



Next Meeting Friday 6th September 7.30pm General Natter Night

Advance Notice

**NOT THIS MEETING, BUT NEXT,
Club needs to ratify new Association Rules Changes &
October Meeting will be a (Bargain) Radio Item Auction Night, more details next issue...**

A reminder we have a door prize each meeting, but you only win it if you are there! Remember everyone that is at the meeting gets a door ticket and each time you check in to the weekly Net you get allocated an extra ticket, increasing your chances.

Vice President John hands over the TV to Mark VK3UA,
August monthly door prize was an LG LED 80cm High Definition Widescreen Television



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Last Months Meeting / Around the Shack

About 20 members braved the cold to attend the August meeting. Don VK3HDX had a demo of the new Icom IC-7100 radio. ↓



We had a new member sign up, Mark VK3UA, who went on to win the raffle draw, his winning ticket being one issued for checking into the weekly WANSARC Net.

The August monthly prize was an LG LED 80cm High Definition Widescreen Television.

Later on Bob VK3VO gave a talk on ADS-B Flight tracking. ↓



(Insert is the dongle receiver)

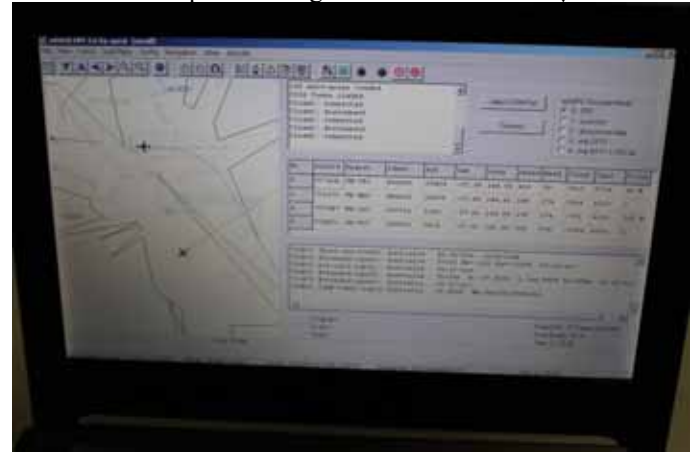
Bob said his whole system cost him under \$11.

Bob's homemade 1090MHz antenna. →
A purchase of a dongle and downloading freely available software



and making a simple antenna was all that was required.

All the details are in the August edition of Silicon Chip magazine. A screen shot of planes being tracked in real time. ↓



The Silicon Chip article ↓



ADS-B is a system in which electronic equipment onboard an aircraft automatically broadcasts the precise location of the aircraft via a digital data link. The data can be used by other aircraft and air traffic control to show the aircraft's position and altitude on display screens without the need for radar.

The system involves an aircraft with ADS-B determining its position using GPS. A suitable transmitter then broadcasts that position at rapid intervals, along with identity, altitude, velocity and other data. Dedicated ADS-B ground stations receive the broadcasts and relay the information to air traffic control for precise tracking of the aircraft.

- Automatic – Requires no pilot input or external interrogation.
- Dependant – Depends on accurate position and velocity data from the aircraft's navigation system (eg. GPS).
- Surveillance – Provides aircraft position, altitude, velocity, and other surveillance data to facilities that require the information.
- Broadcast – Information is continually broadcast for monitoring by appropriately equipped ground stations or aircraft.

DS-B data is broadcast every half-second on a 1090MHz, digital data link.

Broadcasts may include:

- Flight Identification (flight number callsign or call sign)
- ICAO 24-bit Aircraft Address (globally unique airframe code)
- Position (latitude/longitude)
- Position integrity/accuracy (GPS horizontal protection limit)
- Barometric and Geometric Altitudes
- Vertical Rate (rate of climb/descent)
- Track Angle and Ground Speed (velocity)
- Emergency indication (when emergency code selected)
- Special position identification (when IDENT selected)

SHEPPARTON HAMFEST - SEPTEMBER 8th

The Shepparton and District Amateur Radio Club's annual Hamfest will be held on Sunday 8th September at St Augustine's Hall, Orr Street Shepparton.

This is the usual venue and the doors will open at 8.00am for Traders and 10.00am for the public. Vic Roads map 273 Ref M8.

MELBOURNE DVB-T SWITCH OVER IN 3 MONTHS

Melbourne and surrounding areas are switching to digital only TV on Tuesday 10 December 2013.

This will be the last area, along with remote Central and Eastern Australia, to complete the Analog switch-off in Australia.

The Melbourne switchover region includes Kilmore, Sorrento, Wonthaggi and Warragul.

Digital Switchover Task Force claim that 95% of the 1,724,100 households in Melbourne have already moved to digital TV.

See more at -

media.digitalready.gov.au/media-centre/melbourne-media

VK HIGH POWER TRIAL LIMIT ENDS: ACMA

The Australian Communications and Media Authority (ACMA) has withdrawn its trial of the use of up to 1-kilowatt power output at the end of August.

The ACMA met with the Wireless Institute of Australia (WIA) and said that based on data it obtained during the trial, it would end the temporary arrangement whereby radio amateurs could apply for the higher power limit.

The main reason put forward by the ACMA was the apparent lack of awareness of electromagnetic radiation requirements among the amateur radio community.

The WIA has long sought the higher power for Advanced licensees who claimed to be disadvantaged, mainly in contests, by having a 400w PEP limit when some other countries allow 1-kilowatt to be used.

When its sister IARU member society the New Zealand Amateur Radio Transmitters (NZART) recently received the higher limit on similar grounds, the WIA was encouraged to again pursue the matter.

The ACMA has previously dismissed WIA suggestions that higher power should be permitted, on the grounds that it would potentially cause interference.

However a lifting from 500w to 1,000w for New Zealand radio amateurs saw the matter being revisited by the ACMA.

The 18-month trial began in March 2012 and was due to end this month, allowing the ACMA and the WIA to evaluate any impacts before considering a long term arrangement.

The temporary arrangement confined the use of higher power to approved applicants on the 80m band including the DX window, 7000 to 7100 kHz, and the entire 20m, 17m, 15m, 12m and 10m bands.

Applicants seeking the variation of their licences to permit higher power were required by the ACMA to demonstrate compliance with the relevant exposure to radiation standard.

A very disappointed WIA has managed to keep the door open by convincing the ACMA to revisit the issue next year, and is certain to address the ACMA concerns.

What the ACMA found during the high power trial was a lack of awareness in the amateur radio community of the obligation to comply with the public exposure to electromagnetic energy - and this was not confined to any class of licence.

The ACMA carries out regular audits of radio amateurs on a random basis to test their awareness, knowledge and compliance with exposure limits that affect all users of the spectrum in Australia.

The issue of electromagnetic radiation is regularly raised with politicians. In 2003 that caused a Register of EMR Health Complaints to keep track of concerns. You can read analysis at: www.arpana.gov.au/pubs/emr/Analysis12.pdf ~ARV Website

TUESDAY NIGHT NET

8.00 PM

146.450 MHz FM

NET CONTROL STATION

VK3AWS

*Join the Net, Keep up to date with news from club and members
Don't forget the door prize each meeting - each time you check in
to the weekly Net you get allocated an extra ticket, increasing
your chances of winning something really worthwhile.....!!!!*

HAM TV HEADS TO THE ISS

A Japanese HTV-4 cargo vessel carrying the new Ham TV gear was successfully launched to the International Space Station on Saturday, August 3rd. Once activated, the primary mission of Ham TV is to perform contacts between the astronauts on the ISS and school students by adding real time video to the current voice only QSO's within the ARISS program.

The European Space Agency's Columbus module on the ISS will host the 2.4 GHz video transmitting station in addition to the existing 2 meter FM amateur radio station. The new equipment can broadcast images from the ISS during the school contacts or other downlink other pre-recorded video images up to 24 hours a day. The IARU Amateur Satellite Frequency Coordination Panel has announced frequencies of 2422.0 MHz and 2437.0 MHz for use by the Ham TV project. It is currently planned to transmit using the DVB-S signal format with 10 watts of power.

More about the project is on the web at tinyurl.com/iss-ham-tv
~ARISS

80M BAND USED FOR WIDEBAND VIDEO/DATA

Trials in the UK have used 3.613 MHz for 24 kHz bandwidth high-speed data and video transmissions. In recent years there has been increasing military interest in high-speed data on HF.

By using modern modulation techniques a SSB channel can support a raw data rate of 12800 bps and wider transmissions can support proportionally faster data rates. Trials have shown that color video at 15 frames per second can be streamed on HF in a bandwidth of just 18 kHz. That is the type of bandwidth that may be accommodated in the amateur radio 29 MHz band. In the UK HF trials have taken place between Blandford and Portsmouth (Portsdown), and Arbroath and Portsmouth. They used frequencies, licensed by Ofcom, of 3.613, 6.390, 7.975 and 13.047 MHz with bandwidths up to 24 kHz and power up to 400 watts.

Information on these trials can be seen at http://www.hfindustry.com/meetings_presentations/presentation_materials/2012_sept_hfia/presentations/RC_WBHF_UK_Trial_2012.pdf

USA trials of video streaming over a 1320 km HF path http://hfindustry.com/meetings_presentations/presentation_materials/

[2011_sept_hfia/presentations/3_Rockwell_WBHF_High_Order_QAM_OTA_Results.pdf](http://hfindustry.com/meetings_presentations/presentation_materials/2011_sept_hfia/presentations/3_Rockwell_WBHF_High_Order_QAM_OTA_Results.pdf)

Military Aerospace reports that short wave radio (HF) is being considered as an alternative to Satellite communications (SATCOM)

<http://www.militaryaerospace.com/blogs/aerospace-defense-blog/2013/07/are-costs-and-vulnerabilities-making-military-leaders-nervous-about-satellite-communications.html> ~Internet

ILLW Lady Bay Lighthouse, Warrnambool

It's that time of year again. August and I can't wait to get in my car. Which has been loaded with all my radio stuff for the trip head down the coast. This year I am heading to Warrnambool and the lady bay lighthouses.

I get to go for a nice long cruise in my car and set up my radio gear. It's just like in the park. This time I'm in a lighthouse. No chucking ropes up trees to get an elevation of a measly 3 or 4 metres or so by virtue of a tree branch up at the park. I have 34 metres at my disposal this time. Well, not really at my disposal. It's VK3UT Greg's gig and he is the boss.

Wilfred our intrepid traveller is back from PNG and he accompanies me down to Warrnambool for the weekend.

We were at Latitude 38°23.6' S, Longitude 142° 29.3' E which are the co-ordinators for both lighthouses, that is Lady Bay Upper and Lady Bay Lower, they being so close together, in the vicinity of Kelp St and Merri St, just near the beach.

The lighthouse itself or themselves, there are two of them of course, were built in 1858-9 from Basalt quarried from the Maribyrnong river in Melbourne. The first is a true light house and the second is more of an obelisk which has a light perched on the top of it. What is an obelisk? I hear you ask.

An Obelisk is a tapered four-sided pillar, originally erected in pairs at the entrance to ancient Egyptian temples. The Egyptian obelisk was carved from a single piece of stone, usually granite, and embellished with hieroglyphics. It was wider at its square or rectangular base than at its pyramidal top, and could be over 100 ft (30 m) high. During the Roman empire, many obelisks were transported from Egypt to Italy. A well-known modern obelisk is the Washington Monument.

Source: <http://www.merriamwebster.com/dictionary/obelisk>

The history of the two lighthouses is interesting and voluminous. Too voluminous in fact to go into here so I will have to leave it up to you to find out if you feel inclined. I have a book purchased from the Flagstaff hill Maritime village which is the organisation that care for and run the area where the lighthouses are situated which you are welcome to borrow if you like.

So, we're off to the event, run by VK3UT Greg who lives in Warrnambool, lucky him no 3 hour drive just to play radios today.

I spent some time on a radio talking to a few stations in other states but not too much more than that.

The wind was strong and the temperature was cold, there was not a lot that Wilfred and I could do the team was so well set up. The team was so well set up, they even had a police communications van to work out of, so they had everything under control. Therefore there was not a lot we could do really. We'll try again next year.



← Far L, Mark vk3ua, Greg vk3ut, Ron vk3ftm, Peter vk3pah with the 40M vertical. Ground radials retractable tape measures, braid soldered to the end.
← 160 Metre Off Centre Fed, apex just under flag, wires are the top 2 running away from the flag pole. Lady Bay Upper lighthouse in the background.



Police van loaned for the weekend for "communications training". K9Mobile in front ↑

↑ 40 Metre vertical

20 metre sloper ↓

John vk3fmpb ↓ Wilfred vk3dwa



The core team in the rain under the 4E 20 Metre beam - Greg vk3ut, Robert vk3arm, Peter vk3pah, Shaun vk3vly, Ron vk3ftm ↑ (Ron, VK3FTFM, has recently passed the standard exam and waiting for new callsign)

Until next year, Wilfred and Johnno

Photos provided by Mark, VK3UA, with thanks, printed with permission

ATV QSO Party 2013

PLANNING, PREPARATION & TESTING

Preparations for the ATV QSO Party started months prior by Mick VK3CH.

This was the 3rd annual World Digital ATV QSO Party, originally a part of the centenary celebration for Amateur Radio Victoria, now it is an annual event.



Instead of just having ATV from the shack this year, Mick decided to run power and video from the house shack to the rear yard and have a second ATV "studio".

So radio liaison could be maintained from the back yard, two surplus radios were installed outside. The 2820H (2 meters & 70cm) and ID-1 (23cm) radios that used to be mobile were setup in the yard. As they can not be fully remote controlled over an excessive cable distance, both the radio body and control heads were installed outside. Lunchbox's were used to house the electronics and protect it from the rain and spiders and other crawling critters. A spare X7000 VHF/UHF tri band vertical coax feed was routed over the roof to the yard, giving an independent station from the shack.

With improvements recently to VK3RTV the received signal to the secondary ATV receive beam was steady to the TV outside. Tests with the radios on voice on 2/70 and 23 all done weeks prior, as well as test ATV transmissions, which were successful. A video 100Ω balun using CAT5 leads for video and stereo sound from the HD camera back to the main ATV transmitter in the house saves using expensive video leads, especially going over the roof exposed to the elements.



Rear Yard Camera and also ↑ DC power feed from the shack

A another spare CAT5 cable over the roof was used to provide a serial RS232 data link back to the ATV transmitter upstairs, so full control from the back yard was possible via a laptop computer, to save a run upstairs if changes to power or frequency were required.

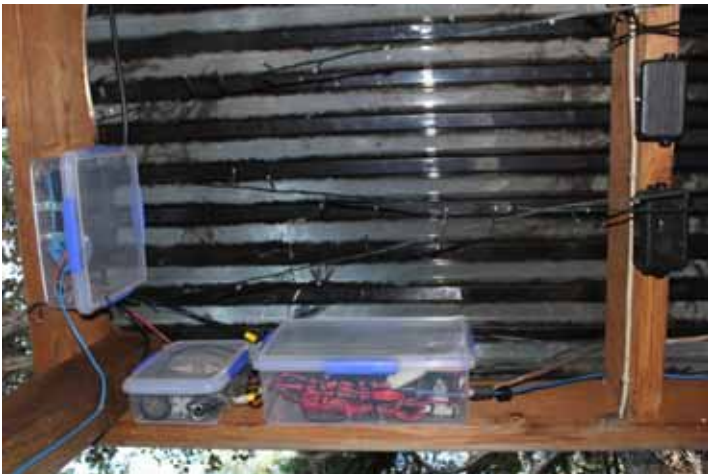
Due to the length using RS232 it was not reliable, the solution was to use the house WiFi access to control the ATV TX.

As the radios take DC power from the shack supply additional ferrite chokes are used to eliminate noise and a 10,000 μF electrolytic capacitor mounted at the DC lead terminal block local to the radios with RF bypass ceramic capacitors keep the DC supply "clean".

Spare additional fly leads provide DC to cameras and portable TV saving the need to bring their DC adapters downstairs.

As the IC2820H radio can dual watch two spots, both WANSARC 146.450 and ATV Liaison 147.400 can be continually monitored, insert of the green display seen in the picture. All the radios have DV mode (Dstar) as well.

The speakers are compact, they fill the yard with clear audio, if the volume is up, you can hear it a long way, that includes next door.



Looking up at (L-R) ID-1, Triplexer and IC2820H radio units ↑ Speakers for both radios can be seen to the right, very clear audio



23cm ID-1 (yellow screen) and the IC2028H (green screen) Microphones coil inside boxes when not in use. ↑

DAY 1 - FRIDAY EVENING ATV QSO PARTY - LOCAL HOME QTH OPERATION

Australia, the USA and the world, via the British Amateur Television Club website, took part in the annual ATV QSO Party, which had more ATV operators involved by direct transmission or through Skype technology. All transmissions were on the Digitised Repeater VK3RTV in the Melbourne-Geelong area with Peter Cossins VK3BFG the anchor and net control. ATV stations in the VK3RTV footprint liaised with Peter VK3BFG on the voice repeater VK3RML. Remote or other stations co-ordinated via Skype. On Friday we had stations in VK2, VK3, VK7, VK4 and Brisbane Digital Repeater VK4RKC anchored by Danny VK4KI, and VK5.



Trevor VK3ATX, Camera man at Micks place



Mick on ATV from back yard



Peter Cossins VK3BFG opening address



Above photos of screen shots of TV as Friday night stations gave their ATV presentations.
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↑ Mick's rear yard ATV "studio"
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The "roll call" of ATV stations checking in and giving some presentations on what they have been up to on Friday night were, VK3KQ Damian, VK3CH Mick, VK3DQ John, VK3PB Peter, VK3WWW Jack, VK3BFG Peter, VK3LL Ralph, VK3ATV John, VK3EME Mark, VK7OTC Justin, VK5DMC David, VK5ADM Don, VK7AX Tony, VK7EM Winston and from US, KE6BXT Don. A wide variety of subject matter and projects were discussed and visible. Its an adult "show and tell" like back at school....!

DAY 2 - SATURDAY ATV QSO PARTY - PORTABLE OPERATION, ROTUNDA 6, BUNDOORA PARK

In the lead up to the ATV Party another location was tested, but ATV to the repeater from the site failed, mainly due to its lack of height and nearby obstructions. So I decided to stick with Bundoora Park, a known location that works into VK3RTV. To ensure a claim to the Rotunda another dawn arrival was done, giving lots of time to setup the gear.

Due to the unknown exact start time and for future use, a new 100 Amp Hour 12 volt deep cycle battery was purchased along with a Pure Wave 12 volt to 240v 300 watt AC Inverter, which will power a bigger TV and anything else requiring mains power. The battery itself will run FM/SSB transceivers and HD camera. It works out cheaper to put switch mode power supplies into any ATV TX running on 24 volts, than to purchase another battery, which does not need to be 100 amps. Now the choice of either battery or generator power can be made depending on the portable location. On Saturday prior, a test from the park was done to see how long the battery lasts and the discharge rate. Melbourne ATV watchers also got to see a Port/Chilli/Garlic Roast Duck eaten, followed by a Roasted Leg of Lamb at the rotunda... The inverter was very noisy of HF, later found wrapping it in tinfoil either grounded, or bonded to negative, fixed the problem. Later it was enclosed in a "Faraday Gage" of earthed printed circuit board soldered into a neat tight fitting tube, HF noise gone!

On Saturday was the link into the W6ATN network of ATV repeaters in Southern California, involving quite a few stations which was very interesting. The Australian anchor was again Peter VK3BFG with Don Hill KE6BXT in Mission Vieja as the Southern Californian anchor, both streamed video to the British website. Ken Konechy W6HHC from Orange County California gave an update on the DATV Express project, jointly run by radio amateurs in the United Kingdom and USA, to develop a cheap DVB-S ATV transmitter. One of the very few Digital ATV repeaters in the USA, WR8ATV in Columbus Ohio joined in this year.

Arriving at the park 6.30am on a clear sunny day, Mick set up at a lazy pace ready for the ATV link up. For VHF liaison the radio in the car "watched" the usual 147.400 and the IC-9100 from home was covering VK3RML liaison. All went well apart for a "N" connector that just fell apart, with a missing piece unable to be found, but as it was the ATV RX it was hoped that an 'earth' side bit of wire would suffice, which it did, but caused a delay in setting up, but as we had hours before the ATV QSO link up was to start, it was not the drama it could have been.



Breakfast enjoyed, put live to ATV before link up, its fun to tease and annoy John VK3DQ with food ↑



The station setup ready to go ↑
Separate battery allows ATV battery power to last



Lunch in the smoker ↑



Lamb Ribs / Shoulder with hickory honey mustard ↑
Another full layer of ribs can be seen on grill below

The night before, in the back yard, it cooked a nice garlic infused pork belly

Mick enjoys the 3 hour smoked lamb ↓



Transmitting video to ATV QSO Party ↓



DVB-S / DVB-T & VHF Antennae ↓



The weather was just great, nearly sunburnt, a real taste of summer on the way. But the whole day had only Mick and Trevor assisting at the park, no visitors at all. So much food was left over my dog ate very well that night... A few kg of really top notch snags from Prahran Market ended up returning home. I was so busy setting up or attending the BBQ I forgot to photo all the ATV stations. Jack VK3WWW has recorded both days of the ATV QSO Party and will make a DVD.

The ATV link up started on time at 11am with USA stations coming in first. Despite some technical challenges put to Peter VK3BFG, all went well. I was told via both HF, VHF and SMS messages that many were watching via www.vk3rtv.com quite a few SMS were received saying those watching were wishing they could partake of the food they saw on camera being cooked and eaten before them.



The "roll call" of ATV stations Saturday was VK3ATV John, VK3CH/Portable Mick, VK3ER Jack (EMDRC Clubrooms Portable), and VK3DQ Damian all locally into VK3RTV1. VK interstate stations patched in to VK3RTV1 by Peter were VK7EM Winston, VK7AX Tony, VK5ADM Don and VK5DMC David. American ATV stations linking via Skype through to VK3RTV1 were W8DMR Bill, WB8CJW Dale, W8RUT George, N8OCQ Bob, W8RWR Bob, WA8RNL Art, KA6DPS, W6KGE, KE6BXT, W6HHC and K0CCU.

By 1pm the official link up was over but USA stations still gave presentations for a bit longer. Mid-afternoon it was all packed up and it was time to go home and enjoy the rest of the day with a cold ale... To improve the audio next year a wireless lapel microphone will be used instead of having to talk loudly into the HD camera. All portable coaxial leads need glue type heat shrink applied to the RF connectors. While there are not a lot of leads used, placing identification labels on all of them will help prevent any mistakes in setting up. Installing the 7100 radio head on a quick release clip means the radio in the car can be used instead of bringing a spare radio, so the antennae already on the car can be used, less stuff to be setup or packed away, should speed up getting on air next year.

Nothing like an approaching deadline to get things done. Due to the ATV QSO Party these personal long term jobs were completed;

- A full redesign of battery power and the option of 240 volt AC power via inverter, gives generator free option
- Purchase of a new 100 Amp Deep Cycle battery to replace the tired old, already second hand, 50 Amp battery
- Purchase of a second small TV for rear yard use, option of watching both VK3RTV1 & VK3RTV2 at the same time
- Repairs to one of the ATV RX beams (that had been broken for 2 years) and installing a proper N socket
- Cables to rear yard to allow remote control and video back to the house shack to send ATV live from back yard
- Installation of a second ATV RX beam on the roof dedicated to rear yard TV to receive VK3RTV reliably
- Installation of spare radios to rear yard with shack supplied DC power covering 2mx, 70cm & 23cm, allowing ATV liaison

Thanks has to go to Peter Cossins VK3BFG, for all his hard work and preparation, testing and liaison with all the other anchors in USA and dealing with all the incoming stations via Skype and essentially running a big video "Net" and still arranging stations via email, SMS and voice requests via VK3RML. All this while switching video, narrating behind the scenes and remaining calm under pressure and making it all look so easy... Everyone else gets to play ATV while Peter does all the work!! A big thank you, Peter!!! Given that ATV is just a hobby for all, with no big budgets like commercial stations, what gets presented on air is very professional, interesting and entertaining, given its just a group of 'hams' having fun with one of the most unique modes in amateur radio - ATV.

It seems the only way for VK3CH to improve the video content for next year is to try some new "exotic sites". Planning has already begun (in my head), now to make it reality. Thanks to Trevor VK3ATX for his assistance. The next ATV QSO Party for 2014 will be late August, the date yet to be decided.

~Mick VK3CH

Peter Cossins has advised the Melbourne ATV community that,

*VK3RTV will change to QPSK after the ATV QSO Party.
You may have to re-scan your receive set up when this occurs.*

**[Late news - some stations have problems with changes]
[see vk3rtv.com for latest news]**

*I will have a look at the output spectrum and may be able to bump the power a bit more as well.
I have assembled the new antennas for transmit, and did an initial test with a return loss of 18 dB. This will be quite satisfactory.
They are an entirely different design utilising larger diameter elements for a wider bandwidth and folded dipole driven element.
The matching is achieved by a passive coaxial cable network.
The array will be able to handle the new FET PA which we have in moth balls at the moment.
I hope to have the antennas installed when the weather gets a bit warmer and the wind profile reduces quite a bit.*

FOR SALE

As part of the shack cleanout I am selling excess gear due to upgrades. Please feel free to refer on to anyone that you may know that is looking for this gear. Payment is Cash, Direct Deposit or Bank Cheque.
Please feel free to contact me.
You are welcome to review the equipment in my shack or On-Air.

KENWOOD TS-50 HF MOBILE TRANSCEIVER

160m – 10m Including WARC Bands. 0.5 – 30 MHz Continuous Receiver.
USB/LSB/AM/FM/CW 100W/50W/10W
EXCELLENT CONDITION
Includes all ancillary items that came with the radio since new.
Owned since new – purchased 2001 **\$750.00**



KENWOOD AT-50 AUTOMATIC ANTENNA TUNER - MATCH TO TS-50 TRANSCEIVER -

160m – 10m Including WARC Bands
VERY GOOD CONDITION
Includes connecting cable for TS-50. **\$250.00**



Buy both (TRANSCEIVER & AUTOMATIC ANTENNA TUNER) for \$900.00

ICOM IC-R10 Handheld

COMMUNICATIONS RECEIVER/SCANNER **\$300**

EXCELLENT CONDITION, EXCELLENT VALUE!!!
HF/VHF/UHF AM/FM/WFM/USB/LSB/CW 0.5 – 1300 MHz Continuous
Power 4.8VDC – 4xAA Batteries (Rechargeable - included) or
External DC SUPPLY 4.8 – 16 V DC. Standard ICOM Charger Included.
Antenna 50 OHM – BNC. Includes additional Telescopic antenna.
Weight 310 Grams
1000 Memories Band scope.
Original owner. Original manual. Original packaging.
“Great for fox hunting and satellite work or portable short wave listening**



SCANNER – UNIDEN BC9000XLT **\$200**

Very Good Condition.
25 – 1300 MHz
(800 – 900 MHz spectrum not continuous).
FM/WFM/AM
500 Memories
13.8VDC External Power - Power Supply Included.
Antenna 50 Ohm BNC.
Manual (not original)

Contact Frank Bonotto VK3ZO

vk3zo@aanet.com.au

0418888038 94785679

Reservoir 73 Frank



STANDARD LICENCE THEORY BRIDGING COURSE



Enrolments are open for the Standard Licence theory course that starts soon on Wednesday nights at Ashburton and ends with a revision Saturday and assessments on Sunday.

To enrol you must already have a Foundation Licence as the quality instructor, Kevin Luxford VK3DAP/ZL2DAP, covers the additional knowledge of the Standard Licence syllabus.

Those taking part commit to attend training every Wednesday on October 2, 9, 16, 23, 30, plus the weekend of November 2 for revision and November 3 is assessment day.

The course costs \$120, to be paid in full on the first night.

Candidates will also need to pay on assessment day for the Theory, Regulations assessments and ACMA licence fees.

To help with the Regulations assessment you should read what is required by visiting www.amateurradio.com.au/licence/regulations

To enrol or further detail contact Education Team Leader, Barry Robinson VK3PV vk3pv@amateurradio.com.au or 0428 516 001.

AN APPROACH TO UPGRADING

The Foundation Licence, as an entry-point to amateur radio, is providing experience with hobby communications and the opportunity for further hands-on learning.

A key message to those wanting to upgrade is to know what is involved so they can make an informed decision, prepare and commit to a period of study.

It is important to have a commitment in terms of time and effort to study over a number of weeks. Plus an understanding that the Standard Licence is not simply 'more of the same' that was studied for the Foundation Licence.

The Foundation Licence requires knowledge at a very basic level, to enable a person to competently operate a low powered amateur radio station on selected bands and a few modes of transmission.

The Standard Licence needs knowledge of a wider range of topics, some which will be more in-depth than the basic approach taken in the Foundation Licence. This is necessary to reflect the greater operating privileges given to this licence.

WANSARC VK3AWS

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SECRETARY: Mark Stephenson VK3PI Telephone: 0425 768 320 vk3pi@australiaradio.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. **WANSARC** is an affiliated club of **The Wireless Institute of Australia**.

Meetings

Meetings held at the **Ern Rose Memorial Pavilion, SEAVER GROVE, RESERVOIR** (Melway Map 18 D5) 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 likeminded 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, ARV, WIA, ACMA, Melbourne Clubs, VK and Worldwide.

Club Nets

146.450MHz FM each Tuesday evening commencing **8.00pm local time**. Net Control Station - **VK3AWS**

Website: www.wansarc.org.au **Postal:** **WANSARC PO Box 336 RESERVOIR 3073**

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

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