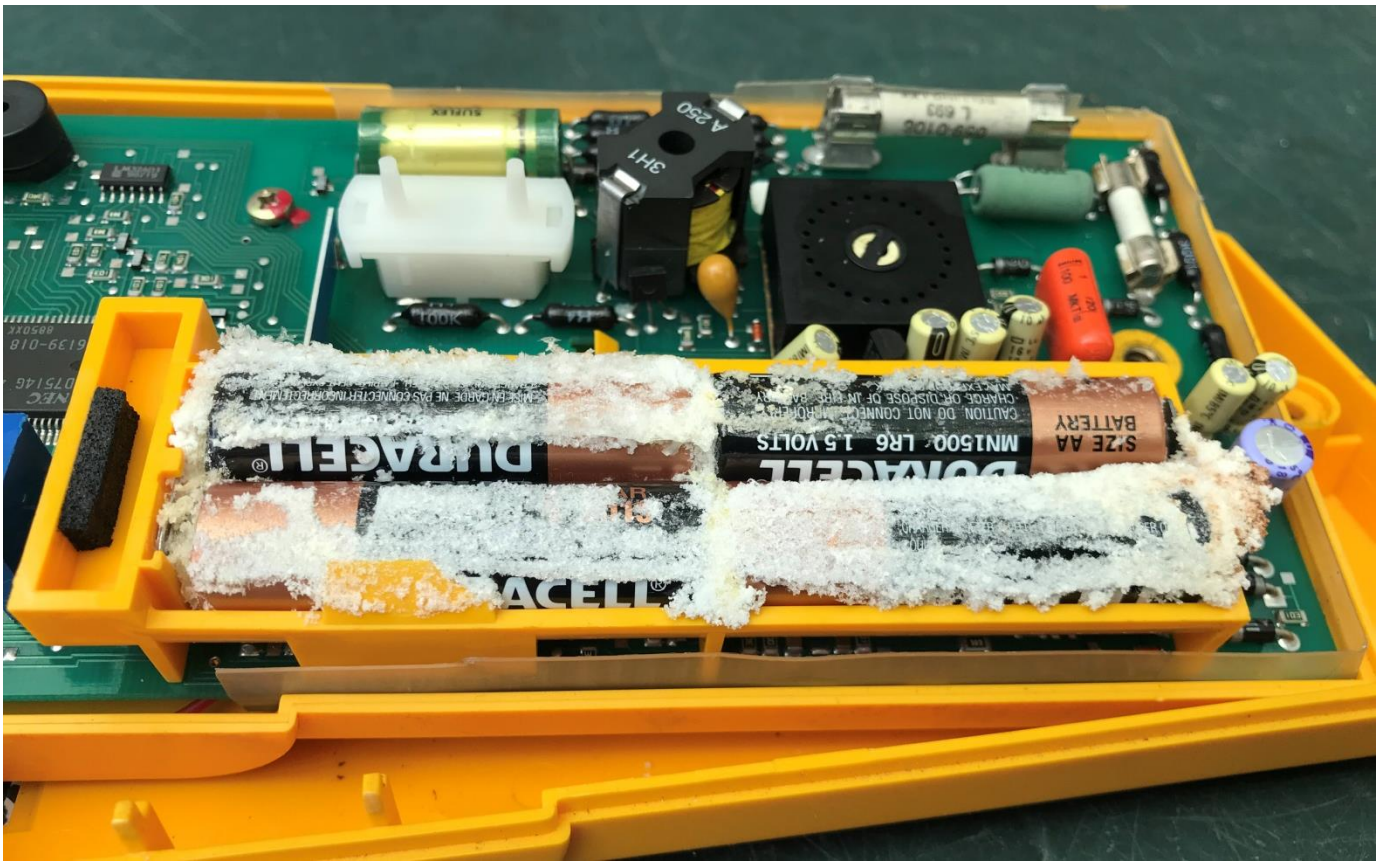
If you can zoom into the springs in the cap, you'll see a few bubbles as the last of the acid is knocked out.

The vinegar is nothing special, just the stuff from the local supermarket you'd put on your fish & chips.

This bottle has been in the back of our pantry disused, almost forgotten for many years, so it's now been moved to my workshop cupboard as using really old ingredients on food is usually not a good idea. Even so, after all these years it still has plenty of bite – at least for battery acid.

Below is a Megger, high voltage insulation tester (1000V) that suffered a similar fate a few months ago.

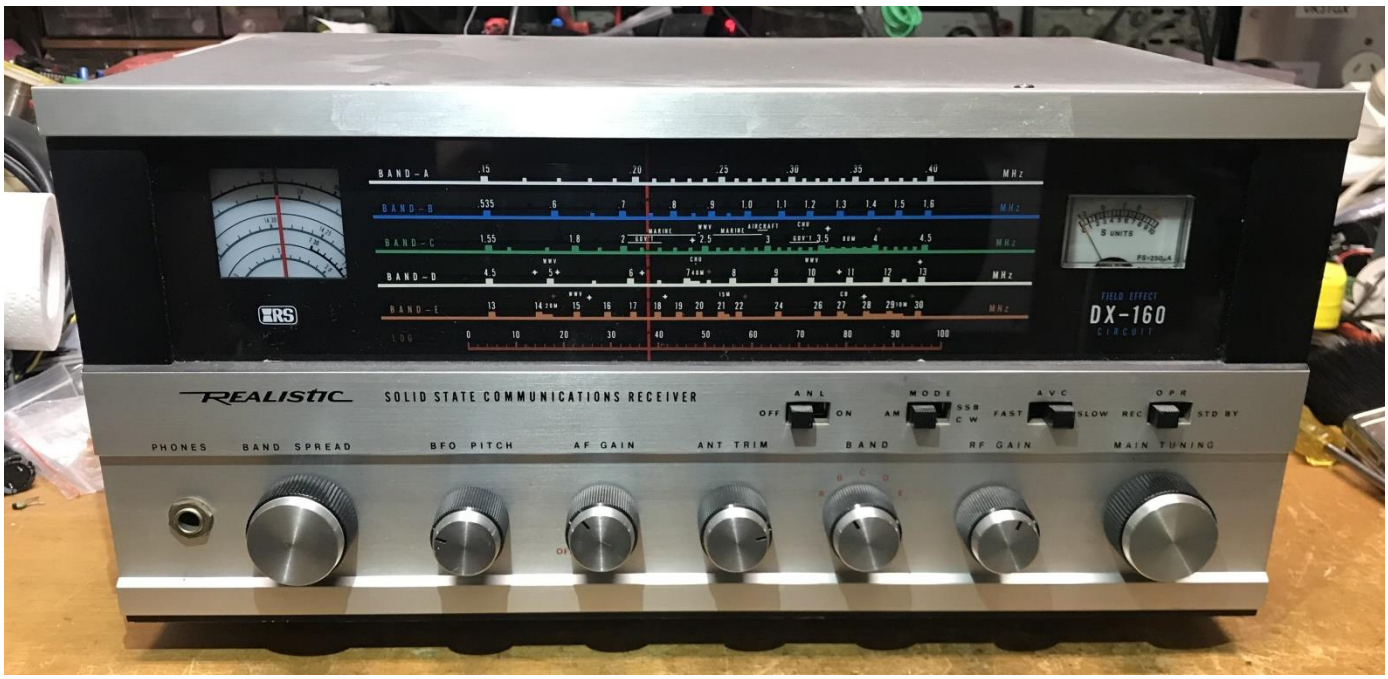
I will have to give it a second go with the vinegar, pity the battery terminals are in the middle of the PCB making dunking them way harder than the spring terminals from the keyboard.



Some say to always remove the batteries, which makes using things more painful, but then again not as painful as replacing ruined equipment.

Paul VK3TGX

Realistic DX-160 Comms Receiver #2



In the last magazine I did some work on my DX-160, however it had this hum issue that I wanted to go back too and have a look at, however my hand kind of got pushed as I started having issues with the band switch and the audio cutting out – or rather becoming very weak.

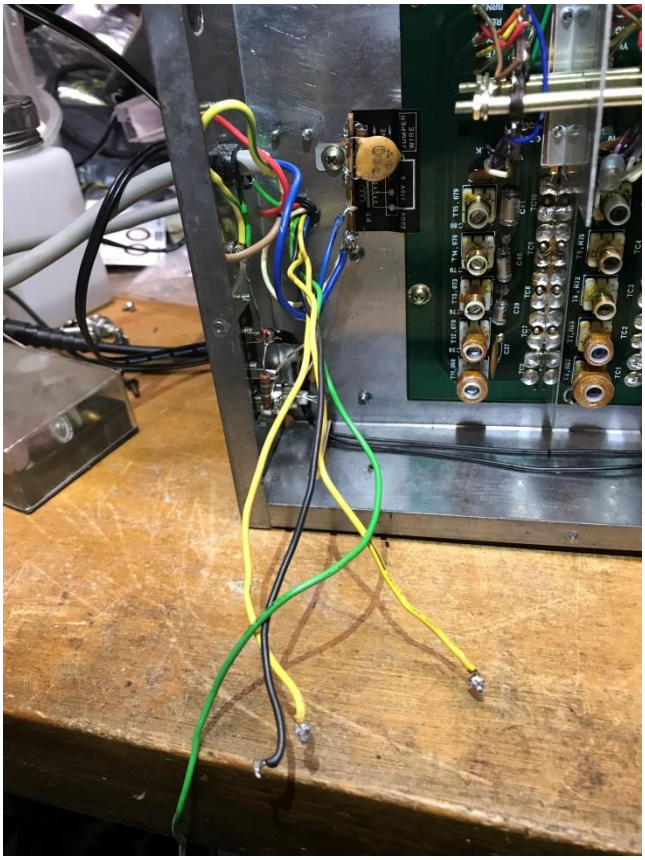
So it was off with its lid again, the switch contacts responded fairly well to some spray contact cleaner and the audio issue ended up been with the speakers plug and socket, again a squirt of contact cleaner seems to have that one sorted, only time will tell if this is a good fix.

Unfortunately the band switch is custom switch with many wafers so replacing it is basically impossible, I'd have to pull one from another DX-160, however that switch will be as old as the one I have so probably no improvement at all will be had.

As for the DC power socket, I was going to replace it with a more regular barrel socket, I had one that mounted with two screws as per the old one already fitted, however the screw spacing proved to be all wrong, so after digging into my junk box I found a few two pin plugs, the same as the white one used for the remote standby function, whilst only two pin, they did align with two of the pins on the power socket, so I just cut one in half – down to one pin, then glued It to another two pinner, forming a three pin plug to suit the radios existing DC socket.

Now for the main gripe, the hum. I had found the radio to be fine on DC, it was just when I flicked on the AC mains I immediately had trouble.

With the lid off I unscrewed the power transformer and starter moving it about to see if it was a stray magnetic field causing all the trouble - no luck, that had no effect at all.

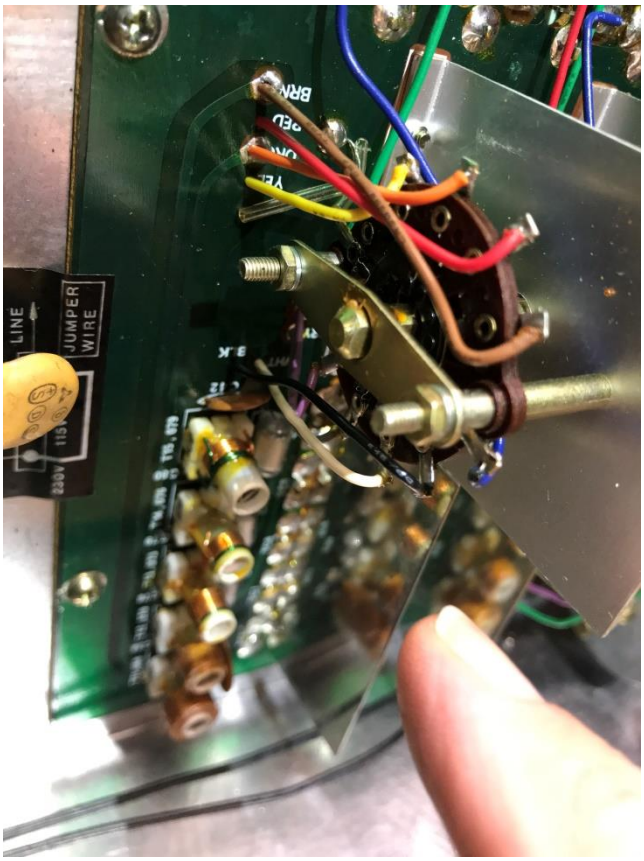


So I started by disconnecting the transformer secondary windings, but even this had little effect.

It seems the presence of the AC is the problem, so kind of a shielding issue.

As you can see, all the coils in this set are unshielded, they rely on the radio's bottom and top covers for all their shielding, however there is none between the transformer wiring and these coils etc.

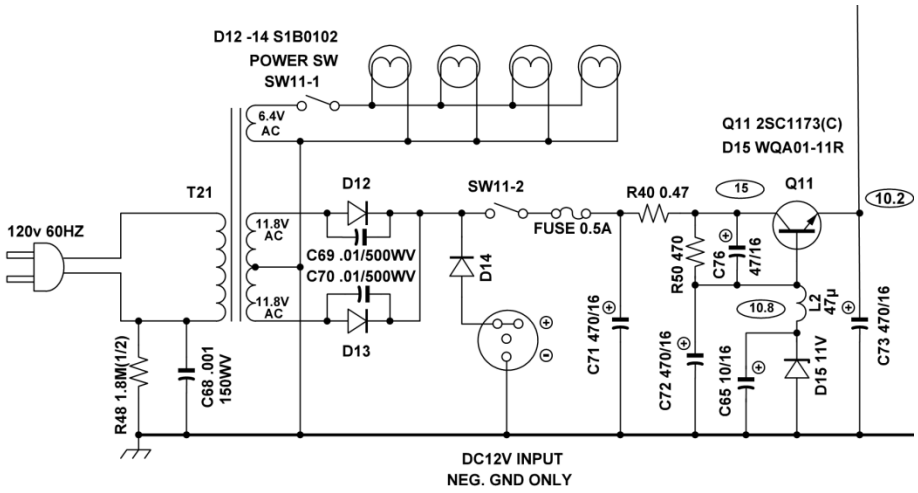
I propped up a section of aluminium as a shield between this wiring and the IF coils, however that extra plate had quite a drastic effect on the tuning, just flexing it back and forth a millimetre or two shifted the receive frequency quite a bit, I'd have to make a proper shield and keep it a lot further away from the coils, which is rather strange considering how close that 120/240V tag strip is to this incredibly sensitive area.



Even wiggling my finger an inch above those coils would throw the set either side of a signal that I was tuned to. The same is true for the topside of the set, putting my finders anywhere near the tuning capacitor and its wiring has a similar effect.

So I've kind of given up, the amount of changes is probably way too much, the simple solution is just run the set from an external DC power supply.

The set is fine on AM listening to short wave stations, it's just when you go for SSB and CW that this issue raises its ugly head.



The only downside to DC power is you lose the dial lights; they are 6V incandescent bulbs that run on a separate transformer winding. I cannot just run the lamps off the transformer and the radio proper from external DC, it's the fact that there is AC in the set that is the issue, all I can use the 240V power plug for is providing an earth to the set, the power point it's plugged into has to have its switch set to off, otherwise hum you will get. (Actually it's not a hum as such, but a frequency shifting warble)

This set has no AC power switch, the one on the volume control switches DC after the transformers power has been rectified, and also separately switches the AC that feeds the dial lamps. The transformer remains powered up 24/7.

I can kind of see why they did this, given that they wanted the set to be able to run on AC or DC. The volume control/power switch has two sets of switch contacts, if you put 240V on one set then you'd be kind of crazy to put the 12V DC on the other set, the switch is not really built for that, not enough isolation etc. This is basically the same as all portable radios and cassette recorders etc. that run on either battery power or AC mains, their transformers are always on when plugged in. I never liked that, but there was never any easy solution other than using the wall switch. I suppose I could fit a second AC switch, but that would be a touch crazy in use, you turn on the AC, then you turn on the radio….

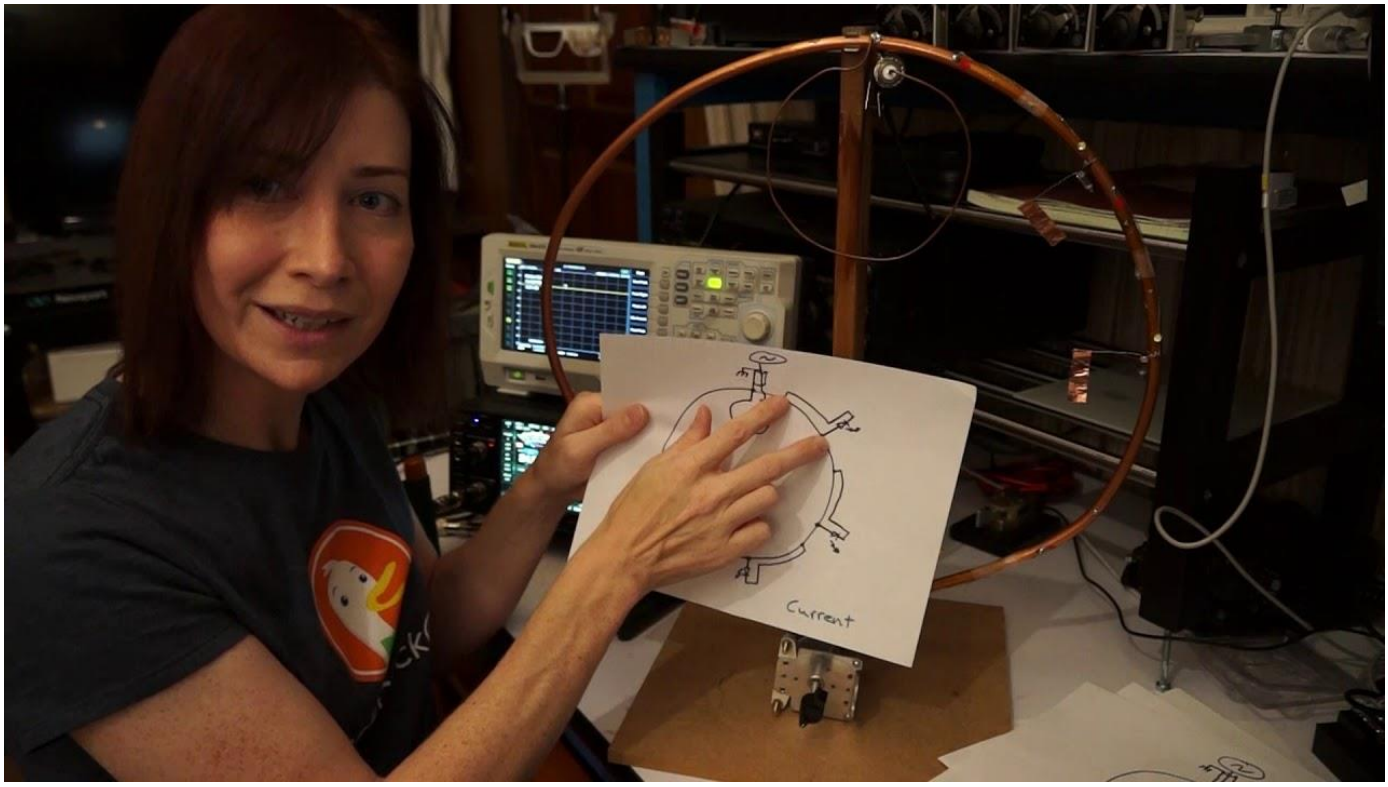
- Worse in the US as there sockets don't have switches, you have to pull the plug.

So what is next? Probably I'll fit some LED lighting, I tried a Christmas tree style LED behind the band spread dial and that was quite close to what you get from the old bulb, just a slightly cooler colour, so I'd assume the signal meter will similarly respond, however general dial illumination is a problem, as it is it is fairly poor, you almost need to be in a totally dark room to see those lamps do anything, just two small lamps either side just does not cut it. In my junk box I have a LED strip from an old LCD display panel, I'd like to try mounting that at the top of the dial, that should light it up like 'Luna Park', however re-wiring that strip to run on 12V is going to be a right pain, with lots of very thin wire – wire wrap wire probably, to make it work. In laptops and TV's these LED strips usually run on way higher voltages, this will not do, nor will fitting an inverter to boost the volts, I'm trying to reduce the noise in this set, not increase it.

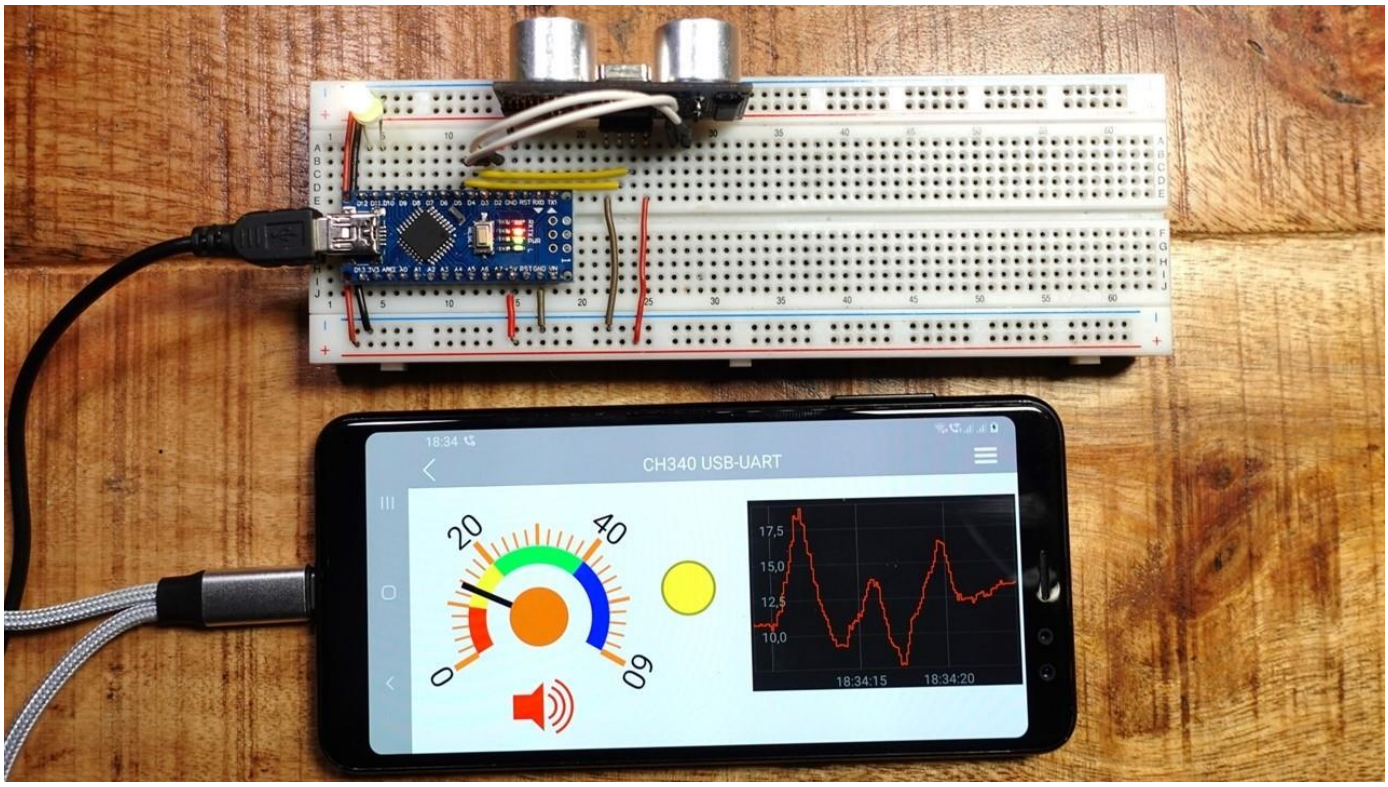
Then comes a digital frequency display, I'd like to squeeze in some seven segment LED's above the signal meter, however doing this without adding noise will be a challenge.

Paul VK3TGX

Interesting YouTube Videos



Magnetic Loop Antenna Current and Voltage Distribution
https://youtu.be/adJp1zO9qfo



Your Old Phone as a Touchscreen for Arduino!
https://youtu.be/d93kF9tAtxc

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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	Fred Reid	VK3FWR	General 3		
Admin Sec	Klaus Illhardt	VK3IU	Web Master	Mark Clohesy	VK3PKT
Treasurer	Bruce Williams	VK3BRW	Magazine Editor	Paul Stubbs	VK3TGX
General 1	Leigh Findlay	VK3BOW	Property Officer	'committee'	
General 2	Ian Jackson	VK3BUF	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)

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