



Illawarra Amateur Radio Society

Propagator February 2022

Upcoming Meeting on the 8th February 2022

Due to Covid restrictions placed upon the visitor's centre, the IARS will not be able to meet face to face during February. More information to follow in this edition of the propagator

THE FOLLOWS A COVID19 SAFE PLAN

There will be distancing and preventative measures still in place with hand sanitisers available for use, please adhere to info below as a minimum.



Our last meeting 14th December 2021



Illawarra Amateur Radio Society



IARS TRIVA
DECEMBER 2021

JUST 4 FUN



The IARS Christmas dinner meeting with TRIVIA

The evening was very enjoyable and even though we did not have a dinner prepared by our resident chef Vinnie VK2VIN, the pizzas went down very well. This also gave Vinnie the chance to sit back and relax.

Members had plenty of fun with the annual Trivia with some great prizes won during the evening.



- Great Australian wine
- 60Mhz True RMS auto ranging multi-meter with capacitance test
 - Soldering kit complete with de-soldering tools



A very Merry Christmas to all

NEXT MEETING 8th February 2022

Due to Covid restrictions placed on our usual venue, the face to face meeting has been cancelled.

The good news however is it will be on air on 146.850MHz and Echolink via VK2BLG-R or VK2MT-R

TIME: 7.30pm

Tune in and join your mates on the air, what else would you rather be doing 😊

Points of discisuion will be the two repeater stories in this months propagator.

1. Cavity Tune up : Rob VK2MT
2. DMR repeater build and setup : Simon VK2KU



Unfortunately due to the ON-AIR meeting, there will be no snowball for the February meeting

December Snowball raffle was won by Dan VK2FDSD, congratulations Dan, more radio money 😊 (or trains)

Don't forget the two weekly IARS nets as below



to the IARS NETS



IARS Tuesday evening weekly 80m NET on 3.666MHz at 8.30pm hosted by Mal VK2DXM and Rob VK2MT

Don't forget to join us every Tuesday evening, expect the second Tuesday of the month for a great get together on 80m. Signal reports, news and general discussions are the agenda. All you need is 1 x HF rig, Piece of wire + tuner, good cuppa and good chair.

There have been some really good conversations so if you are bored on Tuesday evenings, pop in for a chat.

Saturday Morning EAST COAST NET hosted by Steve VK2BGL

You are invited to join Steve every **Saturday at 9.30am** on our **146.850MHz** repeater (linked to 146.675MHz) or **VK2BGL-R** on Echo-link for a very enjoyable morning of general discussions from amateurs who log in from all over the world. This is a great net which is growing in popularity due to the wide range of subjects that get discussed. Solutions to problems from computers, radios, internet and even plumbing is just some of the information shared on this easy going net.

This NET is linked to multiple repeater systems including VK2RFS south coast. Join Steve and everyone for a very enjoyable 2 hours on Saturday morning

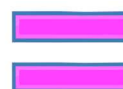


Looking to Upgrade to Standard or advanced and even obtaining your Foundation license during Covid lockdowns we have remote assessing available.

The IARS **can help** with obtaining your Foundation, upgrading to Standard or Advanced from *the comfort of your own home*.

We have approved AMC accessors that can offer remote assessments for the AMC. Please contact Keith VK2KQB at iars.keithb@gamil.com for further information. Your society supports further learning, please find out more on how we can help you.

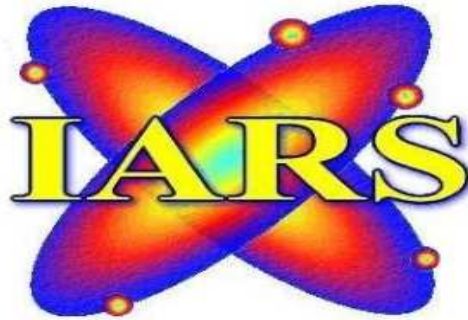
AMC website is [Australian Maritime College - Australian Maritime College | University of Tasmania \(amc.edu.au\)](http://AustralianMaritimeCollege.edu.au)



REPEATERS



VK2RUW (Knights Hill)



VK2RMP (Maddens Plains)

STATUS

- 438.225 with a - 5MHz offset. **OK Back on AIR** 😊
- 146.975 with a -600kHz offset NO CTCSS, C4FM enabled **OK**
- 146.850 with a – 600kHz offset (linked to 146.675) NO CTCSS **OK**
- 146.675 with a – 600kHz offset (linked to 146.850) NO CTCSS **OK**
- 53.650Mhz with a – 1Mhz offset 123Hz CTCSS (or key PTT 5 times to open squelch) **OK**
- 438.725Mhz with a -5mHZ offset DMR only **Final testing by Simon VK2KU (on site soon)**
- 1296.850Mhz Beacon with simplex repeater function – **OK**

The IARS welcomes any feedback on our repeater systems.

Please send all your feedback to iars.keithb@gmail.com and it will be passed on to our repeater team.

Any donations to help us maintain our great repeater system will be greatly appreciated. Please check our banking details on our website at www.iars.org.au under the Contact details page.

As reference of the donation please add your Call sign and the words "Repeater Donation"

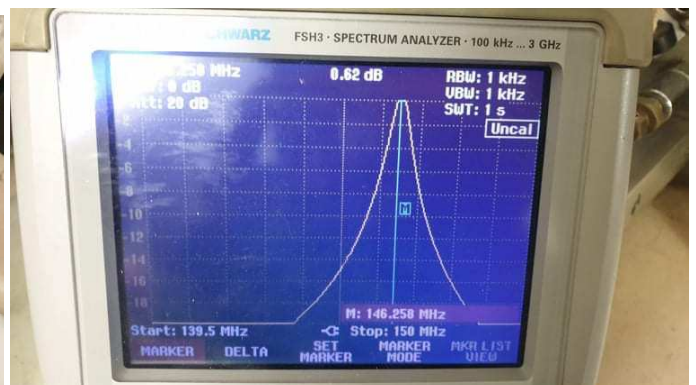
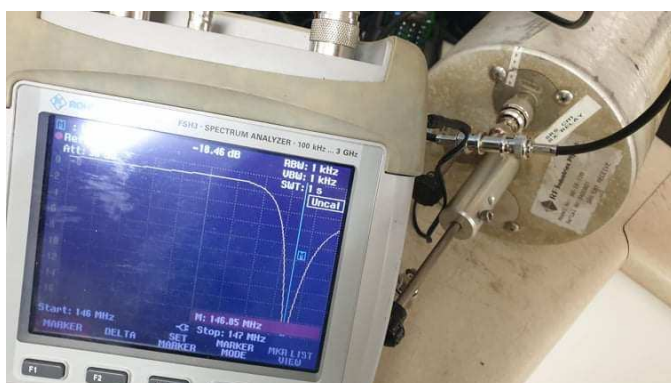
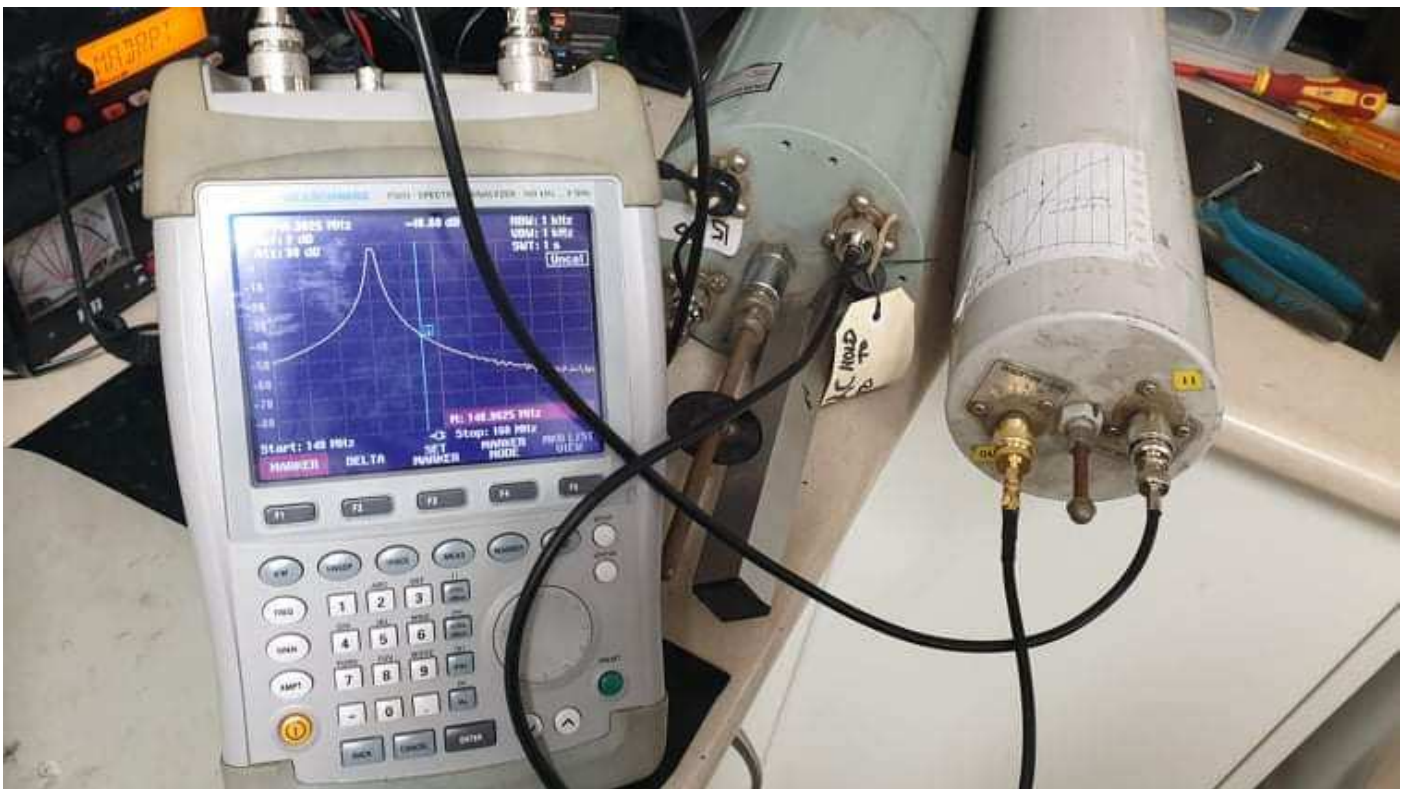
REPEATER WORK UPDATE

After a few months of having to put up with an annoying pager that would de-sense the 146.850MHz repeater at Maddens Plains, it was time to take action.

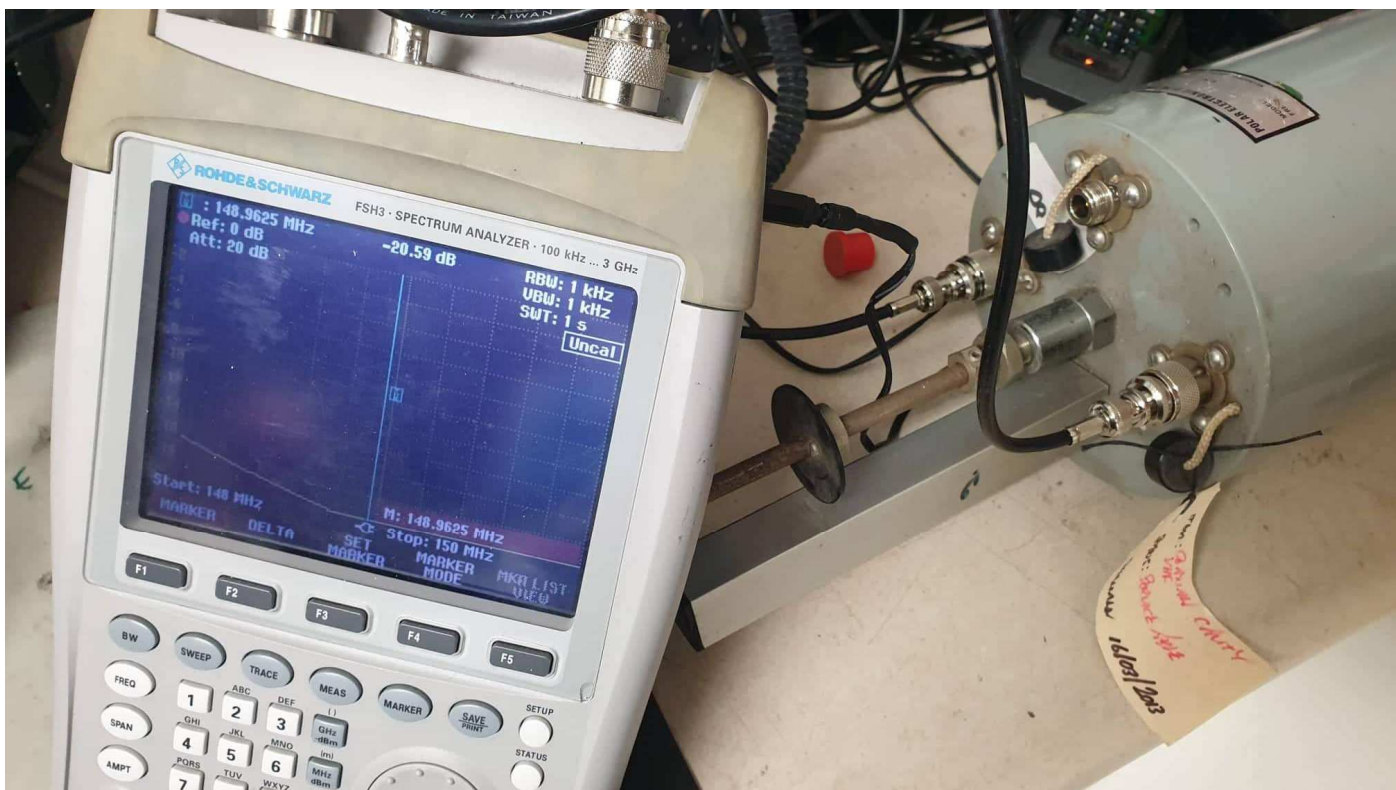
Rob VK2MT and Simon VK2QX did a day trip up to Maddens Plains repeater site just after Christmas to do some service work and investigate the pager issue.

Rob had quite the collection of spare cavity filters, but they were all out of tune for what they required.

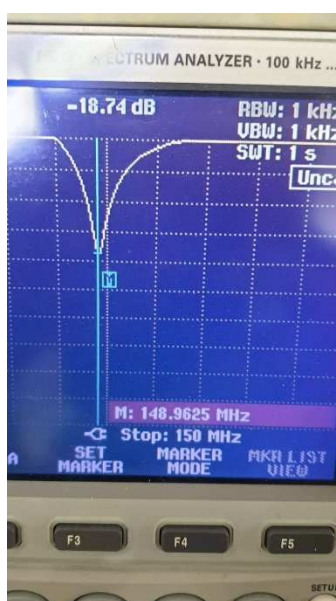
After convincing me to join them (it wasn't hard to say no ☺), they came to my workshop to tune up the cavities using the trusty Rohde and Schwarz FSH3, 3GHz spectrum analyser with TG.



It didn't take long for Rob to master the FSH3 having plenty of fun in the process, in fact he ended up operating the analyser like an expert and teaching me new tricks ☺ "Boys Toys"



Having a pager transmitter running over 100Watts only a couple of MHz away requires some fancy filtering, especially if the antennas are close together.



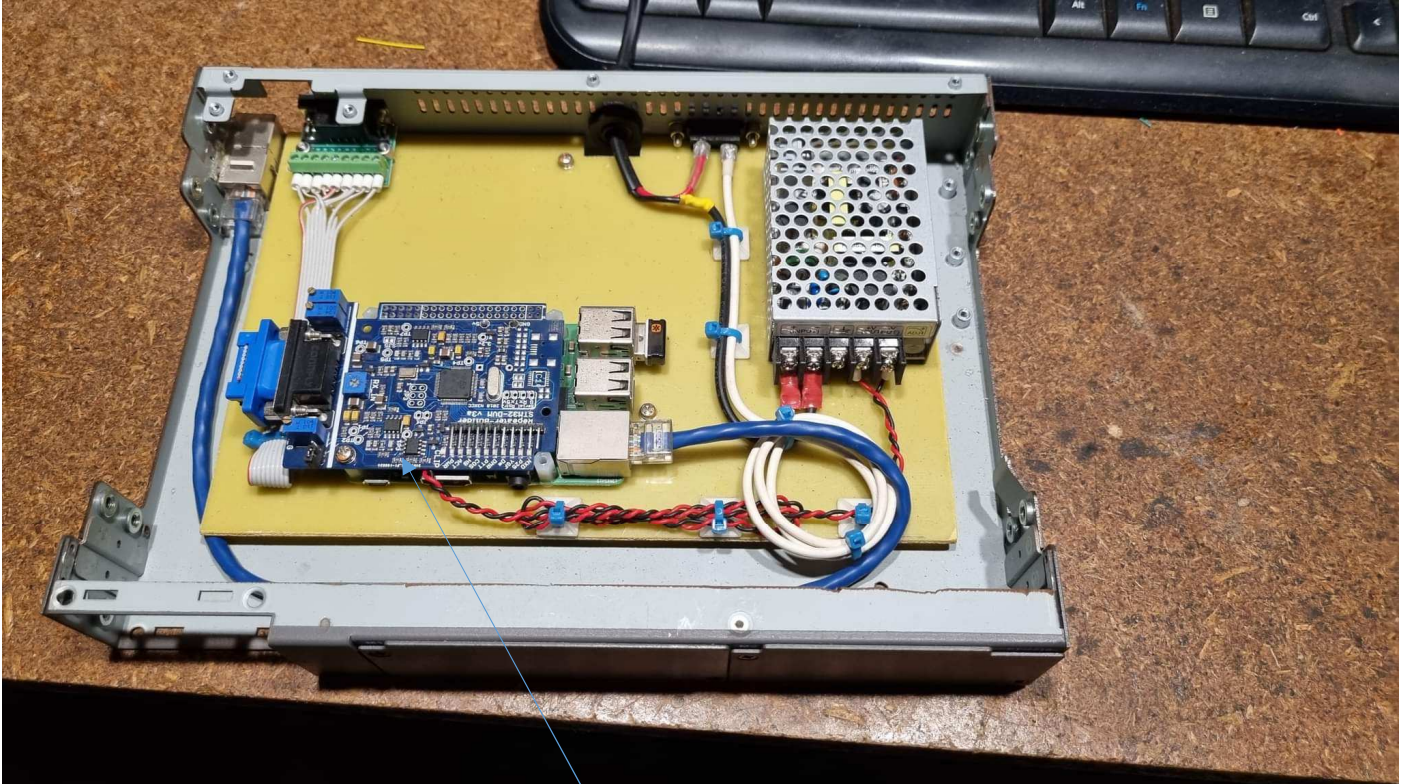
Job all done and dusted; calibrated cavities ready to go back on site to get rid of that pesky pager ☺

So far so good, 3 weeks on and it seems the pager issue has been minimized, thanks Rob VK2MT and Simon VK2XQX.

DMR REPEATER UPDATE

The good news is that the VK-DMR repeater headed for Maddens Plains is in the last phase of testing.

Simon VK2KU has done an awesome job and being a bit of a perfectionist wants to make sure the gears are well oiled, and all cylinders are firing at full speed before re-homing the unit at Maddens.

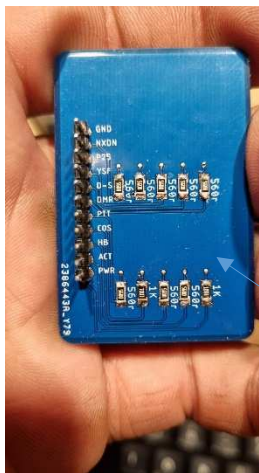


The Modem is made up of a Raspberry Pi4, with a MMDVM STM32 Digital voice modem form repeater builder.

This is loaded with the PiStar OS. It has been set up to have remote access using ZeroTierOne application. A 4G modem with a sim card is planned to be installed at the site for the internet.



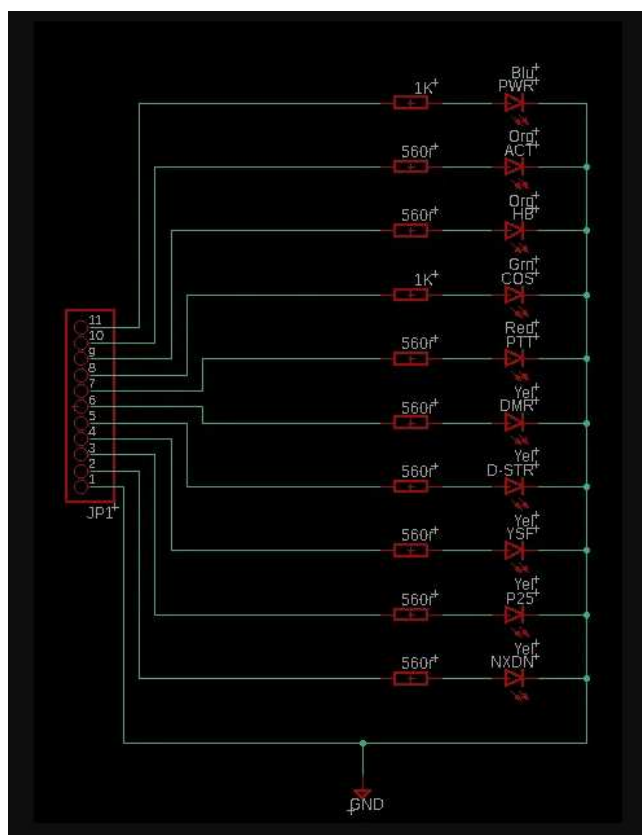
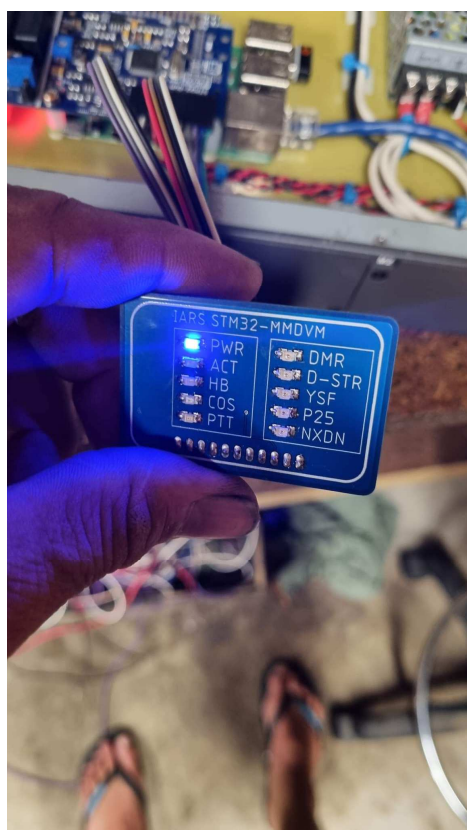
DC to DC converter



Display board for the LED indication

The Modem has a 12Vdc SMPS fed from the main DC supply with a piggy back cable and is fused for protection. The DC-DC is an industrial type with low harmonic noise, (better than the \$5 units from fleaBay ☺)

The Display is a custom PCB designed with 1206 surface mount LED's and resistors to fit snugly on the special 19" 1U re-purposed industrial switch enclosure.



The software is currently set for the VK-DMR network

Thank you Simon for the work put into the system, excited to see it operating soon.



LOOKING FOR SOMETHING to SWAP, BUY, SELL, an OLD PART

Parts you may need for repairs or some radio gear you no longer need that could go to a new home.....?

Email iars.keithb@gmail.com

Giveaway:

We have lots of valves and goodies to be given away thanks to a donation of old gear by Bob VK2NRB.

Please contact the secretary on iars.keithb@gmail.com for more information

Disposables Donation Table

Each meeting we have the disposables table with items donated to the club.

Please keep the support for this going and bring oddities in and take some home for a small donation to the IARS. With the next meeting please bring along and donate those old items that you no longer use and may even have thought about throwing it in the bin, someone else may be looking for that very part. Wire, pieces of coax, old parts, plug packs, power supplies, capacitors, resistors, coils, tubes, knobs, anything that someone can use.



Share it with us, this could be suggestions, technical ideas, circuit diagrams, IARS community projects, pictures of your latest shack project, in fact **ANYTHING** of interest

Let us know by return email or secretary@iars.org.au

Also, if you have some IARS related pictures or information that we can put on the **IARS website**, please let us know and we can get that happening.

Adding a simple battery backup to your system?

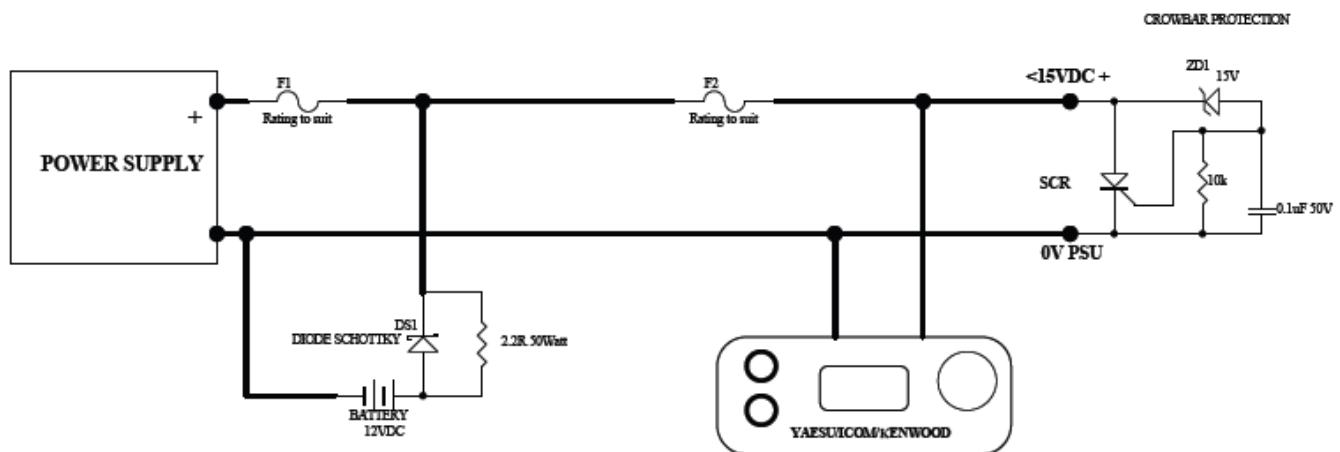
There are countless ways of operating your shack with some kind of battery backup, particularly if you have power issues often. Where this can be a pain is in the middle of a contest or the middle of a QSO with that country that sports a rare prefix, and Power failure ☹ .

Now comes the decision on how big and how complex you want to make it?

Direct online or offline, operating linear amplifiers or just low power.

The list goes on and on.....

I thought I would touch base with a very simple form of direct on line battery backup idea that works quite well.



This circuit is suited for Valve Regulated Sealed Lead Acid batteries that can be charged with approx. 13.8Volts. Make sure you set your power supply to 13.8Vdc.

If you want to use a Hybrid AGM type, they required a 14.4~14.6Volts equalization charge, you can set your power supply to this, your radios will handle this voltage however, you cannot keep this voltage on an AGM for extended periods as it will damage it.

With some modifications to this circuit, it is possible to have 14.4Volts operate during equalise and then revert to 13.8Vdc. However, as this was a simple quick solution idea, the modifications will be supplied at a later stage should you be interested.

Select the Schottky Diode with a low forward Volt drop and the current to suit, a switch or relay can be used instead of the diode, but this does not allow for direct ON-LINE power without skipping a beat.

(Crowbar protection was featured in a previous propagator, if you require the PCB kit for this please advise)

Upcoming events

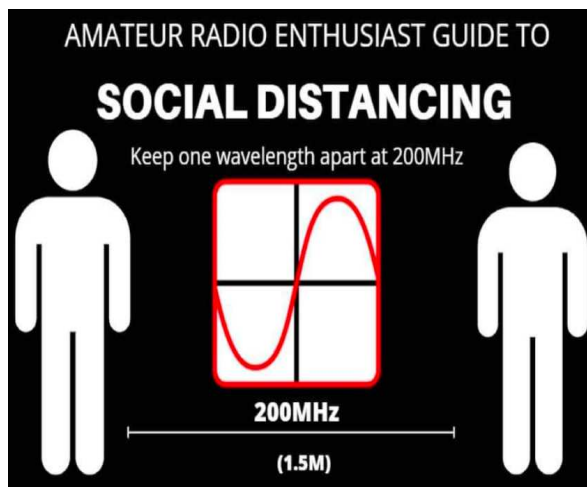
Will keep you posted on information and dates as they come available

Upcoming meeting presentations

- February 2022 : ON AIR MEETING (SDR moved to March)
- March : SDR, ins and outs by Shane VK2HCO & Mal VK2DXM
- April : Homebrew telescopes, making your own \$10000 scope, for much less, Ned VK2AGV

Fun Corner

Please send in your funnies to iars.keithb@gmail.com



That's all for now, hopefully catch you all on air on Tuesday evening the 8th of February 2022 on 146.850MHz or VK2BGL-R and VK2MT-R.

Stay Safe

73's

Keith VK2KQB

IARS Secretary

IARS, Amateur Radio in the Illawarra since 1948