



Illawarra Amateur Radio Society

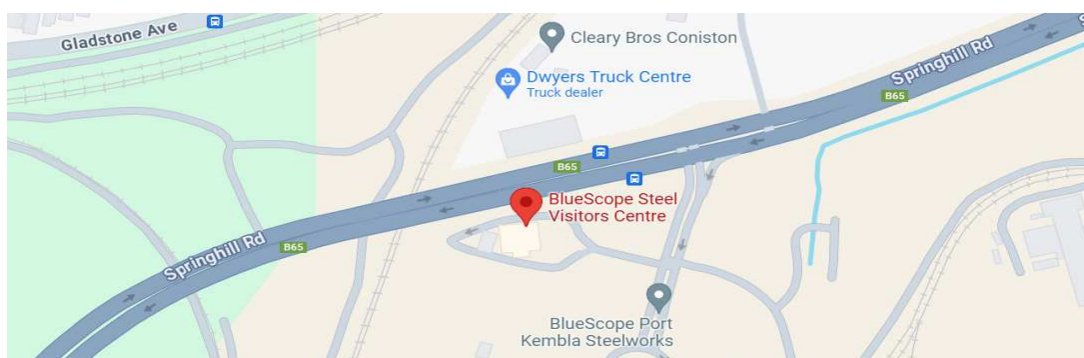
Propagator August 2025

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Upcoming AGM Meeting on the 12th August 2025

The next meeting will be at the Blue Scope Steel visitors centre **7.30pm**

Blue Scope Northgate entrance off Springhill Road (See website for detailed map)



VK2RUW (Knights Hill)
34.6231° S, 150.6942° E
QF55IJ



AMATEUR RADIO IN THE ILLAWARRA SINCE 1948



VK2RMP (Maddens Plains)
34°15'30.6"S 150°56'47.4"E
QF55LR

VK2AMW

Our last meeting 8th July 2025



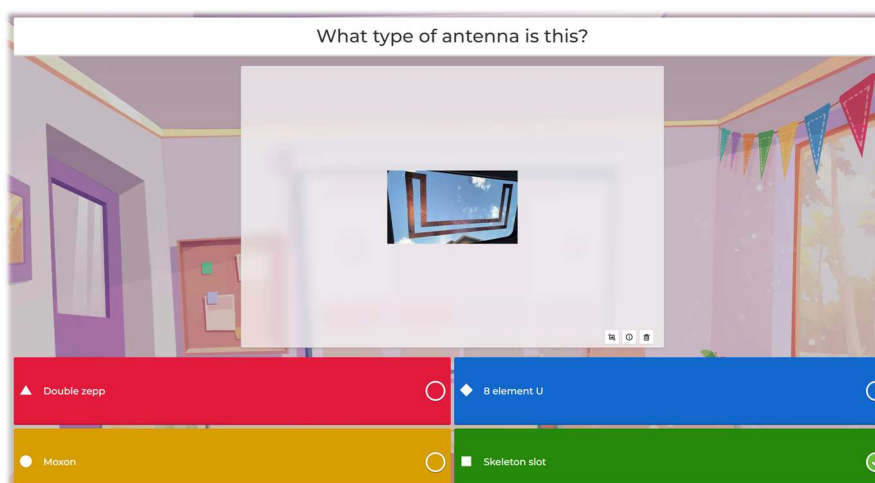
Yes it was a surprise change of events, the planned project evening with Simon VK2KU was postponed for later in the year. We needed something fun to fill in the time and decided to run a IARS Trivia evening.

It was a great success with everyone having some fun and laughs. The questions were mostly amateur radio related with only a few slightly technical questions like the colour of a resistor. More common questions like “How old is the IARS” and “who was the mysterious girl found at Maddens plains” was the order of the day!

We also had some really interesting contestant names such as “Rodent” , “Mr Morse” and even a “Don’t Know” ?

Don’t Know who Don’t Know was but we do have a podium of three winners, all had the **same score** so the ladder from 1 to 3 was obtained with “FFF” fastest finger first .

Congratulations to Mr Smart Fast Finger Mal VK2DXM, who came first winning one-year free membership with the IARS, second place was “Deadly Ned” VK2AGV (don’t want to ask we he got that from) and third was Chairman Phil VK2CPH. Next time see if you can get your fingers to move quicker and move up the ladder.



Apologies that there are no mugshot photos to share with you this month as we were too busy operating the computer and forgot to take the pics, we will have to do it again and get some happy mugshots 😊

As always there was a good cuppa and biscuits to enjoy with your mates, we will be doing this again sometime soon!

The Disposables Table

As always there was some great giveaways at the table last meeting with many items finding new homes

If you have anything you no longer use, bring it along to the next meeting and give it a second life.

Please bring along your unwanted parts, radios, microphones, antennas and anything else that may get some use at its new home.



For \$5 you can earn some good cash, and all monies go to your society, win-win.

As usual see Simon VK2KU, the fella with the coloured balls and big smile



The Snowball had a winner 🥳, TONY VK2TS, unfortunately Tony was not able to attend. The Snowball has snowballed to a nice sum for someone to win at next months meeting.

NEXT Meeting.....



It seems like the other day we had our last annual AGM.

As every year this time, we have our AGM where we select our committee for the new year moving forward.

All positions are available for anyone wishing to offer their services and support for the society.

Most of the committee are still standing for the upcoming year however, if you wish to make yourself available then please fill out the forms available below or on the website, or advise by email to iars.keithb@gmail.com or secretary@iars.org.au and forms will be sent to you.

Please ensure that your membership fees are up to date for you to exercise your vote or apply for a position in the committee.

After the election of your new committee, we will have a **"Show and Tell"** so bring along the latest happenings in your shack.



ILLAWARRA AMATEUR RADIO SOCIETY (INC)

PO Box 1838, Wollongong NSW 2500

Web: www.iars.org.au Email: secretary@iars.org.au

NOMINATION FORM

Election of Office Bearers and Committee Members

I, _____

[must be current Illawarra Amateur Radio Society Member offering for a position or proposing a member for position as an officer.]

wish to nominate _____ Call sign _____
[name of candidate you wish to nominate or yourself]

for the position of *[please tick desired position]*

- ☐ President
- ☐ Vice President
- ☐ Secretary
- ☐ Treasurer
- ☐ Member of Committee

Signature of Proposer 1: _____ Call Sign _____ Date: _____
[am a current Illawarra Amateur Radio Society Member]

Signature of Proposer 2 *(Optional)*: _____ Call Sign _____ Date: _____
[am a current Illawarra Amateur Radio Society Member]

Consent of Candidate

I, _____ am willing to except the role if I am elected to this

position at the Annual General Meeting of the Illawarra Amateur Radio Society. I agree to be bound to the rules and constitution of the Illawarra Amateur Radio Society paying my best attention to the business of the Illawarra Amateur Radio Society during my term of 'office.'

Signature of candidate: _____ Date: _____

VK2RMP – VK2RUW – VK2AMW



Affiliated with the
Wireless Institute of Australia

Membership fees

We still have many membership payments outstanding and are hoping that we can get this all settled before the next meeting. The IARS membership fees are still one of the **lowest at \$25.00 normal, \$20 concession**. This relates to \$2.20 per month, for 11 meetings (less than the price of a cup of coffee)



Your membership fees keep your club operational, please support your club.

All monies from our interest on investment, donations and membership fees goes to support the club with **Public liability insurances, Repeater maintenance, Repeater site fees, Blue scope meeting hall rental, IARS call signs with the ACMA** (yes, we still must pay apparatus fees) , **Coffee, tea & refreshments, Outings & picnics and Christmas dinners.**

Excellent value for money!!!!

We want to thank the members who have paid membership and the extra donations we received this year, much appreciated.

To make payments you could either pay John VK2EJL at the next meeting OR use the IARS bank account (info below),

Please add your call sign or name with the payment, thank you.

(else we don't know who's paid)

'Bank: IMB Wollongong

Account name: Illawarra Amateur Radio Society

BSB: 641800

Account number: 100023291



Licensing and upgrades?



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

We have approved ACMA assessors that can offer remote or face to face assessments for the **ACMA**

Please contact Keith VK2KQB at iars.keithb@gmail.com for further information on training and assessments.

Your society supports further learning, please find out more on how we can help you.

This year the IARS has already assisted in getting seven new amateurs licenced, is it your turn next?

YES!!

The IARS is helping Amateur Radio grow in Australia!!! We are still maintaining an average of 1 per month



acma

**Australian
Communications
and Media Authority**

If you would like to find out more about amateur radio upgrades, here are some handy links to help.

<https://www.acma.gov.au/qualifications-operate-amateur-radio>

<https://www.acma.gov.au/amateur-radio-resources>

<https://www.acma.gov.au/amateur-radio-accredited-assessors>

<https://www.acma.gov.au/amateur-radio-licences>

<https://www.acma.gov.au/technical-details-amateur-radio-licences>

<https://www.acma.gov.au/amateur-radio-operating-procedures>

<https://www.acma.gov.au/amateur-radio-call-signs>

<https://www.acma.gov.au/amateur-class-licence>

<https://www.acma.gov.au/amateur-radio-related-fees>

IARS NETS



1. Saturday Morning, the EAST COAST NET hosted by Steve VK2BGL at 9.30am

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 NET is linked to multiple repeater systems including VK2RFS south coast.

Join Steve and everyone for a very enjoyable 2 hours on Saturday morning.

The IARS would also like to thank Doug VK2XLJ and Angelo, VK2NWT who are is always willing to assist whilst Steve is away.

2. IARS Tuesday evening **weekly 80m NET** on **3.666MHz** at **8.30pm** hosted by Mal VK2DXM using VK2AMW.

Every Tuesday evening, (except the second Tuesday of the month) for a great get together on 80m. Signal reports, news and general discussions are the agenda. Normally runs for around 60minutes.

3. IARS Wednesday evening **weekly 6m NET**, **8PM** on **53.650Mhz** with a – **1Mhz offset** Hosted by Geri VK2UTE or Simon VK2XQX, (**123Hz CTCSS tone enabled due to interference**) Maddens plains 6m Repeater General discussions about building antennas for 6m, transceivers and what else comes to mind, this net is normally between 30 and 60minutes.

4. IARS Thursday evening **weekly 10m NET**, **8PM** on **28.466Mhz +/-** for **QRM/QRN** Hosted by Tony VK2TS General discussions about building antennas for 10m, transceivers and what else comes to mind, this net is normally between 30 and 60minutes.

5. IARS Friday evening **weekly 70cm NET** , **8PM** on **438.675MHz **** with – **7MHz offset** (**No CTCSS required**) Hosted by Rob VK2XIC

General discussions keeping the repeaters in work, **"If we don't use it, we may lose it "**

**** note frequency changes as from 20th June 2025**

LARS REPEATERS



VK2RUW (Knights Hill)



VK2RMP (Maddens Plains)

146.675 MHZ >>>> *linked* <<<< 146.850 MHZ

Current Repeater STATUS

- 439.675 with a – 7MHz offset, C4FM Enabled. **OK – On Air ****
- 147.275 with a + 600kHz offset NO CTCSS, C4FM enabled **OK – On Air ****
- 146.850 with a – 600kHz offset (linked to 146.675) NO CTCSS **OK– On Air**
- 146.675 with a – 600kHz offset (linked to 146.850) NO CTCSS **OK– On Air**
- 53.650Mhz with a – 1Mhz offset (123Hz CTCSS tone enabled due to interference) **OK– On Air**
- 438.725Mhz with a -5mHZ offset DMR only, **OK – On Air**
- 1296.850Mhz Experimental Beacon/Simplex repeater, Maddens Plains **OK – On Air *****
- Echo-link VK2MT-R via 146.850MHz also linked to 146.675MHz and VK2BGL-L **OK**
- APRS DIGI-PEATER on 145.175MHz **OK– On Air**
- PACKET 2M on 147.575Mhz **OK– On Air**

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"

If the repeaters are silent, why not just give out a call, who knows who may be on the other end of the tower.

[illegible]

Latest Repeater Report:

All systems A-OK

**** Please note the current new repeater frequencies as from the 20th June 2025**

*** Note, this will be changing to 1.293 800 GHz Simplex soon, however, plans are in place for it to become a Full Duplex repeater system, before the year end 2025. (Funding dependant)



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

Electronic component and service suppliers

Need a quick PCB in a hurry to put that latest project on, JLCPCB



<https://jlcpcb.com>



<https://au.element14.com>



<https://au.rs-online.com/web/>



<https://au.mouser.com>



<https://www.digikey.com.au>



<https://www.minikits.com.au>



<https://core-electronics.com.au>



<https://www.elitecommunications.com.au>



<https://littlebirdelectronics.com.au>



ATR
Amateur Transceiver Radio Supplies

<https://amateurradiosupplies.com.au>



YAESU Sales and repairs <https://www.vkradio.com.au>



<https://dxing.com.au>



<https://www.telcoantennas.com.au>



<https://www.altronics.com.au>



<https://www.jaycar.com.au>

If you know of a good supplier of electronic stuff or services 😊, please share it with us so we can all benefit.

Send information to iars.keithb@gmail.com and we will publish it in the next propagator.



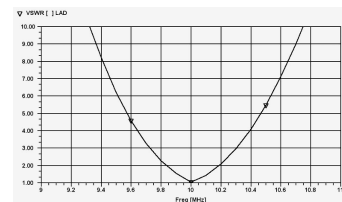
Share it with us, this could be suggestions, technical ideas, circuit diagrams, IARS community projects, pictures of your latest shack project, in fact **ANYTHING of interest**

Let us know by return email iars.keithb@gmail.com

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.

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Standing Waves



CONTINUED from last month's SWR Myths exposed, standing waves can be beneficial ?

So what exactly is Standing Wave Ratio ?

SWR is the ratio between two different impedance's, one being the measuring impedance.

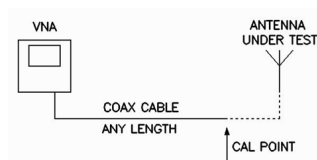
This today is normally 50 Ω . If we measure in a 50 Ω system and the load impedance is 100 Ω then the SWR is $100 / 50 = 2$. This is written as SWR = 2:1 because it is a ratio.

When the load and the measuring impedance are the same then SWR = 1:1. If the load is lower in value than the measuring impedance we simply swap the two numbers around because SWR cannot be lower than 1:1. If the load were 25 Ω the SWR would be $50 / 25 = 2:1$.

The SWR meter doesn't tell us much of any use, except that we are off the ideal case. All it tells us is the margin of error, but not which way to go to correct the condition. In order to ascertain this we need more complex equipment, such as a Vector Network Analyser or an Impedance Bridge.

Professional Antenna Measurements

Today the instrument most often used for antenna impedance measurements is the Vector Network Analyser (VNA). Using any arbitrary length of cable between the VNA and the test site we can see the exact impedance occurring at the antenna feed point



Before use the cable is normalised. An open circuit, short circuit and a 50 Ω load are connected in turn. The VNA stores the Calibration Data for later use. The cable length can be any value necessary to reach between the VNA and the antenna. Once the cal-data is stored it can be recalled as often as needed. The VNA resolves the resistive and reactive portions and displays the results. The antenna measurement is normally performed in an anechoic chamber-a RF Dark-Room- to exclude any strong transmitted signals

Matched Line Condition and how standing waves actually help us

In an ideal case the transmission line would have zero loss. (This never happens in practice.) When the source of RF energy, the line and the load are all of the same impedance (resistance) the line is matched and all the power sent from the source will be dissipated in the load. Because all the power sent down the line is accepted by the load there is no reflected power and so the SWR is 1:1.

The RF current and voltage anywhere along the line are constant and in phase. In a practical transmission line there will be some loss (attenuation) so the power arriving at the load is less than the source fed into the line. In a lossy line some of the power is developed as heat in the line losses and the rest is accepted by the load.

Mismatched Line Condition

In a mismatched line the load is a different value to the transmission line impedance and not all the power sent down the line is accepted by the load. Some of the power is reflected away from the load and it travels back down the line to the source. Note that the power level existing at the load end of the line is not the same as the power fed into the line by the source. It can be more and it can be less, depending on the phase relationship due to the mismatch condition and the attenuation (loss) of the line. If the line has loss the power sent by the source will be attenuated by the line loss

Open Circuit Line

In an open circuit line (at the load end) the electromagnetic wave travels forward from the source along the line until it arrives at the load. Before it reaches the load the voltage and current are in phase and a constant value



At the open end the current falls to zero and the collapsing magnetic field causes the voltage to rise to a value of twice that of the matched line condition. The phase of the current reverses by 180° . (Lenz's Law) All of the power arriving at the open end is turned around (reflected) and travels back towards the source. In this condition the SWR is infinite.

Short Circuit Line

In a short circuit line (at the load end) the electromagnetic wave travels forward from the source along the line until it arrives at the load. Before it reaches the load the voltage and current are in phase and a constant value



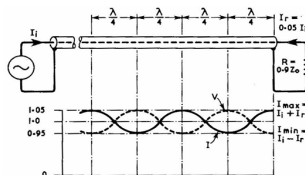
At the shorted end the voltage falls to zero and the collapsing electrostatic field causes the current to rise to a value of twice that of the matched line condition. The phase of the voltage reverses by 180° . All of the power arriving at the shorted end is turned around (reflected) and travels back towards the source. In this condition the SWR is infinite.

Open & Short Circuit Line

For power to be dissipated we need voltage and current to be present. $P = V I \times \cos \theta$ where θ is the phase angle between voltage and current. In the open circuit condition although the voltage is 2-times the normal line voltage there is no current flowing. In the short circuit condition although the current is 2-times the normal line current there is no voltage present. For both of these cases the resultant voltage and current are 180° out of phase. Hence, no power is dissipated at the end of the line and all the power is reflected back towards the source. No power is lost because of an infinite SWR. The reflected wave contains real power since $P = V I \times \cos \theta$. When $\theta = 0^\circ$ the result is 1, when $\theta = 180^\circ$ the result is -1. The minus sign denotes the wave is traveling in the opposite direction

It is the 180° difference in the reflected wave current and voltage that sets up Standing Waves.

The two electromagnetic waves existing on the transmission line are separate entities but they interact with one another. As the two waves travel up the line (the forward wave) and down the line (the reflected wave) the voltage and current vectorially add. At the sum points the voltages and currents rise to a maximum. At the other points they vectorially subtract to give a minimum voltage or current



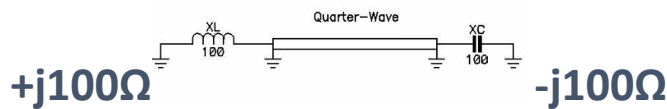
The standing waves of voltage or current maximum occur every 180° ($\lambda/2$).

Property of a Half Wavelength Transmission Line

In a half wavelength line ($\lambda/2$) the impedance appearing at the far end is the same as the impedance at the sending end. The phase of the voltage and current at the far end is 180° out of phase with the sending end. However, the phase relationship between voltage and current at any point on the line is always 0° if the line is matched. The reactance appearing at the far end of the line is the same as the sending end. If a reactance of $+100 \Omega$ is connected at the sending end we will see the same $+100 \Omega$ at the far end. The $\lambda/2$ line is a non-inverting line

Reactance Inverting Properties of a Quarter Wavelength Line

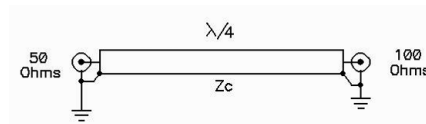
A $\lambda/4$ section of transmission line inverts reactance and resistance.



The reactance at one end of the line is inverted and appears at the other end of the line.

This is a very powerful tool. In a long transmission line the reactance is inverted many times

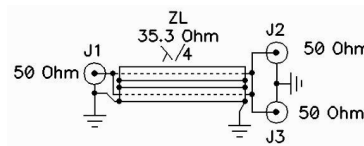
Matching with a quarter wavelength line ($\lambda/4$) Where we need to match between two similar value impedance's we can use a $\lambda/4$ section of line, either coaxial, micro-strip or balanced wire lines.



The impedance of the line required (Z_C) is given by the formula: $Z_C = \sqrt{Z_1 \times Z_2}$ Where Z_1 & Z_2 are the two impedance's to be matched. In the example we need a line of 70.7 Ω and 72 Ω coax would be suitable. If coaxial cable is used we are limited to the impedance's we can match between because of the small number of different impedance lines manufactured. If open wire balanced lines, micro-strip or coaxial air lines are used we have more choices because the line can be made any impedance required

Special Quarter Wave Impedance Converters

Although the number of different impedance coaxial cables is limited we can use some sneaky methods to achieve a good match.



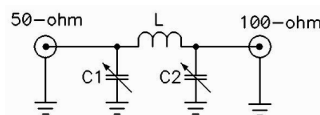
In this scheme we parallel two 50 Ω cables to achieve an impedance of 25 Ω needed to match between 50 Ω and the 25 Ω presented by two 50 Ω antennas connected in parallel.

Note that each impedance presents a SWR of 1.4:1 to the 35 Ω line but the net SWR is 1:1.

We have deliberately introduced a SWR to effect the matching. This is the basis of all impedance matching networks. There is always a high SWR somewhere in the network, it can be as high as 100:1 in some methods.

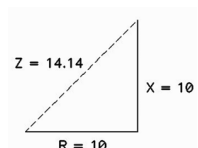
Inverting Reactance with other methods

A transmission line of $\lambda/4$ electrical length can be simulated by a lumped network of inductors and capacitors. If the network is designed so that a phase shift of 90° occurs from end to the other we have the same electrical parameters as a real $\lambda/4$ line. The most popular network is the Pi network (π)



By selecting the values for the components we can design any impedance line desired with any electrical length between about 0.1λ and 0.75λ . In the example we require a network of 70.7 Ω characteristic impedance.

Handling Resistance & Reactance - the j notation When we have resistance and reactance (impedance) we cannot simply add the two values together. If an impedance consists of $R = 10 \Omega$ and a reactance of $+j10 \Omega$ the answer isn't $10 + j10 = 20$, but something different. We can solve this graphically by drawing two lines at right angles to scale and then constructing the missing side of the triangle. For the example we find the resultant impedance is 14.14Ω . To find the result by calculation we use the formula: $Z = \sqrt{R^2 + X^2}$



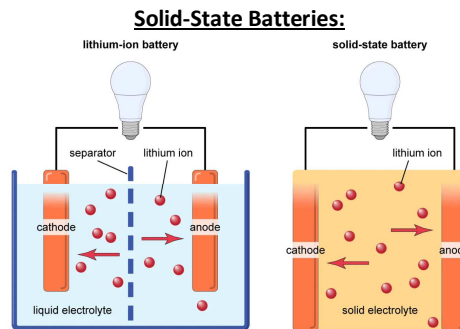
We write the values using j notation, where an inductive reactance is $+j$ and a capacitive reactance is $-j$. For example, $100 + j25 \Omega$ is an impedance consisting of a resistor of 100 Ω connected in series with an inductive reactance of 25 Ω and this is the same as an impedance of 103 Ω .

Next Month, we continue “making SWR work for you” matching systems, power splitters, combiners, feedline tricks and filters

Is it the beginning of the end for Standard Lithium batteries ?



In 2025, advancements in battery technology are focusing on increased energy density, faster charging times, and improved safety, with solid-state batteries and sodium-ion batteries gaining significant traction. These innovations aim to address limitations of current lithium-ion batteries and pave the way for wider adoption of electric vehicles and other energy storage solutions.



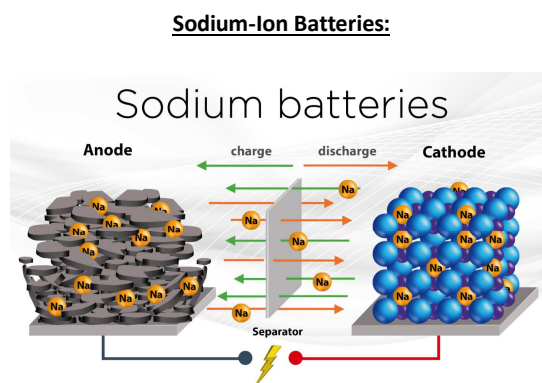
Solid-state batteries are a type of lithium-ion battery that replaces the liquid or gel electrolyte with a solid material. This offers several potential advantages over traditional lithium-ion batteries, including higher energy density, faster charging, increased safety, and longer lifespans. The core difference lies in the electrolyte. Solid-state batteries use a solid material (like a ceramic or polymer) instead of a liquid or gel, which allows for a thinner separator between the anode and cathode. Solid electrolytes can be more stable and less prone to flammability issues than liquid electrolytes, potentially increasing the safety of the battery

Higher Energy Density: Solid-state batteries have the potential to double energy density compared to traditional lithium-ion batteries, leading to longer driving ranges for electric vehicles.

Enhanced Safety: Eliminating liquid electrolytes in solid-state batteries reduces the risk of fires and explosions, making them a safer alternative.

Faster Charging: Solid-state batteries are expected to enable significantly faster charging times, potentially reducing charging times to 15 minutes or less to reach 80% capacity.

Industry Development: Companies like Honda are investing in demonstration production lines for solid-state batteries, with the goal of scaling up production and reducing costs.



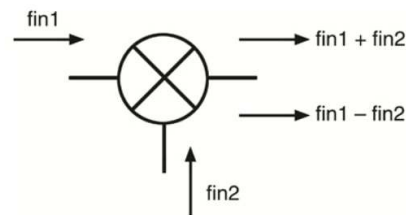
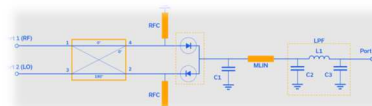
SIB cells consist of a cathode based on a sodium-based material, an anode (not necessarily a sodium-based material) and a liquid electrolyte containing dissociated sodium salts in polar protic or aprotic solvents. During charging, sodium ions move from the cathode to the anode while electrons travel through the external circuit. During discharge, the reverse process occurs.

Cost-Effective: Sodium-ion batteries are expected to be a more cost-effective alternative to lithium-ion batteries due to the abundance of sodium.

Longer Lifespans: Some sodium-ion battery designs are projected to offer lifespans of up to a million miles (or 50 years based on average driving).

Environmental Benefits: Sodium-ion batteries can be produced with a lower carbon footprint, contributing to a more sustainable energy future.

Cold Weather Performance: Sodium-ion batteries offer better resilience in cold weather, maintaining up to 90% of their charge.



Handy On Line Calculators

Send us your favourite handy calculator link so we can post it here!



Ladder line calculator www.smrcc.org.uk/tools/OpenWire.htm

Cavity Filter designer https://www.changpuak.ch/electronics/Coaxial_Tank_VHF_Filter_Designer.php

Cavity resonance calculator https://learnemc.com/ext/calculators/cavity_resonance/index.html

COAX LOSS Calculator <https://kv5r.com/ham-radio/coax-loss-calculator/>

Impedance <https://www.omnicalculator.com/physics/rlc-impedance>

Wavelength <https://www.omnicalculator.com/physics/wavelength>

PI attenuator values <https://www.omnicalculator.com/other/pi-attenuator>

Xc <https://www.omnicalculator.com/physics/capacitive-reactance>

XL <https://www.omnicalculator.com/physics/inductive-reactance>

Cut Off <https://www.omnicalculator.com/physics/cutoff-frequency>

VSWR <https://www.omnicalculator.com/physics/vswr-voltage-standing-wave-ratio>

LM317 Regulator resistor selector <https://www.omnicalculator.com/other/lm317>

Resistor Colour code calculator..... <https://www.digikey.com.au/en/resources/conversion-calculators/conversion-calculator-resistor-color-code>

Resistor Heat rise <https://calculator.academy/resistor-heat-calculator/>

Volt Drop Calculator AC and DC <https://www.rapidtables.com/calc/wire/voltage-drop-calculator.html>

Helix antenna calculator <https://sgcderek.github.io/tools/helix-calc.html>

Parabolic dish calculator <https://www.everythingrf.com/rf-calculators/parabolic-reflector-antenna-gain>

We are looking for more handy on-line calculators, if you have one that isn't listed above, please share with us so that more amateur radio enthusiasts can benefit 😊

OR

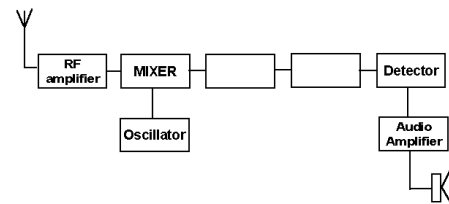
If you have any links to handy hints or information please send it to us!



How many of these can you still answer correctly?

1. The blocks which are not identified in the diagram to the right are the:

- (a) beat frequency oscillator and narrow filter
- (b) mixer and beat frequency oscillator
- (c) narrow filter and IF amplifier
- (d) detector and audio pre-amplifier



2. Image interference in a superheterodyne communications receiver is caused by an unwanted signal operating on:

- (a) half the frequency to which the receiver is tuned
- (b) the same frequency as the local oscillator in a dual conversion receiver
- (c) twice the frequency to which the receiver is tuned
- (d) twice the intermediate frequency away from the desired signal frequency

3. The AGC system in an FM receiver works by sampling the level of the:

- (a) carrier
- (b) modulation
- (c) frequency
- (d) deviation

4. In a single sideband transceiver, the receiver beat frequency oscillator could be used in the transmitter section as the:

- (a) heterodyne oscillator
- (b) carrier insertion oscillator
- (c) audio preamplifier
- (d) side-tone generator for CW monitoring

5. In VHF receivers a first IF of 10.7 MHz is commonly used. This is done to:

- (a) provide a high degree of adjacent channel selectivity
- (b) reduce noise generated in the receiver
- (c) achieve the high gain required
- (d) provide an adequate degree of image rejection

6. The image frequency of a superheterodyne receiver which is tuned to 7 MHz and has an IF of 455 kHz, will be:

- (a) 910 kHz
- (b) 7455 kHz
- (c) 7910 kHz
- (d) 14 MHz

Answers next propagator ☺

Answers to the last propagator questions ... Q1 = A ; Q2 = C ; Q3 = B ; Q4 = D ; Q5 = D ; Q6 = C

How well did you do, will you still pass the Amateur Radio test?

The Propagator

The monthly newsletter of the Illawarra Amateur Radio Society Inc. (IARS)

Meetings are held on the second Tuesday each month (except January) at 7:30pm in the State Emergency Services building Montague Street North Wollongong

VISITORS ARE MOST WELCOME .

Editorial

Out with the old and in with the new.
For there was movement at the club house for the word had got around that the committee from 93' had got away.....

Well as you might have guessed there were a few changes with the committee, with the result an action packed team ready to take on the challenges of the next twelve months head on (we burnt the old committee out with all the good work they did). Well we have a new editor, that's me of course, if it wasn't me well I wouldn't be writing this editorial. However I will only be doing this for a few months hi hi. It was seen that Brian (the "owner" of 438.225MHz and one time leather tongue recipient) volunteered for the most number of mentions on the back page.

The position of editor gives me the privilege of making comment on issues. (John XGJ one of the dynamic duo just rang to ask for the propagator for printing and my reply was "in the fullness of time it will be done")

The other day I came across an old copy of the "ARRL The radio amateurs handbook 1946 edition and flicking through the pages it was interesting to see the similarities and the differences to the hobby today. It was also

interesting to read The Amateur's Code which was placed on the first page and I will quote:

The Amateur is Gentlemanly

He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others.

The Amateur is Progressive

He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.

The Amateur is Friendly

Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance and cooperation for the broadcast listener: these are the marks of the amateur spirit.

The Amateur is Balanced

Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school, or his community.

The Amateur is Patriotic

His knowledge and his station are always ready for the service of his country and his community.

And my friends I would have to say here here to all of the above.

It seems to me these days that the thing is personal rights "I've got my rights" and as the ad on the TV goesthe most important person in the world YOU. This seems to promote the

attitude I'm all right Jack to hell with everyone else. Of course this may be OK if you are all right but what if you need help?...Tough!

This reminds me of the story ...well it's not a story actually its fact about the fellow who was changing a tire on his car in Pitt street Sydney and got pinned underneath the car, nobody was willing to give him a helping handhe stayed there for an hour or more.

This my friends is a sad indictment of our society, the more we strive for our own (selfish) rights the less rights we end up with. However its not all doom and gloom the buck stops with every one of us individually, and yes we can make a difference.

So next time some one needs you to "walk a mile" with them... hey.... walk with them two (even if they are a pain). You never know they may return the favor one day when you are in need.

Leather Tongue

Ok Who has it? We have a missing leather tongue which needs to be presented to another fine upstanding sucker. So can the present holder bring it back or if you know who has it, dob him in.

Harmonics

Well we have another harmonic in our midst. Brian VK2GCE and his wife Anna had a new addition to their family, a bouncing baby boy (2nd harmonic) on the 22nd of July. We wish their family well with their new bundle of joy.

Positions Vacant

A small subcommittee including the vice president, and treasurer have put their heads together to get a job description for the current positions that are vacant (please consider).

1. Editor

Desirable

Able to type with at least one finger.

Able to spell with the aid of a dictionary

Able to distinguish between truth and facts

2. Assistant Secretary

Desirable

As above plus

Able to keep notes and type up later.

3. Canteen

Desirable

Able to boil water

Able to wash cups

Able to buy milk, tea, coffee etc.

A knowledge of first aid.

Apply in first instance to Club President.

All positions attract award rates of pay for voluntary workers plus 25% loading on Holiday Pay.

From the Treasurer, Vice President, Broadcast dept., Canteen, Repeaters, and all round nice bloke VK2UBF.

Last Issue

Your eyes don't deceive you. *(no they don't do they Brian ...you can't spell! ..Ed)* This will be the last issue for some club members. It well may be the last issue if we cannot find an editor for every member. If I didn't wear so many hats and had more skills with my computer *(it would have been nice if you typed this out for me Brian ..Ed)* I would take on the job. I would make some very topical editorials but I'm getting away from my mark.

For those members and that includes approx. 40% or 27 members, this will be the last issue. For about 4 months now I've been reminding members to be fully paid up by August meeting. The club rules state: before AGM if your having trouble making your payment contact me and we will come to an agreement. I can be contacted Via (042)672296 after 4.30pm or my packet runs (week days) on 144.625, or leave a message on VK2XGJ's BBS, GBCRV's BBS, 147275, 438225, or via club PO Box

Will share more oldies next month.

To read more information about this old propagator and others, use the link below

<https://www.iars.org.au/wp-content/uploads/2020/09/1994-08-August.pdf>

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AMATEUR *Radio*

Guides get soldering at STEM Showcase

ANTENNAS and EARTHS
28 MHz vertical review

Review: RigExpert analyser

Know your earth resistance

Volume 93 ◀ Number 4 ▶ 2025 Price: \$14.50 incl GST

ISSN 0032-8859 04
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At least our Amateur Radio trained guides can use a soldering iron safely 😊



Perhaps we need to get our lab technician over to the guides to get some training on
“How to use your soldering iron the correct way “ 😊

Don't miss out on the bi-monthly publications of this great mag! Join the WIA and get this great read, delivered in either hard or soft copy. What this edition has for you.....



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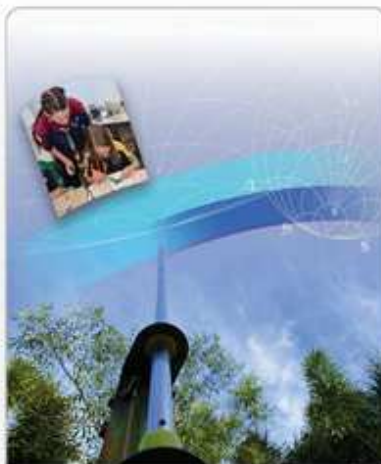
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THEME THIS ISSUE Antennas and Earths

Columns

ALARA	56
Below 25	59
Contesting	63
Editorial	4
Hamads	50
Silent Key	61
Technical Correspondence	54
Over to you	61
WestNews	62
WIA DX Awards	64
WIA News	9
Your WIA working for you	6



Technical

What happens when you hit push-to-talk - Part 2 Dr George Galanis VK3EIP	11
Product Review The MATCH, by RigExpert Roger Harrison VK2ZRH	17
Product Review Compact 28 MHz rig Roger Harrison VK2ZRH	21, 22, 51
Product Review Tecsun 10m, vertical Roger Harrison VK2ZRH	23
A wireless-controlled antenna coupler for 136 kHz and 475 kHz Peter Hall VK6HP, VK6MJM	28
An inner suburban 9-band long wire beam antenna Dr David 'Doc' Wescombe-Down VK5BUG	36
Practical help for lovers of old TET beams and TET-Emtron models Mark Rawlings VK6MOA	45
Know your RF earth resistance Dale Hughes VK1DSH	48
Basics of Delta Modulation Elmo V. Jansz VK7CJ	52

*Our cover: Main image - the 28 MHz vertical
reviewed inside, VK2ZRH. Top image - ALARA,
p.57 from Tara VK6DOG. RigExpert Analyser,
photo from RigExpert, p.17.*

NEXT ISSUE: Amateur radio adventures on islands

Contributions to Amateur Radio



Amateur Radio is a forum for WIA
members' amateur radio experiments,
experiences, opinions and news.
Manuscripts with drawings and/
or photos are welcome and will be
considered for publication. Articles
attached to email are especially
welcome. The WIA cannot be
responsible for loss or damage to any material. Information on house
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Back Issues

Back issues are available directly from the WIA National Office
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Australia) to members.

Photostat copies

If back issues are unavailable, photocopies of articles are available to
members at \$2.50 each (plus an additional \$2 for each additional issue in
which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect
the official view of the WIA and the WIA cannot be held responsible for
incorrect information published.



<<<<<<>>>>>>

Radiocommunications (Amateur Stations) Class Licence 2023

The Australian Communications and Media Authority makes the Billboards class Scheme under section 133 of the Radiocommunications Act 1992.

A presentation on the history of Amateur Radio Licensing up to the introduction of the Class License

<https://www.wia.org.au/newsevents/news/2025/20250704-1/index.php>

Upcoming Contests

Next contest 16th & 17th August 2025

Alan Shannon VK4SN
vk4sn@wia.org.au

Rule changes in 2021:

1. Foundation Licence sections discontinued
2. Remote station operation is allowed.

This contest commemorates the Amateurs who died during World War II and is designed to encourage friendly participation and help improve the operating skills of participants. It is held on the weekend closest to the 15th August, the date on which hostilities ceased in the southwest Pacific area.



For more information use this link <https://www.wia.org.au/members/contests/rdcontest/>



23cm Fun day on the 23rd of EVERY MONTH !!

If you are interested in 23cm or higher communications, the local IARS members are getting together with the MSCARC members on the 23rd of every month to have a fun day around the Illawarra area.

The SHF team are even looking at 13cm fun day on the 13th of every month, for more information please contact the SHF organiser Rob Heyer VK2XIC at vk2xic@gmail.com

[illegible]

Local AR News



Illawarra Amateur Radio Society

Picton Hamfest Update!!

Hello fellow amateurs and radio enthusiasts, for those that may be living under a rock

IT's ON!!!

The Picton Show Society is hosting the Picton Ham-fest at the Picton Show Ground on November 23, 2025.



Car boot sales will be the order of the day and there may also be some radio equipment resellers in attendance as well.



Food vans and an undercover seating area will be available for an eyeball and a long rag chew.

- Car boot sellers, please call Steve on 0421 109 694 before the event to book and pay for your 6 x 6m outdoor site, it is only \$30.
- Bring your own gazebo, tables etc.
- General admission is **FREE**
- Dogs on a lead are welcome.
- Bring the **XYL or Girlfriend**, there is a non-radio market as well, they deserve some bargains too 😊
- For further information go to www.iars.org.au



Don't forget to bring your **trailer**, it can be a challenge in getting some of your items home 😊



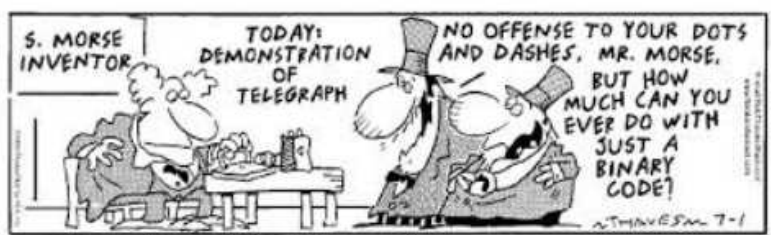
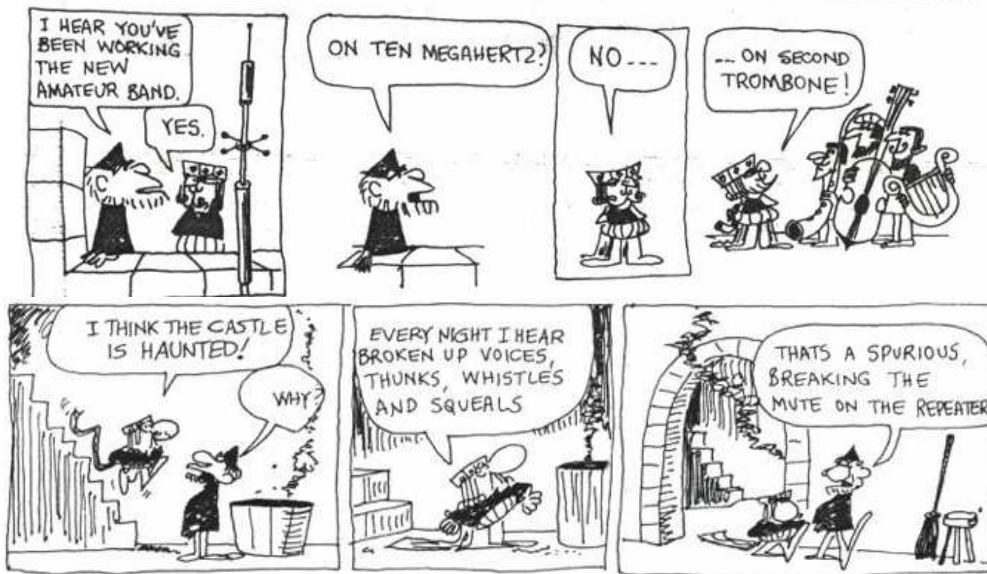


- **August 2025** : IARS AGM , **SHOW and TELL**, bring along that latest project to share with us.
- **September 2025** : Project mania with Simon VK2KU
- **October 2025** : Surface mount soldering and reworking “HANDS ON” workshop. Let’s do it!
- **November 2025** : Famous IARS Auction with Simon VK2XQX
- **December 2025** : Christmas dinner party (surprise 😊) with Home Brew Contest awards

Fun Corner

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

Thanks to all that sent in funnies.



The IARS needs **YOUR input and support**, any technical items, amateur radio news, any projects you would like to share, in fact any AR related goings on are welcomed.

Feedback is also very important for us as it helps maintain a good read, if you would like to see more of something, or would like to see a subject added. Please let us know iars.keithb@gmail.com

That's all for now, hopefully catch you all at the
Blue Scope visitors centre on the 12th August 7.30pm,

73

Keith VK2KQB
IARS Secretary

IARS, Amateur Radio in the Illawarra since 1948