



Illawarra Amateur Radio Society

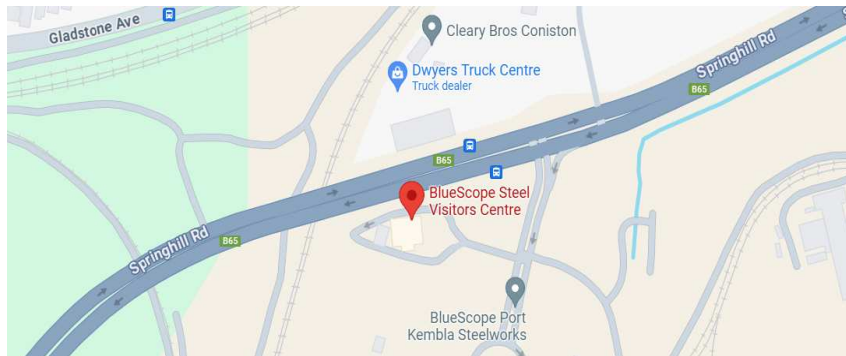
Propagator May 2026

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Upcoming Meeting on the 12th May 2026

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



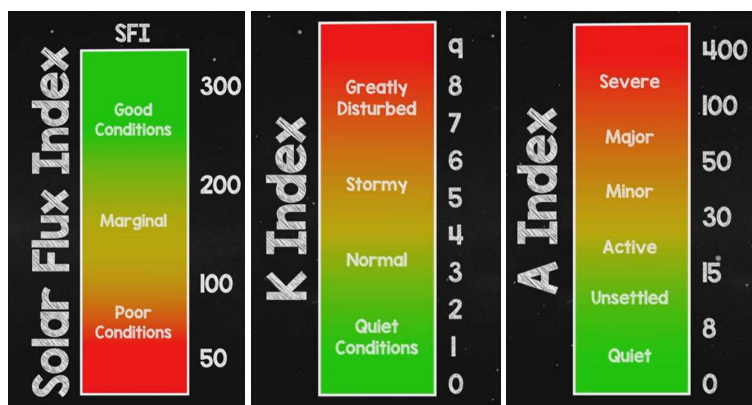
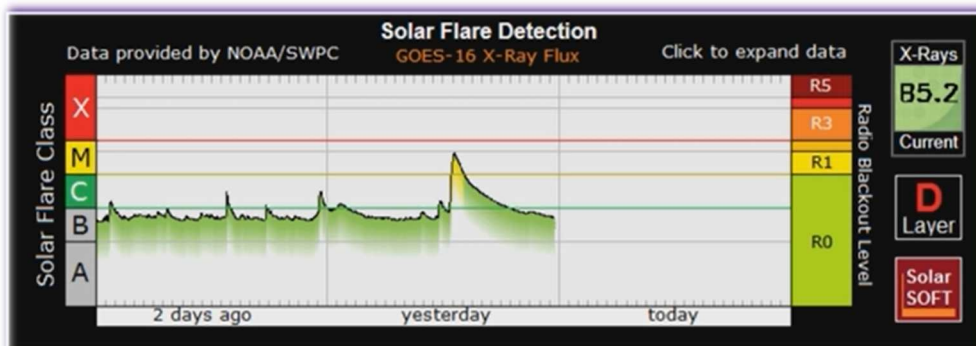
VK2RMP (Maddens Plains)
34°15'30.6"S 150°56'47.4"E
QF55LR

VK2AMW

Our last meeting 14th April 2026



How to understand the Solar Cycle presentation was very interesting, Simon VK2XQX shared some very interesting videos on how the basic solar cycle works and how to read and understand those strange numbers.



For those members who missed the meeting can see the presentation at this link

<https://www.youtube.com/watch?v=JoXvdPPAe6c>



Once the dust settled, we got down to the real business: inhaling muffins and powering through a classic cuppa! We've got to give a massive "Road Warrior" salute to the legends who trek the distance to keep our club's engine humming. A special gold star goes to

David VK2LDW

the man, the myth, the legend! He spends over two hours behind the wheel coming up and returning to Nowra and doesn't even head back until the stars are out.

He's not the only one from the Nowra area that does this trip, massive thanks to all of you for making the trip.

Seriously, if the Nowra gang can conquer the highway, the rest of us have no excuse! 😊

This club is only as awesome as the people in it, so come along and join the fun.



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 number was drawn but the member was not present to collect, it has snowballed to over \$90.00 (will increase if more members play at the next meeting)

The Disposables Table

A great donation this month from IARS members



Thanks to everyone that participated in the disposables table with a big thanks to John VK2EJL, Simon VK2XQX and Chris VK2CDB who all brought in some goodies for the club.

NEXT Meeting.....

Brain Checker Night, or some like to downplay it by calling it Trivia !!!

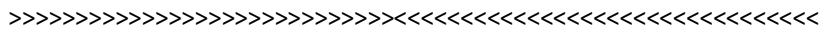


Yes it is KAHOOT time again , Bring along your self and a phone and get ready for another fun night !

As always there is a nice cuppa with some biscuits (maybe muffins 😊) and possibly a giveaway prize for the quickest finger first, and of course the correct answer!

There is a committee meeting kick-off at 6.30pm so the doors will be open from then with the KaHoot starting at 7.30pm as there is no general meeting, in other words don't be late 😊

Look forward to catching you there



The IARS Flying Gang



The Flying Gang is a volunteer team to support IARS members who are unable to install or repair their antenna systems due to age, injury, or other limitations.

Many members are finding it increasingly difficult to stay active on the air—especially when antennas are damaged by storms or when new systems need to be installed.

If you need assistance, simply reach out to the team using the email addresses listed below. We'll coordinate with you to provide the help you need.

The flying gang team members, please **REACH OUT** to anyone of the team below.

Simon VK2XQX, Simon VK2KU, Keith VK2KQB, Adam VK2AEV, Phil VK2CPH, Tony VK2TS, Mal VK2DXM and

Please welcome our newest member of the Flying Gang, Bruce North VK2ZPN 🤝

Or contact us using any one of the emails below.

iars.keithb@gmail.com ; iars.simonr@gmail.com ; simon.ferrie3@det.nsw.edu.au

Other contacts like phone numbers are on the club website at https://www.iars.org.au/?page_id=29

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.

The IARS helping Amateur Radio grow in Australia



**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. NEW NET Yes we have a NET IARS net on 2m , 144.150MHz USB on Monday Evenings from 8pm. Phil VK2CPH or (Chairman Phil 😊 as some like to call him) will be your host.

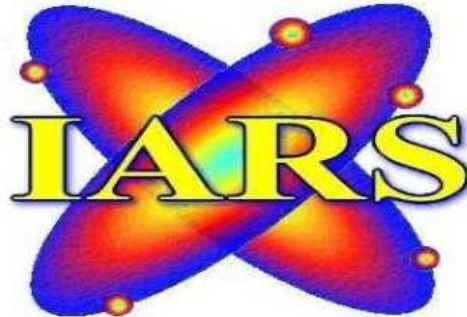
3. IARS Tuesday evening weekly 80m NET on 3.666MHz at 8.30pm hosted by Mal VK2DXM using VK2AMW. Every Tuesday evening, (expect the second Tuesday of the month) for a great get together on 80m. Signal reports, news and general discussions are the agenda. Normally runs for around 60minutes.

4. IARS Wednesday evening weekly 6m NET, 8pm Maddens plains 6m Repeater on 53.650Mhz with a – 1Mhz offset. 123Hz CTCSS tone enabled due to interference
Hosted by Chris VK2CDB and Simon VK2XQX, (While Geri VK2UTE is unavailable)
General discussions about building antennas for 6m, transceivers and what else comes to mind, this net is normally between 30 and 60minutes.

5. 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.

6. 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 “*

IARS 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 (at Knights Hill, 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 **Temporarily off 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.

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

Latest Repeater Report:

* 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 during 2026 (Funding dependant)

** [146.850MHz repeater \(which is 146.250MHz RX\)](#) at Maddens Plains is operating off a temporary antenna until the main dipole is repaired/replaced. (Still on-going)
Please advise if you are having signal difficulties, include your location with a grid square.

*** After the huge windstorms we recently had the Tri-Band antenna number 3, which is 67meters up Maddens Plains tower is leaning at 45degrees with the underneath pointing to Wollongong, therefore all signals into Wollongong will be affected until this is rectified. (This will most likely be carried out at the same time as item ** previous

The ONLY Services still affected are RX 52.650MHz, RX 147.875MHz and TX 439.675MHz.



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



Do you need a tube? We have a range of spare electron tubes, new (old stock) in boxes to new out of boxes and even second hand goodies. Send us the part number and we can see if we can help!

Send part number to iars.keithb@gmail.com

Gold coin donation to the club if we have what you want 😊

Electronic component and service suppliers



<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>



<https://bncom.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>

TWR Technology

ICOM agent

carlo.twr@gmail.com

Radio Communications Equipment Supply, Service including radio and antenna installations, support local Wollongong business

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

The overall efficiency of the antenna system is:

$$\eta = \frac{R_r}{R_r + R_g + R_l}$$

Where:

- R_r : radiation resistance
- R_g : ground loss resistance
- R_l : conductor and matching losses

Implication: High ground loss resistance significantly reduces efficiency, making the radial system critical.

Wire Antennas (Dipoles)

A half-wave dipole in free space has a radiation resistance of approximately:

$$R_r \approx 73$$

Key characteristics:

- Sinusoidal current distribution
- Maximum current at the feed point
- Maximum voltage at the ends

Because dipoles do not rely on ground return currents:

$$R_g \approx 0$$

This contributes to their generally high efficiency.

Radiation Characteristics

Vertical Antennas

Vertical antennas produce:

- Omnidirectional azimuth coverage
- Low elevation angle radiation (typically 10°–30°)

This low-angle radiation is ideal for long-distance (DX) communication via ionospheric propagation.

Wire Antennas

Radiation patterns depend strongly on height relative to wavelength (h/λ):

- $h < 0.25\lambda$: High-angle radiation (NVIS)
- $h \approx 0.5\lambda$: Moderate-angle radiation
- $h \geq 1\lambda$: Multiple lobes and directional gain

Near Vertical Incidence Skywave (NVIS):

Enables reliable regional communication (0–500 km), especially on lower HF bands such as 40 m and 80 m.

(Don't forget 3.666MHz on Tuesday nights at 8.30pm 😊)

Ground System and Losses

Vertical Antennas

Ground losses dominate vertical antenna performance. Ground loss resistance depends on:

- Soil conductivity
- Number of radials
- Radial length and configuration

Typical efficiency trends: Number of Radials Efficiency (Approx.)

4	20–40%
16	50–70%
60+	80–95%

A well-designed radial system is essential for good performance.

Wire Antennas

- Do not require a ground return path
- Experience minimal ground losses
- Are primarily affected by conductor and matching losses

This makes them more forgiving in poor ground conditions.

Noise Performance

Polarization Effects

- Vertical antennas receive vertically polarized noise (common in man-made sources such as power lines and electronics)
- Horizontal wire antennas tend to reject vertically polarized noise

Practical Observations in real-world environments:

- Vertical antennas often exhibit higher noise floors
- Wire antennas typically provide quieter reception, especially in urban and suburban areas

Bandwidth and Matching

Vertical Antennas

Bandwidth depends on electrical length and loading:

- Shortened verticals (with loading coils) have higher Q
- Higher Q results in narrower bandwidth

$$Q \propto \frac{X}{R}$$

Where:

- X : reactance
- R : resistance

Installation Considerations

Vertical Antennas

Advantages:

- Compact footprint
- Suitable for limited space

Challenges:

- Requires radial system
- Performance depends on ground quality
- Mechanically exposed to weather

Hybrid Approaches

Many amateur radio stations benefit from combining both antenna types:

- Vertical antenna for transmit (DX performance)
- Wire antenna for receive (low noise)

Advanced techniques include:

- Phased vertical arrays
- Beverage antennas (receive-only)
- Directional dipole arrays

Wire Antennas

Dipoles offer:

- Moderate bandwidth at resonance
- Feed point impedance typically in the 50–75 Ω range

Multiband techniques include:

- Fan dipoles
- Off-centre-fed dipoles
- Open-wire feedline with antenna tuner

Wire Antennas

Advantages:

- Low cost
- Flexible installation
- Easy to construct and deploy

Challenges:

- Requires supports (trees, masts)
- Performance depends on height

Application Scenarios

Scenario	Preferred Antenna
Long-distance DX	Vertical
Regional/NVIS comms	Wire (dipole)
Noisy suburban areas	Wire
Limited space	Vertical
Portable operation	Wire

Conclusion

Vertical and wire antennas exhibit fundamentally different performance characteristics based on their electromagnetic behaviour.

Vertical antennas:

- Provide low-angle radiation ideal for DX
- Require effective ground systems
- Are more susceptible to noise

Wire antennas:

- Offer high efficiency with minimal ground dependence
- Provide quieter reception
- Require physical space and sufficient height

In practice, the most effective HF stations use a combination of both antenna types, allowing operators to optimize performance under varying propagation conditions.

References

ARRL Antenna Book, ARRL, John D. Kraus, *Antennas*, Constantine A. Balanis, *Antenna Theory: Analysis and Design*



SKIN EFFECT

Does this affect your station setup?

The skin effect is a fundamental concept in radio frequency (RF) engineering that describes why high-frequency current behaves differently than DC or low-frequency AC. For an amateur radio operator, understanding this can help you choose better feedlines, design more efficient antennas, and understand why certain station components behave the way they do.

What is the Skin Effect?

When DC flows through a wire, it uses the entire cross-section of the conductor. However, as frequency increases, the alternating current generates a changing magnetic field that induces internal eddy currents. These eddy currents oppose the flow of current in the center of the wire and push it toward the surface—or "skin"—of the conductor.

The result is that most of the RF energy travels in a very thin layer at the surface, leaving the core of the wire virtually unused.

Impact on Station Performance, The skin effect has several direct impacts on your ham radio station:

- **Increased Resistance :** Because the current is restricted to a smaller area, the effective resistance of the wire increases significantly compared to its DC resistance. This leads to higher power losses and heat generation.
- **Antenna Efficiency:** For high-Q antennas like magnetic loops or shortened HF dipoles, the skin effect can account for a noticeable percentage of power loss.
- **Component Selection:** This effect is why high-power antennas often use hollow aluminum or copper tubing instead of solid wire the hollow center doesn't conduct current anyway, so removing it saves weight and cost. It's also why many RF components are silver-plated; since current stays on the surface, a thin layer of highly conductive silver reduces resistance.
- **Transmission Lines:** The inner surface of a coaxial cable's shield and the outer surface of its center conductor carry the signal. If the shield is several skin depths thick, it effectively isolates the internal signal from the outside world.

Simple Calculation Methods

"Skin depth" is the depth at which the current density drops to about 37% of its surface value and for a standard copper conductor at room temperature, you can use this simplified rule of thumb.

$$\delta \text{ (in mm)} \approx \frac{66}{\sqrt{f \text{ (in Hz)}}$$

Example Calculations for Copper

Frequency [Ⓔ]	Band	Skin Depth (δ)
60 Hz	Mains Power	~ 8.5 mm
3.5 MHz	80m Band	~ 35 μ m
145 MHz	2m Band	~ 5.4 μ m
1.2 GHz	23cm Band	~ 1.9 μ m

For a more precise calculation involving different materials (like aluminum or silver), use the general formula:

$$\delta = \sqrt{\frac{2\rho}{\omega\mu}}$$

- ρ = Resistivity of the conductor (e.g., $1.68 \times 10^{-8} \Omega \cdot \text{m}$ for copper)
- ω = Angular frequency ($2\pi f$)
- μ = Magnetic permeability of the material ($4\pi \times 10^{-7} \text{ H/m}$ for most non-magnetic metals) [Ⓔ]

The skin effect causes RF current to concentrate on the surface of conductors, increasing resistance and power loss as frequency rises. For ham radio, this explains why thick tubes, silver plating, and high-quality transmission lines are essential for maximizing station efficiency.

(See [New Skin Depth Calculator](#) added below to our growing list of technical calculators to help your everyday experiments)

Handy On Line Calculators

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



- NEW !!!** Skin Depth Calculator <https://www.omnicalculator.com/physics/skin-depth>
- Ladder line calculator www.smrcc.org.uk/tools/OpenWire.htm
- Cavity Filter designer [https://www.changpuak.ch/electronics/Coaxial Tank VHF Filter Designer.php](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?

Question 1 Small ferrite beads are sometimes threaded over the input leads of solid-state power amplifiers in order to:

- (a) tune the amplifier
- (b) reduce the noise level
- (c) neutralise the amplifier
- (d) suppress parasitic oscillation

Question 2 In an FM receiver, the stronger of two input signals of the same frequency controls the AF output. This is called:

- (a) pre-emphasis
- (b) de-emphasis
- (c) capture effect
- (d) image rejection

Question 3 Frequency dependent interference to radio reception may be reduced by:

- (a) capacitors in series with the speaker leads
- (b) choke bypassing the AC mains to ground
- (c) using a stub filter in the antenna lead
- (d) correctly setting the tone control

Question 4 The term max. collector dissipation of a power transistor refers to the maximum:

- (a) current it can handle
- (b) power output it can handle
- (c) possible safe power dissipation at the collector
- (d) voltage that can be applied to the collector

Question 5 In FM, frequency deviation is dependent on the:

- (a) frequency of the intelligence signal
- (b) rate of change in frequency
- (c) amplitude of the modulating signal
- (d) resting frequency

Question 6 At what frequency will a 0.2 microfarad capacitor have a reactance of 1000 ohms?

- (a) 800 Hz
- (b) 1 Hz
- (c) 1 MHz
- (d) 8 MHz

Answers next propagator 🔄

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

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

BICENTENNIAL.



THE PROPAGATOR

BICENTENNIAL.



ILLAWARRA AMATEUR RADIO SOC. INC.

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO. SOC. INC.
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MEETINGS ARE HELD ON THE SECOND TUESDAY OF EACH MONTH
(EXCEPT JANUARY) AT 7.30.PM. AT THE STATE EMERGENCY SERVICES ,
BUILDING , IN MONTAGUE STREET , NORTH WOLLONGONG .
VISITORS ARE MOST WELCOME TO ATTEND THE MEETING'S .

SPECIAL CLUB VIB8NSW DAY

The Illawarra Amateur Radio Club Inc. will be participating in a SPECIAL DAY on 19th JUNE 1988.

The occasion is the use of the Bi-centenary call prefix VIB8NSW. If you would

like to be involved for this special day on air, the person to contact is Tony VK2ENX (AX2ENX) he would love to hear from lots of members.

Remember, this opportunity will only be available for this one

day, if you leave it to late you will have to wait for the year 2188, and I suspect that most of our members at that time will be otherwise engaged (including myself).

KEITH TALKS ABOUT "L'S"

Keith VK2OB, was a guest speaker at last months Illawarra Amateur Radio Club Meeting.

Keith gave a talk and demonstration on the two "L's" of resonant circuits.

The two "L's", lead and lag would be familiar to those amateurs who have ever been to TAFE classes.

The talk by Keith kept the 32 members who were present very

interested, and a big thank you to Keith for filling in as a guest speaker whilst the committee are trying to organize? other guest speakers for our future monthly meetings.

The other item discussed at the meeting was the club T shirts. 20 orders have been placed so far, but at least 4 more orders are needed before the committee can go ahead and organize the manufacturer. The agreement is for a minimum of 24 T shirts to get the price down that was suitable for club members.

COME TO HANCOCKS RANCH

The quarterly meeting of the South Coast Amateur Radio Club will be held at Hancocks Ranch Milton on the 14th May 1988.

The club, which has a few Illawarra Amateur Radio Club members in its rank and file, usually have a really enjoyable meeting come social gathering.

The guest speaker for the occasion is Captain Barbara McLeod who will be giving a talk on a womans role in the Royal Australian Navy. Sounds very interesting.

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/2020/09/1988-05-May.pdf>

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Foundation HF bands — what's where in each

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Vol. 94 ◀ No. 2 ▶ 2026

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Lets take a quick sneak peek inside



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AMATEUR

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Radio

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The Wireless Reserve and the WIA, Part 2, will appear in Issue 3.

Our cover: Our Foundation Focus issue just had to feature Lou VK3AQZ's latest transceiver project. Photo by Lou Destafano, graphic design by Sergio VK3SO.

NEXT ISSUE: Offbeat antennas & such

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 style is available from Phil Fitzherbert.

Back Issues

Back issues are available directly from the WIA National Office (until stocks are exhausted), at \$8.00 each (including postage within 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.

If you want to get your hands on one of these great Foundation Class Rigs, make sure you check your post box for the latest edition (or your digital download)

Not a member, don't stress, Join the WIA TODAY! And get your free copy of the latest AR magazine!

The VK3AQZ Foundation class high frequency transceiver project

Part 1

Two-band transceiver for Foundation operators and new-hand constructors

Lou Destafano VK3AQZ



Photo 1. View of the transceiver project's front panel. Microphone input is at lower left.

General Features

- Meets** ACMA technical specifications
- Modular assembly:** straightforward construction, low-cost off-the-shelf parts
- Bands:** 3.5 MHz (80m) and 7 MHz (40m)
- Power Output:** 10 Watts pep
- Modes:** AM, DSB, and LSB
- Displays:** two digital colour TFT panels
- VFO:** digital VFO system
- Power Supply:** 12-14 Volts DC

This is a large project and is split into several parts.

Part 1: Introduction, block diagram, and receiver section.

Part 2: Transmitter section.

Part 3: VFO system.

Part 4: Construction, testing and conclusion.

Author contact: destefano@dodo.com.au

Introduction

Following the publication of my earlier HF transceivers in *Amateur Radio* magazine, I was contacted by a number of Foundation radio amateurs and others, enquiring if I had any homebrew transceiver projects that they could construct that would meet the ACMA Foundation class equipment specifications.

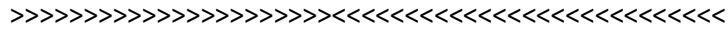
Mention was made that there were very few DIY articles in magazines and publications suitable for the Foundation grade licence and experimenters. Articles such as HiFi amplifiers, microwave dishes and such equipment, VHF repeaters, EME, Smith charts and so on, were not suitable for entry level amateurs.

Since Foundation class amateurs are now allowed to construct their own communications equipment, did I have something they could build?

Continuing on pages 20-21 is a summary of the various comments and discussions.



News & Upcoming contests



Notice of Annual General Meeting

Date : 11 / 04 / 2026

Author : Peter Clee - VK8ZZ

Notice is hereby given that the Annual General Meeting of The Wireless Institute of Australia will be held at 13.30 hrs on Saturday 2nd May 2026.

The Annual General Meeting will be a Hybrid event which can be attended either in person or by video conference.

The Annual General Meeting will be held at the Commercial Club Albury, 618 Dean Street ALBURY NSW.



2026

AGM

More Information <https://www.wia.org.au/newsevents/news/2026/20260411-1/index.php>

Harry Angel

Harry Angel Memorial 80m Sprint

Contest Manager

Contest Manager

Dr. Kevin Johnston VK4UH, Glenn Mathison VK4GM!
Harry Angel Sprint Manager
c/- Redcliffe and District Radio Club
PO Box 20, Woody Point. Qld 4019



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



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

The weather couldn't have been more perfect, blue skies and a gentle breeze, but as great as the conditions were, the company was even better. It was a wonderful day of swapping stories, sharing a laugh, and strengthening the bonds between our three clubs.

Fitzroy Falls Picnic Area has been a long time favourite for the Southern Sydney clubs and we have been having these get togethers for a few years now.

There will be another one coming up again this year (Springtime), if you missed out don't stress, only a few months till the next one and looking at how fast this year has already travelled, wont be long 😊



David VK2LDW have a great time showing off his latest toy, or should we say expensive toy, but so nice. This little animal is an all band HF/VHF/UHF mobile rig that has all the options, even 100Watts plug in amplifier if you need it.





Please keep an eye out on the IARS website at <https://www.iars.org.au> or the Goulburn Amateur radio Club at <https://www.facebook.com/groups/vk2jq/> or the Mid South Coast amateur radio club at <https://mscarc.org.au> or the Fishers Ghost amateur radio club at <https://fgarc.org.au> for information on future joint events.

THE PICTON SHOW SOCIETY IS PROUD TO PRESENT

31ST OF MAY 2026

PICTON HAMFEST

AFTER THE AMAZING SUCCESS OF
OUR 1ST PICTON HAMFEST,
YOU'RE INVITED TO OUR 2ND
PICTON HAMFEST
ON SUNDAY THE 31ST OF MAY.



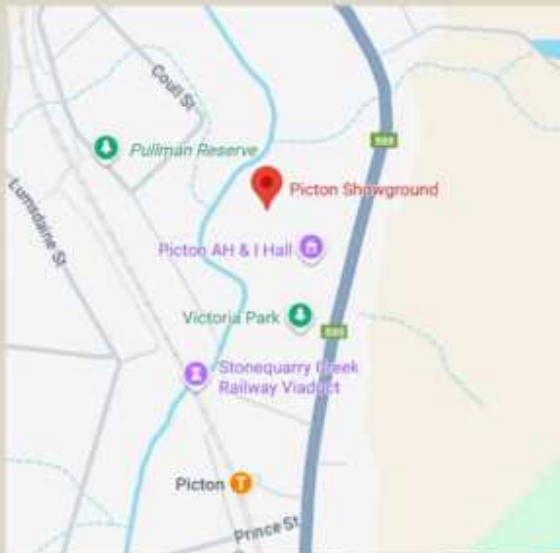
ENQUIRIES -
HAMFEST@PICTONSHOWSOCIETY.COM.AU

ALARA , ACTION COMMUNICATIONS AND COMTEK
RADIO WILL BE ON SITE

BARGAINS GALORE AND LIKE MINDED INDIVIDUALS. COME AND JOIN IN THE FUN!

FOOD AVAILABLE - FOOD VANS SUCH AS GOZLEME & CHURROS , COFFE / TEA AND
BACON&EGG ROLLS ETC.

UNDERCOVER SEATING AREA NEAR FOOD VANS



DIRECTIONS

TAKE THE PICTON EXIT FROM THE HUME HWY AND
PROCEED WEST TO PICTON.

ENTER THE PICTON SHOW GROUND AT 151 MENANGLE ST
PICTON.



DOG FRIENDLY



GENERAL MARKETS WILL BE ON AT THE SAME TIME
SO BRING THE WHOLE FAMILY , KIDS ARE WELCOME!



IF YOU WOULD LIKE TO SELL AT THE HAMFEST ,
PLEASE CALL STEVE ON 0421 109 694.

A 6 X 6 METER SITE IS \$20.
REGULAR ENTRY IS FREE



THE ILLAWARRA AMATEUR
RADIO SOCIETY



PICTON DISTRICT A.H & I SOCIETY



AUSTRALIAN LADIES AMATEUR RADIO
ASSOCIATION

Upcoming IARS meeting presentations

Please note the changes to the meeting schedule.

There isn't a general or committee meeting every month, but that doesn't mean we skip the fun! " Even when there's no official meeting scheduled, we still get together every month except January.

(See the schedule below — presentation topics may change.)

Doors open at 6:30pm, giving you time to settle in, but presentations and general meetings kick off after 7:30pm. The Snowball draw happens every month, except January when there are no gatherings. Members are very welcome to arrive from 6:30pm to enjoy a cuppa and catch up with friends in the foyer before things get underway.

We need to wrap up and be out by approximately 9:30pm, so please lend a hand on your way out by popping empty cups in the [correct](#) bin and straightening your chair or putting it back if you have moved it.

Please Note: IMPORTANT INFORMATION!

While you may feel inspired to channel your inner barista and make yourself an espresso using the coffee machine in the BlueScope foyer, we kindly ask that you refrain from doing so.

At our last meeting, an attempt to make a barista-style coffee unfortunately resulted in damage to the machine. The Visitors Centre team has since politely requested that we do not use the coffee machine.

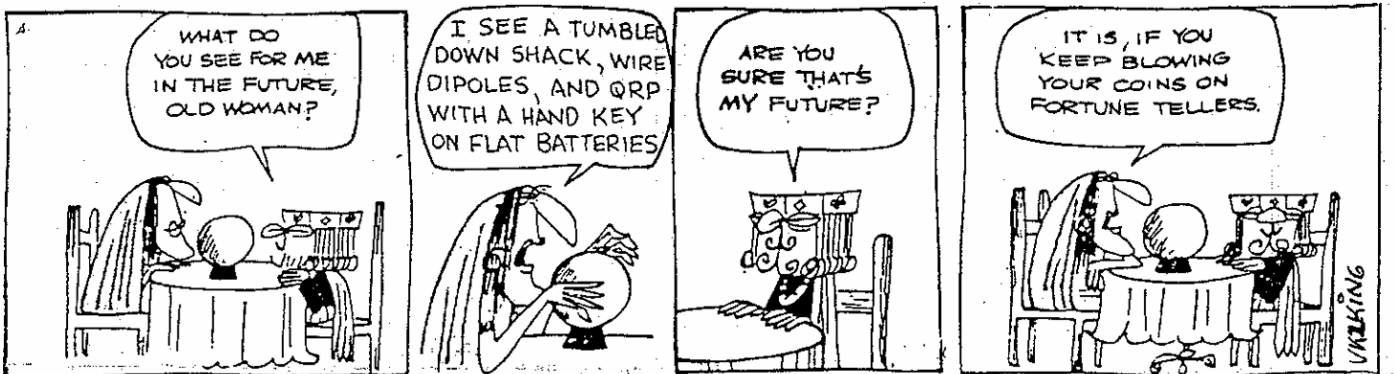
Thank you for your understanding and cooperation.

- **May 2026** : Committee meeting at 6.30pm. No General meeting
IARS Trivia with Ka-Hoot starts at 7.30pm, prizes for the top two contenders FFF
- **June 2026** : No Committee meeting, doors still open 6.30pm, General meeting starts 7.30pm
7.30pm, Ned VK2AGV, Secret presentation .. We know how good these are 😊
- **July 2026** : No committee or general meeting. Doors open 6.30pm.
Roger VK2VRK, setting up and working with APRS
- **August 2026** : Doors open 6.30pm **AGM** starts at 7.30pm with new committee members elected.
- **September 2026** : No committee or general meeting. Doors open 6.30pm
7.30pm, Show And Tell, bring along your project to share with us
- **October 2026** : No committee meeting, doors open 6.30pm. General meeting starts 7.30pm
Presentation starts after general meeting. Topic TBA
- **November 2026** : Committee meeting at 6.30pm. No General meeting.
IARS Annual Auction with Simon VK2XQX. Doors open at 6.30pm for sellers for looking to sell their gear. Equipment must be booked in before the auction starts at 7.30pm. Please NO latecomers.
- **December** : No committee or general meeting. Doors open 6.30pm 🎉
IARS year end Christmas function

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 May from 6.30pm,

73
Keith VK2KQB
IARS Secretary

IARS, Amateur Radio in the Illawarra since 1948

Next Propagator and meeting will be for April 2026