



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

May 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

VK2RCN-1 (APRS Digipeater)

President's Report

May 2021



ORARC 2021 Field Day

The ORARC 2021 45th annual Field Day takes place on Saturday the 12th and Sunday the 13th of June during the 2021 Queen's Birthday Weekend.

The Field Day dinner will be held in the Function Room at the Port Macquarie Golf Club on Saturday the 12th of June 2021.

The Field Day program is being sent out with this issue of Oxtales. You can also view and download the program on the ORARC website at <https://www.orarc.org/>

2021 marks the 50th anniversary of the formation of the Oxley Region Amateur Radio Club so the 2021 Field Day will celebrate both the Field Day and the 50th

Item	Page No
President's Monthly Report	Front Cover
Down the Coax	2
E-Mail Directory	2
ORARC annual Field Day	1
Annual Membership Subscriptions Information	9
RAAF Celebrates 100 Years	11
Telegraph Point VK2RCN Repeater DMR	12
ORARC 50 Anniversary Polo Shirts and Bucket Hats	13
Photographs from General Meeting on 1 May	14
Introduction to DMR	15
VK2RCN Repeater Changes DMR on line	22
Equipment from the past	23
WIA News	24
Blast from the Past	26
Membership Directory	28

Did you remember to order your 50 anniversary Shirts and Hats?

Remember the Field Day is on 12, 13 June.

Down The Coax
ORARC meetings held in the S.E.S. Building
Central Road, Port Macquarie. Meetings are held
Under the ORARC COVID-19 Safety Plan

Monthly General Meeting
Saturday 1 May 2020 2:00 pm

World Telecommunication Day
Monday 17 May 2021. AX prefix permitted

Friday Night Get-Together
Friday 21 May 2021 7.00 pm

Mayham Field Day
Sunday 30 May 2021 Wyong Race Course

Monthly General Meeting
Saturday 5 June 2021 2:00 pm

ORARC Field Day Wauchope Showground Hall
Saturday 12 and Sunday 13 June 2021
Field Day Dinner Saturday Night Port Mac. Golf
Club

Friday Night Get-Together
Friday 18 June 2021 7.00 pm

Monthly General Meeting
Saturday 3 July 2021 2:00 pm

Friday Night Get-Together
Friday 16 July 2021 7.00 pm

Annual General Meeting
Saturday 7 August 2021 2:00 pm

Monthly General Meeting
Saturday 7 August 2021 after AGM

Net Controllers' Roster
Nets on Voice Repeater VK2RPM 146.700 MHz

Sundays
(0900 Local)

Thursdays
(1930 Local)

May 2021

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

June 2021

		VK2ICQ	Jun 3
VK2FMGM	Jun 6	VK2EM	Jun 10
VK2FMGM	Jun 13	VK2ZHE	Jun 17
VK2FMGM	Jun 20	VK2ICQ	Jun 24
VK2FMGM	Jun 27		

July 2021

VK2FMGM	July 4	VK2EM	July 1
VK2FMGM	July 11	VK2ZHE	July 8
VK2FMGM	July 18	VK2ICQ	July 15
VK2FMGM	July 25	VK2EM	July 22
		VK2ZHE	July 29

Continued from page 1

anniversary. The Field Day Dinner will be a memorable one. Don't forget that the one time orders for ORARC 50th Anniversary Polo Shirts and Bucket Hats closes on the 14th of May 2021. The shirts and hats will be available for collection at the ORARC 5th of June 2021 Monthly General Meeting, or at the Field Day.

Daytime Venue



Street View of Wauchope Showground site.

Activities are in the Wauchope Showground Hall in High Street Wauchope on Saturday the 12th and Sunday the 13th of June 2021.

On arrival, please register at the Registration Table at the entrance to the Showground Hall. Please follow the ORARC Field Day COVID-19 Safety Plan, Sanitise and then sign in using your smartphone via Service NSW, or sign in on the sign in sheet if you don't have the Service NSW App. Registration is \$5 per person which covers attendance at the Field Day for both days. There are no discounts available. Note that there will be some substantial lucky door prizes drawn during the prize giving on Sunday afternoon.

The Showground hall is an excellent venue and will support all the usual Field Day activities. There is plenty of on-site parking and the area is safe for the fox hunts.

The Wauchope Showground permits camping and is pet friendly. For two people an RV or caravan is \$20 per night with power and a tent is \$10 per night with power. Contact the on-site caretaker 0475 111 074 for bookings. The web page is at <http://www.wauchopeshowociety.com.au/camping.html>

Field Day Dinner

The Field Day Dinner is on Saturday the 12th of June 2021 at 6pm in the Port Macquarie Golf Club Function Room. Sign in and follow the Golf Club COVID safety requirements.

Meals and drinks are at Golf Club prices. There is an extensive menu to cater for all tastes.

We must especially thank Gary Ryan VK2ZKT of Radio Supply Pty Ltd of Bellingen for his sponsorship of the Port Macquarie Golf Club Function Room hire for the Field Day Dinner. Thank you, Gary. Gary has been a long-time supporter of the Oxley Region Amateur Radio Club. His company, Radio Supply, has exhibited at every ORARC Field Day for a great many years, and has always been very generous in his sponsorship.

Field Day Attractions

The Field Day will have all the usual attractions with 2 metre and 80 metre fox hunts on both days, disposals; bring your items to sell, no commission charged, traders, barbeque lunch both days with bacon and egg breakfast available both days. Don't miss out on the traditional fruit salad and ice cream dessert following Sunday lunch. As usual, tea and coffee and biscuits will be free throughout the two days to those who have registered.

Food and Drink

There will be barbeque lunch both days with bacon and egg breakfast available both days.

Continued on next page

Continued from previous page

Soft drinks and bottled water are available for purchase. Prices are very reasonable as can be seen on the Field Day program.

Tickets must be purchased at the registration desk for all food and drinks items. The tickets are to be redeemed at the serving counter in the kitchen area of the hall. No money will be handled by the kitchen.

As usual, tea and coffee and biscuits will be free throughout the two days to those who have registered. Just ask at the serving counter in the kitchen.

Raffles

Remember to purchase your raffle tickets from the registration desk. As usual the Major Raffle will have some substantial prizes. Thank you to the sponsors who have generously provided prizes. The sponsors to date include Jaycar Electronics Port Macquarie, Radio Supply of Bellingen, Kaysan Red Point Antennas of Port Macquarie, Tecsun Australia, Bunnings Port Macquarie, Mitre 10 Port Macquarie and Battery World Port Macquarie.

The raffle will be drawn at the prize giving on Sunday afternoon.

Lucky Door Draw

There will be the usual Lucky Door prizes drawn during the prize giving on Sunday afternoon. There are prizes for those with callsigns and for those without callsigns so everyone attending is asked to please register. Entry in the draw is automatic when you register.

Disposals

Bring your items to sell, no commission charged. There is always a shortage of tables so please bring your own tables if you are able. Please note that you are responsible for the security of your items. The club is unable to accept liability. Items

may be left on the tables overnight on the Saturday night but as there is no security in attendance during the night it is suggested that valuable items not be left unattended overnight.

Repeaters Monitored During the Field Day

The club station VK2BOR will monitor the Middle Brother VK2RPM 146.7 MHz 2 metre FM voice repeater for calls during the Field Day. This repeater requires a 91.5Hz CTCSS sub audible tone for access. You can transmit to it on 146.1 MHz using Yaesu Fusion C4FM digital voice and it will retransmit you as analogue FM on 146.7 MHz.

In addition VK2BOR will monitor DMR Talk Group 505. VK2BOR will be using the Telegraph Point VK2RCN 438.425 MHz DMR digital voice repeater but of course you can call on Talk Group 505 via any DMR repeater or suitable hotspot that you can access.

Traders

This year we will have a number of traders at the Field Day:

Radio Supply

Radio Supply of Bellingen <http://www.radiosupply.com.au/> will have a full range of accessories as well as the usual range of items such as the now hard to get analogue multimeters. Thank you to Gary Ryan VK2ZKT and Carol VK2CSR for their ongoing support of the Field Day.

QSL Communications

We welcome QSL Communications to the Field Day as a trader for the first time. QSL Comms have an extensive range of products including DMR digital voice and analogue FM transceivers, antennas, antenna mounts, power supplies, spare batteries for various radios, programming

Continued on next page

Continued from previous page

cables for various radios, coaxial cable and connectors etc.

Have a look at the QSL Comms website <https://qslcomms.com.au/> for details. At the Field Day the very popular Retevis RT-3S DMR/Analogue FM VHF/UHF hand held radios together with various Anytone DMR and other Retevis radios will be available. Also available will be multimode digital hotspots and the very popular Nano VNA. Ask about the soon to be released Ailunce HS2 HF VHF UHF SDR Transceiver.



As a special service at the Field Day the Oxley Region Amateur Radio Club will be able to install a code plug in your newly purchased DMR radio. Please see Paul Colledge VK2ICQ on the **ORARC stand**.

If you are contemplating purchasing a DMR radio for the first time you will need a DMR ID in order for your new radio to be programmed ready for you to use. You should apply for a DMR ID prior to the Field Day so that it will be available by the weekend of the 12th and 13th of June 2021. Just go to <https://vkdmr.com/> to learn about DMR and follow the link to apply for a DMR ID.

Please read the very informative DMR article by Ian Lindquist VK2GL/VK2IDL in this issue of Oxtales. Note that the DMR RadNet repeaters provided by ARNSW are part of the VK-DMR network (formerly known as DMR-MARC). There are other world wide DMR networks such as Brandmeister which can be accessed using a hotspot or some other repeaters.

Kaysan Redcap Antennas

Some people may have come across the **Kaysan Engineering** products for the rail industry without realising that well known Amateur Sandy Bruce Smith VK2WH of Port Macquarie is behind these products. Kaysan also manufacture **Redcap VHF and UHF antennas**. In the March 2021 issue of Oxtales we reported that at the February 2021 Monthly General Meeting Sandy very generously donated a Kaysan Redcap 6 metre Flowerpot antenna to the club as a Field Day raffle prize.

At the Field Day Sandy will have a range of Redcap antennas and other items on display. Take the opportunity to have a chat with Sandy and discuss your antenna needs. Yes, Sandy previously was VK2AD for many years. Many people will remember Sandy from his time at both Dick Smith Electronics and Kenwood Australia before he temporarily relocated to New Zealand for a number of years. Now that he is back in Australia, Sandy is a resident of Port Macquarie and is a member of the Oxley Region Amateur Radio Club.

Jaycar Electronics Port Macquarie

Jaycar <https://www.jaycar.com.au/> are supporting the Field Day again this year. If you don't already have one you will be able to pick up a new Jaycar catalogue at the Field Day. The Jaycar Port Macquarie store will be open for business during the weekend.

Fox Hunting

Foxhunting has always been an important part of ORARC Field Days. This tradition has been carried on continuously since the very first Field Day. In the President's Report in the May 2019 issue of Oxtales I mentioned the report by Pierce Healy VK2APQ in his column in the December 1972 issue of Electronics Australia where he reported on the foxhunts that were held during the ORARC Field Day that was held on the 13th and

Continued on next page

Continued from previous page

14th of October 1972. This was only one year after the club was formed in 1971. It took a couple of years before Field Days became an annual event. This year should have been the 46th annual Field Day but as everyone will recall we had to cancel the 2020 Field Day due to the restrictions imposed in response to the COVID-19 pandemic. It is fortunate that with the easing of COVID-19 restrictions this year the 45th annual Field Day is able to proceed in the club's 50th anniversary year.

Members are currently finishing off the new 80 metre foxes which we started building in 2019 Field Day. The 2 metre and 80 metre hidden transmitter hunts are always keenly contested. The Saturday afternoon 2 metre talk in foxhunt offers an opportunity for those without direction finding equipment to participate in a foxhunt.

Home Brew Competition

Remember to bring your latest project along and enter it into the Home Brew competition and display. Last year the Home Brew competition was very popular with some excellent projects on display. This year we are expecting even more entries than ever with several amateurs working hard to complete projects in time for the Field Day.

Also have a look on the Radio Supply stand. Gary Ryan VK2ZKT will have an interesting range of his home brew projects on display. Gary has been very busy home brewing over the last two years since the last Field Day so he will have lots of home brew and restoration for you to look at.

ALARA

<http://www.alara.org.au/> have had a stand at ORARC Field Days for many years. Dot Bishop VK2DB is hoping to be at this year's Field Day. Dot has had a very difficult year with the sad passing of her husband John Bishop VK2ZOI (SK). She is

still keen to attend but her attendance will be determined by the practicalities of family circumstances and health closer to the Field Day. Our thoughts are with Dot and her family. The ALARA stand is always popular and if Dot is able to attend she will be very pleased to meet everyone during the weekend.

ARNSW

ARNSW <http://www.arnsw.org.au/> will have a presence as usual. Amateur Radio NSW is very active with the VK2WI weekly Sunday morning and evening news broadcasts and a wide range of other activities and projects supporting Amateur Radio. The ORARC news appears in the VK2WI club news each week. The newly commissioned VK2RCN 438.425 MHz RadNet DMR repeater at Telegraph Point provided by ARNSW is the latest major support item to benefit ORARC and all amateurs within the coverage area of this repeater. The new repeater has greatly stimulated interest in DMR by local Amateurs. Previously ARNSW have subsidised 40 metre dipole antenna construction kits and balun kits which created a great deal of interest. A significant number of ORARC members benefitted from this very practical initiative in being able to construct these kits at a very affordable price for use in their stations.

Several ARNSW Board members are also ORARC members including Allan Hirschel VK2OK, Stuart Walker VK2BMX, Mark Blackmore VK2XOF and Bob Yorston VK2CAN. They, and other board members such as Eric van de Weyer VK2VE regularly visit the area so you may get to meet a good cross section of the ARNSW Board and other ARNSW members such as Erik Houseman VK2EJH from the VK2WI broadcast team.

Demonstrations

There will be demonstrations of the various digital

Continued on next page

Continued from previous page

modes on both HF and VHF, and also live demonstrations of multi protocol digital radio on air hotspots.

You will be able to see the VK-DMR network activity on the DMR Dashboard and hear the traffic via the new VK2RCN 438.425 MHz Telegraph Point DMR repeater. Talkgroup 505 will be monitored during the Field Day so you can contact club station VK2BOR on DMR TG505, as well as on the C4FM/analogue FM Middle Brother VK2RPM 146.7 MHz repeater.

Thank you to Bruce Ekert VK2EM, Ian Lindquist VK2GL/VK2IDL and Paul Colledge VK2ICQ amongst others for running these demonstrations this year.

See how simple it is to operate the new digital modes using a transceiver such as the Yaesu FT-991 which has a USB port that connects directly to your computer.

Transceivers without a USB are easily connected to a computer via the sound card using a simple interface which can be home constructed.

See the SharkRF OPENspot digital radio hotspot and other hotspots such as Bruce VK2EM's DV4 Mini digital radio hotspot operating on a Raspberry Pi.

If you are unsure about digital radio then the demonstrations will show you the capabilities of the digital voice modes and what is required to get on the air. See how you can access several different digital voice radio network protocols using whichever type of digital voice radio that you end up purchasing. You don't need to buy one of each type! For example your DMR radio can of course access DMR networks but with the same radio you can also connect to C4FM networks for example.

Field Day Wi-Fi Access Point

Regular ORARC Field Day participant Kevin Dawson VK2KD from Sydney will set up his Wi-Fi Access Point in the Wauchope Showground Hall for the Field Day. The access point will enable users to follow the Field Day activities. All you need is your smart phone or tablet with WiFi turned on to connect. The Access Point will appear when you view available networks. At the Field Day Kevin will advise the connection and browsing details.

Barefoot Times

Jeff Pages VK2BYY is well known for his barefoot foxhunting but Dr Pages is also an accomplished published author. His first novel, Barefoot Times, was published in 2004, followed by Call of the Delphinidae in 2006, The Mind of the Dolphins in 2008, Cry of the Bunyips in 2011 and Plight of the Tivinel in 2015. His 2018 published book, Rise of the Gomerl is the sixth and final book in the series. Jeff will have remaining copies of his books for sale at the Field Day. Yes, you can download all 6 novels as PDF e-books for free via the website but there is nothing quite like a hard copy book for your reading pleasure. For more details visit Jeff's Barefoot Times website at <https://www.barefoottimes.net/>

Helping to share the load at the Field Day

Please make yourself available when calls are made for assistance in running the Field Day. By sharing the workload we can all enjoy the weekend without anyone being overworked. It is important to make the field day a success as it is the major fund raising activity for the year.

Field Day Program

The Field Day program is included with this issue of Oxtales. The program can also be downloaded from the ORARC website <https://www.orarc.org/>

Continued on next page

Continued from previous page

Telegraph Point VK2RCN Repeater Site

The VK2RCN 147.0 MHz 2 metre repeater is back on air. No CTCSS is required to access this repeater using analogue FM on the input frequency of 146.4 MHz. This repeater also accepts C4FM Yaesu Fusion digital voice input which is retransmitted as analogue FM on 147.0 MHz. The 147.0 MHz repeater was replaced when the new VK2RCN DMR UHF digital voice repeater on 438.425 MHz was installed and commissioned on the 25th of April 2021. The 438.425 MHz Yaesu Fusion analogue voice/C4FM digital voice repeater was replaced by the 438.425 MHz DMR repeater. The Yaesu fusion repeater will be restored when additional UHF repeater frequencies are assigned for the site.

The VK2RCN 438.425 MHz DMR repeater is part of the ARNSW Radnet DMR network. ORARC is indebted to ARNSW for providing this repeater under the Radnet project.

Please see the DMR article by Ian Lindquist VK2GL/VK2IDL in this issue of Oxtales for further information.

Work towards the new VK2RCN repeater site at Telegraph Point is progressing. Certified engineering design for the 30 metre guyed mast for the site has now been received and application is being made for the Construction Certificate so that site works can commence.

Education

A successful Foundation training and assessment weekend was held at Port Macquarie on Saturday and Sunday the 17th and 18th of April with three candidates sitting for their licences. They were all successful. Thank you to assessors Larry Lindsay VK2CLL and Bob Ecclestone VK2ZRE for running the weekend.

It is planned to run another [training and assessment weekend](#) as soon as sufficient

candidates have registered. Those who were unable to attend the 17 and 18 April, and others who would like to obtain their Foundation Licence or upgrade, please contact Education Officer Larry Lindsay VK2CLL. This will help Larry to plan the next Assessment weekend.

Urunga Convention



Sadly the 71st annual Urunga Radio Convention which was planned to have been held over the Easter Weekend on Saturday the 3rd and Sunday the 4th of April 2021 had to be cancelled due to the difficulties in complying with the COVID-19 safety requirements required for use of the Senior Citizens' hall over the weekend.

The 2020 Urunga Radio Convention also had to be cancelled last year due to COVID-19. The 2020 convention was going to be the 71st annual convention but with the cancellation of the 2021 convention it is hoped that the 71st annual convention will finally take place over the 2022 Easter weekend next year. The 70th annual convention was celebrated in style in 2019. Up to that convention there had been a convention each year since the first one in 1949.

Continued on next page

Continued from previous page

Despite the cancellation of the 2021 Urunga Radio Convention several Amateurs including ORARC members Jamie Campbell VK2CJ and Grahame O'Brien VKFA and XYL Judy O'Brien VK2HZV/VK2ZZV holidayed at Urunga over the Easter weekend. They, and a few others met up for a meal to mark the Convention weekend.

WICEN (NSW) Mid North Coast Group



The WICEN (NSW) Mid North Coast Region group holds a monthly meeting at the conclusion of the ORARC Monthly General Meeting on the first Saturday of each month. A number of new members have recently joined WICEN. They are looking forward to participating in the activities of the group.

The WICEN (NSW) Mid North Coast Region group conducts a net on the WICEN 80 metre frequency of 3600 kHz LSB at 7 pm local time on Thursday nights. The nets finish in time for members to

participate in the ORARC Thursday night net at 7:30 pm on the VK2RPM 146.7 MHz 2 metre repeater.

More information on WICEN may be found on the WICEN (NSW) website <http://www.nsw.wicen.org.au>

VK2BOR Club Station

The club station VK2BOR has been unable to participate in the usual events for the past year due to the COVID-19 safety restrictions rendering the use of the club's communications caravan impractical. The

Committee is continuing to actively monitor the COVID-19 situation with a view to recommencing participation in events when restrictions are eased as the vaccination programme progresses.

In particular, coming events such as the Remembrance Day Contest and the International Lighthouse and Lightship Weekend in August and the Scouts and Guides annual Jamboree on the Air (JOTA) in October are being closely looked at.

There will be more details regarding the RD Contest and the Lighthouse weekend and JOTA in the July issue of Oxtales.

ORARC 2021 Christmas Party – Change of Date to Sunday 5 December

Normally the ORARC Christmas Party is held on the first Saturday in December each year. The 2021 Christmas Party was planned to be on Saturday the 4th of December as marked on the ORARC 2021 calendar. Unfortunately another commitment at [the Long Point Vineyard and Art Gallery](#) on that day has resulted in the ORARC Christmas Party being moved to Sunday the 5th of December 2021. This change was ratified at the ORARC May 2021 Monthly General Meeting.

Please mark your calendars with the new 5th date for the ORARC 2021 Christmas Party – Sunday the 5th of December 2021. The venue remains the same - the Long Point Vineyard and Art Gallery.

Annual Membership Subscriptions Due 1 July 2021

Please see the item in this issue of Oxtales.

Continued on next page

Continued from previous page

from Treasurer Dennis Meade VK2DAM reminding ORARC members that annual subscriptions are due for renewal on the 1st of July 2021.

Membership fees for the 2021 – 2022 Financial Year will be the same as last year's. The Committee is very pleased that almost every member renewed their subscriptions in the 2020 – 2021 Financial Year. This very level of renewal and the addition of a substantial number of new members during the year means that the club is able to hold member subscription rates at their current rates.

Ordinary Membership is \$40.00 per annum, Associate Membership is \$20.00 per annum, and Distant Membership is \$10.00 per annum. The Family Membership discount applies.

Membership subscriptions may be paid by Direct Deposit to the club's Regional Australia Bank account:

Bank Name: Regional Australia Bank
BSB: 932-000
Account Number: 500032744
Account Name: Oxley Region Amateur Radio Club Inc.
Please use your callsign as the reference for the payment

Alternatively, you can pay by a cheque made out to Oxley Region Amateur Radio Club and post it to PO Box 712 Port Macquarie 2444, or you can pay in person at the club meetings or at the Field Day during the June Long Weekend.

Welcome New Members

We welcome four new members who joined in April 2021. They are Rod Bailey VK2AJ of Port Macquarie, Wade Boyd VK2EST of Wingham, Derek Allam VK2BTX of Cundletown and Robert Allam VK2CDX of Cundletown. Wade, Derek and Robert all sat for their Foundation licences at the ORARC Foundation Licence training and assessment

weekend on the 17th and 18th of April 2021 and are awaiting their callsigns. Rod VK2AJ recently moved to Port Macquarie so we welcome Rod to both the club, and to Port Macquarie.

Life Membership

ORARC members are reminded that they are eligible for Life Membership at 85. Any members turning 85 please let the Committee know as Life Membership proposals must go before ORARC AGMs which are held in August each year.

Henry Lundell VK2ZHE
President

From the Treasurer VK2DAM

Dear fellow ORARC members,

This is a reminder that annual subscriptions are now due for renewal.

The easiest way to pay subs, for members with computer access, is by direct deposit into the Club's account with the

**Regional Australian Bank BSB: 932000
Account Number: 500032744**

Don't forget to reference your call sign or name to identify your payment.

Alternatively, you can pay by a cheque (please add 50 cents to cover Bank cheque fee) made out to Oxley Region Amateur Radio Club and post it to PO Box 712 Port Macquarie 2444.

Finally, if you attend the monthly meetings you can pay then.*

Fees remain the same as last year: \$40 for ordinary membership, \$20 for Associate Membership, \$10 for distant membership and the family membership concession still applies.

* though with the ongoing Covid issue it is preferred that members pay via their Bank where possible.

Continued on next page

Continued from previous page

Nb: A reminder to Cub members who need to pay their subscription for the next financial year the cut off point is the end of September each year!

RAAF Celebrates 100 Years



On 31 March 2021, the Royal Australian Air Force (RAAF) marked 100 years of service to Australia. From the Force's modest beginnings in 1921, the Air Force has grown into a potent, world class Air Force which Australia relies upon in both conflict and peace.

The RAAF is celebrating the Centenary with a series of events and commemorations. For more information visit the RAAF Centenary website at <https://airforce2021.airforce.gov.au/> The site includes the Air Force on-line shop where you can purchase a wide variety of Centenary merchandise.

The Wireless Institute of Australia is celebrating the RAAF Centenary with two special event commemorative Amateur Radio Callsigns. They are VK100AF and VI100AF.

VK100AF will be active from the 1st of March to the 31st of August 2021 on a roster of Radio Amateurs across the bands around Australia.

VI100AF will be active from the 1st of March 2021 to the 29th of May 2021. This callsign will be used on a roster by Radio Amateurs that are either current or veteran military personnel. Some activities may be

from military bases.

Amongst the many amateurs with military connections on the roster to activate both commemorative callsigns is ORARC member Vic Pisani VK2UVP. Some members have already had the opportunity to make contact with both VK100AF and VI100AF on HF and VHF when Vic has activated the callsigns from Bonny Hills.

Henry Lundell VK2ZHE

A poster for the Oxley Region Amateur Radio Club's 45th Annual Field Day. The top section is yellow with the club's logo and the event title '45th ANNUAL FIELD DAY' in large blue letters, followed by the dates 'Saturday and Sunday the 12th & 13th of June 2021'. Below this is a blue background featuring a cartoon fox holding a radio antenna. To the right of the fox are several blue boxes listing activities: 'TRASH & TREASURE', 'TRADE DISPLAYS (Sunday Only)', 'FOX HUNTS (Saturday and Sunday)', 'HOME BREW COMPETITION', and 'FREE COFFEE, TEA & BISCUITS'. At the bottom, it says '\$5 ENTRY | WAUCHOPE SHOWGROUND HALL' and 'Field Day Dinner - Saturday 12th PORT MACQUARIE GOLF CLUB'. Contact information for Henry Lundell VK2ZHE is provided at the bottom left, and a map showing the location is on the bottom right.

The Jaycar logo, consisting of the word 'jaycar' in a white, lowercase, sans-serif font on a dark blue background. Below the logo, the address '148 lake rd port macquarie' and phone number 'ph. (02) 6581 4476' are listed in a smaller white font.

Telegraph Point VK2RCN Repeater Site

Installation of The VK2RCN 438.425 MHz DMR repeater

Working bee photographs supplied by Dennis VK2DAM.



Part of the work crew on site.



Repeater installed in rack



Lyle VK2SMI makes some final adjustments.



Above an impressive rack of repeater equipment.

VK2RCN DMR repeater is on the top row.

Right covers off a view of some the interconnections



ORARC 50th Anniversary Polo Shirts and Bucket Hats

In celebration of the Oxley Region Amateur Radio Club Inc. 50th Anniversary, the club is making available special 50th Anniversary ORARC Polo Shirts and Bucket Hats to order. The Polo Shirts are personalised with your first name and callsign. Also available are plain fawn coloured dress hats without a logo. Originally, it was intended to personalise these hats with your first name and callsign but unfortunately it's not possible to embroider the dress hats so they will be supplied as plain hats.

The Polo Shirts are available in a number of sizes see the chart at the end of the article or in Henry VK2ZHE's email sent on Saturday the 8 May.

The Polo Shirts are in the ORARC gold colour with black and red trim. They have a pocket. The ORARC 50th Anniversary Logo will be embroidered on the front and silk screened in black on the back. Your first name and callsign will be embroidered on the front. Cost is \$40.00 each.

Please specify your Polo Shirt size and your first name and callsign to be embroidered on the front.

The Bucket Hats are available in three sizes:

Size: S/S (54cm) , S/M (56cm) and L/XL (60cm)

The Bucket hats are in the yellow ORARC colour with the ORARC 50th Anniversary Logo embroidered on the front. Note that embroidery of name and callsign is not included on the bucket hats as there is not enough space on the front. Cost is \$20.00 each. Please specify your size (Small, Medium or Large) when ordering.

Also available is a good quality **plain fawn coloured dress hat**. These will be supplied as plain hats as it's not possible to embroider them. Note that these hats do not have the ORARC Logo on them. Cost is \$30.00

each. Please see attached photos of the dress hat modelled by VK2ZRE.

The dress Hats are available in your hat size measured in centimetres. Please specify your hat size in centimetres.

Please send an email to vk2zhe@orarc.org with a cc to vk2dam@orarc.org with your order including the polo shirt and bucket hat and/or dress hat sizes together with your first name and callsign to be embroidered on the polo shirts.

Please pay for your order (Polo Shirt \$40.00, Bucket Hat \$20.00, Dress Hat \$30.00) by direct deposit to the ORARC Regional Australia Bank account:

Bank Name: Regional Australia Bank

BSB: 932-000

Account Number: 500032744

Account Name: Oxley Region Amateur Radio Club Inc.


Use your callsign as the reference for the payment.

ORARC president Henry Lundell VK2ZHE is collecting the orders and Treasurer Dennis Meade VK2DAM is tracking the payments.

The closing date for orders and payments is Friday the 14th of May 2021. Please order and pay as soon as possible.

The orders will be ready for collection at the ORARC June Monthly General Meeting on Saturday the 5th of June 2021. If you are unable to get to the June Monthly Meeting the orders may be collected at the ORARC Field Day at the Wauchope Showground Hall on Saturday and Sunday the 12 & 13th of June 2021.

SIZE(cm):							
Measurement	S	M	L	XL	2XL	3XL	4XL
FullChest	110	114	118	122	126	130	134
Length(Top Shoulder Point)	73	76	79	82	85	88	91



Photographs from the General Meeting Held on Saturday 1 May 2021.

Challenge: Can you name all the members
shown on this page?



INTRODUCTION TO DMR

By Ian VK2GL

With the activation on April 25, 2021 of a DMR repeater at the Telegraph Point repeater site, I thought now might be a good time to provide ORARC members with an introduction to DMR (Digital Mobile Radio).

ORARC already has a small number of club members using personal 'hotspots' to access the DMR network, but for those who haven't tried it, DMR can be a bit of a mystery.

One phrase often associated with DMR is 'steep learning curve'. While this can be true, I hope this introduction will help to "flatten the curve". Armed with a basic understanding of DMR, its hoped that more club members will be inspired to give DMR a try.

For details not covered here, there is plenty of good information available on the internet, so don't be afraid to go searching. Remember, **Google** and **YouTube** are your friends, plus we have a number of club members actively using DMR who may also be able to help.

WHAT IS DMR

DMR (Digital Mobile Radio) was originally developed for commercial radio use but has since been adopted by radio amateurs. If you find some of the naming conventions are odd, it is because of this commercial influence.

There are two main Amateur DMR systems in operation around the world;

1 DMR MARC/DMR Plus

DMR-MARC was originally Motorola based and originated in America with the Motorola Amateur Radio Club.

DMR Plus is Hytera based and originated in mainland Europe. The difference between the two is mainly in the hardware used by the repeater networks.

The DMR system used in the Australian network is the **DMR Marc/DMR Plus** system.

2 BRANDMEISTER

Brandmeister is a large world wide alternative to the DMR Marc/DMR+ system with its own network. It operates in much the same way with its own unique set of talk groups, some of which link into the Australian DMR network, allowing QSOs between networks.

There are a small number of Brandmeister repeaters operating in Australia e.g. both VK2RAG and VK2RHK in NSW have repeaters that support the Brandmeister system.

From a radio perspective, they are the same with the only difference being in the radio programming. By adding the desired Brandmeister talk groups to your radio, you can easily use both systems via the appropriate repeater links.

ADVANTAGES OF DMR

DMR is Digital

Because DMR is digital, there is no background noise and the signal is clean and clear right up to the threshold point, at which the signal

Continued on next page

Continued from previous page

drops out completely. Of course a traditional FM system probably has a little more range since you can work an FM signal into the noise beyond the DMR radio threshold, but that's why we have repeaters.

DMR gives you access to the world

Living in a smaller community like Port Macquarie means our local 2m/70cm repeaters are fairly quiet and unless you have access to HF (which some members don't) there isn't a huge amount amateur activity in the area. Here's where DMR can help. The DMR system is basically an array of DMR repeaters linked together via an IP network. By simply selecting a talk group on your radio you can choose to access your local repeater, an entire state, a specific country or even the entire world – and all from a handheld radio.

Price

Because the bulk of DMR radios used by radio amateurs are manufactured in China in large quantities, they are relatively cheap compared to the brand name commercial models like Motorola. For example you can buy a Retevis RT3S handheld covering 2m and 70cm on both DMR and FM for under AU\$130 complete with programming cable and desktop charger. Other similar brands include TYT, Anytone, Baofeng, Ailunce and Radioddity to name a few. You will also notice some models are the same radio sold under different brand names.

TALK GROUPS, TIME SLOTS AND COLOUR CODES

These terms are essential to the operation

of the DMR system and a basic knowledge of these is necessary to program and operate your radio.

Talk Groups

The term '**Talk Groups**' comes from commercial trunked radio systems. Talk Groups are a way of distinguishing between groups of users. There are currently over 30 Australian and International talk groups accessible through the Australian DMR system.

Each DMR channel programmed into your radio will be set to operate on specific talk group i.e if a repeater supports 30 talk groups, you could have 30 channels programmed into your radio for that repeater, with each channel dedicated to a separate talk group. When you select a talk group, your receiver will only un-mute to incoming signals from that talk group. Similarly, when you transmit, you will only be heard by others in the same talk group. There may be other talk groups sharing the same frequency but you will not hear them, nor they you.

Most talk groups are designed to link selected DMR repeaters together to provide specific coverage. For example, talk group 505 keys every DMR repeater in Australia and is equivalent to the Australian CALL channel. By comparison, talk group 3802 keys just the NSW repeaters, 3803 keys the VIC repeaters, 3804 keys the QLD repeaters and so on.

For all the latest Australian talk group information, please refer to <https://vkdmr.com/>

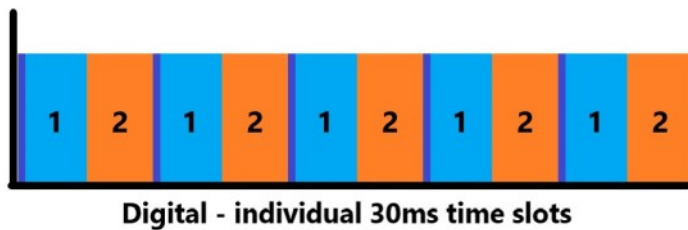
Time Slots

DMR radios transmit on a standard 12.5 kHz channel using a system called TDMA (time division multiple access). TDMA was originally developed for

Continued on next page

Continued from previous page

GSM mobile phones.



TDMA divides the transmission time into pairs of time slots, each of 30ms duration. The first is called time-slot 1 and the second, time-slot 2.

A DMR radio programmed to use time-slot 1 will only transmit and receive its data packets during the first time slot. Similarly a radio programmed for time-slot 2 will only transmit and receive its data packets during the second time-slot.

Since both radios are transmitting their data during different time periods, the channel is effectively split into two separate digital channels, allowing two radios to operate simultaneously on the same 12.5 kHz channel.

Each talk group is allocated a specific time slot as part of the DMR network so as to make the most efficient use of the available resources. e.g talk group 505 always uses time-slot 2 while talk group 5 always uses time-slot 1. This means both TG505 and TG5 can share the same channel simultaneously.

Colour Codes

Colour codes are a bit like CTCSS tones in FM systems and are used to distinguish between repeaters on the same frequency. In Australia we only use colour code 1.

Radio ID

To access the DMR system, all users require a 7 digit radio ID. The radio ID must be programmed into your radio so it can be identified on the system. The radio ID is free and is allocated through a simple on-line registration process. Approval can take up to 24 hours so its best to arrange for one before hand.

To register for your ID, go to **radioid.net** and click the 'Login/Signup' option on the left. Click the box to 'agree with the terms and conditions' then click the 'Register Account' button. Follow the steps to register.

You will be asked to provide a copy of your amateur licence (similar to the Echo-Link registration requirements), so you will need to have a PDF or JPG file of your licence available that you can upload.

Generally, an individual will be allocated only one ID, to be shared across all their radios. e.g. if you have a mobile, a base and a handheld then you should only need one ID as you will usually only be transmitting on one radio at a time. The ID database currently has almost 200,000 registrations and is growing rapidly so the limitation has been applied to ensure there are enough IDs to go around.

Radioid.net also provides a downloadable public database of all registered users in a range of file formats. Many radios will allow you to upload this data in 'CSV' format where it can be used by the radio to display the name and location of incoming callers on the front panel.

CHOOSING A DMR RADIO

Whatever DMR radio you choose, it should support **Tier II DMR**. Ask around to see what others are using. If several club members have the same model, it becomes easier to support each other and share programming files

Continued on next page

Continued from previous page

(code plugs). Shared code plugs are a good way to program a new radio and get it on the air quickly, although in time, learning how to program your own DMR radio will improve your understanding of DMR in general.

You will also need a programming cable. Some suppliers will include one with the radio while others sell the cable separately. Either way you are going to need one as you will NOT want to program it from the front panel.

Repeater and Hotspots

There are two main ways to access the DMR network;

Repeaters

A **DMR repeater** is similar to a FM repeater except that it connects you to the DMR network. If you can access a local DMR repeater, all you need is a suitably programmed DMR radio and you are ‘on the air’. DMR repeaters only support DMR radios.

Hotspots

A ‘hotspot’ is like a personal DMR repeater for your home or car. It consists of a small, 100mw, 2m/70cm DMR transceiver module connected to a microcomputer board (usually a Raspberry Pi). The hotspot connects to the internet through your home WIFI (or if mobile, through your phone’s ‘tethering’ function) and talks to the DMR network. Your DMR radio then communicates directly with the hotspot.

Hotspots are a great way to connect to the DMR network if you are out of range of a DMR repeater. They are also useful for mobile use as they fill in the gaps between

DMR repeaters giving you almost constant coverage wherever you have mobile signal.

USING DMR

As discussed earlier, talk groups (TGs) are used to group people together and to link certain repeaters. As such, each talk group has a specific function.

In addition, each talk group is assigned a time slot (TS1 or TS2). Using different time slots allows several talk groups to share the same frequency or repeater without interfering with each other. For more insight into how talk groups and time slots interact please refer to the ‘Sharing’ section further below.

For full details, see the DMR Talkgroup list on <https://vkdmr.com/>.

STATIC and DYNAMIC Talk Groups

Talk groups on a repeater are set as either **STATIC** or **DYNAMIC** by the repeater administrator.

Static

Static talk groups are automatically broadcast by the repeater. All you need to do is select that talk group on your radio and you will automatically hear any QSOs. Static settings are generally applied to talk groups that require monitoring. e.g. talk group 505 (VK Call)

Our own VK2RCN has been programmed with the following static talk groups;

- | | |
|-------------|---|
| 505 | (Slot 2): VK Call |
| 3802 | (Slot 2): NSW State |
| 5 | (Slot1): Nets and Broadcasts |
| 8/8 | (Slot1): All Regional North Coast Repeaters |
| 1910 | (Slot 1): ARNSW DMR Repeaters |

Continued on next page

Continued from previous page

Dynamic

Dynamic talk groups are not automatically broadcast by the repeater. To use them you need to manually activate them. To activate a Dynamic talk group, press the PTT (a ‘kerchunk’). This will connect your radio to the talk group and allow any activity to then be heard. The repeater will continue to broadcast activity on that talk group for 15 minutes after your last transmission (every time you transmit, the 15 minute timer restarts) after which the talk group returns to Dynamic mode. Most talk groups on the repeater are set to Dynamic and will need to be user activated.

If I can't hear signals on Dynamic talk groups, how do I know when they are active?

Easy! You can view the activity of all the talk groups on the **Repeater Dashboard** at <http://rpt.vkdmr.com/ipsc/>. Here you will see a list of all the Australian DMR repeaters, their operational status and what talk group activity is happening, in real time. The repeater dashboard is a very important tool to have available when using DMR and its handy to have it open whenever you are active.

NR	REFLECTOR	CALL TS1	TS1-INFO	TS2	TS2-INFO
1	VK2RHH Canberra (22)	505201	5 3809 3810 873	505 3803 3802	505 3803 3802
2	VK2RAG Sydney (19)	505201	5 812 1910	505 3802	505 3803 3802
3	VK2RAG Sydney@90255 (28)	505209	3809 818 818	3809	505 3803
4	VK2RAG Sydney (26)	505214	3809 818 818	505 3802	505 3803
5	VK2RGO Orange (24)	505229	5 812	505 3802	505 3803
6	VK2RGL Sydney (17)	505230	5 812 1910	505 3802	505 3803
7	VK2RCN Perth/Canberra (21)	505239	5 812 1910	505 3802	505 3803
8	VK2RCL Perth/Melb (20)	505239	5 812 1910	505 3802	505 3803
9	VK2RCN Perth/Melb (18)	505234	5 812 1910	505 3802	505 3803
10	VK2RCN Goldburn (16)	505234	5 812	505 3802	505 3803
11	VK2RHL Perth (23)	505236	5 3809 812	505 3802	505 3803
12	VK2RHL HighRange (22)	505233	5 812	505 3802	505 3803
13	VK2RHL Canberra (25)	505235	5 812 1910	505 3802	505 3803
14	VK2RHX Newcastle/Cy. QP17 (25)	505232	818	3802	505 3803
15	VK2RLE Brisbane (21)	505232	5 812	505 3802	505 3803
16	VK2RHB Toowoomba (26)	505235	5 812	505 3802	505 3803
17	VK2RHC Newcastle (19)	505217	3809 818 1910	505 3802	505 3803
18	VK2RHI Newcastle (22)	505214	5 3809 818 1910	505 3802 3803	505 3803
19	VK2RHM Lower Hunter (19)	505235	5 812	505 3802	505 3803
20	VK2RHI Newcastle (21)	505236	5 812 1910	505 3802	505 3803
21	VK2RHS Yass (17)	505239	5 812	505 3802	505 3803
22	VK2RHL Upper Hunter (21)	505206	5 812	505 3802	505 3803
23	VK2RGL Dubbo/Ad TEST (27)	505207	5 812	505 3803	505 3803
24	VK2RAG Melbourne (21)	505238	5 812 1910	505 3803	505 3803
25	VK2RAG Melbourne (21)	505238	5 812 1910	505 3803	505 3803
26	VK2RAG Melbourne (22)	505233	5 812	505 3803	505 3803
27	VK2RAG Melbourne (22)	505233	5 812	505 3803	505 3803
28	VK2RAG Melbourne (22)	505233	5 812	505 3803	505 3803
29	VK2RAG Melbourne (22)	505233	5 812	505 3803	505 3803

Editor's note: The above example is presented in a much larger format at the end of this article.

From the example above, note the columns labelled **TS1**, **TS1-INFO**, **TS2** and **TS2-INFO**.

TS stands for Time Slot and the **TS1** and **TS2** columns list the **Static** talk groups that have

been programmed for those time slots. Any talk groups **NOT** in these lists will be **Dynamic**.

Also note the **orange bands** in the **TS2-INFO** column. In this example **VK2GL** (DMR ID **5051201**) is transmitting in time-slot 2 on talk group **505**. You can see that all repeaters that have 505 programmed as Static for TS2 are displaying the same orange band which indicates they are all broadcasting the signal on 505. **VK2RHX** and **VK2RAG** do not have 505 set to Static so are not broadcasting the signal.

You will also note the **green band** adjacent to **VK2RCN**. This indicates that **VK2GL** is accessing the network through the **VK2RCN** repeater.

If you see activity on a talk group that is not being broadcast on your local repeater (for example 3810) and you want to join in (or just listen), select that talk group on your radio, wait for a gap in the conversation (the orange band will disappear during the gap) then briefly press the PTT (kerchunk) to activate that talk group. Your Kerchunk should briefly trigger a green band on the dashboard next to your local repeater with your callsign and the selected talk group. This confirms your Kerchunk was successful. You should now be able to hear any activity on that talk group and an orange band should now be visible adjacent to your local repeater whenever the talk group is active.

Important:

You can use the Repeater Dashboard to confirm your radio is correctly programmed. When you press the PTT your transmission should appear adjacent to your local repeater, showing your callsign, radio ID and talk group. If your transmission doesn't appear, your radio may be incorrectly programmed. In that case, check your channel frequencies, talk group and time slot settings.

Continued on next page

Continued from previous page

Note: If you are using a hotspot there is also a Hotspot Dashboard available at <http://hot.vkdmr.com/ipsc/>

SHARING

With DMR it is important to remember that there are a number of talk groups that share the same channel and time slot, so be mindful of how they interact with each other.

Here is an example;

Two users are having a QSO on NSW state talk group 3802 [slot 2]. Part way through the QSO someone makes a call on the VK-wide call group 505 [slot 2] which also keys the same NSW state repeaters.

Although the call on 505 temporarily disrupts the QSO on 3802, the effect only last a few seconds and is minimal. However, if the caller on 505 makes contact and decides to continue his QSO on 505, the QSO on 3802 is effectively blocked.

While this example mentions talk group 3802, QSOs on 505 can potentially affect all talk groups using slot 2.

For this reason you should keep QSOs on 505 to a minimum and move to another talk group – preferable one that uses slot 1 (such as 3809 or 3810) or another state group (3803, 3804, etc).

Once again, the Repeater Dashboard is helpful for seeing where the activity is and which talk groups are available.

ALWAYS LEAVE A BREAK

Because the DMR system is a network, there are delays affecting the time it takes to propagate your QSO through the system. It may take several seconds after you press the PTT before anyone starts hearing you. In the same way, after you release the PTT,

your QSO could still be travelling through the system for several more seconds. Further, the propagation delay experience by each user may be different depending on where in the world they are and whether they are using a repeater or a hotspot.

For all these reasons, it is important that you leave a significant gap (at least 5 seconds) between each over, not only to allow for the various delays in the system, but also to allow time for others to break in.

MODULATION LEVELS

Because most people don't have the equipment to measure the transmitter deviation of their DMR radio it isn't uncommon to hear various modulation levels on DMR. I suspect the reason for this is that most DMR radios have a programmable mic gain setting and some people are tempted to adjust it even though they probably don't need to. Setting the mic gain too high will result in a harsh, sharp and uncomfortable sounding transmission.

Generally the default setting is fine for most people and unless you get reports that your audio is too soft or too loud its recommended that you don't adjust it.

The industry standard for talking into a microphone is to hold the microphone 3 to 5 cm from your mouth and speak 'across' it in a normal voice. Avoid speaking directly into the microphone to prevent the 'PFF' sound caused by blowing puffs of air directly into the microphone insert.

You can test the audio quality of your transmitted signal using the PARROT talk group TG9990 (slot 2). Simply transmit a test call on TG9990 while speaking in your normal voice.

Continued on next page

Continued from previous page

A few seconds after you release the PTT you should hear your signal transmitted back to you. If your transmitter audio is set correctly, it should sound normal and around the same audio level and tone as others you hear on the talk groups. If your audio sounds louder or softer or is harsh or sharp and you are speaking correctly into the microphone, you may need to adjust your mic gain settings and try again.

Ian VK2GL has kindly offered to develop follow up articles for future editions of Oxtales. I would suggest that beginners to DMR, such as myself, study the introduction carefully and follow the web links referred to in the article and talk with members who have already been using DMR to gain further understanding before tackling the programming side of the radio.

Ian will develop a follow up on programming for future editions of Oxtales. Members are encouraged to share their DMR experiences in this quite exciting relatively new part of the ever expanding world of amateur radio.

Enlarged image of the Repeater Dashboard suitable for zooming even larger in your pdf viewer.

NR	REFLECTOR	CALL TS1	TS1	TS2	TS2-INFO	REF	START	HARDWARE
1	VK2BHM Canberra (22)	505101	5 3809 3810 813	505 3801 3802	505 AHS (5051201) WK2GL			DR3000
2	VK2RAG Smeethy (18)	505241	5 872 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
3	VK2RAG Smeethy(NSW/250) (28)	505049	3810 818	3802	505 AHS (5051201) WK2GL			HM20M
4	VK2RAG Smeethy (28)	505224	3809 3810 818	505 3802	505 AHS (5051201) WK2GL			HM20M
5	VK2RAG Orange (24)	505229	5 872	505 3802	505 AHS (5051201) WK2GL			DR3000
6	VK2RAG Sydney (17)	505201	5 872	505 3802	505 AHS (5051201) WK2GL			DR3000
7	VK2RAG Perth/Queerle (21)	505059	5 818 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
8	VK2RAG Grafton (24)	505220	5 872	505 3802	505 AHS (5051201) WK2GL			DR3000
9	VK2RAG UpperMall (22)	505052	5 818 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
10	VK2RAG Goulburn (18)	505224	5 873	505 3802	505 AHS (5051201) WK2GL			DR3000
11	VK2RAG Wyea NSW (22)	505206	5 3809 872	505 3802	505 AHS (5051201) WK2GL			HM20M
12	VK2RAG HighRange (22)	505223	5 873	505 3802	505 AHS (5051201) WK2GL			DR3000
13	VK2RAG Chesham (25)	505225	5 872 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
14	VK2RAG Newcastle-City (Q57) (25)	505222	818	3802	505 AHS (5051201) WK2GL			HM20M
15	VK2RLE Engadine (17)	505212	5 872	505 3802	505 AHS (5051201) WK2GL			DR3000
16	VK2RAB TerrysHills (26)	505235	5 872	505 3802	505 AHS (5051201) WK2GL			DR3000
17	VK2RAC Newcastle (23)	505051	5 818 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
18	VK2RAC Nelsonby (19)	505017	3809 818 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
19	VK2RPH Belahand NSW (27)	505019	5 3809 3810	505 3802 3803	505 AHS (5051201) WK2GL			HM20M
20	VK2RUM Lower Hunter (19)	505035	5 818	505 3802	505 AHS (5051201) WK2GL			DR3000
21	VK2RUM Dural (21)	505226	5 872 1910	505 3802	505 AHS (5051201) WK2GL			DR3000
22	VK2RIS Yass (17)	505239	5 873	505 3802	505 AHS (5051201) WK2GL			DR3000
23	VK2RZL Upper Hunter (23)	505050	5 818	505 3802	505 AHS (5051201) WK2GL			DR3000
24	VK2AS Dryden-15T (27)	505307		505 3803	505 AHS (5051201) WK2GL			HM20M
25	VK2RAG Remeshill (17)	505026	5 875	505 3803	505 AHS (5051201) WK2GL			DR3000
26	VK2RAG Upper (21)	505038	1923... 1922	505 3803	505 AHS (5051201) WK2GL			DR3000
27	VK2ROR Carbone (23)	505011	5 875	505 3803	505 AHS (5051201) WK2GL			DR3000
28	VK2RDS Shepparton (22)	505013	5 874	505 3803	505 AHS (5051201) WK2GL			DR3000
29	VK2RNV Maitland (22)	505318	5 874	505 3803	505 AHS (5051201) WK2GL			DR3000

VK2RCN Repeater Changes – DMR Online!

By Paul VK2ICQ

Paul is responsible for the ORARC webpage that can be found at <https://www.orarc.org>. The following has been taken directly from the web page and is very pertinent to this Oxtale which features activities that are DMR related.



We have some exciting changes with regards to the club's repeaters at our Telegraph Point site!

Firstly, the club's 2m repeater on 147Mhz was not working. This has been resolved. Unfortunately, it seems that our Yaesu DR-1X running the 2m repeater has suffered a failure and will be spending some quality time on the workbench. In its place is the DR-1X that was running the 70cm repeater at the same site, reprogrammed for 2m duty.

This left the 70cm repeater frequency free – in its place we now have the Motorola DMR repeater kindly supplied by ARNSW. This repeater is part of the VK DMR network and as such is linked with all other DMR repeaters in the network around Australia (of which there are currently 51).

Our DMR repeater is statically set to TalkGroups (TG) **5**, **8/8** and **1910** on TimeSlot (TS) **1**, and TalkGroups **505** and **3802** on TimeSlot **2**.

These TalkGroups provide connectivity as follows:

✦ TS1, TG**5** – VK wide, keys all repeaters, used for nets and broadcasts only.

✦ TS1, TG**8/8** – All Central Coast, Hunter Valley, Newcastle & MNC repeaters – Somersby, Hunter Valley, Newcastle, Nelson Bay, Upper Myall & Port Macquarie.

✦ TS1, TG**1910** – All repeaters provided by ARNSW.

✦ TS2, TG**505** – All VK repeaters and connected hotspots. Effectively the DMR call channel – Fine for short QSOs, please QSY for longer conversations. TS2, TG**3802** – All VK2 (NSW) repeaters.

Of course, other TalkGroups can be connected to dynamically. TS1, TG9 limits traffic to the local repeater only.

If you're new to DMR speak to one of the digital voice enthusiasts (nuts?) at a club gathering. The learning curve can be steep but you can be on air quickly with a cheap handheld, member supplied Codeplug for your radio and a quick lesson in some DMR fundamentals.

Thank you to today's helpers (listed in no particular order for the installation of the Telegraph Point DRM repeater) Arthur VK2ATM, Dennis VK2DAM, Lyle VK2SMI, Tom VK2ATR, Ian VK2IDL, Paul VK2ICQ, Henry VK2ZHE (participating from home) and Matt VK2FLY (for our config and turning us on!). Our thanks again to ARNSW for the excellent work they do supporting our hobby.

The current state of services provided by our Telegraph Point repeater site is as follows:

✦ 6m Analog FM (53.800) – **Off Air**
✦ 2m Analog FM and C4FM Digital Voice (147.000) – **On Air**
70cm Analog FM and C4FM Digital Voice (438.425) – **Off Air**

Equipment from the Past

Yaesu



FL-50 B transmitter with companion FR-50 B Receiver. Yaesu developed the F range of transmitters and receivers for the amateur market during the late 1960' into the 1970. The approximate market price of the FL-50 B was in 1967 dollars around \$380 whilst the FR - 50 B receiver could also be around the same price point depending upon the options installed.

The two sets were considered to be Yaesu's lower cost version of Collins equipment of the same specifications which cost considerably more.

Specifications for the FL- 50 B all valve transmitter produced 50 watts for SSB and AM and SSB on amateur bands of 80m , 40m, 20m 15m and 10m. It had a 240 Volt input and weighed in at around 7 kgs.

Yaesu also produced a 100 watt version the FL-100 and a lower powered FL-20 for the Japanese market.

Specifications for the FR-50 Receiver were for the same amateur bands as the companion FL-50 transmitter.

Both sets were considered to be high quality pieces of equipment and are quite a desirable collectors items today. However it

should always be remembered that these may be 50 plus years old today and it is likely that many componments would need to be replaced. On the plus side one reason for attracting collectors and restorers is that being all valve constructions with discrete components parts replacing them enables a full working restoration can be a practical consideration.



The above photograph is of a transceiver, an FT 50 which Yaesu released around 1967 as part of their lower cost equipment for amateurs.

'The FT-50 transceiver sold for \$380 (1967 Australian dollars) against the FL-50 for \$225.

The FT-50 used Yaesu's 5 Mhz crystal Filter, was crystal controlled (with a VXO [variable crystal oscillator]), had a built-in AC power supply and was of single conversion design. It was all valve in construction, but had a matching solid state VFO, the FV-50B (a later version of the FV-50 with the addition of an RFA [Receiver frequency Adjust] control), which allowed freedom from the restrictions of crystal control. In looks it closely matched Yaesu's FL-50 and FR-50 valve transmitter and receiver of late 1966. The model DC-50 mobile power supply was available to allow 12 volt DC operation of the FT-50 using its in-built AC mains power transformer. The top photo, showing both the FV-50B and FT-50, was taken in February 1968 by Victorian photographer Alan Elliott and radio amateur, Alan Elliott VK3AEL, for Bail Electronic Services.'

The portablemasts.com.au website is acknowledged for supplying the above text.



Declaration of 2021 Ballot of Directors



Date : 05 / 05 / 2021

Author : John Marshall - WIA Returning Officer

I hereby formally declare the poll results for the 2021 election of Directors of the Wireless Institute of Australia as follows:

Name &	Number	of	Votes
Scott Williams	547		
Peter Clee	479		
Greg Kelly	477		
Peter Schrader	458		
Chris Dimitrijevic	399		
Peter Dernikos	362		
Steven Green	272		
David Uzzell	173		
Informal	27		

May I take this opportunity to thank all candidates for their interest in the position of Director and remind the unsuccessful

ones that it is not that long until the next election.

I would also like to extend my thanks to those members who gave up their valuable time and volunteered to count votes. They are Marc Hillman, Peter Gibson, John Chenowith, Jack Bramham, Michael Adams, Keith Proctor and Neil Wilson.. The WIA Executive Officer Bruce Deefholts, as usual , had all matters ready for the formal count and I commend him on the excellent preparatory work.

It was pleasing to see so many candidates expressing interest in a directorship, and for those that were not successful this time, I thank you for your interest and participation, and look forward to seeing your name in a future ballot.

Several members also took the trouble to write to me expressing frustration at the mail delay, and I have taken notice of their comments.

I congratulate the successful candidates.

John Marshall
WIA Returning Officer
2021 Election of Directors.



WIA AGM 2021
Date : 09 / 05 / 2021
Author : Peter Clee - VK8ZZ

FORMAL NOTICE OF WIA Annual General Meeting 2021.

The Board of the WIA have determined that the AGM will be held on Saturday 26th June 2021 commencing at 11.00 am Eastern Standard Time

Continued on next page

Continued from previous page
(that is 9.00 am in the west).

The WIA AGM in 2021 will be held as a virtual meeting utilising a videoconference facility as well as streaming the event on YOUTUBE similar to what happened last year.

Members who wish to join the AGM will be required to register whilst anybody may watch the event being streamed on a YOUTUBE channel. Registration will not be required to view the YOUTUBE streamed event.

The format of the Annual General Meeting will be similar to that held in 2020.

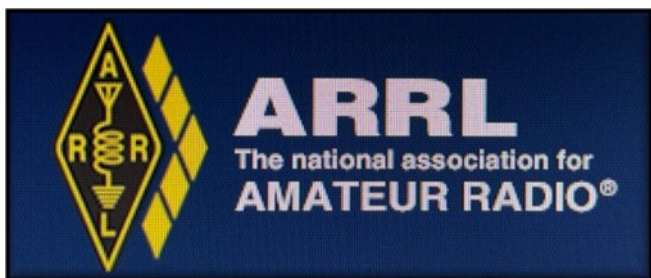
You can view the 2020 AGM video on the WIA web site. There are also videos from previous AGM as well.

The agenda for the 2021 AGM will issue shortly.

Notice of the 2021 AGM is being published in the latest edition of Amateur Radio magazine, broadcast on the WIA National News, on the WIA web page and in social media as well as by a memnet email to all members.

Details of proxy voting will be available shortly

By order of the WIA Board of Directors
Peter Clee VK8ZZ
WIA Secretary



The American Radio Relay
League (ARRL)



Intrepid-DX Group Adds a Second Physician to Bouvet Island DXpedition Team **05/04/2021**

“Bouvet is like the Mount Everest of DXCC entities,” 3Y0J DXpedition co-leader Paul Ewing, N6PSE, said. “It is among the most challenging entities to activate due to significant transportation costs and personal sacrifices required by the team to make the 42-day round trip. Fortunately, Bouvet is not our first mountain.”

Ewing reports that Mike Crownover, AB5EB, a veteran emergency room physician, has joined the 3Y0J DXpedition team to pair with ER doctor Bill Straw, KO7SS, and bringing the team total to 15. The DXpedition is set for January – February 2023, but the planning stage to activate the second-most-wanted DXCC entity is well under way, with the team researching polar quality tents and equipment and discussing antenna specifications with various manufacturers.

“We will make careful choices to help us meet the demand for Bouvet contacts,” Ewing said. The 3Y0J team has set a goal of making at least 100,000 contacts from Bouvet.

Follow the DXpedition plans from the

[DXpedition website](#) and [Facebook page](#).

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. This months 'Blast' is taken from the 2011 and the 2016 editions of Oxtales (10 and 5 years ago)

In May 2011 Henry VK2ZHE was President, Vice President Bruce VK2HOT, Secretary John VK2KC and Treasurer was John VK2KHB. The club had 56 Financial Members

In 2011 Bill VK2ZCW (SK) provided a reported on the practicalities involved with in setting up the club's echo link repeater, outlined below.

ADVENTURES WITH ECHOLINK

'Little did I think when I offered, in December, to set up an Echolink Repeater node for ORARC, that I wouldn't be completely finished with the job till the end of February!

It was a long but very interesting process which I'll divide into sections to make it more understandable. I approached Chris Minahan, VK2EJ, and he kindly gave me his complete station to use if I wanted to. I looked at this when I returned home but decided that my knowledge of setting up the networks was not sufficient to do this. I run a Small Office Home Office (SOHO) network using Ethernet over the power line and I would have to change all the settings in his computer to make it compatible with my system. Later experience has shown me this would not have been anywhere near as difficult as it appeared to be then.

... The computer link. My computer in the shack was an old 600Mb processor unit running Windows XP, but it was excruciatingly slow. I asked around to see if anyone had an old but faster computer I could buy and John VK2KC provided me with one from his former business that had an 1800Mb processor to use at the Best price.

I installed this in the shack, but found the onboard sound card wouldn't work. Luckily I had a PCI Sound-Blaster card handy so in it went and I was in business so I thought! Setting up the Echolink program as a repeater was a breeze.

The SOHO network was setup OK but I had to organise the "Port Forwarding" from the Router to the Echolink computer so Echolink could communicate with the computer.

There is a lovely program called PF Config that I downloaded and it sets up your port forwarding for you with the minimum of

fuss. Yeah Well!!!!!! I spent days running to and from the house to the shack trying various ways to get it to give me the access to the TCP and both UDP ports required by Echolink together without success.

... after a couple of weeks I cracked it. I rebooted the router, using the "Custom Applications" window, manually set up PC Config to forward the TCP and one UDP as an application then set it up to forward the TCP and the second UDP as another application. Then I selected "Update Router" and both applications downloaded correctly and I was able to get the Echolink Firewall/Router test to complete successfully and I could log in to the Test Server. Sigh of relief!!!!!!

Arthur, VK2ATM, handed over to me a computer he had built and donated to ORARC for the Echolink system so that when I have to give it up it can go as a complete club system to the next operator who will only have to provide a transceiver and modify the connections to suit.

The last part of the saga was getting the audio levels fine-tuned.

... Trevor, VK2TT, ... advised that the off-air level was too high, so we met on air and I adjusted the level till he was happy. Trevor used a computer program to compare the two-way sound with excellent results and I'm delighted with the final system operation having had a couple of excellent QSO's with amateur operators in the USA with good signal reports both ways.

I hope all club members will avail themselves of the system and enjoy its use for the foreseeable future and I'm extremely grateful to all the club members named for their help along the way."

Echo link Equipment

Editors note: The above article illustrates what can be achieved by club members working together.



Continued on next page

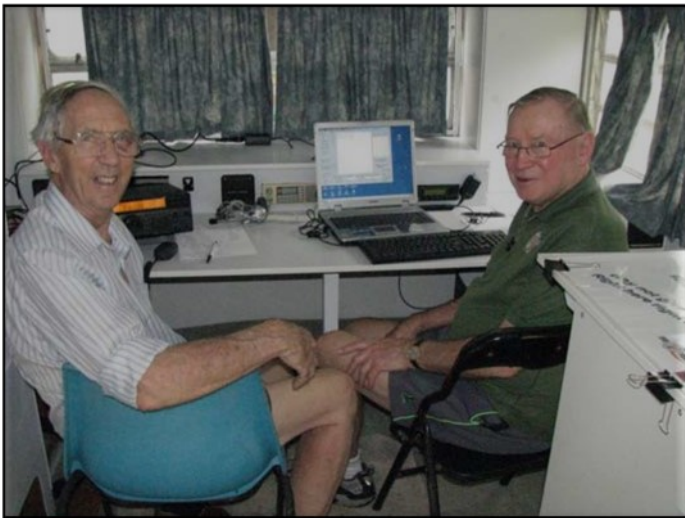
Continued from previous page

Also in May the club was involved with the:

John Moyle Field Day Contest

'The club's caravan was again used for this event and the nourishment requirements of the crew were well catered for by a sausage sizzle at the QTH of Henry VK2ZHE.

Members who attended included Arthur VK2ATM, Neil VK2EI (SK), Bill VK2ZCW (SK), Bill VK2ZCV (SK), Henry VK2ZHE and Trevor VK2TT - the latter member was there to enjoy the "sizzle" and get some photographic samples of the day's activities seen below.'



Above: Arthur VK2ATM and Neil VK2EI (SK) at the operating desk in the club's van.

Below: Bill VK2ZCW (SK) moved in on the swing-shift and released Arthur to take nourishment.



The BBQ in full swing a familiar sight!

The other big technology news for May 2011 was the:

'Replacement 2-M Repeater VK2RPM

'ORARC's 2-metre voice repeater on Middle Brother Mountain, was rejuvenated with a major "transplant" on Wednesday 20th April. Our old faithful Philips 50 watt FM814 based repeater was replaced with a brand new commercial unit, an Icom IC-FR3000 50 Watt commercial VHF repeater. The old 2-metre repeater now becomes the Middle Brother 2-metre site spare.

It was put in place by a tireless working party, the members of which had earlier set it up for the confidence trials and tests at Henry's (VK2ZHE) QTH. (See picture below)

The equipment mounted above the Icom 2-metre repeater comprises the VK2RPM 438.525 MHz Philips FM815 50 Watt UHF voice repeater. This consists of (from the bottom) the FM815 receiver, then the FM815 transmitter, and at the top of the rack, is the Polar Type CI band-pass UHF duplexer for the 438.525 Repeater. The white arrows point to the new ICOM repeater unit and the co-axial resonators.

Members will recall an earlier item in Oxtales covering John McLean's superb machining efforts in modifying the cavity pass-band reject duplexer for the 146.7MHz 2 metre repeater. These use the 6" cavity filters (coaxial resonators, to use the correct terminology.'



MEMBERSHIP REGISTER

Membership List as at 10 , May 2021

No.	Cat	Surname	Given Name	Spouse	Call	Location	Phone
1	D	ALLAM	DEREK	(CLARE)	VK2BTX	CUNDLETOWN	0403 796
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		VK2YCB	HAMILTON	0418 628 321
13	O/F	COLLEDGE	PAUL	(PAULA)	VK2TCQ	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	O	ECCLESTONE	BOB	(DIANA)	VK2ZRE	KEMPSEY	0419 414 412
18	D	EKERT	BRUCE	(YULIA)	VK2EM	FORSTER	0414 532 496
19	O/F	FLETCHER	CAROLINE	(PETER)	VK2CZF	PORT MACQUARIE	02 6584 5191
20	O/F	FLETCHER	PETER	(CAROLINE)	VK2HPF	PORT MACQUARIE	02 6584 5191
21	O	FROGGATT	DARREN	(KRISTY)	VK2MIA	PORT MACQUARIE	0488 01 8102
22	O	FROST	ROBERT	(SUSAN)	VK2CRF	PAPPINBARRA	02 6587 6129
23	D	GARLAND	JOHN		VK2CJG	JEWELLS	02 4948 1950
24	O	GILSON	BARRY	(FAY)	VK2LBG	PORT MACQUARIE	02 6583 8814
25	L	GREEN	LEWIS	(PAMELA)	ex-VK2AG	PORT MACQUARIE	02 6584 9162
26	O	HALL	RICHARD		VK2BXO	PORT MACQUARIE	02 6582 6588
27	O	HANSEN	JOHN	-	VK2AYQ	PORT MACQUARIE	0427 407 973
28	L	HARDING	DAVID	-	VK2AIF	WAUCHOPE	02 6586 1947
29	D	HARPER	JOHN	(VIVIANE)	VK2LJ	VICTORIA	0417 254 763
30	D	HIRSCHER	ALLAN	-	VK2OK	DOUBLE BAY	0415 259 777
31	D	HUTCHESON	COLIN	(PAULINE)	VK5DK	MT. GAMBIER	08 8725 5527
32	D	JANES	LES	(BEVERLY)	VK5JL	SALISBURY HEIGHTS	08 8281 3878
33	D	JOHNSON	STEVE	-	VK2SJJ	BELLINGEN	0466 334 626
34	O	JONES	PAUL	(SANDRA)	VK2DEL	PORT MACQUARIE	02 6584 3772
35	D	KEIR	ANDREW	(BARBARA)	VK2AAK	DARAWANK	02 6554 3498
36	O	KUCERA	PETER	-	VK2MPK	WAUCHOPE	0429 229 290
37	L	LINDSAY	LARRY	(PENNY)	VK2CLL	HUNTINGDON	02 6587 1155
38	O	LINDQUIST	IAN	(BERNADETTE)	VK2GL	PORT MACQUARIE	0414 419 462
39	L	LUNDELL	HENRY	-	VK2ZHE	PORT MACQUARIE	02 6582 0534
40	D	MACNAUGHTON	JENNY	-	VK2BA	MUDGEE	02 6372 4053
41	O	MCDONAGH	JOHN	(KARIN)	VK2VY	PORT MACQUARIE	02 6582 0020
42	O	MARE	HANS	-	VK2MRK	PORT MACQUARIE	02 6582 7080
43	O	MARTIN	CRAIG	(JENNY)	VK2CSM	SANCROX	02 6585 3452
44	D	McADAM	PETER	-	VK2EVB	COFFS HARBOUR	-
45	O	McGUIRE	MARK	-	VK2FMGM	PORT MACQUARIE	02 6583 8875
46	O	McLEAN	JOHN	(CORRINE)	VK2KC	PORT MACQUARIE	02 6584 6220
47	O	MEADE	DENNIS	(SUE)	VK2DAM	PORT MACQUARIE	02 6582 2998
48	D	MEEHAN	TERRY	-	ex-VK2KL	KEMPSEY	-
49	D	MELVILLE	STUART	-	VK2KSM	NORTHERN RIVERS	0419 043 316
50	O	MESSINA	TOBY		VK2XTX	PORT MACQUARIE	0417 293 377
51	L	MONCK	ARTHUR	-	VK2ATM	PORT MACQUARIE	0459 679 425
52	O	MULLINS	RAY	(LYNNE)	VK2JU	PORT MACQUARIE	0432 559 400
53	O	NEWHAM	LAURIE	(ROBIN)	VK2ELN	PORT MACQUARIE	02 6583 5387
54	D	NIVEN	TREVOR	(BETH)	VK5NC	MT. GAMBIER	08 8723 2432
55	D/F	O'BRIEN	GRAHAME	(JUDY)	VK2FA	CARDIFF	02 4954 8688
56	D/F	O'BRIEN	JUDY	(GRAHAME)	VK2HZV	CARDIFF	02 4954 8688
57	D	OLSEN	KIMBERLY		VK2KMI	GUNNEDAH	04 5515 5798
58	D/F	PETTET	JOHANNA	(STEVEN)	VK2FJMM	ILARWILL VIA MACLEAN	02 6645 5290
59	D/F	PETTET	STEVEN	(JOHANNA)	VK2ZVG	ILARWILL VIA MACLEAN	02 6645 5290
60	L	PILLEY	DAVID	-	VK2AYD	KING CREEK	02 6585 2647
61	O	PISANI	VIC	(MEREDITH)	VK2UVP	BONNY HILLS	02 6584 8361
62	D	PRATT	PETER	-	VK2PX	PENNANT HILLS	0418 965 962
63	O	RAE	THOMAS	-	VK2ATR	PORT MACQUARIE	-
64	D	RAY	ROBERT		VK2ZWZ	SINGLETON	0412 573 861
65	D	ROMAINE	PAUL	-	VK2UPR	PORT MACQUARIE	0428 466 075
66	O	SANDERS	BILL	(SUELENE)	VK2FWHP	REDBANK	0437 004 228
67	O	SMALL	ROBERT	(LYNN)	VK2BIG	LAKE CATHIE	02 6584 8148
68	D	SWINDLEY	RON		VK2DDQ	KEMPSEY	0417 299 397
69	O	SMITH	LYLE	(JEANNINE)	VK2SMI	WAUCHOPE	02 6585 2497
70	D	SMITH	MURRAY	(MARGARITA)	VK2LAT	RAINBOW FLAT	0423 781471
71	D	SMITH	STEVE	(HELEN)	VK2IS	RAWDON ISLAND	0404 612 126
72	O	SOUTHWELL	IVAN	-	VK2IJS	PORT MACQUARIE	0439 611 452
73	O	TERRY	COL	(KATHLEEN)	VK2LCT	YIPPIN CREEK	0429 002906
74	L	THATCHER	TREVOR	-	VK2TT	WAUCHOPE	02 6585 2278
75	D	THOMPSON	DES	(BETTY)	VK9FLHI	LORD HOWE ISLAND	02 6563 2152
76	O	THOMPSON	LARRY	(KATHLEEN)	VK2LJT	TUNCURRY	02 6555 7994
77	D	THRING	HAYDEN			TEMAGOG	0435 287227
78	D	WALKER	STUART	-	VK2BMX	BEECROFT	02 9869 0515
79	D	WALSH	STUART	(JENNIFER)	VK2WAL	TUNCURRY	0409 531 310
80	O	WARD	MICHAEL	(SEREENA)	VK2FMDW	PORT MACQUARIE	0418 291 276
81	O	WINCHESTER	JOHN	(PAULINE)	VK2NJJ	PORT MACQUARIE	02 6580 3031
82	O	WYNN	STEPHEN	(LYALLE)	VK2ZSW	YIPPIN CREEK	02 6585 3327
83	D	YORSTON	ROBERT		VK2CAN	ROSEVILLE	02 9426 3727

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