All Access

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

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Editor: Eric VK2VE

Editorial

Hi, it's been a while since the last issue of All Access due to the ill health of our previous editor, so I am your new editor for now. Firstly, I hope your 2023 was good and Santa brought you many new radios. If not, the bi-monthly meetup and Trash and Treasure as well as the Experimenters' group meeting are on, on the last weekend of this month, Sunday, January 28th.

The 2024 magnetic calendars went in the mail after our last board meeting for 2023 and by now you should have received yours. Note that your renewal date is noted both in the address box top line and also on your membership card. It's pleasing to see that many have renewed as they have received their calendars. There is also a box on your calendar where you can enter your next renewal date as a reminder. I would like to personally thank the members who assisted with the enveloping of the calendars – Alec VK2APC, Pete VK2LP, Stuart VK2BMX, Matt VK2FLY and Mat VK2YAP

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

WICEN

As many of you will know, WICEN has a fairly close working relationship with ARNSW having a storage and working area on the grounds behind the green garage. They have two containers with space between them to store vehicles where they store the VRA communications bus and their trailers. The containers are set up for storage and as a workshop area for maintaining their radios. The concrete base was supplied by ARNSW as well as power to the containers. This facility is supplied by ARNSW at no charge to WICEN.

WICEN is also setting up a communications post in the communications room, upstairs in the Centenary Building for both training and operations and hope to have it up and running soon.

Member Meetups & Trash and Treasure

Member Meetups and Trash and Treasure are back being held on the last Sunday of odd numbered months (Jan, Mar etc.) and are proving very popular again. You can bring along your surplus gear and sell it yourself or you can go through the disposals room to pick up a bargain.

For many years Mark VK2XOF has been running the disposals, picking up surplus equipment or deceased estates to sell at Dural. Unfortunately, Mark's health has meant that he generally can't pick up equipment now but is still willing to accept items if they are delivered to Dural at a mutually convenient time. Mark can be contacted by email at disposals@arnsw.org.au.

ARNSW Trash and Treasure will be held this Sunday the 28th at 63 Quarry Road Dural 2158. Gates open at 8:30am sellers welcome at no charge.

This is some of the equipment offered for sale.
Unfortunately, at this time we are unable to ship any of this equipment.
This equipment is in good order and fully working.

1. HP8656B 0.1 to 990MHz AM FM Synthesised signal generator $450.00

2. Tektronix 1502B Portable Time Domain Reflectometer for coaxial cable CRT version. $150.00

3. MFJ 993 IntelliTuner Automatic Tuner

   Automatically tunes unbalanced/balanced antennas, 20,000 memories . . . Antenna Switch . . . Efficient L-network . . . Select 300 Watts (6-1600 Ohms) or 150 Watts (6-3200 Ohms) . . . 1.8-30 MHz . . . 4:1 current balun . . . Cross-Needle and Digital SWR/Wattmeter . . . Audio SWR meter . . . Backlit LCD . . . Remote control port . . . Radio interface . . . $500.00 (these are $699 retail)

4. VK Powermaster 13.8V 25A power supply for 100W HF Transceivers. $75.00

5. Vicor VC3165 frequency counter to 2.4GHz $50.00

6. Hang Chang 9100 Frequency counter to 1GHz $50.00

7. DSE PS1005 100MHz dual trace analog oscilloscope with probes $125.00

8. Hitachi V-552 50MHz dual trace analog oscilloscope $50.00.

9. DSE Q1312 100KHz to 150MHz RF signal generator with AM $125.00

10. Mini-Kits M1 transceiver kit partly assembled for 10m https://www.minikits.com.au/m1-series-hf $100.00

11. Yaesu FT-211RH 2m 45W FM transceiver 144 to 148MHz

    https://www.rigpix.com/yaesu/ft211rh.htm $125.00

12. Mini-Circuits ZHL-5W-1-SMA wideband power amplifier 5-500MHz 5W 24V DC. $100.00

13. Wavetek 144 function generator 0.001Hz to 10MHz $50.00

14. Wavetek 114 function generator 0.1Hz to 1MHz $50.00

15. Trio AG202 audio sinewave generator 20Hz to 200KHz $40.00

16. Trio AG203 audio sinewave generator 10Hz to 1MHz $40.00

17. Megger insulation tester 625, 1250, 2500V $50.00

18. Megger insulation tester 250, 500 and 1000V $50.00.

19. Gould Advance J3B audio generator 10Hz to 100KHz

   https://www.sglabs.it/en/product.php?s=gould-j3b&id=327 $50.00

Experimenters' Group

The ARNSW Radio and experimenters' group is now back up and running after the pandemic hiatus. Peter VK2EMU is the convenor of the group and they are back meeting on the same Sundays as the Member Meetups & T&T from about midday.

At the last one, Mark VK2XOF gave an impromptu talk on VNAs which was very interesting. Hopefully we'll start to get more members turning up for the Experimenters' group meetings now that they are underway once more.

The next gathering of the Group is coming up in next Sunday 28th; at noon on Sunday the 28th of January.
The gathering will begin with the usual "show and tell" where anyone can stand up and talk about an item that they have been working on. This may be a radio that they have been experimenting with, or built or repaired, or just something that they find interesting and hope that other would as well.
After the show and tell, there will be a presentation on "3D printing and laser cutting for Amateur Radio. 3D printing is not new, but in the last few years the prices of machines has dropped to a level where casual hobbyists can now purchase one for only a few hundred dollars. There are many items useful to radio experimenting that can be easily printed; coil formers, PCB holders, antenna parts, mounting hardware, plugs and sockets to name but a few.
In the same way, laser cutters can be used to produce many different items for the amateur radio experimenter - custom boxes, coil formers, mounting hardware etc. It is even possible for an item to have some parts 3D printed and some parts laser cut.
Various items will be displayed and open source software for designing 3D prints and laser cuts will be demonstrated.
Any amateur who has items that they have 3D printed or laser cut are invited to bring them along to add to the mix.
So for those who are looking for something new in Amateur Radio, the Radio Experimenters Group can be what you are looking for.
So come along to the members meet up and Trash and Treasure on the morning of Sunday 28th January, then stay around for the Experimenters Group meeting.

Peter - VK2EMU

Counterfeit ICs from China.

Hopefully you all know that small "backyard" Chinese suppliers of semiconductors are a likely source of counterfeit components. This is not to say all suppliers are suspects. I have had excellent service from the larger Chinese commercial suppliers of components.

In the past I have encountered fake/faulty Si5351A clock synthesiser ICs. These are popular with Amateurs for VFOs.

Here is a recent experience:

Dallas Semiconductor Real Time Clock module

There are several suppliers of a Real Time Clock module the incorporates the DS3231SN or DS3231M. There is an 8 pin EEPROM included to offer expanded data storage.

I have purchased a small number of these from 2 different suppliers. At first, they seemed to be fully functional as my application was in a GPS corrected clock where accuracy was not critical. A later application for a standalone clock required greater accuracy.

My firmware enabled the 32.768KHz output to allow the internal TCXO to be checked and adjusted.

All 4 of the Chinese RTC modules were hopelessly inaccurate with frequency errors of over 30Hz! The is way beyond any adjustment available. Adjustment is by changing the value of the age register but in these fake ICs this had no effect!

To ensure I was not mistaken I purchased an Adafruit module that uses a genuine DS3231SN (the higher accuracy version). This performed faultlessly and could be adjusted to the required accuracy. This was using the same firmware as used to test the fake ICs.

I have also purchased some DS3231SN parts from Element14 as these can be assured to be genuine and proved to be so.

While the defective IC look to have the correct markings, they are in slightly different molded packages. I am inclined to think these are production rejects.

So, all I have out of the Chinese modules is the PCBs to mount the known good IC with! There is a significant cost difference for the genuine parts but at least the experiment with the fake parts was not expensive.

Mark - VK2XOF

Major Project – Centenary Building

In 2023 some major renovations to the Centenary Building took place in the ground floor area. The entire area has been lined and painted, as well as the floor being coated with a hard wearing epoxy. There are still some things to be done, such as the reinstallation of some infrastructure, installation of a kitchen area and a projector and screen for use in lectures and presentations. The original stairs to the upper level have been replaced with welded steel ones, similar to the ones installed during the library extension a couple of years ago, along with the addition of a stair lift, enabling the less mobile members to access the upper level. There is still some work to do but we're getting there. The below pictures were taken prior to moving everything back into the building from the containers where they were stored during the works. We'll add some more photos in the next edition of how it looks with everything reinstalled.

http://www.arnsw.org.au
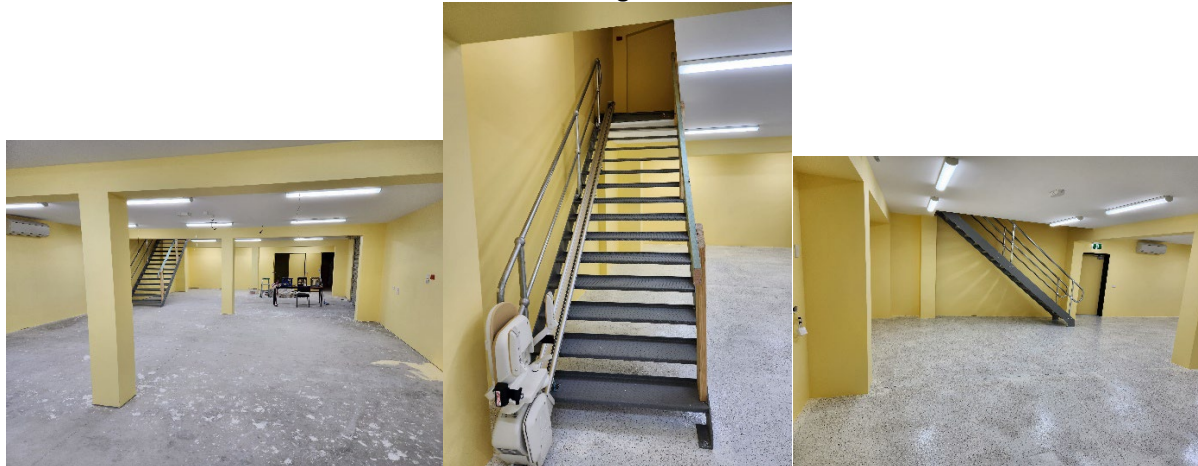
Major Project – DMR Network

The Amateur Radio New South Wales (ARNSW) Radnet is an innovative and expansive program designed to foster connections and communication between various amateur radio clubs across New South Wales (NSW), Australia. This program is particularly focused on the advancement and promotion of digital radio technologies, a rapidly evolving and increasingly significant area in amateur radio.

ARNSW Radnet has successfully established a robust network comprising 14 Digital Mobile Radio (DMR) repeaters. These repeaters are integral in carrying the talk groups associated with the VKDMR network, a key player in the realm of digital amateur radio in Australia. The coverage of this network is impressively extensive, stretching from south of Wollongong, encompassing the bustling Sydney area, and extending north beyond Coffs Harbour. Additionally, the network has strategically positioned sites in the Western and North Western regions of NSW. This coverage area is comparable in size to the United Kingdom, illustrating the vast reach and influence of the ARNSW Radnet.

One of the most appealing aspects of the ARNSW Radnet is its accessibility, especially in terms of cost. DMR radios, which are a part of this network, are known for being among the most affordable radios in the market. This affordability makes the world of amateur radio more accessible to a broader audience, encouraging more individuals to explore and engage with digital radio technologies.
The ARNSW Radnet is more than just a network; it's a gateway to a world of communication and technological exploration. It represents a significant step forward in promoting digital radio technologies and enhancing connectivity among amateur radio enthusiasts in NSW.

For those interested in learning more about the ARNSW Radnet or considering trying their hand at DMR radio, ample resources and information are readily available. The ARNSW website, located at arnsw.net, provides detailed information about the network, its capabilities, and how to get involved. Additionally, the VKDMR website, accessible at vkdmr.com, offers further insights into digital mobile radio and its applications within the amateur radio community. Both these platforms serve as excellent starting points for anyone keen to dive into the world of digital amateur radio.
Matt – VK2FLY

HF Antenna Buildathon

On Sunday 25 February 2024 at Dural, members are invited to series one of a HF antenna day presentation. This event will offer invaluable learning opportunities for all levels of expertise.

Here's your chance to

Gain insights into portable operation techniques.

Learn strategies to enhance your home station setup.

Engage in practical demonstrations led by experienced operators.

Connect with specialists who are eager to assist and guide others.

Reserve your spot now by responding to events@arnsw.org.au.

That's events@arnsw.org.au for a day of practical learning into the world of HF antennas.

Sunday 25 February.

Al – VK2OK

Do You Know Your Directors?

Matt Perkins (VK2FLY) developed a keen interest in electronics at a young age, starting at eight years old by dismantling household appliances. His parents enrolled

him in Sue Brown's (VK2BSB) radio and electronics club at Macquarie Fields, where he learned to build circuits from crystal radios to the popular "Shocker" for the schoolyard.

As a teenager, Matt continued his passion for electronics and even started a profitable business fixing TVs and VCRs and writing business software for Tandy computers while still in school.

After being offered an apprenticeship at Telecom and later a scholarship to study electrical engineering, Matt started an ISP out of his spare bedroom, which eventually became one of Australia's largest privately held ISPs. He resigned from Telstra to focus on Microplex, which was eventually sold to Optus in 1999. Since then, he has focused on Spectrum Networks, one of Australia's largest privately held business telcos.

Matt's interest in amateur radio includes experimentation and digital modes, specifically the fusion of the maker space and radio. He is a supporter of the WIA, A member of his local club, the Waverly Amateur Radio Society, and the VKDMR working group. He also serves as an administrator for the VKDMR IPSC Server and is the ARNSW Radnet Coordinator.

Matt is also an avid aviator, holding a pilot's license and owning an aircraft.

OK, that's it for this month. Next All Access with ba bublished around March 24th 2024.

73from your board and editor Eric VK2VE.

editor@arnsw.org.au of leave a message on 02 9444 0123.