



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 Forty-eighth Anniversary Year

January 2019

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

President's Report

January 2019

President's Report



Welcome to 2019. I trust everyone has had a safe and enjoyable festive season.

Coming Events

ORARC 2019 Field Day 8 & 9 June

The ORARC 2019 Field Day takes place on Saturday the 8th and Sunday the 9th of June during the Queen's Birthday Weekend. It will be the 44th Annual Field Day.

The Field Day venue has not yet been finalized but an announcement will be made at the February 2019 Monthly General Meeting. Several venues are being investigated including the long-standing Tacking Point Surf Life Saving Club Hall in Matthew Flinders Drive at Lighthouse Beach and last year's venue, the Wauchope High School Hall.

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 (Voice - CTCSS 123 Hz)
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)

Item	Page No
President's Monthly Report	Front Cover
Down the Coax	2
E-Mail Directory	2
Net Controllers' Roster	2
40 Metre Dipole Construction day	4
White Ribbon Walk	6
Christmas Party	7
Repeater Report	10
New Facebook Site	12
Back in the Day Training	13
North West Repeater Linking Group	16
MMDVM Digital Multimode router	17
Blast From the Past	19
WIA Matters	21
Equipment from the Past Hammarlund	
SP-600	23
Members Directory	24

Down The Coax

Ross Hull Memorial Contest 1 to 31 January 2019

**ORARC meetings held in the S.E.S. Building
Central Road, Port Macquarie.**

**Monthly General Meeting
Saturday 5 January 2019 2:00 pm**

**Summer VHF-UHF Field Day Saturday 12 &
Sunday 13 January 2019**

**Friday Night Get-Together
Friday 18 January 2019 7.00 pm**

**AX Prefix May be Used on Australia Day
Saturday 26 January 2019**

**Monthly General Meeting
Saturday 2 February 2019 2:00 pm**

**ORARC Antenna Shootout
Sunday 10 February 2019 Start 10.00 am
Tuffins Lane Sports Fields BBQ Lunch**

**Friday Night Get-Together
Friday 15 February 2019 7.00 pm**

**Wyong Field Day Wyong Racecourse
Sunday 24 February 2019**

**Monthly General Meeting
Saturday 2 March 2019 2:00 pm**

**40 Metre Dipole Construction and Testing Day
Saturday 10 March 2019 SES Building 12 Noon**

**Friday Night Get-Together
Friday 15 March 201 7.00 pm**

**John Moyle Memorial Field Day Saturday 16
& Sunday 17 March 2019**

**Urunga Convention - 70th Annual Convention
Saturday and Sunday 20 and 21 April 2019**

Net Controllers' Roster
Nets on Voice Repeater VK2RPM 146.700 MHz

Sundays
(0900 Local)

Thursdays
(1930 Local)

Jan 2019

VK2FMGM	Jan—06	VK2ZHE	Jan—03
VK2FMGM	Jan—13	VK2ICQ	Jan—10
VK2FMGM	Jan—20	VK2EM	Jan—17
VK2FMGM	Jan—27	VK2ZHE	Jan—24

Feb 2019

VK2FMGM	Feb—3	VK2ICQ	Feb—7
VK2FMGM	Feb—10	VK2EM	Feb—14
VK2FMGM	Feb—17	VK2ZHE	Feb—21
VK2FMGM	Feb—24	VK2ICQ	Feb—28

March 2019

VK2FMGM	Mar—3	VK2ZHE	Mar—7
VK2FMGM	Mar—10	VK2ICQ	Mar—14
VK2FMGM	Mar—17	VK2EM	Mar—21
VK2FMGM	Mar—24	VK2ZHE	Mar—28

Continued from page 1

Planning for the 2019 Field Day has commenced so please consider offering your assistance. The committee will be very pleased to hear from you.

One important project that must be completed prior to the Field Day is the construction and testing of new 2 metre and 80 metre foxes for the mobile foxhunts.

The Port Macquarie Golf Club has been booked for the Field Day Dinner on Saturday Night the 8th of June 2019.

Summer VHF UHF Field Day Saturday 12th and Sunday 13th January 2019

The event runs from 12 noon on Saturday the 12th to 12 noon on Sunday the 13th of January 2019.

This year the club station VK2BOR will not be operating in the Summer VHF UHF Field Day.

Club members are encouraged to participate in the Field Day individually. This can be done using home stations, or perhaps operating portable or mobile. If enough members do this, quite respectable scores can be amassed by working each other. Activity breeds activity so amateurs from surrounding areas will hopefully be tempted to come on air and add to the number of stations that can be worked.

The 6 metre sporadic E season is still active so if the band opens during the Contest some very impressive scores can be made as there are usually a lot of 6 metre stations participating in the Summer VHF UHF Field Day in the southern states, particularly VK3, VK5 and VK7. Sporadic E signals are usually very strong so even a mobile whip will work extremely well. Most contacts will be made on SSB.

The Summerland Amateur Radio Club has advised that its members will be operating their club station VK2SRC from Vista Lookout (1310m ASL) for the event. Their planned primary and secondary frequencies are: 6m USB 50.150MHz - 50.200MHz, 2m USB 144.150MHz - 144.200MHz USB, 2m FM 146.500MHz - 146.550MHz FM, 70cm USB 432.150MHz - 432.200MHz, 70cm FM 439.000MHz, 23cm USB 1296.150MHz - 1296.200MHz. They expect to be set up on Friday afternoon/night for testing.

The contest rules are available for download from the WIA website at <http://www.wia.org.au/members/contests/vhfuhf/documents/2019%20Summer%20VHF-UHF%20Field%20Day%20Rules.pdf>



Antenna Shootout Day Sunday 10th of February 2019

The club's popular annual Antenna Shootout and Foxhunt day will be held on Sunday the 10th of February 2019 at the Tuffins Lane sports fields. The large flat open fields make an ideal VHF and UHF antenna testing range. There is a lot of interest in antenna performance this year with several members already busily constructing new antennas especially for the shootout. This year we expect to see some more 6 metre antennas. The antenna range will again include facilities for this band this year. It is always interesting to see how home

Continued on next page

Continued from previous page

brew antennas perform in comparison to the various commercially built antennas.

Facilities will be available to test antennas on 6 metres, 2 metres and 70 centimetres.

As well as the antenna shootout, the day at the Tuffins Lane sports fields is a great social occasion with a bacon and egg breakfast from the barbeque followed by a sausage sizzle lunch.

In past years 2 metre and 80 metre pedestrian foxhunts were run during the day. By popular request it has been agreed that foxhunts will not be run this year as the weather is too hot at this time of the year.

40 Meter Dipole “Buildathon” Day Sunday 10 March 2019



Amateur Radio NSW is running an initiative to encourage new and some not so new Amateurs to get some hands-on experience in building and testing a 40 metre Dipole Antenna which they will be able to immediately use to get on 40 metres from their homes or when portable. To this end ARNSW have very generously made available kits of parts to construct a high quality 40 metre dipole complete with a weatherproof 1:1 balun. The kits consist of two 11 metre lengths of flexible very strong Kevlar antenna wire, a 1:1 balun kit, and two insulators. The kits are available for a very reasonable subsidized price of only \$25 each. ARNSW is running a “Buildathon” at the ARNSW site in Quarry Road in Dural in the north western part of Sydney on Sunday the 10th of March 2019.

ARNSW have very generously offered to

supply kits for the 40 metre dipole to those who are unable to go to Dural but would instead like to participate in a Buildathon in the SES Building in Port Macquarie on Sunday the 10th of March 2019, the same day as the ARNSW Buildathon at Dural.

During the Buildathon, participants will assemble the balun and antenna. Facilities will be provided outside the building so that the completed 40 metre dipoles can be erected and tested. This will ensure that participants will be taking home fully functional 40 metre dipoles that are ready to be erected and placed into service.

On the day, a 15 metre long RG58 coaxial feed cable with a quality clamp type PL259 plug at each end will be available for purchase for an additional \$20.00. The feed cable makes the 40 metre dipole complete and ready to use. Just connect one end of the feed cable to the antenna balun, and the other end of the cable to your HF transceiver, raise the antenna and you will be on the air on 40 metres. Note that a 15 metre length of RG58 coaxial cable is approximately an electrical half wavelength at 40 metres so the transceiver will see very nearly the same impedance as the impedance at the feedpoint of the antenna.

The 40 metre dipole will be three half wavelengths long on 15 metres so will also work on that band as well, although an antenna tuner should be used to bring the 15 metre VSWR down to 1:1. This is well within the capability of the internal antenna tuner fitted to many radios.

When the 40 metre dipole Buildathon at Port Macquarie was announced at the ORARC January Monthly General Meeting, the project was met with enthusiastic acclaim. Fourteen members have already signed up for the Buildathon and almost all have already paid their \$25.00 to the club for the antenna and balun kit. There are more than enough experienced constructors already signed up to ensure that

Continued on next page

Continued from previous page

less experienced constructors will have an experienced mentor to assist them with the assembly of the kit.

If you would like to participate in the Buildathon at Port Macquarie and construct and test your own 40 metre dipole but have not already signed up, please contact Henry Lundell VK2ZHE, either by email, or by phone on 0427 947 921 as soon as possible. Numbers will be finalized at the Friday night get together on the 15th of February and payment of the \$25.00 for the kit must be made to ORARC by the 15th of February 2019. Payment may be made in person or by direct deposit to the ORARC Holiday Coast Credit Union Account:

Bank Name: Holiday Coast Credit Union

BSB: 721000

Account number: 100032744

Account Name: Oxley Region Amateur Radio Club Inc.

Please quote Your Callsign and "Antenna" as the reference when you make the direct deposit.

Wyong Field Day Sunday 24th of February 2019



Many club members will make the annual trip to Wyong racecourse for the Central Coast Field Day on Sunday the 24th of February 2019. The Field Day details are at <https://www.ccarc.org.au/wyong-field-day/>

This event is the largest Amateur Radio Field Day in the Southern hemisphere. The Wyong racecourse facilities have been significantly upgraded. The flea market will be under cover and the Traders will be in an air-conditioned environment. This will make for a very enjoyable day regardless of the weather.

There are always lots of bargains at the Field Day and there is a full range of very interesting seminars during the event. Wear your ORARC polo shirt and cap or hat. Our club is always well represented at Wyong and the club yellow and black stands out in the crowd.

Urunga Convention 20 & 21 April 2019

Remember to mark your calendars for the 70th annual Urunga Convention during Easter on Saturday and Sunday the 20th and 21st of April 2019. <http://users.tpg.com.au/goldy2/index.htm>



Fox hunters from 2018 Convention.

Recent Events

White Ribbon Walk

The White Ribbon Walk took place on Sunday the 25th of November 2018. Special thanks to those who came out bright and early on the Sunday morning to provide the safety communications.

The walk started *Continued on next page*

Continued from previous page

at the Tacking Point Surf Club and finished in Westport Park. The intermediate check points were at Shelly Beach, Flynn's Beach and at the Town Beach kiosk. The walk

passed through the Port Macquarie Town Green on the way to Westport Park.



Alfred Portenschlager from SES and a Paramedic following walkers.

Those who manned the check points were Lyle Smith VK2SMI, Rob Frost VK2CRF, Bob Ecclestone VK2ZRE, Arthur Monck VK2ATM, Mark McGuire VK2FMGM, Steve Wynn VK2ZSW, Stuart Walsh VK2FSTU, John Hansen VK2AYQ, Ivan Southwell VK2IJS and Henry Lundell VK2ZHE.



Ivan VK2IJS and son Jovan on the town green check point.

Thank you to John Bailey VK2KHB for being first on site at Westport Park and assisting with the setting up of the Communications Caravan. Robert Ray VK2ZWZ from Singleton was visiting Port Macquarie while the walk was on and took the opportunity to come to the finish to meet the ORARC members. He made application to join ORARC on the spot and we welcome Rob as a Distant Member.



The club's Communication Caravan with generator set up for net control.

The club's Communications Caravan was set up in the carpark at Westport Park to run net control. Thank you to Steve Wynn VK2ZSW for his many trips between the caravan and the Finish table in the park itself. His pedometer showed that he gained more than his entire day's exercise target during the morning.



Steve VK2ZSW with John VK2KHB in the Communications Caravan.

Continued on next page

Continued from previous page

The VK2RPM 146.7 MHz 2 metre repeater was used to communicate between the caravan and the start at Lighthouse Beach. All the other checkpoints had excellent 2 metre FM

simplex signals at the caravan which simplified communications once the walk commenced. This included Shelly Beach where Bob VK2ZRE's IC-706 and VHF/UHF mast mounted vertical antenna conquered the non-line-of-sight path down to the Shelly Beach picnic area.

The mobile Cappuccino Coffee van and the Port Macquarie Sea Rescue barbeque at the finish did a roaring trade.

Thank you to everyone who stayed at the finish to pack up the caravan at the end of the day.

ORARC has already been invited to provide the safety communications for the 2019 walk. It is hoped that arrangements will be made to position the Club's Communications Caravan inside the park closer to the finish.

2018 Christmas Party

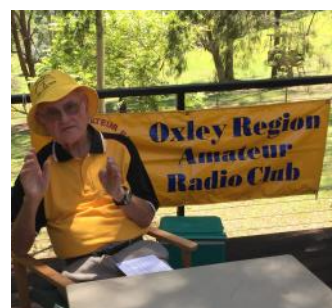


Dynamic duo Henry VK2ZHE and Lyle VK2SMI in a familiar pose taking a break from Net Control.

The extremely enjoyable December 2018 Christmas Party was held at the Long Point Art Gallery and Winery. Thank you to Arthur Monck VK2ATM for booking the Long Point venue and negotiating the free use of the timber deck picnic area and barbeque facilities.



Rob VK2CRF at the caravan



Trevor VK2TT taking advantage of the shade.

Continued on next page

Continued from previous page

The weather on the day was absolutely perfect. The trees above the deck provided very welcome shade. During the course of the day a couple of the tables had to be moved so that they remained in shade. Next year the deck will have a second permanent gazebo so that there will be full shade and in the unlikely event that it rains everything will remain dry as almost the entire deck will be under cover.



Rob VK2CRF and Ivan VK2IJS cook up a storm.

Thank you to everyone who attended the party for making the day so enjoyable. The sausage sizzle lunch was expertly barbequed by Rob Frost VK2CRF and Ivan Southwell VK2IJS. The delicious trifle dessert made by Norah was a special very popular delicious treat to end a very enjoyable lunch. As usual there was a veritable feast of party food brought by members to share. Thank you to Arthur VK2ATM for sharing a whole box of cherries. No one went hungry! The tea and coffee, soft drinks and chilled water ensured that no one remained thirsty.

Those attending included Arthur Monck VK2ATM and Norah, Paul Colledge VK2ICQ, Paula Colledge VK2FPDC, Ivan Southwell VK2IJS and harmonic Jovan, Dennis Meade VK2DAM and Sue, John Hansen VK2AYQ, Rob Frost VK2CRF, Trevor Thatcher VK2TT, David Harding VK2AIF, John Mclean VK2KC and Corrine, Ian Lindquist VK2IDL and Bernadette, Bob Small VK2BIG and Lynn,

Mark McGuire VK2FMGM, and Henry Lundell VK2ZHE. Bob Ecclestone VK2ZRE and Diana, and friend Lorraine were attending their third party of the day and arrived a little late so missed out on the food but enjoyed a quiet social chat with Henry VK2ZHE and Ivan VK2IJS before the packing up was completed.



Ian VK2IDL, John VK2KC and Corrine have a chat.



Paula VK2FPDC, Paul VK2ICQ, Mark VK2FMGM and Dennis VK2DAM

This year there were many more apologies than usual. Apologies were tendered by Lewis Green VK2AG and Pamela, Richard Court VK2CHC and Linda, David Pilley VK2AYD, Charles Edmondson VK2KCE, Bruce Ekert VK2EM and Yulia, Stuart Walsh VK2FSTU, Larry Lindsay VK2CLL, John Bailey VK2KHB, Ray Mullins VK2JU and Lynne, Jim Neil VK2VIV and

Continued on next page

Continued from previous page

Carol, John Winchester VK2NJJ and Pauline, Barry Gilson VK2LBG and Fay, Paul Jones VK2DEL and Sandra, Steve Wynn VK2ZSW, Craig Martin VK2ZCM and Jenny, Tim Mills VK2ZTM, and Michael Ward VK2FMDW and Sereena. All of the apologies normally attend the annual Christmas party. If they had been able to come this year our attendance would have almost doubled.



Norah and Lynne and Bernadette relaxing



Ian VK2IDL, John VK2KC, Dennis VK2DAM and Bob VK2BIG chat together.



Now who could that be behind the lenses?



Corrine and Sue share a thought



A pleasant way to spend an afternoon, congenial company shady surroundings and good food.

Continued on next page

Continued from previous page

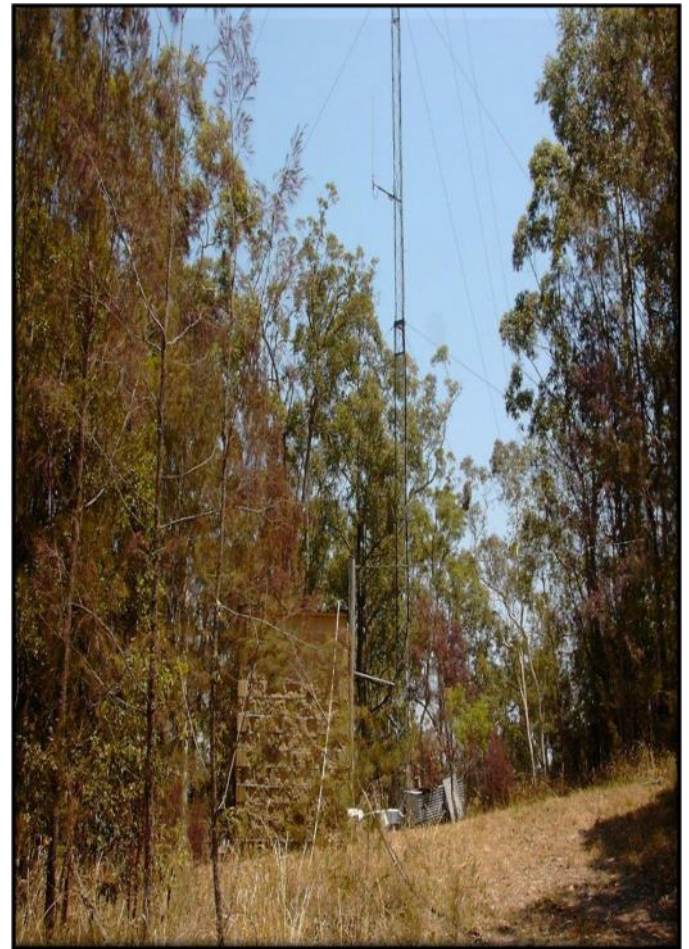
The venue has already been booked for the 2019 Christmas Party on Saturday the 7th of December. Mark your calendars now! The Christmas Party is indeed the social family highlight of the year and should not be missed.

Middle Brother Mountain VK2RPM Repeater Site



The radio link site on Middle Brother Mountain at which the VK2RPM repeaters are located is now owned by TPG Telecommunications. The first phase of the site upgrade work was done by TPG in 2017. More works are expected this year. The work to date has resulted in a worthwhile reduction in the interference that has been reducing the sensitivity of the VK2RPM 146.7 MHz two metre repeater. The future works are expected to further reduce the interference. In addition, it is hoped to install a favourably sited low internal intermodulation folded dipole antenna on the tower for the 2 metre repeater. It is hoped that this will further reduce the interference problem.

Telegraph Point VK2RCN Repeater Site



The installation of a new mast at Telegraph Point for the VK2RCN repeaters is still in the planning stage. There has been a lot of work by the Committee. Initially, a new site and building was planned but circumstances changed and that option is not available. An alternative site is still being considered but the preferred option is to replace the mast at the existing site if a formal site lease can be negotiated.

The VK2RCN site at Telegraph Point was recently hit by severe wind storms that brought down many large trees and power lines in the area. The mast and its antennas and the building were undamaged. All the VK2RCN 6 metre, 2 metre and 70 centimetre voice repeaters and the APRS 2 metre digipeater ran without interruption on their back up batteries during the extended power outages

Continued on next page

Continued from previous page

Repeater Linking, Multi Protocol Repeaters and VK2WI Broadcast Relay

A lot of development and testing work on this project has been carried out during November and December 2018 by Paul Colledge VK2ICQ and Thomas Rae VK2ATR. This work is still continuing. Please see the separate report and photographs provide by Paul VK2ICQ.

Arthur Monck VK2ATM and John McLean VK2KC represented ORARC at the North West Repeater Linking Group Meeting at Tamworth on Saturday the 17th of November 2018. Please see the separate report provided by Arthur VK2ATM.

Education and Amateur Licence Assessments

The club's long serving Education Officer and WIA Nominated Assessor is very pleased that the club has two additional WIA Accredited Assessors, Steve Wynn VK2ZSW and Bob Ecclestone VK2ZRE. This enables the club to conduct assessments for all three grades of Amateur Radio Licence in house.

A Foundation Licence training and assessment weekend is planned for early in the new year. As well, at least a couple of club members are planning to upgrade their licences.

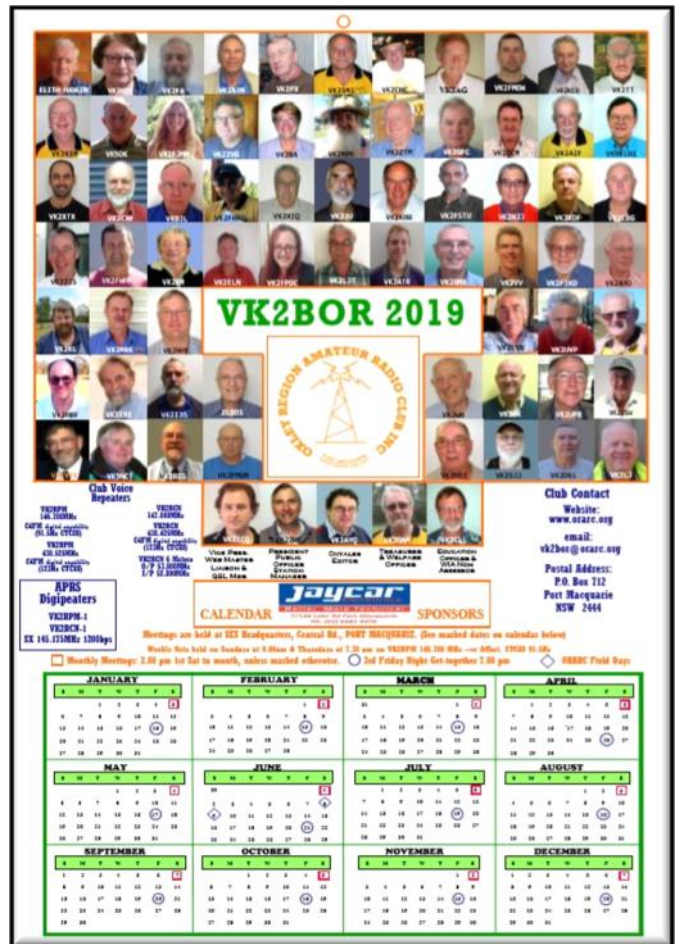
If you know anyone who would like to obtain their Foundation Licence or would like to upgrade their existing licence, please contact Larry Lindsay VK2CLL.

ORARC 2019 Calendar

The club's 2019 calendar is the most popular yet with photos of almost all of our current members. Copies are still available and may be purchased at the various club activities. The price, a mere \$2 each.

The club meeting dates and the ORARC Field Day dates are all marked on the 2019 Calendar. The calendar also contains the details of the frequencies for the club's repeaters. Thank you to Steve Wynn VK2ZSW for creating this year's calendar.

As always, ORARC is indebted to Jaycar Port Macquarie for their sponsorship of the printing of the calendar. Thank you Jaycar.



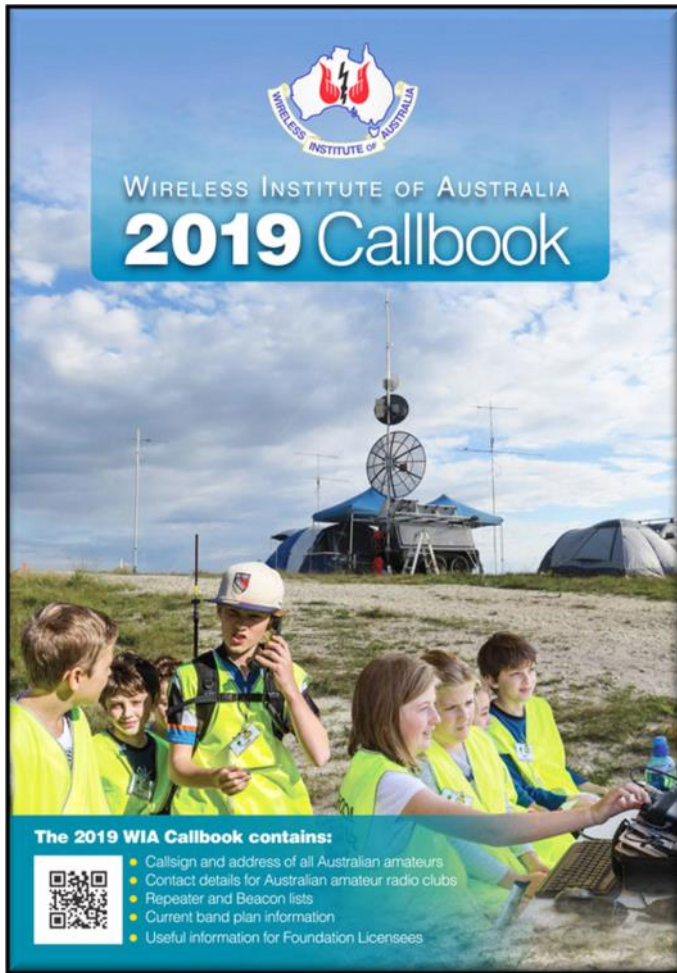
2019 Callbooks

The box of 2019 WIA Callbooks were all pre-sold before they arrived in late November 2018.

Any members who may still wish to purchase a 2019 Callbook will be able to do so at the WIA stand at the Wyong Field Day on the 24th of February 2019. If you are unable to go to Wyong yourself, you may be able to ask someone who is going to pick up a callbook for you. 2019 Callbooks may also be purchased on line

Continued on next page

Continued from previous page



from the WIA bookshop at http://www.wia.org.au/members/bookshop/page_data.php?id=262 but you will have to pay postage. The price for members is \$29.50 including GST, or for non-members \$34.50 including GST, both prices plus postage.

Note that there is no CD included in the 2019 Callbook and the WIA does not offer a PDF download of the callbook this year.

Milestones

2018 was a year of significant milestones for several of our long-time members. For example, Mark McGuire VK2FMGM turned 60 during the year. Richard Court VK2CHC and Des Thompson VK9FLHI both turned 80. Life Members Jim Daniel VK2FJKD and David Harding VK2AIF turned 90 and have joined Trevor Thatcher

VK2TT and Lewis Green VK2AG as esteemed nonagenarians.

Just a reminder that members who turn 85 years are rewarded with Life Membership. Eligible members must be nominated by the end of June so that they can be included in the agenda for the ORARC Annual General Meeting.

It is with great pleasure that we welcome new members Ian Lindquist VK2IDL who recently moved to Port Macquarie and Robert Ray VK2ZWZ of Singleton.

Best wishes to all members and their families for a happy and healthy 2019.

Henry Lundell VK2ZHE
President



A new Facebook group for our club has been set up by Paul VK2ICQ and the group is being moderated by John VK2KC. The page is operational and 'posts' about meetings and items of general interest to our club are being posted. To find the page log onto Facebook and then search for Oxley Region Amateur Radio Club. Don't forget to "like" the page and let people know about it.



Continued on next page

Many of our Club members have been involved, or still are involved, in very interesting activities. Last month I invited members to share some of their experiences with the rest of the club. In past Oxtales members have shared with us interesting anecdotes and travel stories. We were privileged to follow the exploits of John VK2KC on his travels across Australia for example.

In the spirit of sharing Bob VK2BIG has submitted a fascinating account of one of his involvements with aeronautical training for our enjoyment.

‘Back in the Day’

Bob VK2BIG

One of the co-editors of Oxtales John VK2AYQ is always after articles for Oxtales and although this is not really Ham related I thought I’d give you a bit of an insight into how training is organised and run in a large International airline. I first wrote this as an article for the Hastings District Flying Club Propwash magazine.

As a bit of background and for those who don’t know me very well, I’m Bob Small, I am an ex-Air Force, ex-Cathay Pacific



Figure 1: Lockheed L1011 in old Cathay Pacific Livery

Flight Engineer.

I gained my Private Pilot’s Licence (I had some gliding experience back in the seventies) with Bob Needham in 1994. I have been a member of the HDFC, Hastings Dis-

trict Flying Club, continuously since then. I have a RAAus pilot certificate but I don’t fly anywhere near as much as I’d like too. I hope to fix that when my long-term aircraft building project (a Zenith Zodiac CH601HDS) is complete. See photograph below.



All that said, I was happily retired and getting on with various retirement projects (including the Zodiac) when my daughter Brianna finally decided what she wanted to do after the HSC. We then had to find a University for her and workout how to pay to keep her there!

The long and short of it all is that we came to Sydney to help Brianna settle into city life after an old Air Force mate offered me a job at Qantas where he had recently taken a Training Management position. So here I was, hired to teach people about the computers that made my old job redundant!

What the job actually entails is a little more involved: Imagine you have just signed up for flying lessons after an exciting Trial Introductory Flight (TIF.) Among the first things the Instructor will do is get you started on your Basic Aeronautical Knowledge. (BAK) He or she will talk to you about the aircraft systems, how they work, what they do and where to find them. You will then progress to actual flying training, interspersed with more study and ground subjects and eventually will be checked out and let loose with your brand new wings.

As you can imagine, a modern Jet airliner is somewhat more complicated than little “bug smashers” so the training is divided into segments with a Specialist Instructor taking on each segment and then passing the student,

Continued on next page

Continued from previous page

suitably qualified, on to the next Instructor.

My role is at the beginning of this training path but obviously the students I get have a little more flying under their belts than a TIF! A pilot newly joining Qantas is likely to have several thousand flying hours in his (or her, of course, see later) log book, a multi-engine command Instrument rating, possibly with jet or turbo-prop experience. He or she will also have to have passed a fairly rigorous interview and testing process before actually joining Qantas. Bob Needham's daughter (he who taught me to fly,) Imogen Needham had not long finished her command training with QantasLink on the DHC-8 when she was accepted as a Second Officer with Qantas (putting her four bars aside for the moment).

We also do conversion training for pilots coming from other fleets within Qantas, and upgrade training for pilots upgrading from Second to First Officer or First Officer to Captain. Pilots coming from other Airlines who have Airbus Fly by Wire (FBW) experience undergo a Cross-Cockpit Qualification (CCQ) course, which is a concept, evolved by Airbus which takes advantage of the similarities in cockpit controls, layout and architecture between the members of the Airbus FBW family.

After the pilots have finished their initial ground school training, they start training in the Full Flight Simulator (FFS) with a Simulator Instructor, are checked by a Check and Training Pilot in the Simulator and then start Line Training in the actual aircraft with a Line training Pilot. It is entirely possible that, depending on when they can be rostered for an "observation flight", even several sessions into their simulator training a student will not have seen the aircraft "in the flesh!"

The training I and my fellow Ground Operations Instructors give lays the ground work for all the trainee's future training and it is

quite intensive.

The process begins with an Introduction and Induction day at the Qantas Group Flight Training (QGFT) building in Sydney, where the trainees are introduced to the training program and the support and administration system behind it. They are issued with all the manuals (on CD and DVD) they will require, as well as the passwords they will need to access the on-line training and testing part of the course through the Qantas Intranet. All the home study for the A330 is Computer Based Training (CBT) and we do have some issues with platform compatibility, (ie no Apple or Vista support!)



Figure 3: Qantas Airbus A330-200

After this, the students then head home for an eight day self study program. At the completion of this they come into the QGFT building where we put on our CASA hats and administer a Systems exam (pass mark 80%). Then, 3 days are spent in a classroom where Aircraft Performance, Weight and Balance, and Qantas Fuel Policy (in a nutshell: "fuel is expensive so don't put too much on!") is taught. This is all "death by PowerPoint" stuff and of course culminates in another CASA exam.

Then we move into the CAE Maintenance / Flight Training Device (M/FTD). This consists of 7 large touch panel screens and an Instructors Operating Station (IOS), arranged so as to be able to display all flight deck panels of the Airbus A330 (and with software changes, the A320).

Continued on next page

Continued from previous page

It can also display, in real time, schematic representations of the operating aircraft systems which can be used for training Ground Engineers, hence the “Maintenance” part of the name.



Figure 4: CAE Maintenance / Flight Training Device (MFTD) (During boot-up, all the screens are not yet active.)

With this device, it is possible to simulate all the phases of the aircraft’s operation from pre-flight cockpit preparation and engine start through take off, climb cruise, descent, all types of instrument approach to almost any airport in the world, landing and after landing procedures. Virtually all the switches on the flight deck are emulated with realistic representations of their function (and schematics if required, see above). The operating software is the same as is used in CAE’s Full Flight Simulators but it actually runs on this device in four high spec. Dell desktop computers through a huge multi-port USB interface. (The local wags have told us that CAE as in “CAE Flight Simulation” actually stands for “Cheap and Economical”) However, it is streets ahead of the “cardboard bombers” which have been used in Pilot Ground training “like forever”.

Ten four hour sessions are conducted in this device, starting with learning to program the Flight Management and Guidance System (FMGS) with flight plans, operating and performance data and then using the

system through complete flight profiles to navigate and guide the aircraft. The emphasis in this part of the training is all on using the automatic flight capabilities of the aircraft. The M/FTD flight controls only appear on the panels when the aircraft is stationary so flight control checks can be carried out, the device can’t be manually flown.

You may think I am being a bit cute with all my acronyms but children, be warned. Airbus have a 250 page book called “Airbus Reference Language” which encodes and decodes all the abbreviations and acronyms used throughout the Airbus Flight Crew Operating Manual (FCOM), Engineering Manuals, Flight Administration Manual (FAM), Flight Crew Training Manual (FCTM) and a myriad other books, references and publications. To be fair, this Reference Language must save an awful lot of paper and ink but, remembering that in many of the partner countries of Airbus Industrie (and their customers), English is a second language, so there are many opportunities for misunderstandings. This book is supposed to help but, if anyone can tell me when you would use “Federal Supply Code for Manufacturers” (FCTM) or “Large Scale Integrated/Integration/ Integrator” (LSI) in every day conversation I would be pleased to hear it. I should also point out that many of these abbreviations and acronyms are different from those that Boeing and other American Aircraft Manufacturers use for the same object!

However, back to our training. All of the sessions are done as a full flight, for example, Melbourne to Sydney with a missed approach and a diversion to Canberra and in real time (with the occasional Flight Freeze to point out an annunciation or explain an item. Standard Operating Procedures are followed throughout, checklists and standard radio communications procedures and phraseology are used and ATC clearances are given and read back.

Three of the sessions involve the Electronic Aircraft Monitoring System (ECAM) and

Continued on next page

Continued from previous page

the procedures involved in dealing with systems malfunctions, electronic and paper checklists and alternate procedures. (This is the bit that in a large part, made the Flight Engineer redundant.) Reports on the student's progress are made in the company's Competency Management System after each session. However, the last three sessions are normal flights with training on the automatic approach systems of the aircraft and are used to assess the student's progress and judge if they are of a sufficiently high standard to progress to the next stage of training.

The last session is the fun one. We go into the Full Flight Simulator and demonstrate all the stuff we've done previously but now in a "tactile environment". The students actually get to hand fly the aircraft simulator and get a feel for what they'll be living with for another ten four hour sessions and a multitude of "Cyclic" Refresher and Training sessions.

For most of our new joiners, this will be their first attempt at flying a 200 tonne plus aircraft and a fly by wire aircraft and the demonstrations of its protection capabilities are a real eye opener. Imagine being on final at about 300ft and the Instructor tells you to pull the control stick fully aft, roll hard to the right, retract the flaps and close the throttle! You would think he'd gone mad! But this aircraft, at 200 tonnes, will raise the nose to about 22° above the horizon, roll to 67° to the right, advance the thrust to maximum no matter what you do to the levers and allow the aircraft to be cleaned up, except for the last stage of flaps and slats, without becoming a smoking hole in the ground! Truly amazing! This will be the first and probably the last time they see this demonstration as the rest of their training is much more conservative but it is a great way to show the capabilities of this aircraft. It's also a great confidence booster to see all the automatic features of the aircraft come together in such a dramatic fashion.

I hope I haven't bored you too much with this non - radio blurb but perhaps given you an idea of how hard the blokes up the front have had to work so they can have the pleasure of taking you on your next airborne journey.

Editor's note: Thank you Bob for sharing your experience and providing us with an insight to a pilots training. I hope that Bob's article inspires other members to share their experiences in future Oxtales.

North West Repeater Linking Group Report by Arthur VK2ATM

On 17th November 2018, John VK2KC and Arthur VK2ATM, attended the Group meeting at Brian, VK2DK's home in Tamworth. After conducting their normal business, the group welcomed us and we gave them a brief rundown on our plans to link our repeaters, VK2RPM and VK2RCN.

The Group outlined their plans for expansion and indicated that they would assist us to establish a Mid North Coast hub and link to their system. They would also be willing to supply us with some equipment and that we would only need to supply a couple of commercial grade VHF transceivers and a beam antenna to establish the link.

The link would be to the Walcha hub on VHF from either Middle Brother or Telegraph point. After some discussion they said that they would be happy to come down to Port to attend a meeting with us in early 2019. It was suggested in the interim period that we start proceedings to get the paper work done to get the licences approved.

Brian then provided a very pleasant lunch and after an informative and interesting day John and myself returned home with a plenty to think about.

De Arthur VK2ATM

MMDVM Digital Multimode router

By Paul VK2ICQ

Tom VK2ATR and (myself) Paul VK2ICQ have been working on the development of the MMDVM Digital Multimode router for Telegraph Point.



Pictured above is the club's Yaesu DR1X Repeater which is being used for the project, plus the club's 'Micro-Node International' Teensy based Multi-Mode Digital Voice Modem, along with Henry's Dummy Load and a Hastings IT donated HP Thin Client.

Tom is well versed with Linux, and has taken it upon himself to develop the HP Thin Clients with the Fedora lightweight Linux distribution to run the MMDVM Host software. The HP Thin Client's are ideally suited to life on the mountain thanks to their lack of moving parts.

Today we:

Were able to get the Ubiquiti Wireless Link Equipment operational with the latest firmware. Both ends of the link were operational today to get the testbed of equipment to interface and go online with Hastings IT's internet connection across the room. There was no need for them to point at each other when they are so close!

We also able moved the Thin Client that

we have had on extended stability testing in our server room out of the room and updated it. The system has been rock solid stability wise for over 2 months.

Thin Client was interfaced to the MMDVM router and we configured the already installed MMDVM Host software to talk to the attached modem.

The parameters were set in the MMDVM host software to enable several digital modes for testing (specifically DMR, C4FM and DMR). In addition to these modes the modem will also Allow P25, Kenwood NXDN and POCSAG (used with Pagers) systems to be used.

The DR1X unit was set to Remote Controller mode (effectively disabling its internal smarts) to allow the unit to be wholly controlled by the MMDVM modem. Further configuration will be required before installation in situ e.g. (CTCSS tones, full power, Time Out Timers, etc.).

RF testing was conducted with the D-Star digital mode (it was the only available hand-held at the time) and confirmed that the MMDVM Host software was successfully decoding digital traffic received by the DR1X and passed to the MMDVM modem. It works!

The equipment is still switched on and operational at my office to further test its stability (the Thin Client, for example, is now under greater load). We will soon be returning to the office to conduct further testing with C4FM and DMR radios and to configure the additional software required to get D-Star operational on the reflector network (ircDDBGateway).

We will certainly be ready with a fully operational MMDVM system and matching wireless link in time for the new Telegraph Point tower!

Continued on next page

Blast from the Past

In Blast From the Past we look at what was happening in club in the past. This month's Blast is taken from the January 2009 issue of Oxtales, ten years ago. The president was Allan VK2GD now sadly an SK, Vice President Henry VK2ZHE, Treasurer John VK2KC and Secretary Jim VK2VIV. The club had 45 members.

Our meeting place was the Port City Bowling Club. A big news item in that month's Oxtales was that the new SES Building was nearing completion and that future meetings would be held in the new building. See report below by the then secretary Jim VK2VIV

Situation Report on SES Building Progress

The latest info is: We will be holding our Friday night meetings commencing 9 Jan 2009 &.00 pm at the New SES building Central Rd Port Macquarie.

We will also be holding all our General meetings commencing Sat 7 Feb 2009 2.00 pm at the new building. The story is the SES still only have the construction keys and handover is expected any time now. This will include and induction to the new building, handover of keys and alarm codes.

Representatives of all groups will be involved in handover and that includes ORARC. The groups that are involved are the Council, Police, SES and ORARC. Until we are issued with keys one of the construction key holders will give us access for our meetings.

The building is quite a luxury compared to the old building. It has a function room for seminars and the like—would hold in excess of 100 people—a multifunction room with adjoining kitchen (coffee and tea). For training sessions and lecturers there are such tools as large plasma TV's interactive white boards, projectors and computers.

The administration area has 3 offices to ac-

commodate the Controller, Deputy Controller and Training officer, toilets, large operations room and a communications room which is our responsibility. (This radio room will have two radio stations, VK2BOR split into HF and VHF/UHF and the SES and Police sections.).

Of course, there is the vehicle bay and store , with toilets and showers. Those that have joined the SES will be asked to attend a radio information session (SES type radios) and familiarization in the operation room for those interested.

We would like to have a couple of our members in attendance each Wednesday night. This may work out at one or two Wednesday nights a month, it may also work our that the Wednesday night net could be run by the VK2BOR station, once set up.

Initially we will be setting up VHF and UHF radios and a dual band antenna on the roof. HF will be installed once we get permission for the antenna location. The official opening is expected to take place in February.

Jim VK2VIV secretary ORARC Inc.'

Christmas Function

On Saturday, 6th December 2008, the O.R.A.R.C. Inc held its annual Christmas function indoors at the Port Macquarie City Bowling Club. The attendance was pleasing, with a head-count of 23 persons, which included members, their XYL's & visitors, turning up to enjoy the social interaction and the popular "As much as you can eat" smorgasbord luncheon provided in the Club's Bistro.



Editors challenge can you name the people around the table?

Continued on next page

Continued from previous page
 The following was submitted by Dave VK2AYD in the 2009 Oxtales to help members in the construction of antennas and is as valid and useful today as it was in 2009.

ANTENNA LENGTH CHART

Freq. MHz	Wavelength - Feet				Wavelength - Metres			
	1/4	1/2	1/2+5%	Full	1/4	1/2	1/2+5%	Full
1.80	129.87	259.74	272.73	519.49	39.58	79.17	83.13	158.33
1.83	128.89	256.19	269.00	512.37	39.04	78.08	81.99	156.16
1.85	126.36	252.72	265.36	505.45	38.51	77.03	80.88	154.05
1.90	123.04	246.07	258.38	492.15	37.50	75.00	78.75	150.00
3.50	66.79	133.58	140.26	267.17	20.36	40.71	42.75	81.43
3.60	64.94	129.87	136.37	259.74	19.79	39.58	41.56	79.17
3.70	63.18	126.36	132.68	252.72	19.26	38.51	40.44	77.05
3.80	61.52	123.04	129.19	246.07	18.75	37.50	39.38	75.00
7.00	33.40	66.79	70.13	133.58	10.18	20.36	31.38	40.71
7.05	33.16	66.32	69.63	132.64	10.11	20.21	21.22	40.43
7.10	32.93	66.85	69.14	131.70	10.04	20.07	21.07	40.14
7.20	32.47	64.94	68.18	129.87	9.90	19.79	20.78	39.58
7.30	32.02	64.05	67.25	128.09	9.76	19.52	20.50	39.04
10.10	23.15	46.29	48.61	92.58	7.05	14.11	14.81	28.22
14.00	16.70	33.40	35.07	66.79	5.09	10.18	10.69	20.36
14.10	16.58	33.16	34.82	66.32	5.05	10.11	10.61	20.21
14.20	16.46	32.93	34.57	65.85	5.02	10.04	10.54	20.07
14.35	16.29	32.58	34.21	65.16	4.97	9.93	10.43	19.86
18.00	12.99	25.97	27.27	51.95	3.96	7.92	8.31	15.83
18.50	12.64	25.27	26.54	50.54	3.85	7.70	8.09	15.41
21.00	11.13	22.26	23.38	44.53	3.39	6.79	7.13	13.57
21.10	11.08	22.16	23.27	44.32	3.38	6.75	7.09	13.51
21.25	11.00	22.00	23.10	44.00	3.35	6.71	7.04	13.41
21.45	10.90	21.80	22.89	43.59	3.32	6.64	6.98	13.29
24.89	9.39	18.78	19.72	37.57	2.86	5.73	6.01	11.45
24.93	9.38	18.75	19.69	37.51	2.86	5.72	6.00	11.43
28.00	9.35	16.70	17.53	33.40	2.54	5.09	6.34	10.18
28.50	8.20	16.40	17.23	32.81	2.50	5.00	5.25	10.00
29.00	8.06	16.12	16.93	32.24	2.46	4.91	5.16	9.83

FORMULA'S USED 1 Metre = 3.281 feet

Length of 1/2 wavelength antenna in Metres =
 $(300 \times 95 \times 5) / \text{Frequency (MHz)} = 142.5 / \text{Frequency (MHz)}$

Length of 1/2 wavelength antenna in Feet =
 $(300 \times 95 \times 5 \times 3.281) / \text{Frequency (MHz)} = 467.54 / \text{Frequency (MHz)}$

NOTE: The 1/2 + 5% is used for inverted Vee Antenna's.

The following picture was also contributed by David VK2AYD as part of his report on a trip to the USA to visit his friends Dick W4AOP and his wife Meredith. The object below is a Stirling Engine sitting on top of a radio which at the time had been operating continuously for 2 years turning the wheel shown at 90 rpm.

Stirling engines use no fuel or electro magnetic forces. The engines operate on temperature differences of a couple of C's. In the case below the temperature of the radio is a couple of degrees warmer than the ambient temperature.

Members may care to research Stirling Engines on the internet as they are fascinating pieces of high precision machinery.



The full report of David's trek to the USA can be found on the clubs excellent website maintained by Paul VK2ICQ in the Oxtales archive section at <http://www.orarc.org/>.

Jaycar

Electronics

Better. More Technical

7/148 Lake Rd Port Macquarie

Ph. (02) 6581 4476

Continued on next page



WIA News

Astronaut Contact for 25th Australian Jamboree - South Australia

Date : 03 / 01 / 2019

Author : Robert Broomhead - VK3DN



Mike Fossum KF5AQQ

On the 12th of January, Tony Hutchison VK5ZAI will establish a phone linkup from Talem Bend in South Australia to ISS astronaut Mike Fossum KF5AQQ, enabling Scouts at the 25th Australian Jamboree to ask questions of Mike about life on board the international space station. Back home

on earth now, Mike finds it easy enough to have a conversation with these young Scouts: He is, after all, the leader of a troop of Scouts himself in the United States. This event will take place at 10:30 a.m. SA Summer time (00:00 UTC) on Saturday morning and will be streamed live to Echo-link and IRLP by Bob, VK4DA and the British Amateur Television Club site By Shane, VK4KHZ. The contact will also be broadcast live via the local radio station BendFM 91.1 from the Jamboree site.

The exchange will have an impressive audience locally as well: It's expected that 8,000 to 9,000 Scouts will be attending this event. Members of the Amateur Radio Experimenters Group and the Adelaide Hills Amateur Radio Society will be there at the Jamboree as well, promoting our hobby of Amateur Radio.

Keep an eye on this news release for further updates and information regarding VI25AJ which will be operating from the grounds of the 25th Australian Jamboree from the 4th to the 14th January 2019.



VI25AJ to be on the Air from the 25th Australian Jamboree

Date : 04 / 01 / 2019

Author : Robert Broomhead - VK3DN

VI25AJ will be on air from the 5th of January at the 25th Australian Jamboree Talem Bend South Australia. To assist those who would like to make contact with this special event station, we have put together an overview of the proposed activities and schedule. Our appreciation to Brett Nicholas VK2BNN and his team all of whom have been hard at work in the days leading up to the Jamboree setting up the station equipment and antennas, and who have taken time out to relay

Continued on next page

Continued from previous page
through the latest information direct from the Jamboree site.

Daily Program

The VI25AJ team will be providing four 1.5 hour sessions per day over the nine day Jamboree. Each session will have up to 72 Scouts with sessions broken into two groups. The first group will be taken on a journey through Amateur Radio showcasing and experiencing first-hand the many amazing aspects of our hobby, whilst the second group will be learning all about ARDF and learning how to navigate an ARDF course. The two groups will swap at the 45min point. Sessions are scheduled to run at 0900 - 1200 & 1400 - 1700 ACDT. The goal of the team is to introduce Amateur Radio to 2000+ scouts over the nine day Jamboree.

HF Station

The team have setup four operating positions for use by Scouts. The first position incorporates an Icom IC-7610 transceiver whilst the remaining three positions each have an Icom IC-7600. The IC-7610 has been set up as a QRO station with a KPA500 amplifier. All of the stations are able to run SSB or digital modes. The team endeavours to have at least two radios on the air at any given time. They plan to use 80 m, 40 m, 30 m (digital) with 20 m being the primary band and will be on the air using the Scout calling frequencies...

80m - 3.690 MHz

40m - 7.090 & 7.190 MHz

30m - 10.142 MHz

20m - 14.290 MHz

We may also utilise 17 m and / or 15 m depending on propagation.

17m - 18.140 MHz

15m - 21.360 MHz



Third World Youth ARDF Championships

Date : 01 / 01 / 2019

Author : Jusin Giles-Clark- VK7TW

Preparation for the 3rd World Youth ARDF Championship is being carried out with the active support of local governments in accordance with the outlined plan. There are no restrictions regarding the entry into Ukraine for citizens of other countries (with an exception for those where a visa regime is provided). We can guarantee the safety for all teams during the stay on the territory of Ukraine, and directly in Vinnytsia. Additionally, we assure that you will get unforgettable and positive impressions after attending the 3rd World Youth ARDF Championship.

We would like to remind you that the preliminary application for the participation in the 3rd World Youth ARDF Championship must be sent out no later than January 20, 2019.

Editors note: This would certainly be an unusual and exciting holiday opportunity.

Advance Warning

International Lighthouse Lightship Weekend - ILLW

3rd Full Weekend in August

00.01 UTC 17th August to 2400 UTC 18th August 2019 (48 hours)

Continued from previous page

Equipment from the Past

Hammarlund SP-600

Communications Receiver



The Hammarlund SP-600 JX-17 was a government/military grade VLF/LF/MF/HF/VHF 10 kHz to 54 MHz communications receiver built to contract specifications by Hammarlund, which is now out of business. Many thousands of these were made and used worldwide. Most were made in the period 1951-55, but some were sold right up until the 1970s.

The SP-600 line was built to the R274 military specification, which also included the receiver that became the Hallicrafters SX-73.

The Hammarlund SP-600 series cost more than \$1,000 in the 1950's which was a considerable outlay of money. Most of the initial receivers were purchased by commercial and military organisations and could be built to individual specification by special order. Thus a large number of variations to the original design were produced.

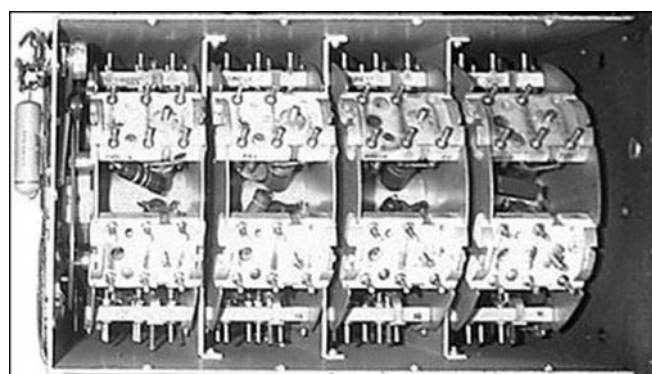
The model number can be determined by removing the top plate of the set to reveal a nameplate in the middle of the cover of the RF deck. In SP-600 model numbers, the J means it has JAN (military grade) parts. The X means that there are a couple of extra switches for crystal frequencies. An L means it tunes a lower range, often skipping AM broadcast, and the rare -VLF

tunes 10 to 540 kHz. Les Locklear has produced a comprehensive (and copyrighted) table which can be found at <http://www.hammarlund.info/sp600>.

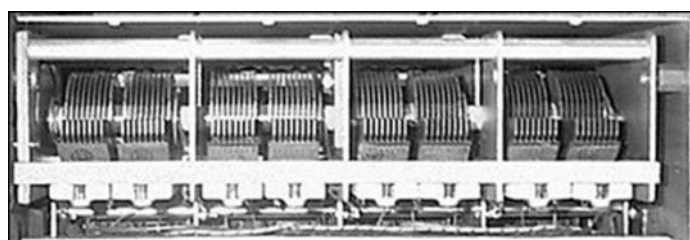
These communications receivers had up to 22 valves and were built for reliability and long life. The later year builds had an SSB decoder. The sets made a considerable statement at over 30 kilograms weight.

Many amateurs purchased these sets when they became available in the disposal market as they were easy to operate and tuning was very smooth due to heavy flywheels used onto the tuning capacitors. The sets were also relatively easy to restore with mainly large parts and with some ingenuity accessible. Switch contacts were silver plated for reliability. As would be expected in radio sets of this vintage the capacitors especially the electrolytic ones would need to be replaced and once done the receivers would be expected to last for many more years.

Amateur operators of these restored communications receivers usually report that in terms of performance and sensitivity the receivers often match and in some cases exceed many of the more modern communications gear.



Tuning used turret band switching and large 4 gang capacitor.



Acknowledgement <http://www.ominous-valve.com/sp600.html>