

# WANSARC NEWS

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The monthly magazine of the

Western & Northern Suburbs Amateur Radio Club Melbourne, Australia



[www.wansarc.org.au](http://www.wansarc.org.au)

146.450 MHz FM

**VK3AWS**

28.470 MHz USB

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**Next Club Meeting, Friday 2<sup>nd</sup> February at the TAFE, N.M.I.T. Preston @ 7.30pm**



## Family Fun Day - Bundoora Park

What do you get when you mix some transceivers, antennas, snags, burgers, chickens, a heap of sauce and salad and around 40 hams (of the radio variety) ? The **WANSARC Family Fun Day** – of course.

While it looked like the rain was going to dampen things, the day was quite good, with breaks of sunshine throughout. Operation on all H.F. bands as well as 2 meters, 70cm & 23cm on ALL modes was setup and on display, with gear and antennas provided by many club members – another great team effort, after four years it's virtually automatic to organize.

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## Around the Shack

### THE 2007 JOHN MOYLE CONTEST

If you think you are ready for providing communication assistance at any time then give it a try. You will be surprised at all the things that can go wrong, or right if you plan well. A great way is to combine your trial with a contest. The most appropriate is the John Moyle.

The aim is to encourage portable operation, and provide training for emergency situations. The rules are therefore designed to encourage field operation.

**The contest takes place on the 3rd full weekend in March and runs from 0100 UTC Saturday to 0059 UTC Sunday, 17-18 March 2007.**

This is your chance for a time away from home, play radios, and test your skills. You will meet a lot of fellow amateurs as well. Enter either the 6 hour or the 24 hour section. Designed for you to enjoy, so send your logs to Denis Johnstone VK4AIG / VK3ZUX and make sure he has plenty to do as Contest Manager.

Details and the official 2007 rules can be found on the WIA website. - Trevor Quick VK5ATQ WIA Director

### HAM ATLAS LAUNCHED

If you are a mad keen DX'er or just interested in identifying some of the weird and wonderful call signs around these days, this DX atlas service may be for you; [www.hamatlas.eu](http://www.hamatlas.eu)

This service contains the complete information on all 337 DXCC Entities, besides contains over 3000 pictures and beyond 1100 maps. - Thanks to Mark VK3PI for this info.

### LIARS, USE SKYPE AT YOUR PERIL



Lie detectors are no longer the preserve of shadowy government agencies. Nor are they hard to get. The KishKish Lie Detector, for example, can be downloaded free as an "extra" on the popular internet phone service Skype. It is capable of monitoring, in real-time, the stress levels in a person's voice. Its creator, BATM, says higher sound frequencies are a telltale sign that someone is being dishonest. "What all people have in common is that their stress levels are constantly changing within their current range, changes which indicate the 'perceived jeopardy' or 'danger' of statements being made," reads a product description on the KishKish website. The lie detector is activated whenever a Skype call is placed, and before giving a reading the software calibrates to the general stress levels of the speaker.

A needle meter moves up and down to illustrate variations from the general stress level, and an indicator light turns from green to red if the software detects a "lie".

To avoid legal troubles, the program automatically informs the other person their conversation is being monitored by a lie detector. In what the KishKish team says is proof the device works, it has set up a fictitious Skype user who, when called, plays a recording of a speech given by former US president Bill Clinton, where he famously denies having sex with Monica

Lewinsky. When Clinton says the phrase, "I did not have sexual relations with that woman, Miss Lewinsky", the lie detector immediately registers increased stress levels in Mr Clinton's voice. The creators of the program say that this is proof that he was being dishonest, but it is unclear whether or not the software can detect the difference between a lie and general nervousness.

Other Skype add-ons made by KishKish include an answering machine, contacts book and SMS service.

Skype - which has become popular among tech-savvy users because of its competitive landline and mobile call rates - boasts over 100 million users worldwide, and was bought by eBay for \$US2.6 billion (\$3.2 billion) in September last year.

- Herald Sun Media

### US DROPS CODE TESTS

In a long awaited decision, the Federal Communications Commission (FCC) has announced that it has eliminated the Morse code test requirements for amateur licensing.

This means that the 5wpm tests for both the General Class and Amateur Extra Class operator licenses are no longer required, and an existing no-code class gains HF operating privileges.

The mandatory code requirement was abolished on 5 July, 2003 when the WRC Radio Conference adopted changes to the ITU Radio Regulations. It was then up to the individual radio administrations to implement those changes.

The FCC said, "This change eliminates an unnecessary regulatory burden that may discourage current amateur radio operators from advancing their skills and participating more fully in the benefits of amateur radio." The decision also affects the no-code Technician grade VHF-UHF licence that will now have access to four HF bands as well. The FCC decision came more than a year after it consulted with the public on its 'Notice of Proposed Rulemaking' to abolish the Morse code requirement that generally attracted support for the move.

It had earlier reduced to 5wpm the previous 13wpm for the General and 20wpm Advanced, stating at the time "Morse code proficiency is not necessarily indicative of that individual's ability to contribute to the advancement of the radio art."

- Amateur Radio Victoria.

### ARV 95TH BIRTHDAY BEACON

To celebrate its 95th birthday of Amateur Radio Victoria is running a low power beacon with special Callsign VK3RTS/95 on the 30m band and welcomes signal reports. On 30 November, 1911, the Amateur Wireless Society of Victoria was founded by a meeting of wireless telegraphy experimenters in Melbourne.

In May 1913 it changed its name to the "Wireless Institute of Victoria", and today is the statewide organization, Amateur Radio Victoria. The 5-watt CW beacon will operate for 12 months, with reception reports QTHR VK3WI, via the Bureau or email to [95@amateurradio.com.au](mailto:95@amateurradio.com.au) QTHR VK3WI or the Bureau.

- Amateur Radio Victoria

### 2006: THE YEAR WE WERE SPAMMED A LOT

Almost nine out of every ten emails sent globally is spam, and Australia was one of the most heavily targeted countries this year, according to a report released by Message Labs. In its annual security report, the firm found that 48.1 per cent of Australian email traffic this year was spam, compared to 39.9 per cent last year. This 8.2 per cent increase in the spam rate was matched only by Hong Kong and Singapore, which recorded 10.1 and 15.4 per cent increases respectively.

Mark Sunner, chief technology officer at Message Labs, said spam had replaced viruses as the major internet nasty to watch out for.

"2006 was the year that spammers took the security industry by storm and showcased their new tactics and techniques for mass disruption," said Mr Sunner. "Now accounting for almost nine out of ten emails, spam has categorically shed its title of being a

nuisance and is a perilous threat which all companies need to be protected against." Message Labs predicts global spam levels will rise to 92 per cent of emails next year.

The report found "botnet" attacks to be a major spam driver. These attacks, often facilitated by a virus, hijack groups of computers and use them to send spam messages.

An internet user can be part of a spam-sending botnet without even realizing it. Phishing attacks - social engineering techniques used to fraudulently acquire sensitive information, such as internet banking passwords and credit card details - were also found to be a major cause of rising spam levels.

Andrew Antal, marketing director at Message Labs Australia, said Australians are being specifically targeted by spammers because of our higher vulnerability to phishing attacks.

He said some Australian banks have yet to implement the latest online banking authentication technologies, or have only recently done so, creating a window of opportunity for phishing attackers.

"There are a handful of banks that haven't moved to two-phased authentication," he said, declining to name specific banks.

Mr Antal said a two-phased authentication system involved a dynamic on-screen keyboard, through which an online banking user must enter their login details.

Anti-spam technologies come standard with most internet security software suites, but these aren't "working effectively" enough to combat rising spam levels, said Mr Antal.

This, he said, places the onus on internet service providers (ISPs) to work harder to filter spam "at the internet level", before it reaches users' home computers.

Mr Antal's advice for consumers is to choose "the right ISP that has technology that actually changes with the spamming approaches". But David Freer, senior director of consumer products and solutions at Symantec, makers of the popular Norton security suite, said while ISP-level spam filtering is highly effective, it won't catch everything.

"If you are going to trust yourself only to an ISP solution, something is going to get through," he said.

Mr Freer noted that the bulk of Australia's ISPs currently offer spam filtering technologies, but spam is nonetheless still prevalent. Symantec recommends a "two-tiered approach" - installing an anti-spam solution on your computer, and enabling spam filtering through your ISP. -*Internet*

### **JOHN MOYLE CONTEST 'GET ORGANISED'**

Denis Johnstone VK4AIG / VK3ZUX, Contest Manager for the WIA John Moyle Field Day Contest, has put the word out around the ridges that it is high time that Radio Amateurs start getting organized for the John Moyle Field Day as the weekend of March 17 and 18 is only a few weeks away! Denis is looking forward to increased participation by Clubs and individual Radio Amateurs this year with the bonus of improved radio conditions as we get further away from the Solar Minima. So get cracking and get organized - either for home or field operations - in the 2007 John Moyle Field Day Contest. - *WIA News*

### **THE PHANTOM 123**

The problematic CTCSS tone 123Hz is not the standard for interference prevention on amateur repeaters in VK3, where 91.5Hz has been adopted as the preferred tone.

A meeting of VK3 repeater owners and managers 18 months ago agreed to use 91.5Hz after considering interstate surveys and technical information that found the existence of what is known as Phantom-123. This mysterious Phantom tone occurs, probably through mixing and other mechanisms on commercial sites, and causes difficulties for co-sited amateur repeaters with 123Hz tone fitted. Meantime, Amateur Radio Victoria has been helping improve several 70cm repeaters by provided tuned band pass diplexers to help overcome interference that can be experienced from commercial co-sited transmitters.

These diplexers, worth around \$3,500 each new, not only reduce interference but are also very stable in a wide temperature variation environment. The 70cm repeaters VK3RGL Geelong, VK3RBO Bendigo and VK3RCU Mt Moliagul are all getting a band pass diplexer donated to Amateur Radio Victoria by the State Government and re-tuned at Amateur Radio Victoria's expense. - *Barry Robinson VK3JBR (ARV)*

### **NEXT FOUNDATION STUDY & ASSESSMENT - ARV**

The next weekend courses and assessments are 17 & 18 February. For inquiries contact - Barry Robinson VK3JBR 0428 516 001 or [arv@amateurradio.com.au](mailto:arv@amateurradio.com.au)

### **PIRACY ALIVE IN PRESTON**

Interesting to hear an "F" call with a 'history' before gaining the call to be frequently 'talking' to other "F" calls on a 70cm repeater. On looking up the calls on the ACMA database, they are yet to be issued! Clever trick to appear operating all above board. These same persons once used calls starting with VK3R\*\* and wondered why they were questioned! - *Mick, Editor*

### **DOOMSDAY CLOCK MOVES CLOSER TO THE END**

Climate change and nuclear proliferation have moved the world closer to apocalypse, Professor Stephen Hawking and his colleagues have warned. At the same time, the hand of a Doomsday Clock has moved two minutes closer to midnight.

The clock, devised at the dawn of the nuclear age, has made official what many now feel in their bones — that mankind is heading for catastrophe.

The Bulletin of the Atomic Scientists, which created the Doomsday Clock in 1947 to warn the world of the dangers of nuclear weapons, advanced the clock to five minutes to midnight.

It was the first adjustment of the clock since 2002, and the fourth time since the end of the Cold War that the clock has ticked forward. "We foresee great peril if governments and societies do not take action now," said Professor Hawking, who is a member of the bulletin's board of sponsors.

The move from 11.53 to 11.55 has been prompted by the failure to curb the atomic ambitions of Iran and North Korea, leading to a "second nuclear age". "As scientists, we understand the dangers of nuclear weapons and their devastating effects, and we are learning how human activities and technologies are affecting climate systems in ways that may forever change life on earth," said Professor Hawking.

And Lord Rees, the president of the Royal Society, said man faced the prospect of terrorists detonating a nuclear weapon in the heart of a city, "killing tens of thousands along with themselves, and millions around the world would acclaim them as heroes".

But 21st century technology could, he said, offer "immense opportunities" for the developing and the developed world.

Professor Hawking described how the Bulletin of the Atomic Scientists was founded in 1945 by scientists deeply concerned about nuclear weapons, "the most destructive technology on earth". In 1947, the bulletin introduced its clock, kept in Chicago, to evoke both the imagery of apocalypse, midnight, and the contemporary idiom of a nuclear explosion — the countdown to zero. Since it was set to 11.53 in 1947, the hand has been moved 18 times, and was as far as 17 minutes away after the demise of the Soviet Union.

The closest it came to midnight, 11.58, was in 1953, following the successful test of a hydrogen bomb by the United States.

"But for good luck, we would all be dead," said Professor Hawking. "As we stand at the brink of a second nuclear age, and a period of unprecedented climate change, scientists have a special responsibility."

The decision to move the clock is made by the bulletin's board, which is composed of prominent scientists and policy experts, including 18 Nobel laureates, in co-ordination with sponsors.

- *Telegraph, Reuters*

## WANSARC Family Fun Day 2007 Bundoora Park

After waking up at 5.00am and arriving at Bundoora Park at 5.58am, I staked WANSARC's claim to Rotunda No: 1.

After unpacking the gear and setting it all up WANSARC station, **VK3AWS** made its first call on 146.450 MHz at 6.55am.

Graeme **VK3FTTG** at home, Cragieburn returned the call with reports both ways at 60+ over, not surprising given the height at Mount Cooper and the fact of having 5.2 meters of a Diamond X7000 for VHF/UHF. A few minutes later Bob **VK3EL** said he was not far away, so I knew I wasn't the only foolhardy one awake and outside in the cool brisk air setting up equipment. A portable generator was used to supply 'mains' power to a 40amp switch mode supply feeding an IC-910H and IC-706 MKiiG, soon to be dual IC-706 MKiiG's with Johnno's, **VK3FMPB** arrival. The X7000 via a triplexer served the IC-910 and Bob's half size G5RV and also a long wire via an ATU served both HF radios well.

160 meters to 10 meters all loaded up OK with a good match obtained without any problems.

With so much open space and trees well spaced it's a very good place to operate, no wonder the same venue is used each year.

Dan **VK3DWH** soon arrived and HF and assisted Bob in erecting the G5RV with Bob's extendable mast. By mid morning most of the troops had arrived and cooking time was at hand. Amazing just how many folk arrive just in time as food is nearing BBQ perfection, the smell must travel as far and fast as the RF! From what I remember, nothing was overlooked this year, apart from some fly spray; all events were enjoyed by everyone – even though some were watching the skies with caution. This probably caused the numbers to be down a little from last year – but if you stayed at home all we can say is you missed out – just ask at next meeting!



Ready for VHF at the break of dawn.



Red generator ran the whole show all day.



Bob preparing the stand for the GR5V.



Checking the half size GR5V setup.



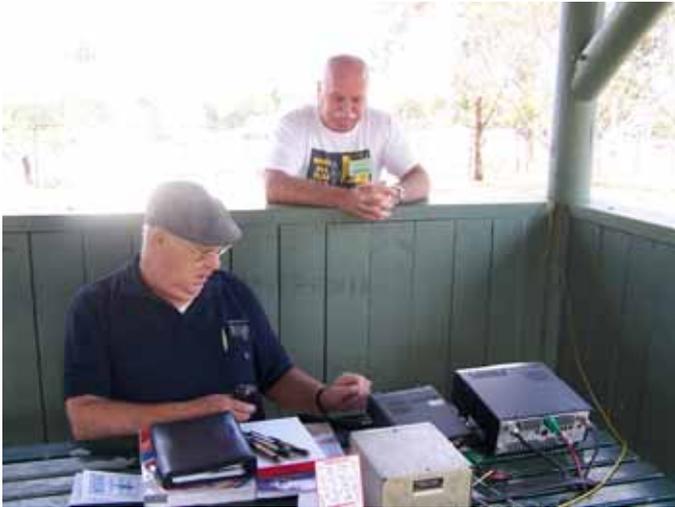
ATU match and feed to antenna's



X7000 inspected by curious onlookers.

80 snags and 40 burgers were cooked by our chefs, overseen by Mark **VK3PI**, duly snapped up by hungry attendees. We even had some new persons yet to go for their ticket and visitors from RAAF William's club paying us a visit. A few enquiries about the new Foundation license were taken, with the Foundation License Manual getting a look over. Repeaters as far as Latrobe Valley were heard and some contacts on HF were made as well as listening to the WIA Sunday broadcast. But like last year, many of the senior OM's didn't even look at the radios, they enjoyed a face to face QSO and caught up on much news and a welcome for many to 2007.

Thanks to Graeme **VK3FTTG** and John **VK3FMPB** who operated the radios for much of the day, which gave your editor a break since the early hours, but its amazing how fast the time goes when your doing something enjoyable, plus with each year its almost automatic, very good training for events such as the John Moyle Field Day, which is not far away being held on 0100 UTC Saturday to 0059 UTC Sunday, 17-18 March. Thanks is owed to the committee for organizing the day and providing all the food, which was plentiful along with tasty salads, ice cold soft drink, cakes, milk, tea and coffee and biscuits. I'll be back next year... - Mick **VK3CH**



Bob and Graeme testing the gear after completing antenna setup.



The gear all ready for operation 160meters to 23cm, all modes.



Mark and Bob preparing the BBQ (does Bob know how to relax?)



Lunch in full swing



Heaps of food...



VK3FAME & VK3FIRE toasting marshmallows...

Bob and Dan turning some more snags...



## WANSARC Family Fun Day 2007 Bundoora Park – Comments from Mark, VK3PI

The WANSARC family day has come and gone again for this year and despite the high winds over 40 people attended consuming 80 sausages, 72 hamburgers, 48 cans of soft drink, bottles of water, bread, rolls and assorted salads. And of course who could forget the NK cake at the end of the meal!

The family day has again been very much a team effort and my thanks to all of our club members who contributed time, equipment and effort to make the day a success.

It is always difficult to single out efforts, however I will make mention of a few -

**Mick VK3CH** for his ability to wake up before dawn and secure the rotunda so that no others can "steal" it. **Bob VK3EL** for assisting me all day with the barbecue duties - if smell is anything to go by, Bob, we did a good job. My Labrador thought that I was a walking hamburger when I went out into the backyard to clean an esky!! And like me I am sure your clothes took themselves off and marched into the washing machine. **Chris VK3KQU** for his kind donation of some snags and chicken burgers. **Jock VK3UB and Lyn** for a marvelous salad (your bowl is in safe hands and will be returned ASAP - empty of course) and to **Pam VK3NK** for the third course of cake. **Graeme VK3FTTG** has ensured the clubs paper cup inventory will remain strong for coming events.

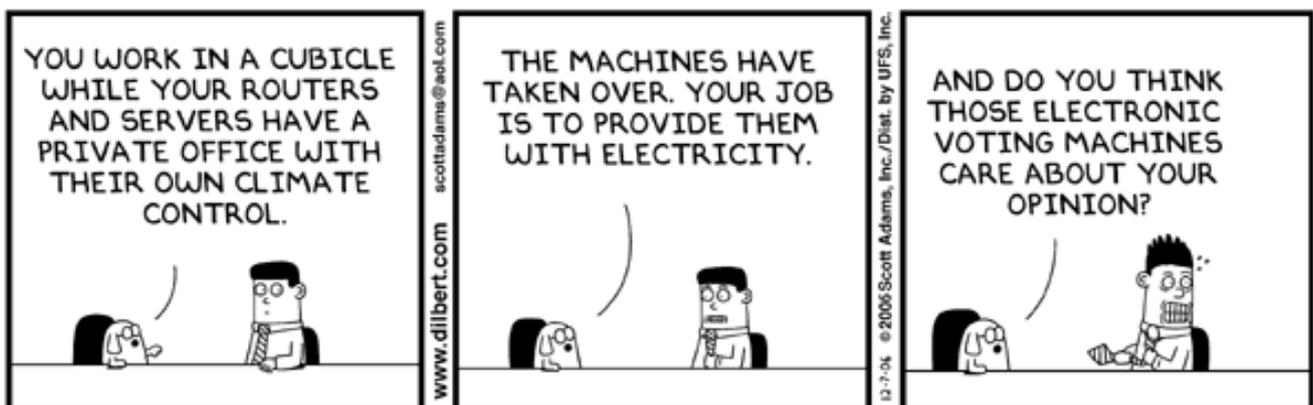
To all who attended thanks for making the day and we look forward to seeing you all again next year.

73 Mark VK3PI



### Amusements

*There are three paths to ruin -- gambling, women and technology. Gambling is the quickest, women are the most enjoyable, but technology is the most reliable. – Unknown*



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## One Antenna – One Triumph – Ian VK3IV

Many WANSARC members may know that your editors OM, **Ian VK3IV** (formally *VK3CH, VK3BBA*) returned to Melbourne after being in the country for a few years. After looking at a few places he decided on one of the new housing estates in Melbourne's north in Cragieburn, which is just 25km from the CBD and 216 meters above sea level.

One of the perils however, being an amateur operator, is that, along with 'designer' neighborhoods and streets with underground power and manicured gardens are "Covenants" that are written into the Titles of the properties restricting what you can do with them. If you have a copy of October 2006 WANSARC News, **Graeme VK3FTTG**, who is only 470 meters away, wrote an article on his semi-clandestine antenna set up at his home.

On the Covenant (Title) documents amongst many things, has these words any ham doesn't want to read...

### ***“EXTERNAL STRUCTURES***

***2.1 not to erect any external sign, hoarding, tank, clothes line, letter box, mast or pole of any description or television antenna or radio aerial without the prior written consent of the transferor or Delfin;***

***2.2 not to erect any external flood lights or spotlights or any lights illuminating any pool or tennis court or other similar enclosure without the prior approval of the transferor or Delfin.”***

After having a chat to persons that advise hams about antenna applications I was told that if you have signed a Covenant, then you have essentially signed a document to be bound by them and hence no legal challenge can be undertaken with any chance of success.

Not being one to give up I told Dad, leave it to me to deal with the Covenants Office about attempting to get the OK to put up something to get him back on air. After looking at the options I felt anything for H.F. was no good, so I picked VHF/UHF as the most likely option. Figuring that the persons I was dealing with were probably not really going to know, understand or really care what ham radio was. Later on I found out that was the case, the only concern they had was purely the 'look' to the streetscape.

In fact one email I got said... "A Zincalume finish is not allowed."

Well that's good, I don't think the signals would be too good with that either!

Feeling plucky I decided to ask permission to put up a Diamond Fiberglass X7000 Vertical, all 5.2 meters of it! I would either get lucky or still have a good compromise to haggle with. I suggested that they could go to the local shopping centre, where an X7000 was visible, that one being used by **Sexy Socks (VK3CH portable)** at the shopping centre.

Sure enough they felt 5 meters of antenna was too visible, but they said it was OK "if the antenna was mounted at ground level next to the outside wall" – thanks, but no thanks!

So I asked for 3.4 meters being an **X6000, 2m/70cm/23cm has 6.5/9/10dB gain** and is 3.05m long, which will suit a **IC910H 2/70/23 All Mode Transceiver**.

After 2 months of not being given a firm decision and later told the girl that was dealing with is now on leave (*I have that affect on people! Hi*) I thought another approach was needed.

The house was still being built and the guttering had just gone up without the down pipes. So an antenna was propped temporary on the pole run through the hole until the upper length was 3.5 meters poking up and then a series of photos was taken from various view points around the house from a distance and these marked off on their street lot drawings.

The whole lot was placed on a CD and dropped off to their office with an email asking if there was anything else I could help or provide them with. Finally about a month later a letter arrived, a very formal 'Covenant Approval Notice'.

***“COVENANT APPROVAL - The approval of the attached building plans for the above site is subject to the following conditions:***

***1. Delfin have no issue with the siting of the 3.2m antennae, subject to the following conditions:***

***As previously advised no zincalume finish and must be in position noted on plans, thus minimizing the appearance which will provide an overall improved appearance of your home (not to sit on top ridge of roof),***

So a picture really is 1000 words. Plus the fact of providing accurate information and being politely but persistent helps!

Mock setup with tape measure as proof



X6000 in position



Ready to go, now just need a better table



The antenna might 'creep' up the roof a little bit, some tests with signal reports are needed, but good reports have been given so far. As all power is underground and no cable TV repeaters to leak RF, it should be good for weak signal work. No pagers here either. So when you hear **VK3IV** on air, say "Hi" and give him a report – it was a bit of a saga, but Amateur Radio won in the end!

# WANSARC VK3AWS

**PRESIDENT:** Graeme McDiarmid VK3NE [vk3ne@wia.org.au](mailto:vk3ne@wia.org.au)

**SECRETARY:** Mark Stephenson VK3PI Telephone: 0400 443 218 [vk3pi@optusnet.com.au](mailto:vk3pi@optusnet.com.au)

All correspondence to be addressed to the **SECRETARY: PO Box 336, RESERVOIR 3073**

## WANSARC CLUB PROFILE

### History

The Western and Northern Suburbs Amateur Radio Club (WANSARC) was first formed in 1969 and since then has served the needs and interests of amateur radio operators, short wave listeners and those interested in hobby radio and electronics. The club is not gender specific, having both female and male members. Members come from all walks of life with a mix of experience, young and mature, novice and technical. The most important aspect of the club is the willingness of all members to share their knowledge for the benefit of others. Members mainly reside in the west and north of Melbourne; however membership is encouraged from all interested.

### Meetings

Building K, Northern Metropolitan Institute of Technology (NMIT), St. Georges Road, Preston (Western side between Bell Street and Cramer Street) Melway 18 E12 **PARKING at NMIT- Members please note that parking adjacent to the club room building K is illegal and NMIT staff WILL book any cars which are parked in that area. ALL members must park cars in the main car park to the WEST of building K. Just look for vehicles with lots of aerials!** Meetings held on the 1st Friday of each month (excluding January) commencing at 7.30pm local time.

Talk in on 146.450MHz FM—call club station VK3AWS.

### Benefits

Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of like minded radio and electronics enthusiasts, excellent club facilities and environment plus an informative monthly newsletter for members to post articles, news, classifieds for all radio, test equipment, etc, featuring Amateur Radio news from WANSARC, WIA, ACMA, Melbourne Clubs, VK and Worldwide.

### Club Nets

146.450MHz FM each Tuesday evening commencing 7.30pm local time.

Sometimes the NET is linked to Echolink on 146.450 MHz during the WANSARC Net on Tuesday nights and *only when VK3FY is present at his QTH.*

### More Information

**Website:** [www.wansarc.org.au](http://www.wansarc.org.au)

**Committee:** Chris VK3FY,  
Dan VK3DWH,

Bob VK3EL,  
Tony VK3BZT

**Postal:** WANSARC PO Box 336 RESERVOIR 3073

## *A proud tradition of supporting hobby radio and electronics enthusiasts since 1969*

All editors' comments may not always represent the opinions of other club members of **WANSARC**.

In any case anything stated is to promote interest and active discussion on club activities and the promotion of Amateur Radio in general.

Contributions to **WANSARC** are always welcome from any part of the world. You can either post material to the Post Office Box address at the top of this page, or email your submission to the editor direct at [vk3ch@wia.org.au](mailto:vk3ch@wia.org.au)

Email attachments not to exceed 1 Mb in file size. Attachments of (or thought to be) executable code will not be opened.

Other persons or radio clubs may edit or copy out such as they like from the magazine but a reference to **WANSARC** is appreciated.

Other articles that are credited to outside sources should be asked for their permission if they are used.

While we strive to be accurate, no responsibility will be taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events should always be checked with a reliable source closer to the event – coming up on the **WANSARC Tuesday evening NET on 146.450 MHz starting at 07:30 pm AEST** is recommended to discuss and confirm information and any dates.

If not delivered within 7 days, please return to:  
**WANSARC P.O. Box 336 Reservoir 3073**

**“WANSARC NEWS”**

*Monthly journal of the*

**Western & Northern Suburbs Amateur Radio Club**