



# OXTALES

First published 1980

Club Nets on VK2RPM  
146.700MHz  
(CTCSS 91.5Hz)  
Sundays 0900  
Thursdays 1930

Newsletter of the Oxley Region Amateur Radio Club Inc.,

PO Box 712 Port Macquarie 2444

Club email address: vk2bor@orarc.org also on Facebook as Oxley

Region Amateur Radio Club

Club Website: <http://www.orarc.org>



ORARC's fiftieth Anniversary Year

## November 2021

PRESIDENT: Henry Lundell	VK2ZHE	6582 0534
VICE PRES: Paul Colledge	VK2ICQ	6580 9912
TREASURER: Dennis Meade	VK2DAM	6582 2998
SECRETARY: Henry Lundell	VK2ZHE	6582 0534

### ORARC VHF/UHF Repeaters

#### MIDDLE BROTHER

VK2RPM 2 metre (Voice - CTCSS 91.5Hz)  
O/P 146.700MHz - I/P 146.100MHz

VK2RPM 70 cm (Voice - CTCSS 123Hz)  
O/P 438.525MHz - I/P 433.525MHz  
C4FM digital mode capability

VK2RPM-1 (APRS Digipeater)  
SX 145.175MHz 1200bps

#### TELEGRAPH POINT

VK2RCN 2 metre (Voice)  
O/P 147.000 MHz - I/P 146.400 MHz

VK2RCN 70 cm (VDRM)  
O/P 438.425MHz - I/P 433.425MHz

VK2RCN (6m Repeater)  
O/P 53.800 MHz - I/P 52.800 MHz

### President's Report



November 2021

### President's Report

#### Face to Face Meetings Resume

With the easing of restrictions as the percentage of Australians with COVID-19 double vaccinations continues to rise, ORARC was able to hold a face to face November Monthly General Meeting on the 6<sup>th</sup> of November 2021. This was the first face to face meeting since the June Monthly General Meeting. The July, August, September and October 2021 Monthly General Meetings all had to be cancelled due to the COVID-19 situation. ORARC meetings are conducted in accordance with the ORARC COVID-19 Safety Plan.

After four months without a meeting the November 2021 Monthly General Meeting

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ORARC's Christmas Party is on  
Sunday 5th December at The Long  
Point Winery Picnic Area

## Down The Coax

Monthly meetings & Friday Nights held in the  
SES Building Central Road, Port Macquarie.  
COVID-19 Double Vaccination required to enter SES  
Building

Monthly General Meeting  
Saturday 6 November 2021 2:00 pm

Friday Night Get-Together  
Friday 19 November 2021 7.00 pm

Westlakes Amateur Radio Club Field Day  
Sunday 21 November 2021 starting at 8 am  
Club site at 1 York St, Teralba

Spring VHF UHF Contest  
12 noon Sat 27 to 12 noon Sun 28 November 2021

White Ribbon Coastal Walk Against Domestic & Family  
Violence

Tacking Point to West Port Park Port Macquarie  
Sunday 28 November 2021

ORARC Christmas Party  
Sunday 5 December 2021 Note:  
Note: It's on Sunday for this year only.  
From 10:30 am. BBQ Lunch 12 noon  
Long Point Winery Picnic Area

Friday Night Get-Together  
Friday 17 December 2021 7.00 pm

Monthly General Meeting  
Saturday 8 January 2022 2:00 pm  
1st Saturday is New Years Day so meeting is on  
2nd Saturday

Friday Night Get-Together  
Friday 21 January 2022 7.00 pm

## Net Controllers' Roster Nets on Voice Repeater VK2RPM 146.700 MHz

**Sundays**  
(0900 Local)

**Thursdays**  
(1930 Local)

### November 2021

		VK2EM	Nov 4
VK2FMGM	Nov 7	VK2ZHE	Nov 11
VK2FMGM	Nov 14	VKICQ	Nov 18
VK2FMGM	Nov 21	VK2EM	Nov 25
VK2FMGM	Nov 28		

### December 2021

		VK2ZHE	Dec 2
VK2FMGM	Dec 5	VK2ICQ	Dec 9
VK2FMGM	Dec 12	VK2EM	Dec 16
VK2FMGM	Dec 19	VK2ZHE	Dec 23
VK2FMGM	Dec 26	VK2ICQ	Dec 30

### January 2022

VK2FMGM	Jan 2	VK2EM	Jan 6
VK2FMGM	Jan 9	VK2ZHE	Jan 13
VK2FMGM	Jan 16	VK2ICQ	Jan 20
VK2FMGM	Jan 23	VK2EM	Jan 27
VK2FMGM	Jan 30		

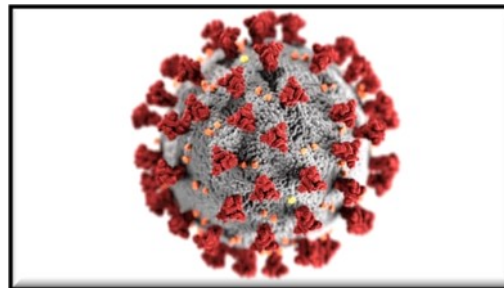
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was a great opportunity for members to meet face to face.



The ORARC Committee is continuing to closely monitor the COVID-19 situation to ensure that club events and activities are compliant with the requirements and restrictions as they evolve. All events and activities will be held in accordance with the ORARC COVID-19 Safety Plan.

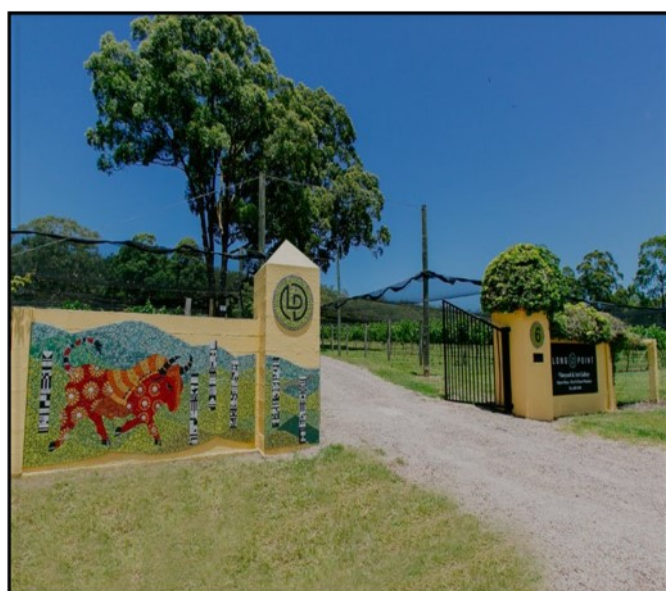


## **Christmas Party**

As is traditional, there will not be a December Monthly General Meeting this year. Normally, the Christmas Party is held on the first Saturday of December in place of the December Monthly General Meeting. For this year only, the Christmas Party will be held on the first Sunday instead. This is Sunday the 5<sup>th</sup> of December.

The January 2022 Monthly General Meeting is normally held on the first Saturday in January. However, the first Saturday in January 2022 is New Year's Day so the meeting will be on the second Saturday, the 8<sup>th</sup> of January 2022.

In Australia, the intensive COVID-19 double vaccination programme and the extended lock-downs have led to a staged easing of the restrictions in both travel and social contact. A great many people are already enjoying interstate travel and many are looking forward to a resumption of international travel. There are strict COVID-19 safety pre-requisites which have to be met in order to travel.



The club's 2021 Christmas Party will be held on Sunday the 5<sup>th</sup> of December. As has already been mentioned, please note that for this year only, the party will be on the Sunday.

The venue will again be the covered picnic area at the Long Point Vineyard and Art Gallery at 6 Cooina Place, Lake Cathie. Cooina Place runs off Long Point Drive which in turn runs off Houston Mitchell Drive. This is the "Ghost Road" which runs between Ocean Drive just south of Lake Cathie, and the Pacific Highway. The location is easy to

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find but a map is available on the Vineyard web site at <http://www.longpointvineyard.com.au/contact-us/>

The Christmas party will be from 10:30 am onwards. There will be a sausage sizzle barbeque lunch. Please bring your own salads and nibbles and drinks. The club will have some soft drinks and water available. Tea and coffee will also be available.

We look forward to a good attendance at this year's Christmas party. Please take the opportunity to come along and socialize. The covered picnic area has an elevated timber floor. The cover provides shade from the sun and offers shelter in the event of rain. There is no charge and family and friends are most welcome. If you have a folding chair and table, please bring them to help with the seating.

The party will be conducted in accordance with the COVID-19 safety requirements prevailing on the day. As the party is an outdoor event it is easy to maintain social distancing requirements.

### JOTA 2021



The 64<sup>th</sup> annual Jamboree on the Air took place over the weekend of the 16<sup>th</sup> and 17<sup>th</sup> of October 2021. It also was the 25<sup>th</sup> annual Jamboree on the Internet.

Sadly, the annual ORARC participation in JOTA was another victim of the ongoing COVID-19 restrictions.

The club is very apologetic to the 1<sup>st</sup> Port Macquarie Sea Scouts who have keenly run JOTA and associated activities every year for most of the history of ORARC. 2021 was the only the second year that club members were unable to set up a station for JOTA. It is most upsetting to break with such a long tradition but the 1<sup>st</sup> Port Macquarie Sea Scouts have been very understanding.

We look forward to being able to participate in JOTA again next year.

### Beechwood Billycart Classic



The 41<sup>st</sup> annual Beechwood Billycart Classic postponed from last year was to take place on the morning of Sunday the 24<sup>th</sup> of October 2021.

Sadly, the event was another victim of the COVID-19 restrictions and the 2021 Beechwood Billycart Classic had to be cancelled.

ORARC members have provided safety communications for the Beechwood Billycart Classic every year. We look forward to continuing the Club's involvement in next year's Classic when hopefully the current COVID-19 restrictions will have been further eased.

The Beechwood Billycart Classic is normally a great family day out with plenty of entertainment and food stalls in the finish area adjacent to the Beechwood Hotel.

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## White Ribbon Coastal Walk



The annual White Ribbon Coastal Walk Against Domestic & Family Violence from the Tacking Point Surf Life Saving Club to West Port Park in Port Macquarie will take place on Sunday 28 November 2021 <http://www.libertyservices.org.au/walkinwhite>

As with last year's walk, for COVID-19 safety, the walk is being run on an informal individual ad hoc walk basis so there is no formal walk organization requiring safety communications.

In previous years, members of the Oxley Region Amateur Radio Club have provided the safety communications for the event when it has been run as an organised formal mass walk. The club had been invited to do this again for the 2021 event with the expectation that it would be a normal mass walk but that is now not required. Hopefully, next year's event will run normally and ORARC will be able to provide safety communications.

## Spring VHF UHF Field Day

The annual Spring VHF UHF Field Day takes place from 01:00 hours UTC on Saturday the 27<sup>th</sup> of November to 01:00 hours on Sunday the 28<sup>th</sup> of November 2021. This equates to 12 noon Saturday to 12 noon Sunday Eastern Australian Daylight Saving Time.

The contest rules for 2021 are not currently available on the WIA website but the rules for 2021 are the same as those for 2019 which are available on the website at <http://www.wia.org.au/members/contests/>

[vhfuhf/documents/2019%20Spring%20VHF-UHF%20Field%20Day%20Rules.pdf](http://vhfuhf/documents/2019%20Spring%20VHF-UHF%20Field%20Day%20Rules.pdf)

Note that the above 2019 rules apply for the 2021 event with the exception that the dates for 2021 are from 27<sup>th</sup> of November to the 28<sup>th</sup> of November 2021, and that the deadline for submitting logs is Monday the 13<sup>th</sup> of December 2021. The downloadable VK Contest Log logging software <http://www.mnds.com.au/vkcl/> makes it simple to keep your log and score so that it can be submitted electronically.

The general rules for all WIA contests may be found at <https://www.wia.org.au/members/contests/generalrules/>

The Spring VHF UHF Field Day will see many stations using their newly issued 2X1 callsigns with only one letter for their scoring contacts. As well as VK, prefixes may also be VJ or VL which will require vigilance when logging contacts.

The ORARC club station VK2BOR is unable to participate in this year's annual Spring VHF UHF Field Day due to the COVID-19 restrictions. Club members are encouraged to participate from their individual stations. It is a great opportunity to operate portable

## ORARC 2022 Calendar

This year John Hansen VK2AYQ will create the club's 2022 calendar. Steve Wynn VK2ZSW who has created the calendar for many years is unable to do the 2022 calendar due to health issues. The club is very appreciative that John has again undertaken production of the calendar while Steve is indisposed.

It is hoped that the 2022 calendar will be available at the Christmas Party, but in any case will be available at the Friday night get together on the 17<sup>th</sup> of December 2021, and at the Monthly General Meeting on Saturday the 8<sup>th</sup>

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of January 2022, and at subsequent meetings. The price for the calendars will again be a mere \$2 each. The annual calendar has become a “must have” for every ham shack. The calendar is indispensable for putting a face to members’ callsigns. There are a few new faces on the 2022 calendar. In addition, the information on the calendar will ensure that you never miss a club meeting or net.

The club is indebted to Jaycar Port Macquarie for subsidizing the printing costs of the calendar. This enables the calendars to be sold for the low price of \$2 each.

### **2022 Callbook**

Sadly, a 2022 Amateur Radio Callbook is not being produced.

The long-established annual callbook ceased publication after the 2019 Callbook was published. Negotiations are still underway and it is hoped that eventually publication of an annual callbook can resume.

### **VK2RCN Telegraph Point Repeaters**

There has been a lot of work by the sub-committee appointed develop a new site for the VK2RCN repeaters at Telegraph Point. The Development Application has been approved. The lease for the site has been signed. The Funding Deed for the grant which will partially fund the construction of the equipment shelter and the footings for the mast has been extended to the 30<sup>th</sup> of April 2022 as progress has been delayed by the combined effects of the 2020 fires and this year’s storms and floods together with the COVID-19 restrictions. Work is in progress to meet the extended deadline so that the grant funds are not forfeited.

A further grant application was submitted

this year to partially fund the connection of mains power to the site. An announcement of the success or otherwise of this application is expected in November 2021.

The new VK2RCN 438.425 MHz RadNet DMR repeater is working well.

The VK2RCN 147.0 MHz 2 metre repeater is back in service. The repeater had failed and was replaced with a repaired Yaesu DR-1X repeater.

The VK2RCN 53.800 MHz 6 metre FM repeater is still out of service. It is hoped to have a replacement repeater operational early in the new year.

When the new VK2RCN repeater site is completed, in addition to the existing repeaters, the VK2RCN facilities will include a UHF multimode digital voice repeater supporting DMR, DStar, P25, C4FM and NXDN.

### **Parrot Repeater Test**

The parrot repeater on 147.475 MHz with 91.5 HZ CTCSS required for access, had been on test until it was taken out of service in October 2021 when the power supply solar regulator and batteries were recovered by Telstra who owned them. The parrot repeater will be back on air when the repeater has been overhauled and a replacement solar regulator and battery are installed. The VHF radio coverage from the site had been looking very encouraging. The mountain top site is located between Long Flat and Pappinbarra. The Committee is investigating the feasibility of establishing a 2 metre repeater at this site.

### **Amateur Radio Licence Training and Assessments**

Education Officer Larry Lindsay VK2CLL is working towards running training and assessments for the *Continued on next page*

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Foundation Licence and assessments for the Standard and Advanced Licences early in the new year as the COVID-19 restrictions are easing. Prospective candidates should contact Larry as soon as possible so that a mutually convenient date can set.

### **Mid North Coast Region WICEN**



Amateurs are invited to join Mid North Coast Region WICEN. WICEN meetings are held in the SES building in Central Road Port Macquarie after the conclusion of the ORARC monthly general meetings on the afternoon of the first Saturday of each month except December. After a four month hiatus due to the COVID-19 restrictions, the November face to face meeting took place on the afternoon of Saturday the 6<sup>th</sup> of November. The next meeting will be on the afternoon of Saturday the 8<sup>th</sup> of January 2022 after the ORARC Monthly General Meeting. Note that the first Saturday in January 2022 is New Years Day so the meetings are on the following Saturday.

For further information, please contact Larry Thompson VK2LJT, Rob Frost VK2CRF or Bob Ecclestone VK2ZRE.

### **Jaycar 2021 Catalogue**

The Jaycar 2021 catalogue is now available. Printed copies are available in store and the catalogue may be downloaded from the Jaycar website. Please see the separate article in this issue of Oxtales.

### **RTM (Road Tech Marine)**



Astute observers of new stores opening in Port Macquarie will have noticed the RTM Road Tech Marine store at the Port Home Zone at 160 Hastings River Drive. The store opened on the 16<sup>th</sup> of October 2021. RTM sell parts & accessories for the boating & off-road enthusiast. The parent company of RTM is the Jaycar Electronics Group. There are 15 stores in NSW and Queensland. The Port Macquarie store was the most recent store to open. The next closest RTM store is at Coffs Harbour.

RTM <https://www.roadtechmarine.com.au/> have a comprehensive 484 page 2021/2022 catalogue which can be downloaded from the RTM website at <https://www.roadtechmarine.com.au/flyers-and-catalogues?c=road-tech-marine-summer-savings&page=1>

The hard copy of this catalogue is available in store. It has a cover price of \$3.95. The catalogue is dedicated to the late Jaycar founder Gary Johnston. He wrote the foreword of welcome to the catalogue but passed away before it was published in April this year.

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I wish all members and their families and friends a safe and happy Christmas and best wishes for 2022.

Henry Lundell VK2ZHE  
President

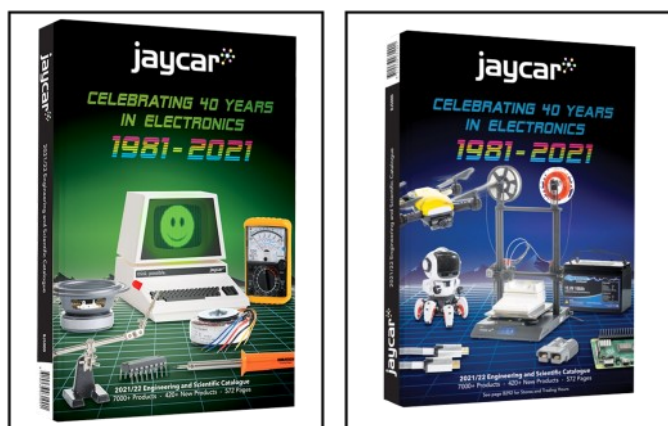
### Clubman of the Year Award 2021



Belated Congratulations to Ian Lindquist VK2GL on receiving his Clubman of the Year Award from Club Treasurer Dennis Meade VK2DAM.

Ian has written several well received articles for Oxtales and also shared his considerable technical background with the Committee to assist with various club projects!

### Jaycar 40<sup>th</sup> Anniversary 2021 Catalogue



The 2021 Jaycar Electronics Engineering & Scientific Catalogue is now available. It has 572 pages in full colour on quality paper stock. It lists over 7,000 products including over 420 new products. In order to make products easier to find in this very large

catalogue it is effectively two catalogues bound back-to-back.

The front of the catalogue contains items such as Components, Test & Tools, Electromech and Connectors as well as some technology items such as 3D printers, Arduino and Raspberry Pi. Flip the catalogue over and the back half of the catalogue features the sections that have grown a lot over the second half of Jaycar's forty years. It includes products such as Switchmode Power Supplies, Wi-Fi, USB and Bluetooth as well as Power, Sight & Sound, IT, Communications and Security.

Jaycar are rightly proud of their 40<sup>th</sup> Anniversary catalogue. The catalogue is both a tribute to Jaycar's founder, Gary Johnston, who sadly passed away earlier this year, and to Jaycar's continuing absolute passion for products. Jaycar reminds us that it's gratifying to see so many products that were in their early 80's catalogues still have a listing today. This underlines Jaycar's commitment to stocking the components and products you need for all your electronics projects.

The front cover features a handful of products you would have found on your workbench back in 1981 and a cool replica Commodore PET Minicomputer; it's not just a model though, you can actually build it using a Raspberry Pi and a 3D printer!

The back cover showcases the 3D printer and some of the other popular items from the current Jaycar range.

More information on building the modern replica of the Commodore PET minicomputer may be found on the Jaycar website at <https://www.jaycar.com.au/build-the-cover-2021>

Those who subscribe to Silicon Chip Magazine will have received the Jaycar 2021 catalogue with their November 2021 issue of the magazine as part of their subscription.

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Copies of the catalogue are now available from all Jaycar stores. The catalogue has a cover price of \$4.95.

This article was adapted from the Jaycar 2021 Catalogue release on line text.

## Blast from the Past

'Blast from the Past' is the section of Oxtales where we reflect on what the club was doing in years gone by. Members are also encouraged to send in items relating to club members or club activities in previous years.

This month we will visit what was happening in the club 5 years ago in 2016. The main activities were JOTI and The Beechwood Billy Cart Classic.

In 2016 the President was Henry VK2ZHE, Vice President Paul VK2ICQ, Treasurer Larry VK2CLL and Secretary VK2VIV. Club membership was 68.

The club was very much involved with JOTA as shown in the following report.



*'On Saturday the 15<sup>th</sup> of October club members set up two stations for the 59<sup>th</sup> annual Jamboree on the Air (JOTA).*

*VK2BOR operated from the club's communications caravan adjacent to the Port Macquarie Sea Scouts' Boatshed at McInherney Park on the banks of the Hastings River. The second station operated from the communications caravan of Lyle Smith VK2SMI which he set up the Wauchope Scout Hall. VK2BOR operated during the daylight hours of Saturday the 15<sup>th</sup> of October only but VK2SMI also operated on Saturday night and Sunday as well.'*

*'JOTA was very popular this year with Scouts and Guides at both locations very keen to make their on-air contacts.*

*Clubs communications caravan in position*

*HF was reasonable at Port Macquarie on the 40 and 20 metre horizontal dipoles set up along the river bank. As usual one leg of the 40 metre dipole was over water as it spanned over the boat ramp. This year the feed point of the 40 metre dipole was elevated an extra 2 metres to ensure that there would be more than sufficient clearance for the tall masts of some of the sailing boats using the ramp.*

*VK2BOR made many contacts on 40 metres and all the Scouts and Guides patiently waiting for their turns on air got to talk with JOTA stations in NSW, ACT and Queensland. Many stations were heard on 20 metres but very few of them were JOTA stations. A far cry from the great HF DX contacts that we took for granted during previous solar cycles, but much better propagation than in some of the recent years.'*

Lyle VK2SMI wrote the Jota report for the Wauchope Station as follows:



*'On Saturday the 15<sup>th</sup> of October, I arrived at the 2nd Wauchope Scout hall with my communication caravan in tow, ready for JOTA. I was welcomed by 18 scouts and several leaders.*

*Shortly after, Rob, VK2CRF, arrived and we erected a 20/40/80 fan dipole from a squid pole and readied ourselves for the event. Stuart, VK2FSTU, and Peter, VK2MPK, arrived later in the day, assisting with the scouts to make contacts.*

*Scouts arrived in small groups at the caravan and contacts were made. Each scout chatted to other scouts/guides/cubs from around Australia.*

*Propagation was working in our favour, with a total of 22 contacts made, with an estimated on-air time of around 12 hours over the weekend.*

*The scouts continued to return to the caravan over the weekend during the other activities that were running.*

*During the day, we setup a Diamond CPVU-8 multiband antenna on a six foot pole, and a FT-991 with computer. We demonstrated the digital mode, JT65, in receive operation. This was viewed as an interesting activity in weak signal contacts by the scouts.*

*The International Space Station was also a*

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subject of discussion over the weekend, with the trackers from [www.issracker.com](http://www.issracker.com) and [www.issastroviewer.net](http://www.issastroviewer.net) also running on a computer. Unfortunately, we kept forgetting it was due to pass over and did not see it, but I was awoken during Saturday night with a short conversation (15 seconds or so) received on the 145.800 MHz downlink frequency left running in the caravan.

Sunday morning resulted in an invasion of the caravan of scouts and visiting cubs wanting to talk to other groups. The radios were fired up and contacts continued until lunch time'.

The Club also provided communications for the Beechwood Billy Cart Classic.



'This year the Beechwood Billycart Classic was held on Sunday the 23rd of October 2016. This event is run down the longest course in Australia. It is about 5 kilometres long. As usual, ORARC members provided the safety communications for the event. The safety communications is critical to the running of the Classic. Richard Court VK2CHC again co-ordinated the many volunteers who were needed to man all the check points, and to set up and operate the communications for the commentary vehicle, the finish and public address interface, the net control and the



Crew assembling for briefing Dennis VK2DAM, Dave VK2AYD, Bob VK2ZRE, Steve VK2ZSW, Lyle VK2SMI, John VK2AYQ, Bob VK2FBOB, Arthur VK2ATM, Rob VK2CRF Larry VK2CLL, Mark VK2FMGM, Peter VK2MPK.



Richard VK2CHC wearing a camouflage jacket gives the 'how to be a flag marshal 101 course' to Bob VK2ZRE, Steve VK2ZSW, John VK2AYQ and Larry VK2CLL.

The organisers formally thanked ORARC for its role in helping to make the Classic safe and enjoyable. ORARC received a cheque for \$150.00 as a kind donation which will greatly assist with club projects. We look forward continuing our long-standing support and participating in next year's event.



A formidable body of ORARC club members. Henry VK2ZHE, Steve VK2ZSW, Rob VK2CRF, Mark VK2FMGM, Larry VK2CLL, Bob VK2ZRE and Lyle VK2SMI.



Cheering spectators line the finishing line



been shortwave listener for many years and have been a licensed amateur since 2009. I'm a member and secretary of the Snowy Mountains Amateur Radio Club and am now keen to be able to volunteer my time towards a role with the WIA.

### ACMA Release FYSO 2021-26

Date : 29 / 09 / 2021  
Author : Lee Moyle - VK3GK  
ACMA Release FYSO 2021-26  
29 September 2021

### WIA Announces New Club Coordinator

Date : 12 / 10 / 2021  
Author : Peter Schrader – VK4EA



The five-year spectrum outlook is the ACMA's primary spectrum management document. It is released each year to provide a broad overview of trends that affect spectrum management and the factors used to inform the ACMA's spectrum planning and allocation priorities.

The FYSO 2021–26 outlines our priorities for the next 5 years. It includes a detailed annual work program, with activities and milestones for the 2021–22 financial year.

ACMA have also released the submissions received for our draft FYSO consultation as well as our response to submissions. We thank all our stakeholders for their involvement in the FYSO process.

For more info and downloadable FYSO documents are available from the ACMA's website.

The WIA Board welcomes Angelo Giuffre VK2NWT to the WIA Club Coordinator role and thanks Ted Thrift VK2ARA for his dedicated service to the WIA Ted has handed over the role to Angelo and has well and truly earned his spare time back to enjoy the hobby.

### About Angelo Giuffre

I'm currently the owner and operator of a Post Office in the Snowy Mountains. Prior to that, I was the local Newsagent here in Jindabyne for thirteen years after working a long stint in Ski Resort administration. I've been a very

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## Contest 2x1 Callsign - Wrap Up.

Date : 14 / 10 / 2021

Author : Lee Moyle - VK3GK



Wednesday, 13 October 2021 at 10am will be remembered by many VK contesters as **“Frenzy Day”**.

The instant demand at exactly 10am for 2x1 contesting callsigns definitely stress tested the AMC website in more ways than one.

Luckily for all those applying it was a serious pile up, with anxious feelings of missing out, waiting impatiently for that 2x1 page refresh, not unlike waiting to hear the rare DX return your callsign and then when propagation shifts and unfortunately that rare one you need for honour roll is all but gone.

It seems many felt they may have been a “Busted Call” or “Not In Log” (NIL) during the frenzy.

Understandably, the AMC office has been inundated with phone calls. Let us sincerely hope that the callers were understanding and respectful of the AMC office staff who continue to do an excellent job at managing “all things Amateur Radio” including examination processing and callsign recommendations etc.

The day one results are actually quite surprising as after all the dust has settled only about 138 callsigns were allocated out of about 702.... or around 19.5%

The highest demand was for 2x1’s was from the eastern states of VK3, VK2 and VK4 in that order, with many now been allocated. The “VJ” and “VL” prefixes seeming not so popular, however still being sought after for use in general and WPX type contesting.

More interesting to note is that not a single VK9 2x1 callsign has been allocated. VK3 has had more issued than all of VK1, VK5, VK6, VK7 and VK8 combined. Who would have even considered that so many contesters lived in VK3?

Considerable thanks need to be given to all the members of VK Contest Club (VKCC) who inspired and began this 2x1 callsign project well over 10 years ago and have continually pushed the 2x1 callsign agenda.

The WIA thanks all stake holders and individuals who contributed to the success of this long term project.

In particular, the WIA congratulates the Australian Maritime College (AMC) for a successful release and implementation of the 2x1 Callsign blocks to the Amateur Radio Contesting community.

To apply for a 2x1 Contest callsign (Advanced only) go to the AMC website and follow the instructions.



### Australian Telecoms Regulator Reports High Interest in New 2 × 1 Contest Call Signs

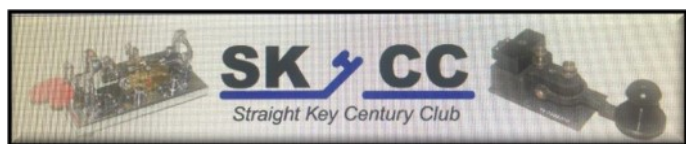
25/10/2021

The Australian Communications and Media Authority (ACMA) amateur radio office has been receiving a

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high volume of requests for the newly available 2 × 1 contest call signs. ACMA says the processing time for exam and call sign applications is now 15 business days. Use of the new call signs starts November 1, for contests only. At this point, each call sign is valid for 1 year. All 26 VK3-prefix 2 × 1 call signs were snapped up quickly; demand was lower in other call areas. A database of 2 × 1 call signs is available.



### **Straight Key Century Club Achieves Membership Milestone**

The Straight Key Century Club (**SKCC**) has enrolled its 25,000th member — the Florida Island Hoppers, W4USI. The Florida Island Hoppers were granted SKCC Number 25,000 on October 14.

SKCC was founded in 2006 to promote and preserve the art of manual keying. The idea caught on quickly, and membership has continued to grow to include members in Europe, Oceania, and Asia, as well as the US. SKCC members can earn various awards and participate in sprints using man-

ual devices such as straight keys, bugs, and sideswipers. The club also supports new and returning CW operators, and its overarching philosophy is to always be considerate of the other operator's speed and skill, and to adjust sending accordingly. Membership in SKCC is free and open to operators of all skill levels.

### **Amateur Radio Newline Report 2290 for Friday September 17, 2021**

David VK2AYD is kindly supplying various Amateur Radio Newline Reports on the world of Amateur Radio.

### **COMPETITION SET FOR MILITARY RADIO OPERATORS**

NEIL/ANCHOR: For 36 hours between the 26th and 28th of October, international teams of radio operators will push the limits of their abilities and their radio equipment to compete in an event that military organizers in Canada are calling the world's "most prestigious military-led High Frequency Radio competition." Graham Kemp VK4BB has the details.

GRAHAM: The exercise, known as Noble Skywave, is a friendly contest among military radio operators and their affiliates to contact other teams, making use of voice and data modes. Teams can comprise radio operators active in various nations' military forces or they can be in the Reserves or National Guard. Operators also participate from the US Military Auxiliary Radio System and the Canadian Forces Affiliate Radio System.

This year, more than 150 teams in 10 nations are expected to be on the air hoping to be crowned the best of the best. Although the majority of participants are in the US and Canada, past exercises have also drawn participation from teams in Australia, the UK, New Zealand and Peru.

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The Communications and Electronics Branch of the Canadian Armed Forces has been at the helm of this training exercise since 2013.

Lt. Taylor Curran of the Canadian Armed Forces' 21st Electronic Warfare Regiment told Newsline in an emailed statement that his regiment is the Lead Mounting Unit for the event.

For Amateur Radio Newsline I'm Graham Kemp VK4BB.



## HAMSCI SEEKS VOLUNTEERS FOR



## ECLIPSE FESTIVAL

NEIL/ANCHOR: What are you doing the first week or so in December? You're invited to be part of the Antarctic Eclipse Festival. Geri Goodrich KF5KRN explains what's involved.

GERI: The Antarctic in December? It's a promising time and a promising location for citizen scientists volunteering to help yet another project of HamSCI. No, it doesn't involve travel—just an HF radio and some commitment to the cause: With a total solar eclipse happening over Antarctica on December 4th, HamSCI is hoping that hams and shortwave listeners around the world will help measure Doppler shift at that time by using their HF receivers at home. The shifts are the result of space weather having an impact on the ionosphere and on propagation paths.

The worldwide project, which is being called the Antarctic Eclipse Festival, will be looking for measurements gathered between the 1st and 10th of December.

Instructions on how to sign up for the festival, how to collect the data and how to submit it can be found on the HamSCI website at hamsci dot org.

For Amateur Radio Newsline I'm Geri Goodrich KF5KRN.

## NEW RADIO RULES FOR YACHT RACE



NEIL/ANCHOR: There are some new radio rules for a prestigious global yacht race. Here's Jeremy Boot G4NJH with that update.

JEREMY: A past controversy over alleged illegal use of amateur radio has sunk plans to have such a rig on board any yachts competing during the prestigious Sunday Times Golden Globe Race in 2022. According to an article in Yachting Monthly magazine, the only permissible radio will be a waterproof shortwave receiver. There may also be a fax capable of receiving charts of weather systems.

The 2018 race was beset with reports of illegal radio operations and, in one high-profile controversy, one sailor was sanctioned for allegedly breaking rules that banned outside assistance. He was accused of asking a ham radio operator for weather routing details. Race chairman Don McIntyre said at the time that skipper were only permitted to use information that is available publicly and that weather routing was strictly banned.

## Network Radio By Paul VK2ICQ



*[Inrico TM-7 Plus 4G LTE Android Mobile Network Radio]*

### **Yet another facet of Amateur Radio – Network Radios (or POC – PTT Over Cellular).**

#### **What's a Network Radio?**

Essentially, it's a mobile phone designed to look like a hand-held or mobile transceiver. They communicate over cellular or Wi-Fi instead of 2m or 70cm. They're designed to be an alternative to commercial RF based radio systems for businesses. If you have a need to keep in contact, you can build a network of devices that can communicate over the cellular network or Wi-Fi using Android or Linux apps such as Zello or RealPTT.

From a user perspective they work just like a conventional radio - press the big PTT button on the side and talk away. Being digital in nature, they also offer a lot of

digital radio style features like talk groups, location services, encryption, and so forth. Voice data is being sent over IP networks using VoIP technology.

#### **Why would I use this over an RF based radio?**

Cost is probably the main reason – they're cheap and there's no frequency licencing to worry about. Conversely each radio (assuming it'll be used outside) will require a network SIM card and cellular subscription with data.

Some locations don't lend themselves well to RF – take a multi-story international hotel for example. RF will often not work well for basement to roof communications, but if the hotel is blanketed in Wi-Fi then Network Radios will work perfectly (and intra-building systems wouldn't require cellular data subscriptions).

They work wherever the cellular network works (or where you have wi-fi) – no repeaters are required. No antennas need to be erected. Some people may counter that cellular coverage is poor, but typically not where these radios would be used (these are not search and rescue radios). Many Network Radios are fitted with cellular rubber duckies and diversity antenna systems which positively embarrass your smart phone's reception. Anyway, as a hobbyist or small business, are you going to build a better network than the cell phone companies?

Network Radios are extensible too – you could take location data from your Network Radios (which they're transmitting all the time, not just beaconing) and integrate it into a dispatch system. Full duplex data on the cellular network means real priority calls are possible – you can stop and override all calls with a priority message. True one to one calling is possible. Live video feeds can be sent from devices with cameras, integrated text messaging is possible, etc. etc.

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Communication distance isn't limited by the radio and its output power. Network Radio systems can be small, closed, Wi-Fi only systems in hotels with no external connectivity or they can be global in size, all running off hundreds of handhelds.

Lastly, voice quality is exceptional when sent as compressed data over IP. Digital RF Radios do an amazing job with their AMBE vocoders but they're still trying to stuff speech into 6.25kHz worth of RF bandwidth. Cellular and Wi-Fi networks can transit Stereo Hi-Fi quality music and still be under 1% of network utilisation, so voice bandwidth is essentially unlimited. Voice quality is immediately noticeable when using a Network Radio application.

### **So, if it's just a cell phone why wouldn't I just use my existing smartphone?**

Most commercial Network Radios just use an Android OS with either the Zello or RealPTT apps, both of which are available from the Google Play Store – so you absolutely can just use a smart phone in place of a dedicated Network Radio. There are a few reasons why you wouldn't want to though...

Network Radios have the feel of a real radio with a real Push to Talk button. They can be handed out in commercial scenarios with little user training and - being ruggedized - they'll survive on a worker's belt. Mobile Network Radios are designed for use while driving. There's no need to remove gloves to make radio calls as you'd possibly need to do with a multi-purpose smartphone.

They're intended to be used at construction sites, within factories and on the road – so the audio they produce is loud and clear just like a commercial radio.

Their microphones are optimised to work like any other radios – held to the mouth and spoken over, whereas smartphone mics (when being used with apps with the mic in speakerphone mode) generally sound echoey and

dreadful. The audio from Network Radios sound great (especially when combined with the fantastic voice quality the apps themselves provide).

Battery life on Network Radios is way better than both Smartphones and their equivalent RF radios. Typical usage in commercial environments is around 3 days before a recharge is needed. Batteries on Network Radios can be swapped out, unlike on Smartphones which (these days) typically have fixed batteries.

Network Radios can be accessorised just like a regular radio. Speaker mikes, charging docks, better quality / external antennas, etc. can all be added.

Lastly, the ability to use a Smartphone in place of a real radio is yet another plus for Network Radio systems. Destroy a radio and need to use the system? Load the app on your phone and away you go. Maybe you only have a casual, personal use case - perhaps you're running interstate with non-amateur friends in convoy? Load Zello onto both your phones and have your own private, no cost radio system for the trip!

### **No RF means this isn't real radio – stop wasting my time!**

CONTROVESY! This is undeniably true – these devices are not putting out RF in the traditional sense. You'll already know how you feel about this, and I'm guessing if you're of the ilk that DMR or FT8 isn't real radio then this will be way off your radar. I'll add a few points nevertheless...

For use in our hobby (the use of which we haven't yet discussed) this is very much a supplementary technology. It does not replace activating a mountain, assisting a search and rescue, winning awards by chasing elusive DX, etc. and we should absolutely still be doing all of these things and more. No one is saying we shouldn't.

This is merely another means to connect

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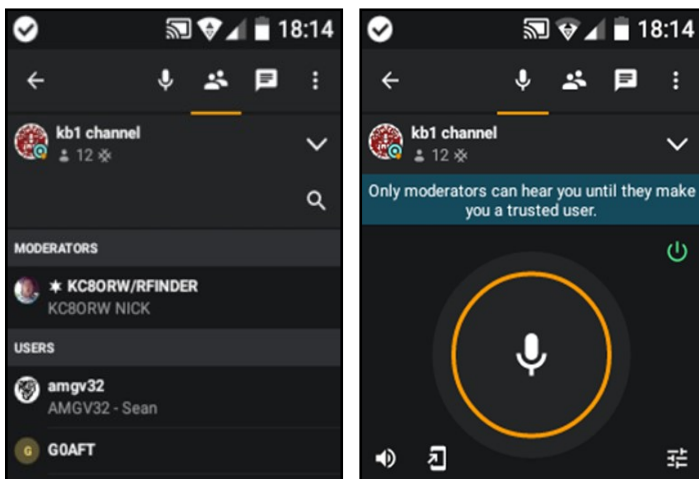
with fellow radio operators, play with new technology and (possibly most importantly) be able to participate / communicate in situations where you otherwise wouldn't be able to erect antennas or reach people with other technologies. Perhaps you're not close to a repeater? Perhaps an antenna isn't possible on your vehicle? Perhaps you want the most modes possible on a handheld device or in a Smartphone app?

It's admittedly nit-picking, but you are using RF with these devices – it's just RF to the cellular network. If you're at home using an MMDVM hotspot to connect to the DMR network from your handheld 5 meters away, is a Network Radio less RF-ey considering it's talking to a cell station 2.5km away?

On a personal note I'd add that it's my opinion that we should expect to use or lose our slice of the (hotly contended) spectrum – so I'd advocate using 'real' RF wherever possible. The use case for my Network Radio is for use in a company vehicle, and I'll be using my Network Radio to contribute to traffic on the 'real' RF spectrum from a place where I would otherwise simply not be able to – which segues me nicely to:

### **This sounds great for commercial users, what does it do for use by Amateurs?**

We do an excellent job pinching and adapting technology for our own hobbyist use in Amateur Radio (see P25 and DMR). Network Radios are used in our hobby with the following apps:



## **[Zello is the king of PTT over Cellular apps]**

Zello – This is the main app used in the Network Radio space. Zello is free to use for personal communications but there's a paid subscription tier for business known as 'Zello for Work' that offers commercial features.

The app is easy to use and comes preloaded on most Network Radios with the PTT generally being mapped to the app from the time the device boots, so no launching of the app is required. Zello also supports use on devices with no screens (for use on cheap 16-channel rotary selector commercial radios).

Audio quality is fantastic, the feature set is rich (especially with Zello for Work). App reliability is excellent, and it runs well on positively prehistoric versions of Android and low-end processors (both of which are often found in cheap Network Radios).

If you haven't used Zello before and have the need for a quick and easy communications solution with unlicensed or non-technical users, I'd encourage you to give it a try on your Smartphones.

The International Radio Network (IRN) uses Zello as one of 6 ways to get into its network. Access is available to non-amateurs and amateurs alike, but all RF linked channels requires registration (and proof of licence) to access. All access is moderated, and proper radio etiquette is always required. The IRN operates 9 nets across various time zones and there's always plenty of traffic. We'll be mentioning the IRN a few times over the following paragraphs.

Setting up crosslinks between Zello and other networks or RF radios is relatively straight forward, so there's quite a few users running crosslinks – for example the GB7AB channel is linked to the CQ-UK room in Wires-X, which in turn is linked to loads of repeaters and stations. Access must be requested.

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Setup is easy with no configuration required beyond account creation and log-in.



**[Who'd have thought that we'd appropriate Teamspeak as an Amateur Radio app?!]**

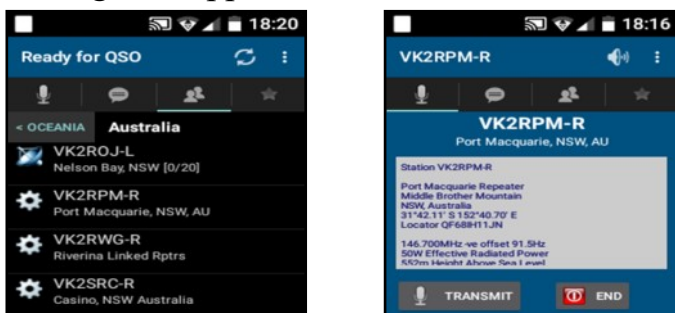
### TeamSpeak

Yes, TeamSpeak, the platform internet gamers use to coordinate their attacks on Mordor.

The IRN operates a dedicated TeamSpeak server for Amateur Radio use. Services offered are similar to Zello, with the popular IRN channels all being available across all IRN platforms. The same rules apply for etiquette and access to channels with RF connectivity.

TeamSpeak has a good PC client making it an excellent way into the IRN network from a Windows machine. TeamSpeak offer duplex communication and supports radio PTT buttons.

Setup is easy with no configuration required beyond a free TeamSpeak account and entering the supplied server details.



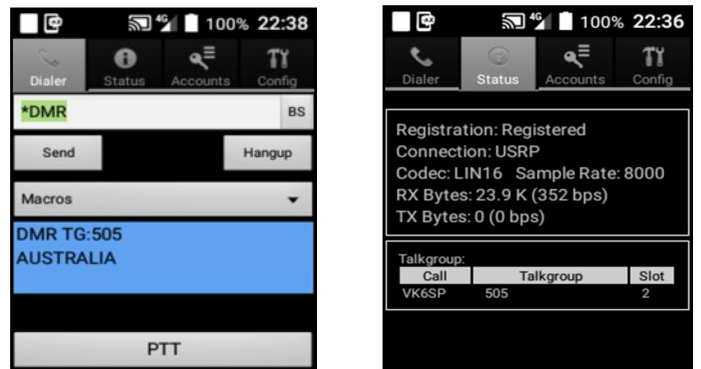
[This previous page displays should look familiar to many readers, probably not on a display this small though!]

### Echolink

This needs no introduction. The Echolink client works brilliantly on a Network Radio and the audio delivered to the repeater or connected system is as good as Echolink can offer. Audio reports on a recent ORARC net from my Network Radio connected via Echolink were excellent, with users otherwise unaware I was not using straight RF.

If you're looking for the premier way to access our local repeater (VK2RPM) for nets or general communication when RF won't work, Echolink on a Network Radio is it. You can access the IRN via Echolink using KC1MUV-L.

Setup is straight forward once you've registered (which most will have already done).



[The DVSwitch app is all business, small screen friendly and doesn't have a UI designed by a committee!]

### DVSwitch

DVSwitch provides access to all digital voice modes from your Network Radio – DMR, YSF, P25, NXDN and D-Star (with additional hardware).

For all those running MMDVM hotspots for access to VKDMR, the concept and running of DVSwitch will be very familiar.

It's a Raspberry Pi MMDVM Hotspot you run at home (with basically the same software), but with no RF functionality.

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The milliwatt radio and RF Handheld are gone, and in its place is the DVSwitch App on your Android device (Network Radio or Smartphone) that talks back to the DVSwitch server. Your DVSwitch server shows up on the VKDMR Hotspot dashboard just like any other hotspot.

59	VK2CQC	Port Macquarie, QF88 (25)	505241003	S	505 3802	MMDVM
60	VK2CQC	Port Macquarie, QF88 (25)	505241001	S	505 3802	MMDVM
61	VK2CQC	Port Macquarie, QF88 (23)	505241002	S	505 3802	MMDVM

*[5052410-03 is my DVSwitch server, shown here registered on the VKDMR Hotspot dashboard]*

It has a web-based dashboard based around Pi-Star and with some port forwarding, your cellular connected Network Radio can talk to back to your DVSwitch server from anywhere. The downside here is that you need to supply the Raspberry Pi, but from there you're running your own server (as you would with a hotspot) which provides excellent flexibility.

The screenshot shows the DVSwitch Dashboard with the following sections:

- Status:** Analog Bridge Info (CallSign: VK2CQC, GM ID: 5052410, RPT ID: 505241003), TRX Info (Mode: DMR, Tx TG: 1, Rx ver: 1.6.4), DMR Master, YSF Net, P25 Net, NOON Net, D-Star Net, IRC (nr.openquad.net).
- Gateway Activity:** Table with columns: Time (AEDT), Mode, CallSign, Target, Src, Dur(s), Loss, BER. It lists various DMR Slot 2 connections to TG 3802 and TG 505.
- Local Activity:** Table with columns: Time (AEDT), Mode, CallSign, Target, Src, Dur(s).
- Local Activity:** Table with columns: Time (AEDT), Mode, CallSign, Target, Src, Dur(s).
- Hardware Info:** Hostname: dvswitch-server, IP: 192.168.1.117, Kernel: 5.10.63-r7, Platform: Pi 3 Model B (1GB) - Emest, CPU: 7%, Memory: 18%, CPU Load: 0.4 / 0.2 / 0.1, CPU Temp: 32°C / 127°F.

[Above The DVSwitch dashboard, which will look very familiar to Pi-Star users]

Mode and Talk Group switching is performed on the Android Client. Multiple DMR network configuration is available in the app (pick VKDMR, Brandmeister, etc). Favoriting of Talk Groups and macros are supported. Network Radio PTT buttons are fully supported too.

Setup is more involved for DVSwitch, but if you've tackled a Pi-Star setup from scratch you'll be fine with it. Some Raspberry Pi experience would be beneficial. There is an excellent 42-page PDF detailing the setup procedure.

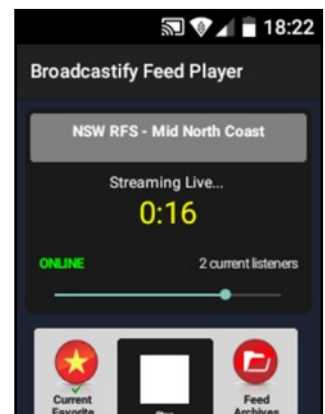
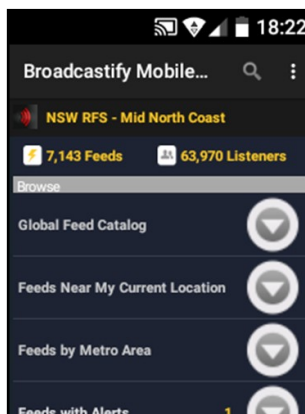
## DroidStar

DroidStar also provides access to the digital voice modes, but it differs from DVSwitch in that the MMDVM host isn't running on a Pi at home with your Network Radio sending voice and control data to it – the MMDVM host is now running on your Network Radio or Smartphone. DroidStar's UI is primitive, and the app is difficult to use on the small screen of a Network Radio, but it's otherwise full featured. For all intents and purposes, it achieves the same result as DVSwitch without the home hardware if you can live with its clumsiness. The UI is less problematic on a full-sized Smartphone display.

## Peanut

Another digital voice from your Network Radio / Smartphone app. Peanut offers a limited selection of rooms (still 200+) with roughly a 1/3rd being unique to the service. The remaining rooms link to popular DMR, Fusion and D-Star reflectors – but you won't find any VKDMR in here.

Peanut is best utilised if you're interested in any of the peanut specific rooms, or if you're interested in traffic heavy non-VK talkgroups, rooms or reflectors.



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[Broadcastify turns your device into a far-reaching receiver of emergency service communications]

### **Broadcastify**

Broadcastify allows you to stream scanner feeds from various emergency services all over the globe with 7000+ feeds. Both the Mid North Coast and Australia as a whole are well represented, and the various US police forces are always an entertaining listen. Sadly, at the time of writing, several of the more popular Mid North Coast feeds are offline.

This list of apps is by no means exhaustive – I’ve no doubt neglected some apps and new ones are being created all the time. With the multitude of services on offer, it’s unlikely you’d need to hunt far for a QSO or to find some interesting listening.

### **What should I be looking out for in a Network Radio?**

There are a few gotchas to look out for. You can rule out any radio without support for 4G and Australian cellular bands (which generally fall in line with European bands – so you’d usually want the ‘EU’ variant of any radio).

Many radios come with very old versions of Android (4 and 5 are not uncommon), and this will eventually become a problem for certain apps we’re likely to want to use – so getting a device with the most modern version of Android possible will improve its longevity for Amateur Radio use. Zello and RealPTT are intentionally designed to work with old versions of Android, so for a commercial user this isn’t too much of an issue.

We also want the Google Play Store to enable us to easily download (and keep updated) the apps we want to use. Apps can be ‘sideloaded’ without the use of the Store if necessary (and indeed, some apps are not offered on the Google Play store and must

be sideloaded) – but this isn’t something we want to deal with if we don’t have to.

Screen size is a consideration. My chosen handheld ships with a 2.4” display, which makes the unit compact but is right on the cusp of usability for those with decent eyesight. The hardware number keys can be used with Android, but you’ll have a whole load of traditional data entry to do on the device with its onscreen keyboard. Typing does work but if you’ve got fat fingers it may well become an exercise in frustration. Some people have been known to plug in a full-size keyboard using an OTG cable to get the radio setup. This looks as ridiculous as it sounds, but it works!

Be on the lookout for Network Radios that do not run Android. Some low-cost variants exist which are running Zello or RealPTT on custom Linux operating systems. These radios are of no use to us.

You may be tempted by combo RF / Network Radio units. These devices have a Network Radio plus a traditional 400-470Mhz UHF radio in the one handheld, with the RF radio component being controlled by an app within the operating system. These devices are akin to the TV/VCR combos of old in that they don’t do either of their given tasks well and are probably best avoided.

### **What radio did you buy?**



*The Anysecu A420 - Lots of Network Radio for the money with a traditional HT look and feel!*

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After much deliberation, I opted to purchase an Anysecu A420 Handheld. The A420 is a twin of the very popular Inrico T320, which for some reason is hundreds of dollars more expensive.

I purchased my Anysecu A420 for \$207.50 AUD from AliExpress. It's running Android 7, supports all Australian 4G bands, includes 5Ghz Wi-Fi support plus Bluetooth 4 for pairing with my Volvo's stereo and has an external 4G antenna for excellent cellular reception.

I've paired it with a \$5 prepaid SIM from Aldi (who use the Telstra 4G network) along with their \$95, 365-day expiry 30GB data only plan. I'll be checking yearly for the best value cellular plan and will switch as necessary, though it may be worth sticking with the Telstra network for its generally superior coverage. If you're just looking at this for use at home on Wi-Fi, you can obviously skip the SIM (or perhaps hotspot to your phone when out and about).

Shy of the small onscreen keyboard, the device is generally a pleasure to use. The launcher provides 4 app icons per screen, which is perfect for this display. As the touchscreen is capacitive, touches are all registered accurately without the need for excessive pressure. Battery life is very lengthy as expected and it's a pleasure being able to charge the device with a Micro-USB cable from a phone charger, though I have ordered the optional drop-in desktop charger (which is also micro-USB based) to reduce the need to pluck and unpluck the waterproof charge port cover. The unit feels commercial in quality with plastics and construction very familiar to anyone with a Chinese DMR radio.

Cheap radios are never glitch free, and this one delivers with a volume control that randomly decides to reverse its directionality mid adjustment – down suddenly becomes up as you twist the knob on the top of the device. I'm not sure if this is unique to my device. Thankfully a slider appears on screen

when adjusting the volume, allowing you to take over.

The app 'Button Mapper Pro' is near mandatory for Network Radios (it fixes PTT issues with certain apps). Some users will remap the volume knob to be a channel selector, and other keys can be remapped for volume up and down. I have mapped the number keys to launch chosen apps on a long press, plus added Android home and screenshot buttons.

I would also add that the display has a very limited viewing angle, but all these things are very minor when the \$200 purchase price is considered.

### **Any alternatives?**



[Inrico T310 Network Radio, pictured above, a bit more mobile phone-ish in the looks department thanks to no antenna]

Aside from the A420, Glenn VK4NGA sells a pre-programmed Inrico T310 Network Radio that's ready for use right out of the box for \$229 from his 'VK Direct' business.

This is a similar handset to my A420 (albeit a tier lower) and it's missing the external antenna (which you may consider a plus in certain circumstances).

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[Anysecu W2-4G Network Radio, big screen mobile goodness above]

For mobile or shack use you may like to consider a mobile style radio like the Inrico TM-7 Plus or the Anysecu W2-4G.

The TM-7 Plus has conventional mobile looks with a small display and forward-facing speaker, whereas the W2-4G places a much larger display in the centre of the radio while moving the speaker to the back of the unit. Both radios are very shallow (no more than 8cm deep) and can be powered via your cigarette lighter port as they draw a measly 250mw (at 12V) when TXing! Couple that with no external antenna and you have a truly portable mobile rig.

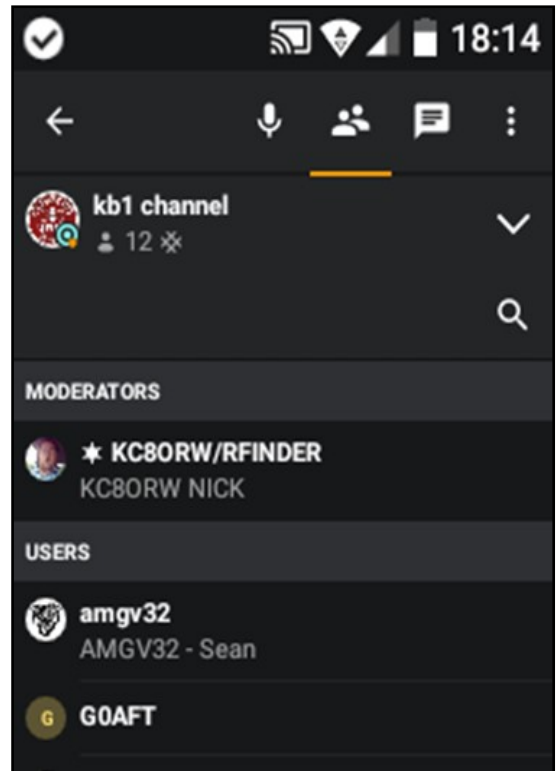
### And in conclusion?

Yes, they're not real radios. They can get you onto real radio though, and in an era where dwindling traffic risks our chunk of the spectrum that must be a good thing, right? For the money they cost, Network Radios are almost unbeatable in terms of the flexibility and diversity of services they offer in a single device. As a solution to the "what radio do I run in a modern leased vehicle?" conundrum they're a near perfect solution (shy of the cellular data plan cost).

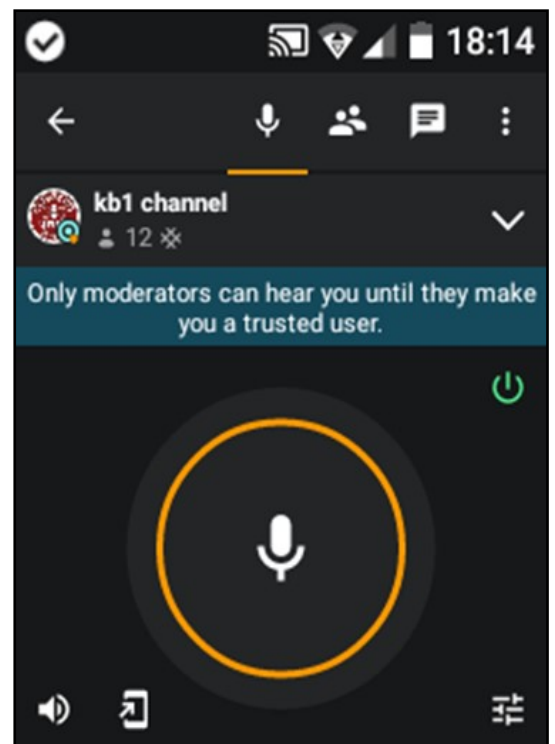
For me, the next question to answer may be "which mobile Network Radio would look best in my shack!?"

Paul VK2ICQ.

Editor's note: Some members have mentioned that embedded photographs sometimes become very hard to read when formatted for Oxtales. The following pages have the photographs in a much easier to read larger format with references to the pages where they appear in the article.

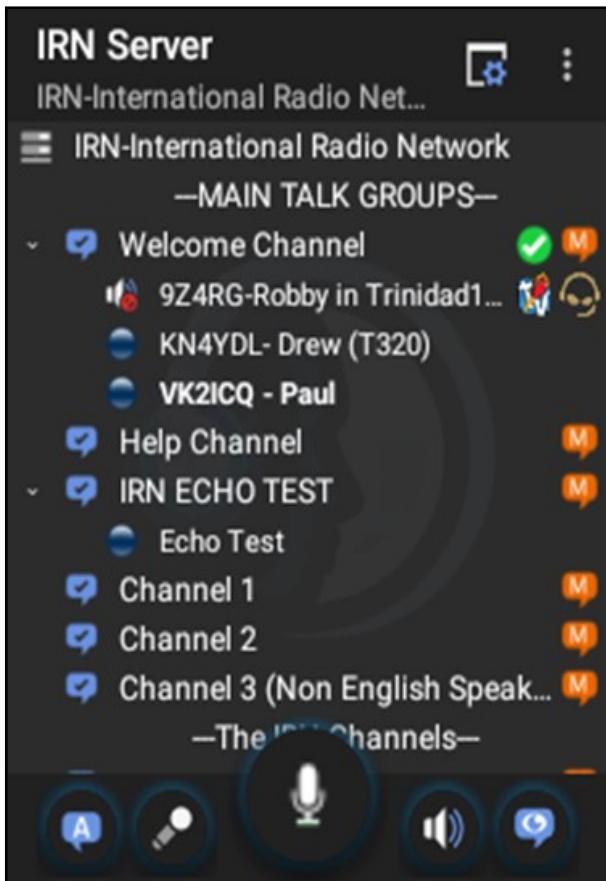


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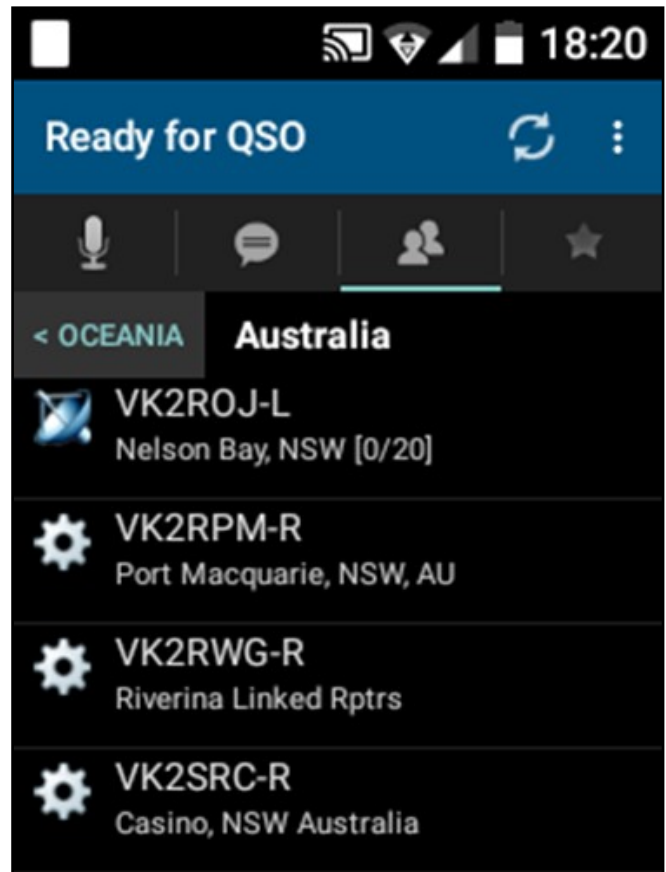


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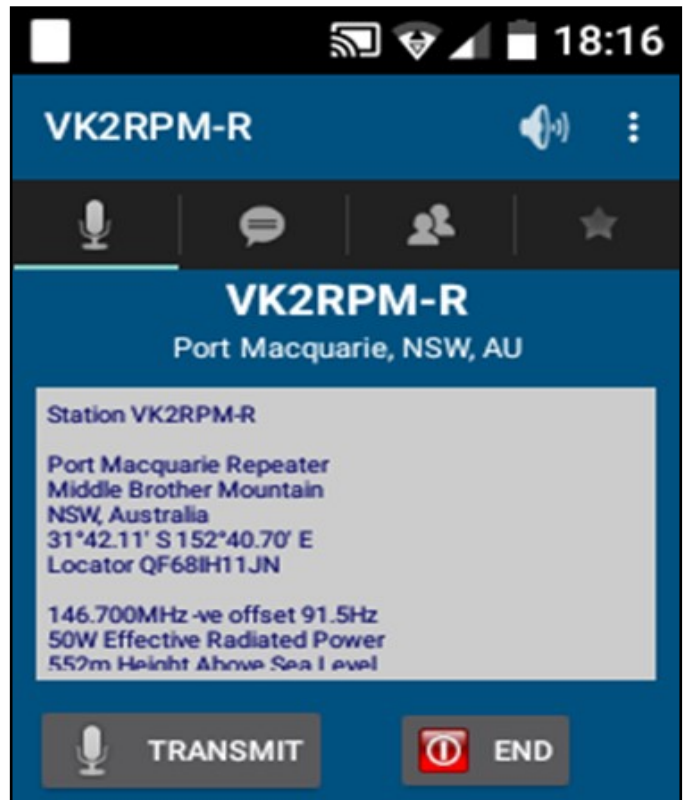
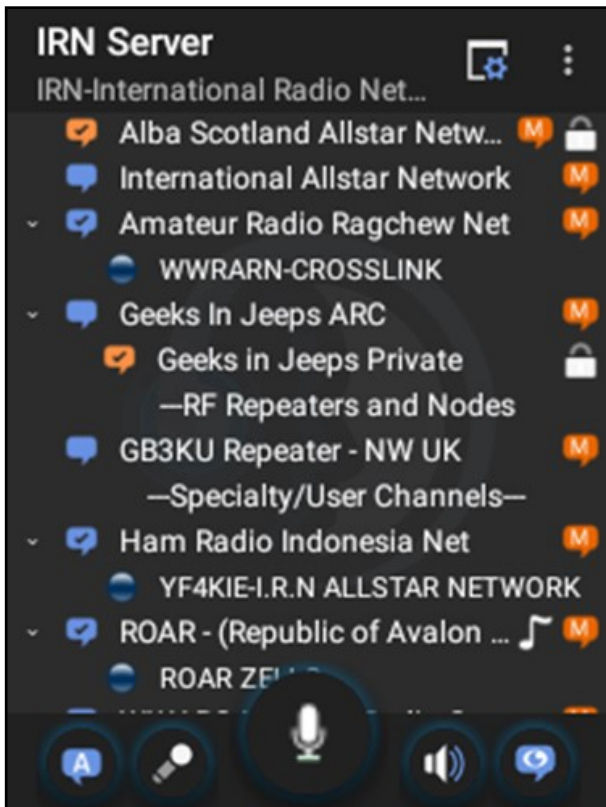
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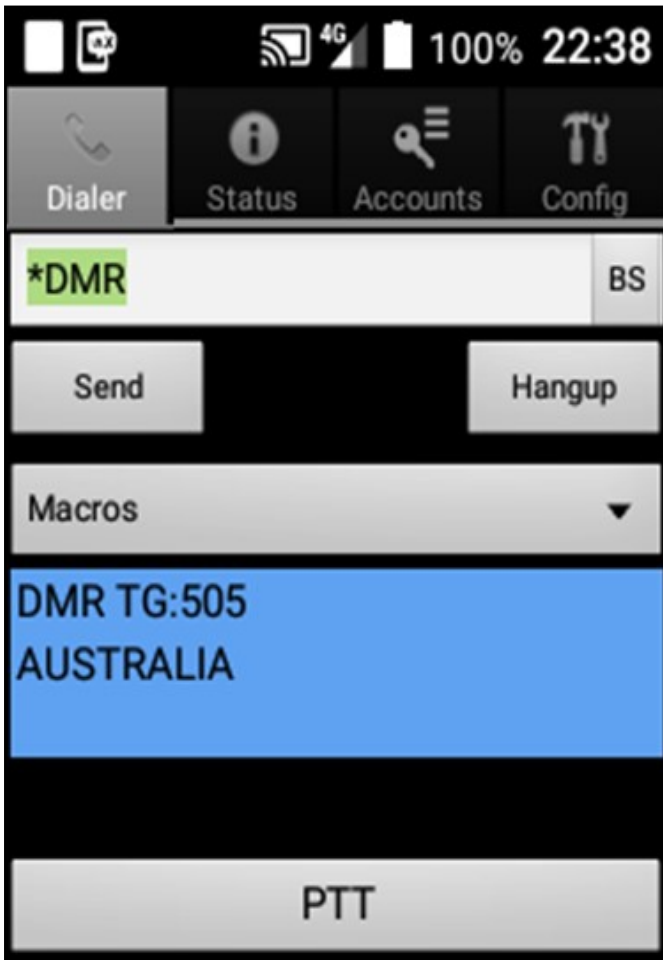
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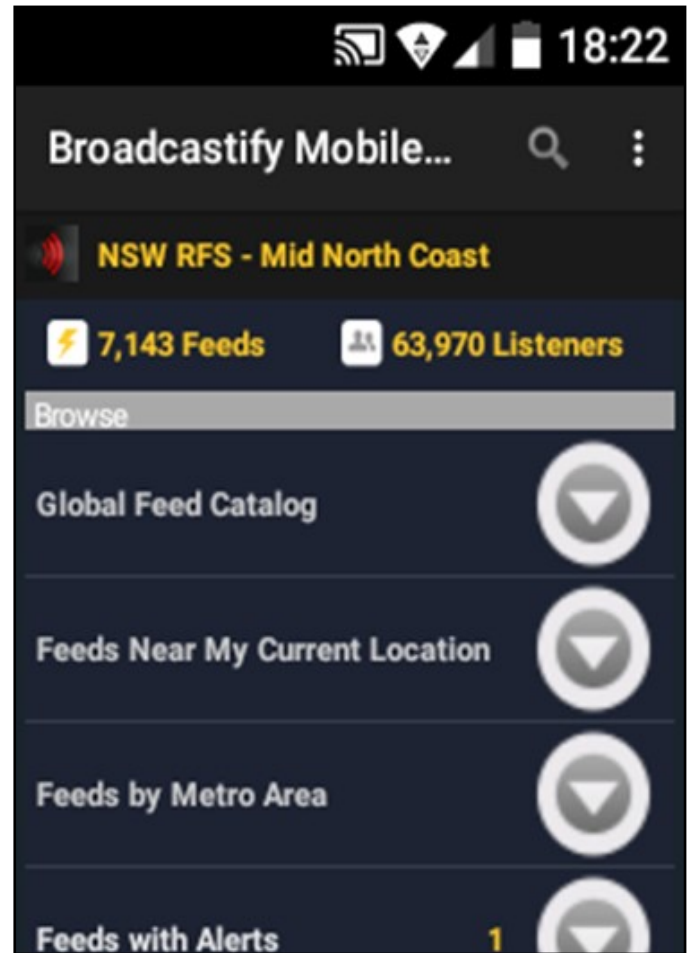
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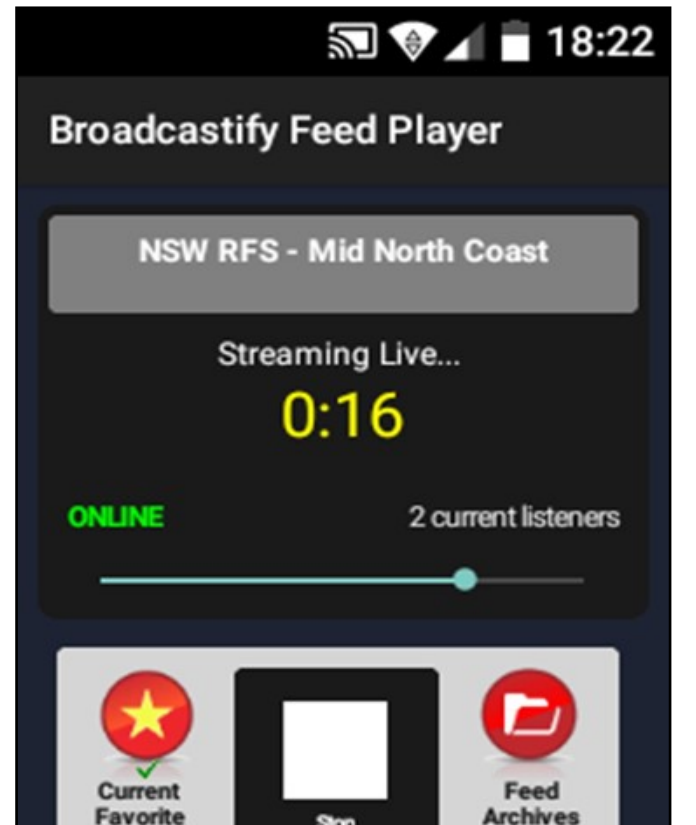
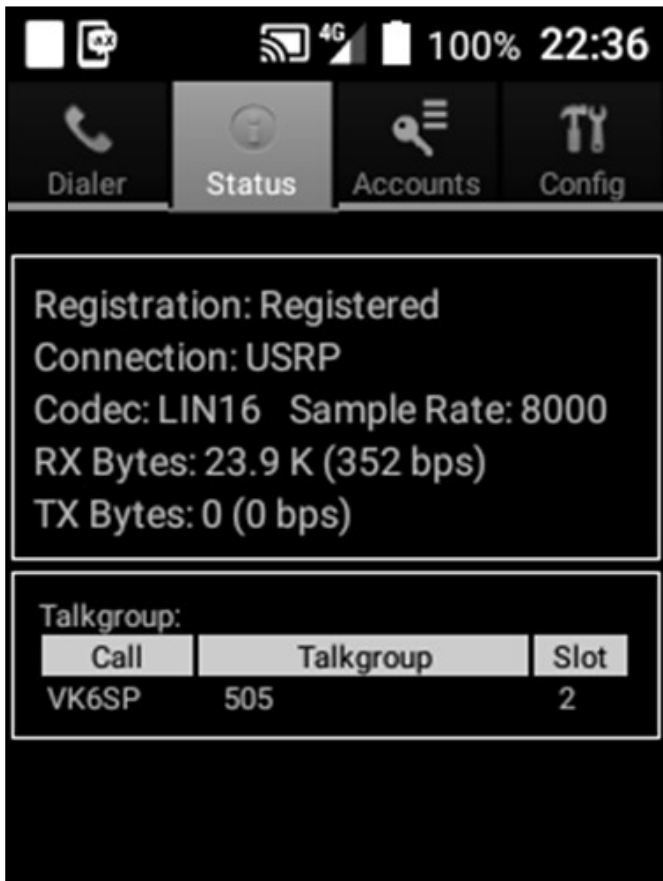
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60	VK2ICQ	Port Macquarie, QF68 (25)	505241001 5	505 3802	MMDVM
61	VK2ICQ	Port Macquarie, QF68 (23)	505241002 5	505 3802	MMDVM

Above 5052410-03 is my DVSwitch server, shown here registered on the VKDMR Hotspot dashboard]

DVSwitch Dashboard

RX Monitor

### Status

Analog Bridge Info

Callsign	VK2ICQ
GW ID	5052410
RPT ID	505241003
Mode	DMR
Tx TG	1
AB ver	1.6.4

TRX Info

Listening

DMR Master

YSF Net

Not Linked

P25 Net

Not Linked

NXDN Net

Not Linked

D-Star Net

IRC rr.openquad.net  
Not Linked

### Gateway Activity

Time (AEDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
14:35:38 Oct 24	DMR Slot 2	VK2LD	TG 3802	Net	0.5	0%	0.0%
14:35:19 Oct 24	DMR Slot 2	VK2UWP	TG 3802	Net	9.1	0%	0.0%
14:34:42 Oct 24	DMR Slot 2	VK2LT	TG 3802	Net	32.9	0%	0.0%
13:46:32 Oct 24	DMR Slot 2	VK4DHL	TG 505	Net	6.6	5%	0.0%
12:42:29 Oct 24	DMR Slot 2	VK4UE	TG 505	Net	0.8	42%	0.0%
12:39:53 Oct 24	DMR Slot 2	VK4PHD	TG 505	Net	15.5	17%	0.0%
12:39:26 Oct 24	DMR Slot 2	VK2LPC	TG 505	Net	13.1	7%	0.0%
12:37:02 Oct 24	DMR Slot 2	VK2HOC	TG 505	Net	4.1	8%	0.0%
12:18:27 Oct 24	DMR Slot 2	VK4DXN	TG 505	Net	0.8	42%	0.0%
12:17:24 Oct 24	DMR Slot 2	VK4ECW	TG 3802	Net	8.4	0%	0.0%
12:17:03 Oct 24	DMR Slot 2	KI5OTT	TG 3802	Net	17.0	0%	0.0%
12:08:01 Oct 24	DMR Slot 2	VK3BFT	TG 505	Net	1.9	18%	0.0%
11:29:47 Oct 24	DMR Slot 2	VK3MJR	TG 505	Net	2.3	15%	0.0%
11:26:45 Oct 24	DMR Slot 2	VK3TXB	TG 505	Net	1.2	30%	0.0%

### Local Activity

Time (AEDT)	Mode	Callsign	Target	Src	Dur(s)

Modes	DMR	YSF	NXDN	P25	D-Star	Networks	DMR Net	YSF Net	NXDN Net	P25 Net	D-Star Net
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### Hardware Info

Hostname	Kernel release	Platform	Disk used	Memory used	CPU Load	CPU Temp
IP: 10.0.11.117 2406:3400:21e:d340:463a:35d:a9a7:5de2	5.10.63-v7+	Uptime: 8 days, 1 hr, 55 mins	Pi 3 Model B (1GB) - Embest, CH	7%	18%	0.4 / 0.2 / 0.1
dvswitch-server						53°C / 127°F

DVSwitch Dashboard 2020-2021  
Dashboard based on Pi-Star Dashboard, © Andy Taylor (MW0MWZ) and adapted to DVSwitch by SP2ONG

From Page 19



## Equipment from the Past A510 Radio Set



The A510 wireless set was a crystal controlled, low power light-weight transmitter-receiver, designed primarily for use by long range infantry patrols. It could be used as a packed station on the move, in a vehicle, or as a ground station. For the ground station role, improved aerial systems were provided to achieve greater range. It operated on either voice or CW. It was powered by dry batteries which normally provided 24 hours working. The frequency range was from 2 Mhz to 10 Mhz.

The set was comprised of two module a receiver and a transmitter carried in two belt mounted packs as shown in the above photograph.

The WS A510 was designed by AWA (Amalgamated Wireless Australasia) in 1950-51, to meet an Australian Army specification for a small waterproof HF transmitter/receiver that would have good performance in the Pacific area, i.e. from flat plains country to mountains and rain forests.

The existing Army portable sets such as the UK WS No.68 and the VHF portable sets of the era were ineffective in jungle situations as well as being bulky, heavy and difficult to maintain and keep moisture free. A number of prototypes were made and tested by AWA before settling on the design.

The final A510 set consisted of two diecast boxes, one containing a four channel crystal controlled transmitter and a similar box housing the receiver and connected to the transmitter by a multi-core cable fitted with plug and socket. To compensate for aerial mistuning due to varying foliage and terrain, the transmitter was fitted with a separate aerial tuner.



SATCHELS FOR THE A510 TRANSMITTER AND RECEIVER.

The transmitter (in the right hand pouch of the above photo) was carried on the left side of the operator, clipped to his standard webbing belt. The receiver balanced that on the right side of the operator. They were positioned generally on the front of each hip.



A510 AERIAL ROD TUNER. This has a ball joint at the base to allow the whip to be swung to a convenient angle. To ensure efficient operation in the widely varying terrain, it was found critical to use an aerial tuner when using the 8 foot metal antenna rod.

The tuner has a locking device (lower right) and a tuning knob with a frequency scale covering 2 to 10 Mhz. In operation the operator rotated the knob while watching the meter for maximum deflection, then locked the knob in position.

The officer normally used the handset .

*Continued on next page*



A510 DIPOLE ANTENNA ON METAL REEL. Note the red marker sleeve on the wire.

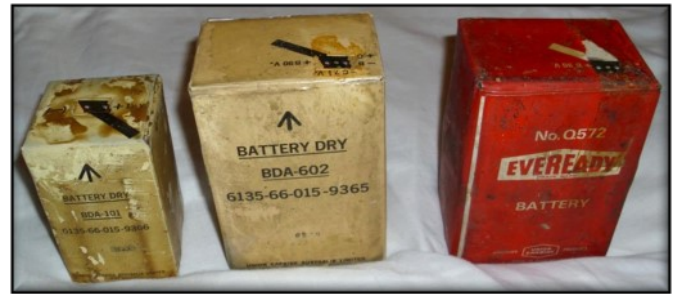
To cover various applications the A510 was supplied with several aerials. Apart from the 8 foot rod aerial used with the Rod Tuner there was an adjustable 135 foot end fed aerial and a 136 foot dipole with a coaxial cable feeder.

The end fed aerial consisted of 8 black leads of varying calculated lengths, fitted with a hook at one end and an eye at the other and numbered one to eight. The far end had a small insulator which could be attached to one of the cords aerial (a nylon throwing line). The set was supplied with an instruction card detailing the sequence of leads needed to be joined together (hook to eye) to match a frequency. There was also an orange lead which attached between the transmitter aerial socket and the first of the black aerial leads. The counterpoise was used with the end fed aerial.

The dipole aerial shown in the photo above consisted of two aerials, lightweight, 68 feet and one 70 ohm aerial feeder plus the two aerial cords. The aerial was wound on a metal reel that included two protective metal flaps with calculated lengths for each frequency band and assembly instructions as shown.

Each of the two dipole leads was marked eve-

ry 12 inches with a red marker so the operator could measure out the correct lengths for the required frequency. It was suggested that the aerial be no more than a quarter wave (half the aerial length) above the ground.



A510 BATTERIES. Left is the LT battery (1.5V). Right are two types of HT battery (90V and -7.5V).

The A-510 was designed as a small unit, front line tactical set with the 'Old School practice of early WW-II mind.' This being that HF frequencies would penetrate jungle foliage better than VHF. While never being separated from other units by more than a few miles.

After extensive use with the Australian Army they became superseded by sets such as the PRC-10 which could be use code burst operations and were better suited to the complex radio frequency management and congestion of Australia's modern army.

Editor's note: I used these sets extensively as a cadet in Singleton in the field and at HQ. The power output from the battery valves was below one watt and I was always amazed at how far radio range was with so little power.



A complete A-510 station including the rare hand crank generator. Note the hand crank was not for the faint hearted and could prove quite exhausting over time!

Acknowledgements: V2DYM RADIO AND RADAR INFORMATION SITE/WWW.QSL.NET/VK2DYM/RADIO/A510.HTM  
Dennis Starks; MILITARY RADIO COLLECTOR/HISTORIAN  
military-radio-guy@juno.com

## MEMBERSHIP REGISTER

## Membership List as at 4 November 2021

No.	Cat	Surname	Given Name	Spouse	Call	Location	Phone
1	D	ALLAM	DEREK	(CLARE)	VK2BTX	CUNDLETOWN	0403 796 102
2	D	ALLAM	ROBERT		VK2CDX	CUNDLETOWN	
3	O	BAILEY	JOHN	(FLORENCE)	VK2KHB	PORT MACQUARIE	02 6582 2192
4	O	BAILEY	ROD		VK2AJ	PORT MACQUARIE	0428 670 001
5	D	BAYLISS	KEITH	(DEBBIE)	VK2PTL	COOPERNOOK	0478 606 464
6	D	BLACKMORE	MARK		VK2XOF	BAULKHAM HILLS	02 9639 0663
7	L	BLYTH	BOB		VK2XIQ	TELEGRAPH POINT	-
8	D	BOYD	WADE		VK2EST	WINGHAM	0400 589 265
9	O	BREWSTER	DAVID		ZL3DS	LAKE CATHIE	0407 749 748
10	D	BRICE	GRAHAM	(CYNTHIA)	VK2VV	SCONE	02 6545 0411
11	O	BRUCESMITH	SANDY	(KAY)	VK2WH	PORT MACQUARIE	0435 356 466
12	D	CAMPBELL	JAMIE		VK2YCY	HAMILTON	0418 628 321
13	O/F	COLLEDGE	PAUL	(PAULA)	VK2ICQ	PORT MACQUARIE	02 6580 9912
14	O/F	COLLEDGE	PAULA	(PAUL)	VK2PDC	PORT MACQUARIE	02 6583 8829
15	O	COURT	RICHARD	(LINDA)	VK2CHC	PORT MACQUARIE	02 6581 5658
16	D	DORAHY	ALEX	(ANNE)	VK2HBF	TOORMINA	0400 849 098
17	D	ECCLESTONE	BOB	(DIANA)	VK2ZRE	KEMPSEY	0419 414 412
18	D	EKERT	BRUCE	(YULIA)	VK2EM	FORSTER	0414 532 496
19	O	EKMAN	JOHN	(MELLISSA)	VK2VEX	WAUCHOPE	0417 448 998
20	O/F	FLETCHER	CAROLINE	(PETER)	VK2CZF	PORT MACQUARIE	02 6584 5191
21	O/F	FLETCHER	PETER	(CAROLINE)	VK2HPF	PORT MACQUARIE	02 6584 5191
22	D	FOX	JOHN		VK2AEG	WAHROONGA	02 8711 0100
23	O	FRAPPPELL	GRAEME	(BAMBI)	VK2GCF	PORT MACQUARIE	0490 088 048
24	O	FROGGATT	DARREN	(KRISTY)	VK2MIA	PORT MACQUARIE	0488 01 8102
25	O	FROST	ROBERT	(SUSAN)	VK2CRF	PAPPINBARRA	02 6587 6129
26	D	GARLAND	JOHN		VK2CJG	JEWELLS	02 4948 1950
27	O	GILSON	BARRY	(FAY)	VK2LBG	PORT MACQUARIE	02 6583 8814
28	D	GREENE	DENNIS		KN4VKT	FLORIDA USA	+1321295 1184
29	O	HALL	RICHARD		VK2BXO	PORT MACQUARIE	02 6582 6588
30	O	HANSEN	JOHN		VK2AYQ	PORT MACQUARIE	0427 407 973
31	L	HARDING	DAVID		VK2AIF	WAUCHOPE	02 6586 1947
32	D	HARPER	JOHN	(VIVIANE)	VK2LJ	VICTORIA	0417 254 763
33	D	HIRSCHEL	ALLAN		VK2OK	DOUBLE BAY	0415 259 777
34	D	HUTCHESON	COLIN	(PAULINE)	VK5DK	MT. GAMBIER	08 8725 5527
35	D	JANES	LES	(BEVERLY)	VK5JL	SALISBURY HEIGHTS	08 8281 3878
36	D	JOHNSON	STEVE		VK2SJJ	BELLINGEN	0466 334 626
37	O	JONES	PAUL	(SANDRA)	VK2DEL	PORT MACQUARIE	02 6584 3772
38	D	KEIR	ANDREW	(BARBARA)	VK2AAK	DARAWANK	02 6554 3498
39	O	KUCERA	PETER		VK2MPK	WAUCHOPE	0429 229 290
40	L	LINDSAY	LARRY	(PENNY)	VK2CLL	HUNTINGDON	02 6587 1155
41	O	LINDQUIST	IAN	(BERNADETTE)	VK2GL	PORT MACQUARIE	0414 419 462
42	L	LUNDELL	HENRY		VK2ZHE	PORT MACQUARIE	02 6582 0534
43	D	MACNAUGHTON	JENNY		VK2BA	MUDGE	02 6372 4053
44	O	MARE	HANS		VK2MRK	PORT MACQUARIE	02 6582 7080
45	O	MARTIN	CRAIG	(JENNY)	VK2CSM	SANCROX	02 6585 3452
46	D	McADAM	PETER		VK2EVB	COFFS HARBOUR	02 6652 7160
47	O	McGUIRE	MARK		VK2FMGM	PORT MACQUARIE	02 6583 8875
48	O	McLEAN	JOHN	(CORRINE)	VK2KC	PORT MACQUARIE	02 6584 6220
49	O	MEADE	DENNIS	(SUE)	VK2DAM	PORT MACQUARIE	02 6582 2998
50	D	MEEHAN	TERRY		ex-VK2KL	KEMPSEY	-
51	O	MELVILLE	STUART		VK2KSM	PORT MACQUARIE	0419 043 316
52	O	MESSINA	TOBY		VK2XTX	PORT MACQUARIE	0417 293 377
53	L	MONCK	ARTHUR		VK2ATM	PORT MACQUARIE	0459 679 425
54	O	MULLINS	RAY	(LYNNE)	VK2JU	PORT MACQUARIE	0432 559 400
55	O	NEWHAM	LAURIE	(ROBIN)	VK2ELN	PORT MACQUARIE	02 6583 5387
56	O	NEIL	JIM	(CAROL)	VK2VIV	PORT MACQUARIE	0487 812 481
57	D	NIVEN	TREVOR	(BETH)	VK5NC	MT. GAMBIER	08 8723 2432
58	D/F	O'BRIEN	GRAHAME	(JUDY)	VK2FA	CARDIFF	02 4954 8688
59	D/F	O'BRIEN	JUDY	(GRAHAME)	VK2HZV	CARDIFF	02 4954 8688
60	D	OLSEN	KIMBERLY		VK2KMI	GUNNEDAH	04 5515 5798
61	D	OSBORNE	RICHARD		VK2OKR	LEMONTREE PASSAGE	0429 824 951
62	D/F	PETTET	JOHANNA	(STEVEN)	VK2FJMM	ILARWILL VIA MACLEAN	02 6645 5290
63	D/F	PETTET	STEVEN	(JOHANNA)	VK2ZVG	ILARWILL VIA MACLEAN	02 6645 5290
64	L	PILLEY	DAVID		VK2AYD	KING CREEK	02 6585 2647
65	O	PISANI	VIC	(MEREDITH)	VK2UVP	BONNY HILLS	02 6584 8361
66	D	PRATT	PETER		VK2PX	PENNANT HILLS	0418 965 962
67	O	RAE	THOMAS		VK2ATR	PORT MACQUARIE	0409 808 528
68	D	RAY	ROBERT		VK2ZWZ	SINGLETON	0412 573 861
69	O	ROMAINE	PAUL		VK2UPR	PORT MACQUARIE	0428 466 075
70	O	SANDERS	BILL	(SUELENE)	VK2FWHP	REDBANK	0437 004 228
71	O	SMALL	ROBERT	(LYNN)	VK2BIG	LAKE CATHIE	02 6584 8148
72	D	SWINDLEY	RON		VK2DDQ	KEMPSEY	0417 299 397
73	O	SMITH	LYLE	(JEANNINE)	VK2SMI	WAUCHOPE	02 6585 2497
74	D	SMITH	MURRAY	(MARGARITA)	VK2LAT	RAINBOW FLAT	0423 781471
75	O	SMITH	STEVE	(HELEN)	VK2IS	RAWDON ISLAND	0404 612 126
76	O	SOUTHWELL	IVAN		VK2IJS	PORT MACQUARIE	0439 611 452
77	O	TERRY	COL	(KATHLEEN)	VK2LCT	YIPPIN CREEK	0429 002906
78	L	THATCHER	TREVOR		VK2TT	WAUCHOPE	02 6585 2278
79	D	THOMPSON	DES	(BETTY)	VK9FLHI	LORD HOWE ISLAND	02 6563 2152
80	D	THOMPSON	LARRY	(KATHLEEN)	VK2LJT	TUNCURRY	02 6555 7994
81	D	THRING	HAYDEN			TEMAGOG	0435 287227
82	O	WALKER	BRUCE	(GWEN)	VK2HOT	PORT MACQUARIE	02 6583 8360
83	D	WALKER	STUART		VK2BMX	BEECROFT	02 9869 0515
84	D	WALSH	STUART	(JENNIFER)	VK2WAL	TUNCURRY	0409 531 310
85	O	WARD	MICHAEL	(SEREENA)	VK2FMDW	PORT MACQUARIE	0418 291 276
86	D	WILSON	DIANE		VK2DNE	LEMON TREE PASSAGE	0429 845 111
87	O	WINCHESTER	JOHN	(PAULINE)	VK2NJJ	PORT MACQUARIE	02 6580 3031
88	O	WYNN	STEPHEN	(LYALLE)	VK2ZSW	YIPPIN CREEK	02 6585 3327
89	D	YORSTON	ROBERT		VK2CAN	ROSEVILLE	02 9426 3727

Cat Key : A = Associate D = Distant F = Family L = Life O = Ordinary