



All Access

A newsletter for members and friends of ARNSW, facilitating access to all areas of Amateur Radio.

Issue 25-06 – November 2025

Editor Eric VK2VE

Editorial

Welcome to the final issue of All Access for 2025. Our almost summer issue. It's been a busy year and doesn't seem to get any less so.

I would like to take this opportunity to thank all our contributors to the newsletter, especially Colin VK2JCC for his numerous articles which help keep things interesting. Yes, we have another one from him this month, too.

I have started looking through some historical articles written by Tim Mills VK2ZTM/VK2UE (SK) and plan to feature some of them next year. As many will know, Tim was a long-time member of ARNSW and in its previous incarnation of WIA NSW division, and was a member of the management committee for a greater proportion of that association including as president and secretary (from which I took over in 2017). He was on the committee when I was first on it back in the late 70s, then again in the late 90s and now since 2017. He was always there. He used to write the NSW Division notes for AR magazine as well as many other items of interest and had an encyclopaedic knowledge of the WIA and ARNSW.

I would like to wish all of our members, and families, a very Merry Christmas (or whatever you celebrate at this time of year) and a Happy and Prosperous 2026 full of plenty of amateur radio.

To correspond with us, you can just email editor@arnsw.org.au or write to The Editor, ARNSW, PO Box 6044, Dural DC, NSW, 2158.

Eric - VK2VE – Editor

New members and Silent Keys

In the last two months we welcomed the following new members:

Geoffrey Pearce	Annangrove	VK2CUT	Stanley Lee	Artarmon	Pending
Alberto Alcaniz Azcon	Lane Cove	Pending	Gabriel Poussif	Sydney	Pending
Jason van Aardt	Cammeray	Pending	Aidan Greenwood	Lidcombe	VK3CRY
Derek Potts	Casula	VK2BBG	John Lemura	Everton Park	VK4LP
Ruel Lumanglas	Hornsby	9M6RP/DU1QMC			

And we farewelled the following Silent Key:

Vale:

Jo Harris (ex VK2KAA) Wahroonga

Board Notes

As mentioned in the last issue, the board has been discussing the possibility of discontinuing the magnetic calendars. The magnetic calendars are quite an expense accounting for much of the current annual membership fees. On top of that, there are other expenses such as printing and mailing of AGM material for those who elect to get them by post.

We received responses from several members, all of which advocated discontinuing the magnetic calendars. We had none suggesting that they continue. As a result, we are planning not to continue producing the calendars.

Planning has commenced for the population of the two new 20 metre wooden poles installed recently at VK2WI. One is just outside the transmitter building and will be used for all the VHF/UHF beacon antennas, ensuring a short run to the beacon transmitters. The other one is located about 15 metres behind the Vertel compound and will be used to terminate some of the HF dipoles, instead of relying on trees as they are currently. This will include a major overhaul of many of the halyards used on the various poles which have become tangled over the years and very difficult to use. There will also be some additions on the pole closest to the Centenary building to accommodate some new antennas in the upstairs radio room.

All our fire equipment has had its annual inspection. The fire pump has been overhauled, and new section of hose has been installed to connect to the underground pipe system, which supplies the outside hose reels around the property.

Our 2026 AGM will be held on Saturday March 21st at Dural and online. We will be calling for board nominations in early January with nominations closing on February 6th. There are five positions to be elected this time around - please consider putting your name forward. But remember, you don't need to be on the board to get involved. We have several activity groups you can take part in already – no meeting required. Or if you want to start a new project – just get in touch with the office and let us know your interest.

Eric – VK2VE - Secretary

Member Meetup & Disposals

Next Sunday, September 28th, is the September Member Meetup and disposals day (Trash and Treasure) in the morning and the ARNSW Experimenters' Group meeting starts at midday. Members will also be able to sell their own items on the day so bring along any items you'd like to sell and browse the items available for sale.

It starts at 9:00 am for buyers, with sellers allowed access from 8:30 am to set up their stalls. Buyers will be allowed in, to park to the north of the VK2WI building but only sellers will be allowed into the sales area to set up prior to 9am. When parking, please have consideration for other members and park in a way that others can get access and as many cars as possible can be accommodated. Also, please leave access to behind the Vertel compound so that vehicles can get around there if necessary.

The Experimenters' Group meeting will commence at midday.

Over the page are some items which will be for sale in the disposals room. Credit & Debit card facilities will be available.

All the following equipment has been tested and is in good working condition unless otherwise noted. Transmitting and RF amplifiers sold to licenced amateurs only.

Transceivers

Icom IC-730 HF 100W AM/CW/SSB transceiver with PS-15 power supply in working condition with microphone Price **\$300.00**

Yaesu FT-920 HF /6m all mode 100W transceiver with microphone and power cable Price **\$950.00**

Kenwood TS-600 6m VFO all mode 10W sold as is no microphone or power cable Price **\$50.00**

Tait 2000 programmed for 2m with microphone and power cable Price **\$75**

Tait 2000 remote front panel NOT programmed with microphone but no power cable, sold as is Price **\$25**

TYT UVF1 handheld 2m/70cm FM transceiver with drop in charger base and user manual. Price **\$50.00**

Yaseu VX-170 with new battery. Price **\$100.00**

Antennas

Diamond CP-6 (80m/40m/20m/15m/10m) 200W vertical. Used in good condition. Price **\$200.00** (\$599 New locally)

Accessories

LDG Z-11 Pro. Low power automatic antenna tuner. With cable for connection to a FT-817 Price **\$200.00**

Wawasee JB-2000SW Power and SWR Meter. 3 ranges 20/200/2000W SO239 connectors. Price **\$75.00**

Kenwood SM220 station monitor . No panoramic adapter module. Multifunction monitor oscilloscope and two-tone audio signal generator designed for use with the TS-520 and TS-820 transceivers. Nice bright trace and will work with other transceivers to monitor the transmitted RF waveform Price **\$100.00 each**

DMU 2000 data management unit for the FT-2000 Price **\$200.00**

MFJ-956 Receiver Preselector tuner 150KHz to 35MHz Price **\$ 75.00**

Daiwa CS4 4 way BNC Coax switch Price **\$45**

4 way SO239 coax switch Price **\$45**

Sidewinder M-10 RF signaliser Price **\$10**

50 ohm 50W UHF dummy load Price **\$25**

50 ohm 50W UHF dummy load Price **\$25**

Loadstar 10W power/SWR meter Price **\$10**

Power Supplies

Codan 7113 13.5V 20A power supply. Price **\$75.00** Collect only.

3 x Dick Smith D3800 13.8V 25A Linear power supply in good condition Price **\$95.00** Collect only.

Dick Smith Q1753 13.8V 23A switching supply Price **\$75.00 each**

Fold up solar panel with charge controller 20W. Price **\$50.00**

Fold up solar panel with charge controller 120W. Price **\$125.00** Collect only.

0-30V 2.5A Dick Smith Electronics power supply Price **\$50.00**

Manson SPA-8330 13.8V 33A switching power supply Price **\$150.**

Bang & Olufsen dual 0-30V 0-1A power supply with 5V@ 3A with voltage and current meters Price **\$50.**

Tokyo Hi-power HP-315 13.8V 20A power supply Price **\$50.**

Test Equipment

Marconi 2019 synthesised signal generator 100KHz to 1040MHz AM and FM modulation calibrated output attenuator. Price **\$330**

BWD 604 Mini Lab Price **\$125.**

Heathkit IM4180 FM Deviation Meter Price **\$50.**

Rig expert AA 520 antenna analyser with new rechargeable Eneloop NiMH battery pack. Measures SWR or R and X (resistance and impedance) to 520MHz Price **\$450.**

Mark—VK2XOF—Disposals

A Reminder

Please notify us of any changes to your contact details. You can use the membership form on our website at arnsw.org.au/forms/ARNSW_Membership.pdf. The one form can be used for new applications, renewals, updates or badge requests—just tick the appropriate box(es) at the top of the form and mail it to PO Box 6044, Dural DC 2158, or email to membership@arnsw.org.au. If you are making a payment, our preferred method is direct deposit, remembering to send us the details of your payment so we know what to attribute the payment to. Preferably, do not send credit card details in emails.

Remember, if we don't have your correct details, you may not get important documents. *Ed.*

Antenna Day

Following on from the very successful VHF antenna day in October, our second VHF/UHF members' presentation will be on Saturday the 13th of December at VK2WI Dural.

Starting at 10am, the day features several presentations on VHF and UHF antennas. The emphasis is on practical antennas you can build, in presentations, by those who have built them. Antenna types covered will include the BI quad, slot, flowerpot, Yagi and more.

Lunch will be provided; so, numbers are limited, and registrations are required by Thursday the 4th of December.

Registrations are preferred by email to events@arnsw.org.au; please include your name, callsign and a contact telephone number.

AI – VK2OK – Events

Shorts

Hi all, this video link which is a recent presentation by Ed Wilson NX2DD about how clubs can be key to ensuring our hobby thrives. Ed is the director of the ARRL's Hudson Division, but almost every word he says applies equally to Australian Amateurs and clubs.

<https://www.youtube.com/watch?v=8YLNHWG-aFc>

Richard - VK2SKY

Are you a Rigger?

Hi, I need a rigger to attend to my ham antennas in Surry Hills. About one hour's work involved. Is there anyone who is one or knows of one?

If you know of one, please leave an email to office@arnsw.org.au and we'll put you in touch with Grant.

Grant – VK2GEL

ARNSW Library – A brief History

The board of ARNSW have asked that I prepare a history of the current ARNSW Library. Here I was thinking that I may be able to devote a chapter or two or three about the library, the extensions, the shelving and the team who have worked so hard. To my dismay, the Editor has indicated that two pages would be sufficient!

Around 2012 when elected to the Board I “volunteered” to assist in the library. This rapidly changed from assistant to Librarian. Little did I know what a challenge this would turn out to be!



When work began the “mezzanine” as it was referred to was carpeted however the walls and ceiling were unlined, it was freezing in winter and uncomfortably hot in summer. Hundreds of books and magazines were wrapped in brown paper or placed in cardboard boxes, many were damp and mildewed. None had been unpacked from the much earlier move from Paramatta in 2006! Thus, a project was commenced to sort and catalogue every book, magazine, document, photo and other items of historic value.

- *This photo gives an idea of how the library looked in 2012-2013, when we began with Mark, VK2XOF sorting records relative to the history of ARNSW and Wireless Institute of Australia NSW Division as it was then known.*

We began by sorting magazines into sets and were quickly overwhelmed by the task. A plea was made at the AGM for volunteers to assist. Fortunately, three volunteers came forward and thus became the library team. John VK2LJ, Ray VK2ASE, Greg VK2TEQ and Chris VK2VCG. The library team met most Monday evenings from approx. 1700 to 2100 hrs. This would coincide with the training sessions presented by the late Terry Ryland VK2UX. At times there would be a dozen or more visitors, dropping in to say hello.

Over ten thousand, that’s right, *ten thousand magazines* were sorted and catalogued some dating back to 1913. Also, work commenced on the development of a Library Management System using Microsoft Access. At the same time Network Storage systems were installed to provide storage for audio, film and other types of records and accessibility, rather than being on individual PCs. A decision was made that were there were two or more identical magazines one would be converted into an electronic copy with OCR software and stored on the network.

The continuation of cataloguing, and allocation of bar codes to all items, became a major task. It quickly became apparent that new shelving would be needed. By 2016, The dilapidated shelving had been replaced with purpose designed library shelving and storage folders which has enabled books, magazine and periodicals to be placed in logical sequence. Books were sorted by country of publication.

With over one hundred and twenty metres of shelving full and another twenty metres of books to enter into the system, it soon became obvious that the “mezzanine” and new shelving was insufficient for the vast collection that is stored. So, the board approved a proposal to extend the “mezzanine” to occupy the entire building level and at the same time to develop the ground floor to become a training and assembly area.

With these advancements in mind the library has now become a reference library. This means that you are welcome to visit and peruse our collections. Copies of specific items or articles can be scanned and provided in paper or electronic format.

There are now over nine thousand eight hundred different magazines ranging from 1910 to the present. Countries represented are UK, USA, Canada, Ceylon, Germany, Hong Kong, India Japan, New Zealand, South Africa and Australia. We believe this to be most comprehensive collection of amateur radio material in Australia!



The large open area which we have called the “reading room” was enhanced with the provision of an overhead projector and whiteboards. Greg has kindly donated a 55 inch colour screen with appropriate accessories. We really need some comfortable reading chairs now!

Some five years ago the library team were affected by illness and members work requirements and relocating to an area outside of Sydney. Greg VK2TEQ and Chris VK2VCG are continuing to work when they are able. The Board is currently reviewing the electronic database.

- *This is how the library looks in 2025*

We need members who are able and willing to volunteer to assist the board and the library team to continue this very important project.

John – VK2LJ – Director

Experimenters’ group meeting

The next meeting of the Group will be at midday, next Sunday the 30th of November, as part of the Member’s Morning Meetup and Trash and Treasure at ARNSW Dural.

The format of these meetups usually takes the form of a show and tell session followed by a presentation on a subject of interest.

Ground Tuning unit for Portable operations

I use a $\frac{1}{4}$ wave Vertical Ground Plane Antenna while operating portable with my Clansman PRC320.

I get good reports from DX stations using this antenna, but of course the location (I go to the edge of a lake or the seaside and choose the right time of day) make the difference in getting contacts or listening to static.

Most operators would already know this antenna. There is a lot of information that can be accessed on the internet on how to make one and how it works. Many people simply dismiss this simple antenna as being a basic antenna and turn their efforts to other more sophisticated designs hoping for better results.



Actually, the $\frac{1}{4}$ wave antenna is a very high performance antenna that is underutilised but is perfect for the portable station application because of its simplicity, low angle of radiation and omnidirectional characteristics.

What turns many people off is the installation of radials and the never-ending debate on how many radials are required for the perfect installation somewhere between 4 and 120!

And of course... what is the perfect length??

Whether the radials should be elevated from the ground or laid on the ground, the downward sloping angle of the radials to obtain the 50 ohm matching impedance. Imagine having a perfect $\frac{1}{4}$ vertical with no radials. The advantages to a portable station are huge!

Enter the Ground Tuning Unit or GTU.

When we step back and look at a $\frac{1}{4}$ wave vertical antenna it is in fact a simple dipole turned 90 degrees into a vertical position with one half sticking straight up and the radials or counterpoise making up the other half. In theory the currents in both halves should be equal. The top half current radiating the signal and the bottom half current forming the ground plane. If the ground plane current is insufficient caused by a poor grounding system the radiated energy of the overall antenna will be reduced.

The GTU is a device that replaces the radials or counterpoise and can be tuned to allow the maximum grounding current to flow thus ensuring maximum radiation from the top half of the dipole. The current in the top half element is maximised by resonating or tuning its physical length. The bottom half current is maximised by tuning it to resonance by a tuning circuit, the GTU.



A GTU is installed between the normal counterpoise feed point of the installation and small sheet of metal called a grounding foot insulated from earth by any thin insulator laid on the ground just below the feed point. The RF grounding current flows from the feed point through the GTU and into the foot and is radiated into the ground. The GTU can be adjusted to resonate the RF ground current for differing ground conductivity.

I have found, about two S-points improvement by using a GTU and tuning for maximum deflection.

My GTU started life as a Bleach container.



I fashioned a coil form from PVC pipe and wound my coil.



My aim was to construct all parts on the top of the container to make serving an easy job. I made cut outs for the meter and terminals and mounted the large capacitor and coil.



Once connected, I place the transmitter in "CW" and tune the GTU for maximum deflection. I do not worry about what the graduations are on my meter.

As can be seen in this photograph one terminal comes from the ground of the Radio and the other attaches to a short counterpoise or metal plate on my trolley. I use a small trolley to get my gear to the water's edge.



Oh, I almost forgot! GTUs always work better when painted green - just like the Clansman.



Credits: From my own experiments, VK2PRC and G4AKC

Colin - VK2JCC - Aka Professor Portable

Don't forget — Member Meetup, Trash and Treasure & Experimenters' Meeting:

- ❖ ***When: Sunday, 30th November***
- ❖ ***Where: 63 Quarry Road Dural***
- ❖ ***Starting: at 9:00 am for buyers***
- ❖ ***Gates open from 8:30 am for set up and parking***
- ❖ ***If you are queueing to enter, please queue on the opposite side of Quarry Road. Do not queue on the property side – this is dangerous for approaching vehicles.***
- ❖ ***Sausage sizzle will be running***
- ❖ ***Drinks will be available***
- ❖ ***Experimenters' Group starting at Midday***
- ❖ ***We look forward to seeing you there.***