



OXTALES

First published 1980

Newsletter of the Oxley Region Amateur Radio Club Inc.,

PO Box 712 Port Macquarie 2444

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ORARC's Forty-seventh Anniversary Year

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

March 2018

Compiled by VK2AYQ & VK2TT

PRESIDENT: Henry Lundell VK2ZHE 6582 0534
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TREASURER: Larry Lindsay VK2CLL 6587 1155
SECRETARY: Steve Wynn VK2ZSW 6585 3327

President's Report

March 2018 President's Report

**ORARC 2018 Field Day 9
& 10 June Queens
Birthday Weekend**



Don't forget to mark your calendars for Saturday and Sunday the 9th and 10th of June for the ORARC Field Day over the 2018 Queens Birthday Weekend.

The venue for the 2018 Field Day is the Wauchope High School hall in Nelson Street, Wauchope. This hall is an excellent venue and will support all the usual Field Day activities. It is a long time since a Field Day was run in Wauchope so both locals and visitors will be on an even footing in the fox hunts.

The usual Field Day venue, the Tacking Point Surf Life Saving Club hall, is not available this year as another stage of renovation works are being carried out over winter. It is hoped that the Field Day can return to this venue in 2019.

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-1 (APRS Digipeater)
SX 145.175MHz 1200bps

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Down the Coax

ORARC meetings held in the SES Building
Central Road, Port Macquarie.

Monthly General Meeting
Saturday 3 March 2018 2:00 pm

Friday Night Get-Together
Friday 16 March 2018 7.00 pm

AMSAG Johns River Car Rally
Saturday 17 March 2018 12 noon to 8:30 pm

John Moyle Memorial Field Day
Saturday 17 & Sunday 18 March 2018 -
VK2BOR at Kew

Urunga Convention
Saturday 31 March and Sunday 1 April 2018

Monthly General Meeting
Saturday 7 April 2018 2:00 pm

Friday Night Get-Together
Friday 20 April 2018 7.00 pm

ANZAC Day AX prefix permitted by ACMA
Wednesday 25 April 2018

Monthly General Meeting
Saturday 5 May 2018 2:00 pm

World Telecommunications Day
Thursday 17 May 2018. AX prefix permitted

Friday Night Get-Together
Friday 18 May 2018 7.00 pm

Monthly General Meeting
Saturday 2 June 2018 2:00 pm

ORARC Field Day Wauchope High School Hall
Saturday 9 and Sunday 10 June 2018
Field Day Dinner Port Macquarie Golf Club

Net Controllers' Roster

Nets on Voice Repeater VK2RPM 146.700 MHz

Sundays
(0900 Local)

Thursdays
(1930 Local)

Mar 2018

VK2FMGM	Mar - 04	VK2ZHE	Mar - 01
VK2CHC	Mar - 11	VK2ICQ	Mar - 08
VK2FMGM	Mar - 18	VK2EM	Mar - 15
VK2CHC	Mar - 25	VK2ZHE	Mar - 22
		VK2ICQ	Mar - 29

Apr 2018

VK2FMGM	Apr - 01	VK2EM	Apr - 05
VK2CHC	Apr - 08	VK2ZHE	Apr - 12
VK2FMGM	Apr - 15	VK2ICQ	Apr - 19
VK2CHC	Apr - 22	VK2EM	Apr - 26
VK2FMGM	Apr - 29		

May 2018

VK2CHC	May - 06	VK2ZHE	May - 03
VK2FMGM	May - 13	VK2ICQ	May - 10
VK2CHC	May - 20	VK2EM	May - 17
VK2FMGM	May - 27	VK2ZHE	May - 24
		VK2ICQ	May - 31

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The club is indebted to Stuart Walsh VK2FSTU for locating and booking the Wauchope High School hall for the 2018 Field Day. Suitable halls are very hard to find due to the popularity of Sunday morning booking by other groups. Stuart's persistence paid off in finally securing the Wauchope High School hall after his own High School hall which was initially said to be available was found to have a pre-existing booking when he went to pay for the hire. There is a lot of behind the scenes work that goes on to make club activities run smoothly! Thank you Stuart.

The Field Day dinner as usual will be at 6pm at the Port Macquarie Golf Club on Saturday the 9th of June. The dinner will be held in the "Seaview Room" function room. The hire of the Seaview Room has been very generously sponsored by Radio Supply Pty Ltd of Bellingen. The club offers an extensive dinner menu to cater for all tastes at club prices.

Radio Supply of Bellingen will have a large range of accessories and other items at their stand at the Field Day.

Roda Antennas were unable to attend the 2017 Field Day due to other commitments but they have promised to attend in 2018.

ALARA will be attending the Field Day again this year. As a special treat, the magnificent ALARA quilt that Dot Bishop VK2DB won at the ALARA meet in Canada last year will be on display.

With the generous sponsorship by Radio Supply of the Seaview Room for the Field Day dinner at the Port Macquarie Golf Club, and a substantial donation of book prizes by Amateur Radio NSW, the planning for the Field Day is already off to a good start.

The successful running of Field Day weekend is dependent upon the efforts of many members to undertake the myriad of

tasks that are required. Please help where you are able. This will spread the work load so that everyone has time to enjoy the weekend.

AMSAG Johns River Car Rally



The AMSAG Johns River car rally <http://www.amsag.com.au/rally-events.php> takes place on the afternoon and early evening of Saturday the 17th of March 2018 in the Bull's Ground area near Herons Creek. Communications will be set up at Kew and Johns River and at various checkpoints along the course. Approximately 12 locations will be covered during the event. The club's Communications Caravan will be set up in the car park of the Kew Hotel. The caravan will use the callsign VK2BOR.

Lyle Smith VK2SMI is co-ordinating the communications. AMSAG requested ORARC to provide the safety communications for the event. If you haven't yet volunteered but would like to participate, please contact Lyle.

The event is also being recognized by WICEN NSW so participation in communications will be counted as WICEN training. Several of the ORARC members participating in the event are also WICEN members. Lyle VK2SMI will be pleased to hear from anyone who would like to join WICEN. Lyle is the newly elected Co-ordinator for the WICEN Mid North Coast Region.

The car rally overlaps the first 8 hours of

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the John Moyle Memorial Field Day. It is not possible for the club station VK2BOR to participate in both events simultaneously. VK2BOR will only handle car rally communications while the rally is active. Once the rally concludes VK2BOR will participate in the John Moyle Memorial Field Day.

John Moyle Memorial Field Day 17 & 18 March 2018

The next Amateur Radio event on the ORARC calendar is the John Moyle Memorial Field Day which commences at noon on Saturday the 17th of March and finishes at one minute to noon on Sunday the 18th of March 2018.

As already mentioned, the ORARC club station VK2BOR will become active in the Field Day as soon as the AMSAG Johns River Car Rally concludes in the early evening of Saturday the 17th of March. VK2BOR will operate from the club's communications caravan which will be located in the car park of the Kew Hotel.

After the conclusion of the AMSAG Johns River Car Rally VK2BOR will operate throughout Saturday night and Sunday morning. Members are invited to join Lyle Smith VK2SMI and Stuart Walsh VK2FSTU in operating VK2BOR throughout the night and morning. VK2BOR will operate on all HF bands from 160 to 10 metres.

For more information on the John Moyle Memorial Field Day visit <http://www.wia.org.au/members/contests/johnmoyle/>

Sydney Amateur Radio Ferry Contest

The Waverley Amateur Radio Society is proud to announce the third annual Ferry Contest <http://vk2bv.org/home/general-information/club-activities/ferry-contest/> which once again aims to bring amateurs

together on Sydney's world-famous harbour and its historic ferry service.



The contest will be held on Sunday the 11th of March 2018. It starts at 10:00am and concludes at 4:00pm local time.

The object of the contest is to make as many contacts as possible from ferries or wharves. An Opal card will permit the entire day's travel on any mode of public transport for only \$2.60.

Amateurs who are visiting Sydney at the time of the contest are encouraged to participate. Peter Kucera VK2MPK made a special trip to Sydney to participate in the inaugural contest.

Urunga Convention 31 March and 1 April 2018 Easter Weekend



The Urunga Convention runs over the Easter Weekend on Saturday the 31st of March and Sunday the 1st of April 2018 at the Senior Citizens' Hall in Bowra Street.

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The Convention has a long history. It been held annually each year since 1949. This year is the 69th annual convention. Next year will be the 70th!

ORARC club members are always well represented at the Urunga Convention. If you are staying overnight don't forget the Field Day dinner at the Urunga Bowling Club on the Saturday evening. The fox hunting is always keenly contested but there is always plenty of opportunity for a quiet eyeball in the comfort of the hall and surrounds. Regardless of whether you are in Urunga or not, please come on air between 9 am and 9:30 am on Sunday morning to participate in the famous Urunga Scramble – any power, any frequency, any location – highest number of contacts in the 30 minutes wins! Visit <http://users.tpg.com.au/goldy2/> for the field day program and information.

Recent Events

Antenna Shootout Sunday 11th February 2018



The ORARC annual Antenna Shootout took place at the Tuffins Lane sportsfields in Port Macquarie on Sunday the 11th of February 2018. In the past, informal foxhunts have been run during the Antenna Shootout day but at this time of the year the consensus is that it's too hot for foxhunting. It was not as hot as it was last year, but is

was still a warm day. Plenty of chilled water and soft drinks were provided and adequate shade was available at both ends of the antenna range, and at the covered picnic tables used for the barbeque bacon and egg breakfast and sausage sizzle lunch.

Thank you to the members who arrived early to set up the caravan in the carpark. The interior of the caravan was kept quite comfortable with the aid of the electric fan. As in past years, Arthur Monck VK2ATM brought along his spectrum analyser to make the received signal strength measurements.



Rob VK2CRF and Arthur VK2ATM charting the results with the spectrum analyser.

The VHF and UHF receiving antennas made by John McLean VK2KC were set up and connected to the spectrum analyser. John VK2KC was unable to attend the shootout but he checked the antennas and ran through the setting up procedure with several members at the Wednesday working bee before the shootout.

This year provision was made to test 6 metre antennas in addition to the usual 2 metre and 70 centimetre antennas. Reference 6 metre dipoles made by Henry Lundell VK2ZHE were used at both ends of the range.

The club's Honda inverter generator ran faultlessly throughout the day. The generator operated in shade under the portable generator shelter.

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The transmitting site was set up at the far end of the sportsfields. Thank you to Lyle Smith VK2SMI for bringing his gazebo for shade and for running the transmitting site which involved setting up the reference 6 and 2 metre VHF and 70 centimetre UHF antennas and then setting up each antenna that had been offered for testing in order for the measurements of gain relative to a dipole to be made. Thank you to Larry Lindsay VK2CLL and Dennis Meade VK2DAM for assisting Lyle in all these tasks.



Transmitting site at the other end of the field

The tabulated test results of the antenna measurements are included in this edition of Oxtales. There was intense interest in the results. Ivan VK2IJS, Larry VK2CLL and John VK2NJJ had built several antennas especially for the shootout with the aim of taking out the honour of the highest gains on 6 and 2 metres and 70 centimetres.

On 6 metres there were no entries in the directional category. In the 6 metre omnidirectional category the home-made copper vertical J Pole antenna made by John Winchester VK2NJJ won with a measured gain of 4 dBd.

On 2 metres in the directional category Larry Lindsay VK2CLL was a clear victor with his 4 element yagi at 8.8 dBd. In the 2 metre omnidirectional category the Arrow style vertical antenna submitted by Bob Ecclestone VK2ZRE tied with the dipole antenna made by Ivan Southwell VK2IJS at 4.8 dBd each.

On 70 centimetres there were no entries in the directional category. In the 70 centimetre omnidirectional category the HH-9000 quad band mobile vertical antenna submitted by Arthur Monck VK2ATM won with a measured gain of 3 dBd.

It was very pleasing to see the great number of home-made antennas submitted this year.

Those participating in the shootout included VK2ZRE, VK2ATM, VK2SMI, VK2CLL, VK2DAM, VK2IJS, VK2ZHE, VK2CRF, VK2ICQ, and VK2UPR.

Thank you to Ivan Southwell VK2IJS for running the barbeque. Those in attendance enjoyed a delicious bacon and egg breakfast and an excellent sausage sizzle lunch. No-one went hungry and the covered picnic tables meant that everyone could eat sitting down under very welcome shade. Last year's record in consumption of cool drinks during the weekend came very close to being broken.



Lyle VK2SMI watches Ivan VK2IJS assemble an antenna ready for a test.

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Central Coast Field Day at Wyong



This year was officially the 60th Central Coast Field Day held at Wyong Racecourse on Sunday the 25th of February 2018. Last year's Field Day was billed at the time as being the 60th but on a recount it was decided that the 2018 Field Day should hold the prestigious title. The day dawned fine despite a forecast of rain. The weather at the racecourse remained fine all day for the Field Day. Light rain started falling at 2:30 pm after the majority of attendees had left and the last exhibitors were packing up. The rain set in about 3 pm.



Lower gateway grass parking note cantilevered weather protection in the background for flea market.

The rain wasn't such a concern this year as the entire Field Day was under cover. The Traders were accommodated in a new air-

conditioned semi-permanent carpeted marquee. The flea market was under cover in the breezeway that had been occupied by the Traders in past years. This arrangement was a great improvement in amenity for the respective sellers and attendees. The Traders in particular enjoyed an excellent environment which hopefully will encourage more traders to attend in future years.



Flea Market goodies



There were many bargains to be had from both the Traders and the Flea Market sellers. No-one went home empty handed unless they had exceptionally strong willpower.

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The amateur above certainly did not go home empty handed and is carrying a 120 AH Battery to lower car park!

As usual, a great number of ORARC members made the journey to the Field Day.



Henry VK2ZHE and Lyle VK2SMI note Lyle just can not resist another antenna with heaps of co-ax!

Those members who wore their club Tee shirts and hats were very easy to spot in the crowd. I counted at least 14 members during the course of the day.



*Familiar faces from our Field Days
Grahame VK2FA
and Chris VKYMW.*

Long time participating Traders such as Radio Supply Pty Ltd, RF Solutions, Crotek Instruments, TET-Emtron, Duro Services and Oatley Electronics did a brisk trade.



Radio Supply Pty Ltd Carol VK2FCSR and Gary VK2KT.



The view from the other side of the Radio Supply Stand. Note Henry VK2ZHE contemplating another purchase.



Duoro Services specialising in Rotator sales and repairs.

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Tet- Emtron stand with Mark VK6MOA and XYL assisting.



Oatley Electronics Stand

Phaser Computers showcased a variety of products including a 3D printer but their tiny quad copter flown entirely by an operator wearing Virtual Reality goggles was a big hit.



Phaser Computers demonstrating a 3D Printer.



Drone flying using virtual Reality goggles.

Rhys Evans from Phaser Computers presented a well attended Field Day lecture on the use of FPV (First Person View) flight using goggles, a laptop computer and radio controls.

In addition to the flea market and the commercial traders there were many interesting stands set up by groups such as WICEN, Central Coast VRA, Westlakes Amateur Radio Club - QSL Bureau, Kurrajong Radio Museum, Military Collection, Tube Radio Australia, ARNSW Home Brew and Experimenters Group, Over 50s Radio, Rotarians of Amateur Radio, AMSAT, ALARA and the WIA. The Rotarians of Amateur Radio ran a live HF station from their stand.



Dot VK2DB at the ALARA (Australian Ladies Amateur Radio Association) showing the ALARA

quilt that Dot won in Canada.

Home Brew is alive and well.



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Historic Radio Display Colin VK2XCT



Central Coast VRA Rescue Display

The various very interesting lectures and seminars throughout the day were very well attended. Both the Lectures and the Topics in a Nutshell ran concurrently back to back so that at any one time during the day there were two to choose from. There was something for everyone! The live satellite contact display was very popular. Kits for hand held satellite antennas were available for sale.

The raffle had particularly desirable prizes this year and tickets sold briskly. Brian Kelly VK2WBK from Walcha was the very happy recipient of the first prize, an Icom IC-7300 HF/6metre all mode transceiver.

This year most Field Day announcements were made on 147.125 MHz which kept the wide area Public Address announcements to a minimum.

I wonder how many people can say that they visited all the flea market stands, all the traders and all the exhibitors during the course of the day after engaging in the countless eyeball QSOs that are a hallmark of Wyong Field Days. A thoroughly enjoyable day



Interior view of the Air Conditioned Trades Pavilion. Who is that amateur with the yellow giggle on the right? Military Radios. Note that the Teledyne Receiver on left features in the equipment from the past part of this Oxtales.



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Drone Demonstration at the 3 February 2018 Friday Night Get Together

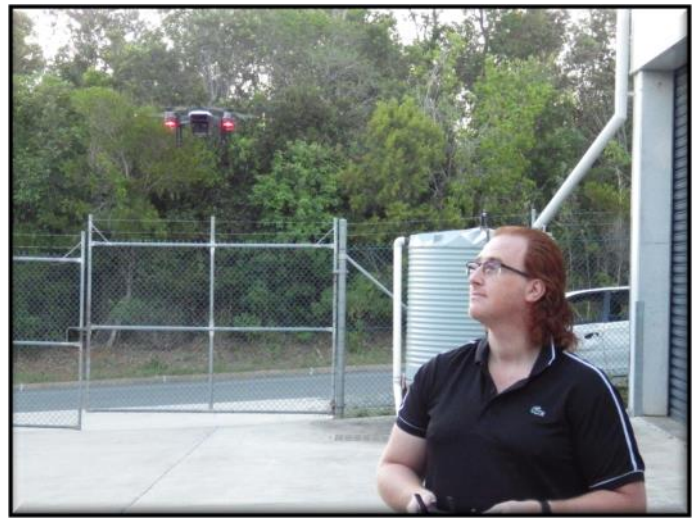


At the Friday Night Get Together on the 3rd of February, after the usual show and tell, Paul Colledge demonstrated his then newly purchased drone. (Photo above is drone eye view).

Paul had just purchased a DJI Spark Drone which has remarkable performance from an amazingly small package. The rotor blades fold back so that the drone and all its accessories neatly pack into a small purpose made soft carrying case (see photograph below).



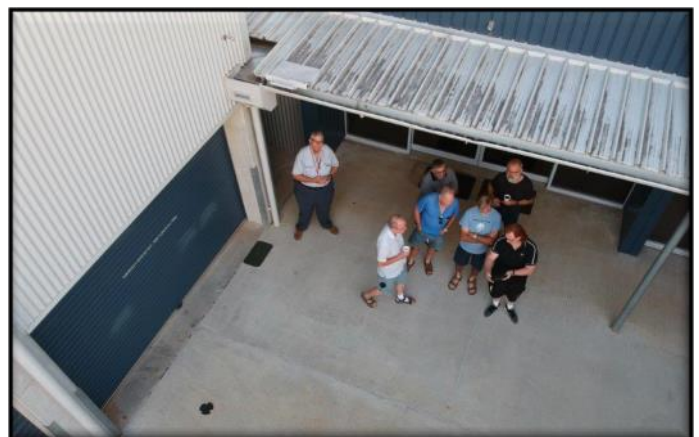
Paul VK2ICQ preparing the DJI Spark Drone for flight.



Paul VK2ICQ demonstrates hovering ability.

At the February Friday night gathering Paul held everyone spellbound with his demonstration of how stable and intelligent the drone is in flight. The ability of the drone to hold a position while hovering is remarkable. When coupled to its obstacle avoidance capability and high definition camera it is possible to capture excellent moving and still images from both very close quarters and at great distances. The robustness of the radio link to and from the drone is superb. During the demonstration Paul only flew the drone a short distance but with the GPS on board navigation the drone will self return in the event that the radio link is lost, or if the remaining battery power starts to approach the power needed to return.

The photos taken during the demonstration tell the story from both the view of the gathering and as seen by the drone!



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Subsequent to the demonstration Paul decided that based on his experience with the Spark Drone, he just had to upgrade to the new model which has even better performance and additional features. He advertised his drone for sale. It was immediately snapped up by one of our members. At the ORARC 3rd of February Monthly General Meeting Paul announced that he was the proud owner of the new model drone. He brought it along for us to see. Please see the May 2018 issue of Oxtales for more details.

Paul was sad that he could not attend the Wyong Field Day this year as he had an unavoidable business trip. I am sure that he would have revelled in the lecture delivered by Rhys Evans from Phaser Computers on the use of FPV (First Person View) flight using goggles, a laptop computer and radio controls.

Middle Brother Mountain VK2RPM Repeater Site

As has previously been mentioned, the radio link site on Middle Brother Mountain at which the VK2RPM repeaters are located is now owned by TPG Telecommunications. The interference that has been reducing the sensitivity of the VK2RPM 146.7 MHz two metre repeater is still a problem, although last year's tower works by TPG to remove unused microwave dishes and hardware did make a marked improvement. The problem almost disappears when the tower is wet. This indicates that there is still unbonded hardware causing issues on the tower. It is hoped that the future planned site upgrade works will reduce this problem even further.

Telegraph Point VK2RCN Repeater Site

Planning has been in progress for some time to replace the mast guys and to install the VK2RCN 6 metre repeater folded dipole antenna as part of the mast refurbishment. The replacement of the guy wires is currently

on hold due to various difficulties in finding suitable people to undertake the work. The committee is still exploring methods of carrying out the work within the limited budget that is available.

A working bee was held on Wednesday the 17th of January 2018 to carry out site maintenance, and to replace the repaired Yaesu DR-1X UHF repeater.

Rob Frost VK2CRF, Arthur Monck VK2ATM, Dennis Meade VK2DAM and Henry Lundell VK2ZHE participated in the working bee.

At the working bee Rob VK2CRF used an electric whipper snipper borrowed from his daughter to trim the grass and weeds around the repeater building and mast. Everyone was in awe of the performance of this electric whipper snipper. It made short work of all the grass and weeds. It was every bit as powerful as a petrol powered whipper snipper. Lithium Ion battery power has really come into its own! Rob borrowed his daughter's electric whipper snipper for the day as his petrol powered whipper snipper was in for service.



Repeater building with vent and temporary work around in place. Note the cleared vegetation around the site.

During the working bee it was found that the cover over the repeater building roof air vent was missing. It was found on

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lying on the roof beside the vent.

Since there was no sign of water damage inside the building it was concluded that the cover had been dislodged only a few days earlier during extreme winds in the area. The timing of the working bee was most fortuitous. Water would definitely have entered the building through the unprotected opening in the event of rain. The steel cover had originally been glued onto the plastic vent body.

The cover was temporarily held in place using the weight of a conveniently sized stone found beside the building. The vent will have to be replaced during the next site visit.



Close up of the temporary work around leaving no stone unturned!

Thank you to Arthur Monck VK2ATM for building a 6 metre Ringo antenna for use as a temporary antenna to enable the VK2RCN 53.800 MHz 6 metre repeater to be placed into service prior to the replacement of the guy wires on the site mast. The temporary 6 metre Ringo antenna will be mounted on top of a suitable 8 metre length of pipe that is on site. The pipe will be clamped to the disused wooden power pole that is bolted to the side of the repeater building.

A working bee will be called after Easter to carry out the above work. Please let the Committee know if you are able to assist.

WICEN



At the WICEN Mid North Coast Region monthly general meeting on the 3rd of February 2018 two members of the State Committee of Management (SCOM) of NSW WICEN attended to meet the members and discuss various issues. State Management Committee President John Harper VK2LJ and Committee member Eric van de Weyer VK2VE drove up from Sydney for the meeting which was greatly appreciated by the members.



Bob VK2ZRE, Eric VK2VE, John VK2LJ Steve VK2ZSW and Lyle VK2SMI at WICEN meeting.

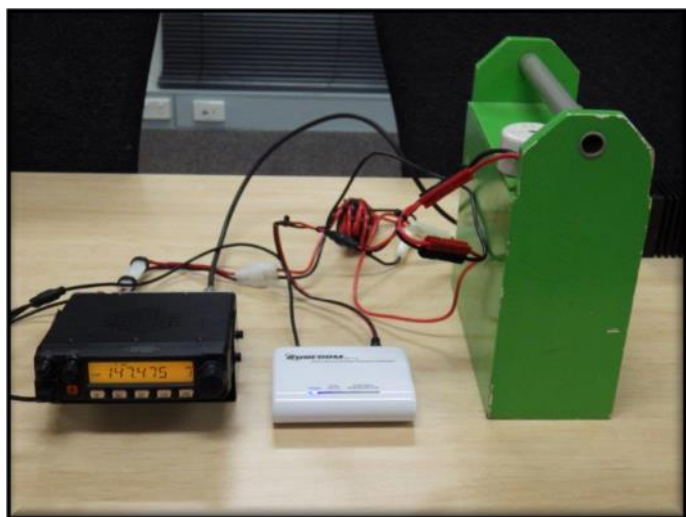
At the February meeting Henry Lundell VK2ZHE demonstrated a 2 metre FM voice “parrot repeater”. The repeater derives its name from the fact that the repeater stores an incoming voice transmission and then retransmits it as soon as the incoming transmission ends.

Normally the repeater receives and transmits on the same frequency, but split frequency operation can be used. It does of course mean that using the repeater takes twice as long as communicating directly to convey

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messages. The big advantage is that the repeater is simple to set up. Since it does not receive and transmit simultaneously the repeater does not require an RF duplexer. This store and forward method of repeating is very similar to the way packet radio systems like APRS operate, except of course it is voice that is being stored and retransmitted rather than data.



Parrot Repeater Demonstration

The demonstration parrot repeater used a readily available Surecom SR-112 simplex repeater controller. This controller will interface to almost any radio transceiver making it easy to set up a parrot repeater on any VHF or UHF band. Ready-made leads are available for most popular radios. The demonstration repeater used a Yaesu FT-1802 two metre analogue FM mobile transceiver. The controller will also work with any of the digital voice mode radio systems such as DMR, P25, D-Star, System Fusion C4FM, etc. While it is technically feasible to set up such a repeater on HF, the HF band noise and interference will lead to false triggering resulting in unacceptable performance. The SR-112 controller relies on VOX to detect incoming audio so it will respond to any incoming audio. For this reason CTCSS is normally used on the receiver in the parrot repeater when operating analogue FM to provide noise immunity.

The WICEN Mid North Coast Region

AGM was held in the Port Macquarie SES Building on Saturday the 3rd of March 2018. The office bearers elected were:

Region Co-ordinator
- Lyle Smith VK2SMI
Deputy Region Co-ordinator
– Stuart Walsh VK2FSTU
Secretary
– Rob Frost VK2CRF
Treasurer
– Rob Frost VK2CRF
Local Co-ordinator - Hastings
– Lyle Smith VK2SMI
Local Co-ordinator – Kempsey
– Bob Ecclestone VK2ZRE
Local Co-ordinator – Taree –
Larry Thompson VK2LJT

A vote of thanks was recorded for outgoing Region Co-ordinator Steve Wynn VK2ZSW for his work in re-establishing the WICEN Mid North Coast Region.

Lyle VK2SMI as the newly elected Co-ordinator for the WICEN Mid North Coast Region will be pleased to hear from anyone who would like to join WICEN.

In past years WICEN have supported the Alzheimers Australia [Memory Jog and Walk](#) in Port Macquarie held on a Sunday morning a week or so prior the Queens Birthday Long Weekend. Alzheimers Australia is now known as Dementia Australia. The dates for the 2018 Memory Jog and Walk in a few locations have already been announced but the Port Macquarie date has not yet been announced. WICEN will be providing the communications for the Port Macquarie event when it is held.

Education

The club has three WIA accredited Assessors available to conduct assessments for Amateur Licences, Larry Lindsay VK2CLL as Nominated Assessor and Steve Wynn VK2ZSW and Bob Ecclestone VK2ZRE as Assessors.

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There are at least a couple of prospective candidates for the Foundation Licence. If you know anyone who would like to obtain their Foundation Licence, please ask them to contact Larry Lindsay VK2CLL as soon as possible so that arrangements can be made for a training and assessment weekend soon.

If anyone would like to upgrade their licence to a higher level, please contact Larry VK2CLL. If there is enough interest an upgrade class could be run. If people having been doing self study then Larry will be pleased to arrange to run assessments.

Henry Lundell VK2ZHE
President



The new air conditioned Traders Pavilion at Gosford Field Day.



7/148 Lake Rd Port Macquarie
Ph. (02) 6581 4476



Australia hosts international spectrum meeting

Date : 10 / 03 / 2018

Author : WIA Board

In preparation for the World Radio Conference in 2019 (WRC-19) there are a number of preparatory meetings that are undertaken. One of these in the Asia Pacific Region is the Asia Pacific Telecommunity (APT) Preparatory Group. This is the third of five regional summits in the lead-up to the International Telecommunication Union (ITU) WRC.

The Australian Government is hosting this meeting in Perth from 12 - 16 March 2018 and is expected to attract more than 350 radiocommunication leaders from over 25 Asia-Pacific countries.

The APT aims to build regional positions on radiocommunications spectrum allocations to take forward to global forums and in particular the WRC-19.

Representatives from the ITU and other regional groups including the European Conference of Postal and Telecommunications Administrations and the Inter-American Telecommunication Commission will attend the five-day meeting.

Australia has a large delegation, including representatives from the Department of Defence, CSIRO, Airservices Australia,

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Australian Maritime Safety Authority, Bureau of Meteorology and industry technical experts.

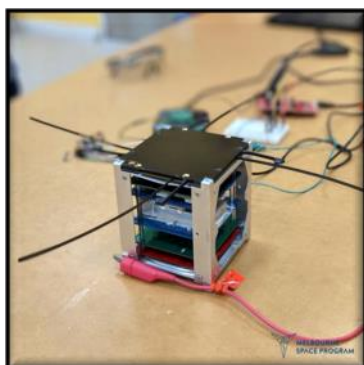
WIA representative Dale VK1DSH is attending and undertaking multiple roles. He is APG coordinator for WRC19 agenda item 1.1 (ITU R1 50 MHz allocation) and, as such, takes an active part in the APG meetings. Dale is also the Australian coordinator for Agenda Items 1.1 and 9.1.6 and represented the agreed Australian positions on these two agenda items at the APT meeting. Agenda item 9.1.6 covers Wireless Power Transmission and it is important that we are able to express our concerns about RFI that might be generated by WPT systems.



Update on the Melbourne University Space Program

Date : 08 / 03 / 2018

Author : Fred Swainston - VK3DAC



The Melbourne University Space Program is on the move. This update information has been provided by Gabriel Abrahams VK3EXO.

From the RF perspective project personnel have successfully transmitted packets

between the ground station and the satellite radio and interfaced the satellite radio with the flight computer. The satellite antenna has been deployed. All under test conditions. The ACMA recently approved the frequency allocation request and will be taking the application to the ITU on behalf of the project team. This is a huge achievement, particularly for an entirely student led organization.

A major milestone has been passed, last Saturday the second iteration of the FlatSat was assembled. The FlatSat consists of the final version of every team's PCB boards connected, identical to the final satellite except for the positions of the boards (ie they are on a table, not in the chassis). It has been powered on and passed the power up test. The next step is to perform extensive software and hardware testing. The testing will be over the next few weeks.

Progress with the Mission Operations website is going well, there are some exciting features that will allow the community to view live and recorded information about the satellite, such as 3D visualizations and sensor data. It will also be possible to upload any data received from the satellite's beacon downlinks.

We are on track for launch at the end of this year / early next year, which is very exciting!

630M group playing WSQ2 in VK & ZL

Date : 10 / 03 / 2018

Author : Justin Giles-Clark VK7TW via the 600m Yahoo Group

Recently the 630metre group has been very active on a new mode called WSQ2. This mode was developed by Murray Greenman ZL1BPU/ZL1EE and Con Wassilieff ZL2AFP/ZL2EE. After these two experienced some frustration with the weak signal non-QSO WSPR mode and slow QSO modes like Jason, they decided

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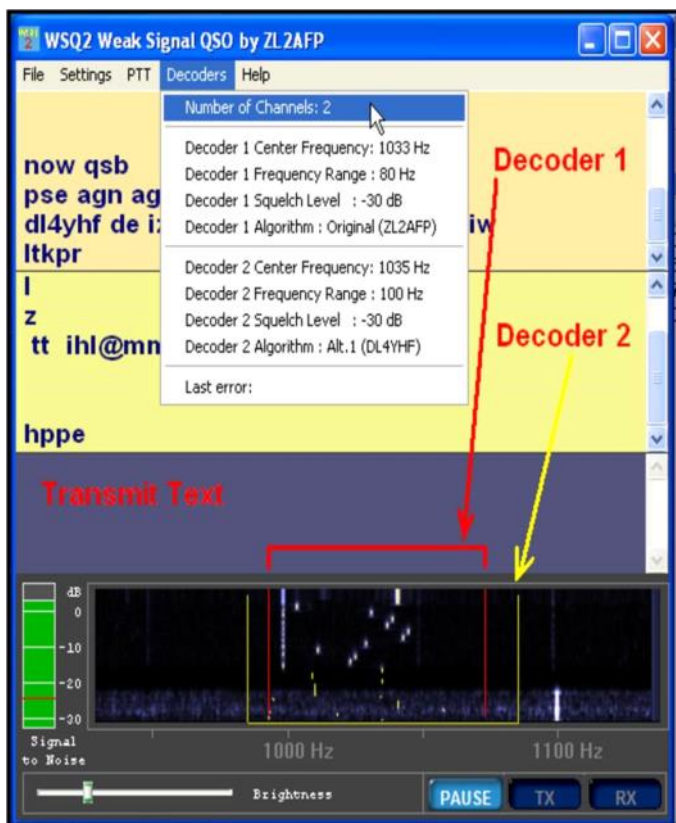
to create their own that was fast enough for QSO functionality.

Enter WSQ or Weak Signal QSO mode – it uses Incremental Frequency Keying (IFK), making it moderately drift-proof and easy to tune. It has no error correction and even though it's baud rate is slower than Jason each symbol carries more information. It is equivalent of typing about 5 wpm.

There is a new sensitive waterfall display used for tuning and you can see signals on the waterfall down to -25dB. It uses long integration to defeat impulse noise and uses phase coherent keying so you can transmit using a typical LF/MF Class C, D or E (non-linear) amplifier without distortion.

WSQ uses 33 tones, spaced 1.953125Hz apart, resulting in a signal bandwidth of 64.4Hz, including the keying sidebands.

Couple that with being able to run the software on a low range notebook and you have a weak signal QSO mode down to -30dB that is definitely worth a look.



Radio Control model jet aircraft



Story by Arthur VK2ATM

The following pictures show model aircraft are from one seventh to one quarter scale models of the real fighter jets, powered by gas turbine engines running on Jet-A fuel.

They have from 16 to 24 control channels in the 2.4 ghz band and can do speeds in excess of 250 knots. The control surfaces are usually operated by electronic servo motors.

The undercarriage and brakes on wheels are operated by compressed air from bottles carried on board. The manouverability is quite incredible from takeoff to landing, taxiing etc.



The aircraft have sufficient thrust to go vertical after takeoff, and go from zero to 100 knots in 100 meters.

Larry VK2CLL and Arthur VK2ATM attended a model flight day at Kempsey airport.

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We managed to talk our way onto the flightfield and complete with the obligatory HI-Vis jackets were allowed out to the flight line where we could get a first hand view of the models and the flight demonstrations.



The models as one can see from the photographs are large and the sound and smell of the jet fuel add to the enjoyment of the day.



As can be appreciated the flying of these models takes considerable skill and is a serious business for the owners. All in all a great great spectacle. 73 Arthur VK2ATM...

For those who would like to follow up on Arthur's article here are some net links.

A couple of links to some background information to go with Arthur's great model jet photos from Kempsey airport on Sunday the 4th of March:

<https://www.macleayargus.com.au/story/5253826/jet-show-at-kempsey-airport-photos/> This has 9 photographs.

<http://nsw.aeromodellers.org.au/wp-content/uploads/2017/07/ANSW-NL-395-April-2017.pdf>

<https://www.facebook.com/JetFlyersAssociationofNsw/>

<https://www.youtube.com/watch?v=KgSUNcqSiR0> Cobra F16 jet model flight

<https://www.youtube.com/watch?v=akoJ2zBwX1o> World's largest flying model – Virgin 747 Airliner – Flight

All the following pictures are of model jets controlled with a multi channel controllers.



ORARC Antenna Shootout 2018

Antenna	6 Mtrs	2 Mtrs	70 cm	SWR	Gain/Loss
Reference Dipole	-34 dB	-37.8 dB	-40 dB	1 : 1	0 dB
VK2ZRE J Pole			-42 dB		-2 dB
VK2CRF 4 Band			-38 dB		+2 dB
VK2ATM 4 Band			-37 dB	4 : 1	+3 dB
VK2IJS 2 Band J Pole			-50 dB		-10 dB
VK2IJS 2 Band			-43.8 dB		-3.8 dB
VK2IJS 2 Band		-44 dB			-6.2 dB
VK2CLL 4 el yagi		-29 dB			+8.8 dB
VK2IJS J Pole		-39 dB			-0.2 dB
VK2ATM 4 Band		-39 dB			-0.2 dB
VK2CRF 4 Band		-41 dB			-2.2 dB
VK2ZRE		-33 dB			+4.8 dB
VK2CRF		-34.5 dB			+3.3 dB
VK2IJS Dipole		-37.5 dB			+0.3 dB
VK2IJS Dipole		-33 dB			+4.8 dB
VK2IJS Pvc		-35.5 dB			+2.3 dB
VK2IJS Dipole		-33.5 dB			+4.3 dB
VK2IJS Delta		-43 dB			-5.2 dB
VK2IJS ¼ Vert		-43 dB			-5.2 dB
VK2IJS 2 Band Pvc		-36 dB		1.19 : 1	+1.8 dB
VK2NJJ Copper	-30 dB			1.3 : 1	+4 dB
VK2CRF 4 Band	-42 dB				-8 dB
VK2ATM 4 Band	-38.5 dB				-4.5 dB

Discrepancies in results largely due to mismatches in SWR resulting in lower power from the RF source.



Codan 9350 Antenna Installation Notes

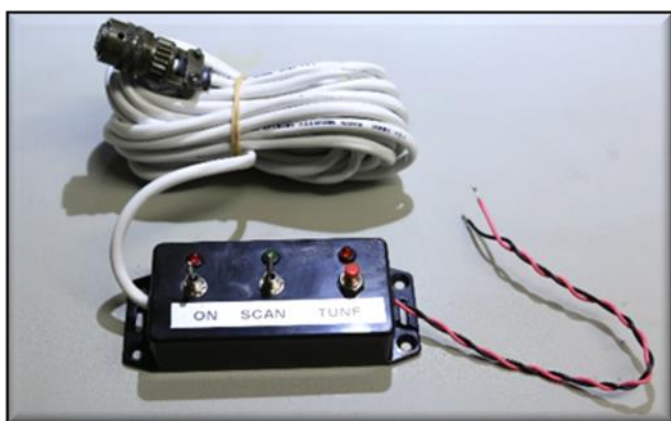
Author Stuart VK2FSTU

I bought a Codan 9350 antenna after looking at one in use and the observation that it would tune so quickly between frequencies, much faster than a Tarheel and other antennas that I had researched.

Well, after considering it, when bought the antenna, the first thing was to have it fitted to my bull bar. Where to get it done?

Wauchope to the rescue. A business in Wauchope, *Critch Engineering*, did a great job in making up a plate, welding it to the bull bar and coating it with that much protective coating that it will never rust. The installation was strong and sturdy and has already been put to the test with a few inadvertently bashings into trees etc.

Next step was buying the tuning box that helps the Codan interface with the radio for HF. These are made for Yaesu, Icom and Kenwood and can be found at address - <http://bit.ly/2Cw8Y43>



The above box needs to be fitted to help the radio interface with the Codan 9350.

The directions on making the interface work seemed to leave a bit to be desired. For example a direction that CW mode should be used to set up the initial interface.

Now, don't take any notice of the directions

to use CW – couldn't get mine to work, until I went to Henry VK2ZHE on his usual Wednesday *old wives' tea party*.

Henry was his usual knowledgeable self, and within 2 minutes I had learnt to use AM instead of CW, to set up the interface.

The resulting set up works a treat now, for example I had a contact on 40 metres with Victoria (Ballarat) while mobile and just the other day, Spain on 21.255, on low power he could only just hear me, however it was not bad mobile coverage on the wattage I use.

For those contemplating doing a similar installation I would strongly suggest the following points:

Make sure the EARTH strap that comes with the Codan 9350 is attached to the body, also there is need to put one from one hinge of the bonnet and one from the exhaust to the body. If this is done; Then you should get out like a trooper.

I tuned it in 3 seconds on 40, then later went to 28.455 and it tuned in 34 seconds. So quick! Lighting quick compared to the Tarheel and others on the market. What's more it tuned from 80 to 40 in less than a second.



Above the interface box located in the car.

Above the special mounting bracket made up by *Critch Engineering*.

Editors note: I recently met Stuart down at the beach and he gave a demonstration in speed of tuning and it was indeed most impressive.

Equipment from the Past

This month features a piece of equipment that Henry VK2ZHE saw at the recent Gosford Field day. A Teledyne communications receiver with 'Digital Read Out'. From the set up below it would appear to be still in working order.



The general purpose communications receiver was made by Collins for the military as the R-390A model.



Among radio history enthusiasts it is claimed that this model was one of the best

model Communications Receivers ever built.

The R-390A military shortwave radio receiver was the result of a project undertaken by the U.S. Army Signal Corps in 1954 to replace the existing R-390 receiver then in use. Total production of the R-390A was more than 55,000 units and production continued in different forms until 1984. The radios could cost more than \$ 3,500 USD which was a considerable amount of money at the time.

The R-390A was deployed to most branches of the US military and remained in general use through the 1980s. The last major update to its documentation was in 1984. It was found that the valve circuitry would easily survive and electromagnetic pulse and there are apocryphal stories, that R-390A receivers are still in use aboard U.S. Navy submarines since the receiver can withstand the strong radio frequency fields found aboard ship. They found service with the CIA and NSA to monitor communications from behind the Iron Curtain. During the Cold War years, the R390A was so valued it was classified TOP SECRET, a security measure which remained in force until the mid-1960's. Stories are told that R390A's are still in use by the NSA where senior operators far prefer their quiet, yet stellar performance over more modern receivers

The R-390A was a general coverage radio receiver capable of receiving amplitude modulated, code, and frequency shift keying signals. Its tuning range is from 500 kilohertz to 32 megahertz, in 32 one-megahertz bands. The circuit is the superheterodyne type, double conversion above 8 MHz, below which triple conversion is used. It has 26 vacuum tubes (6AK6 x 3, 5654 x 2, 12AU7/5814A x 2, 26Z5W x 2, 3TF7 x 1, 6BA6/5749W x 6, 6C4/6100 x 3, 6DC6 x 1, 0A2 x 1), and the receiver weighs 40 kgs. and can be operated on 120 volt or 240 volt supplies.

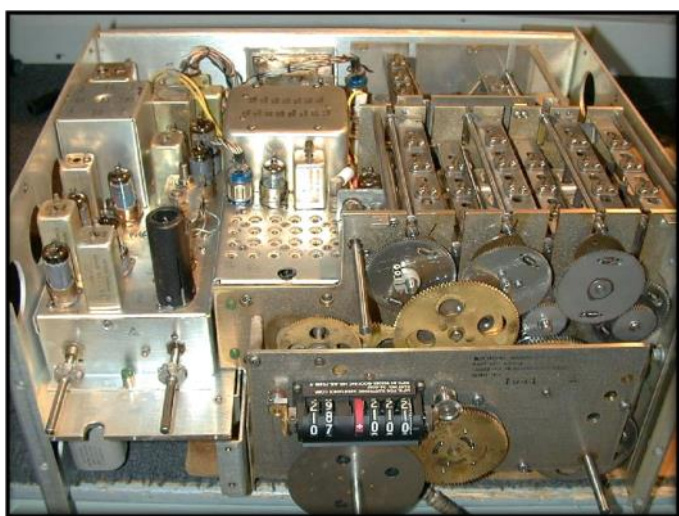
These receivers also had a suite of 4-

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Military Grade Collins mechanical filters teamed up with full tracking RF and IF sections, giving the R390A an ability of copying AM and CW signals down to its -143db noise floor, close to the galactic limit. All this while maintaining the capability to operate in high overload, strong signal environments.

The 'digital' tuning and read out is actually a mechanical system of gears, racks and cams. Tuning of the R-390A's radio frequency and intermediate frequency front end is synchronized by means of an ingenious mechanical system of racks, gears, and cams. When the front panel tuning controls are rotated, this system raises and lowers ferrite slugs in and out of the receiver's tuning coils. This ensures that all front-end circuits are tracked, meaning all circuits are tuned to the correct frequency to maintain excellent selectivity and sensitivity.



The above photograph of the inside of a R-390A Communications Receiver shows the mechanical digital counter and the complex gearing needed for the raising and lowering of ferrite formers in the tuning coils.

Tube Radio Australia had the unit for sale with a special Field Day price of \$1,250. Further details may be found on their website where the price is listed at \$2,100. http://www.tuberadio.com/oscommerce/product_info.php?products_id=141&osCsid=6p46o7raq57duor604er60ecf6

Acknowledgements:

R390A Home on the WWW : <http://www.R390A.com>

R390A history overview with Chuck Rippel, WA4HHG with Les Locklear

Blast From The Past

Blast from the past takes a more reflective look at the members of the club this month. Inspiration for this month came about after Henry VK2ZHE was discussing photographs in the September 2004 edition of Oxtales. In particular the photographs of the club's station VK2BOR operating from the ORARC tent at the Tacking Point Lighthouse in the International Lighthouse and Lightship Weekend on the 21st of August 2004.



The above photograph shows three of our Silent Keys – Alan Nutt VK2GD, Bob Brodie VK2EJK and Jim Webster VK2BZD in front of the tent.



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The previous photograph shows Bruce Walker VK2HOT and Craig Martin VK2ZCM operating VK2BOR in the tent. This photo appears on page 7 of September 2004 Oxtales.



By the way, that's Jim Webster VK2BZD (SK) emerging from the communications tent in the above photograph.

Looking at the Membership Register in September 2004 Oxtales we had 27 members (as opposed to 70 members today) but sadly, of the 27 members there are 14 Silent Keys – John Baylis VK2JB, Bob Brodie VK2EJK, Bill Brooke VK2ZCW, Roy Burges VK2YOR (later VK2EJB), Stan Ellis VK2DDL, Baden Gleeson VK2MOQ, Will Jamieson VK2XXU, Keith Lutton VK2KDL, Allan Madigan VK2OA, Wendy Monck, Alan Nutt VK2GD, Neil Sandford VK2EI, Bill Sinclair VK2ZCV and Jim Webster VK2BZD. Yes, more than half of the 2004 members are now Silent Keys.

Reflecting on the above time appears to have flown over the past 17 plus years. ORARC has done well to have 70 members in 2018.

Doing the ILLW at the Tacking Point Lighthouse from the club caravan these days is a big improvement over operating from the tent. We are still using the same Icom IC-738 HF transceiver. Being a 1994 model it's becoming quite venerable in its

own right.



Icom IC-738 HF transceiver



Operators Rob VK2CRF Henry VK2ZHE, Lyle VK2SMI, Ray VK2JU and Des VK9FLHI from the September 2014 International Lighthouse and Lightship Weekend taking shelter from the wind and rain.

The Club's communication caravan provides a much more comfortable operating environment than the old communications tent especially in inclement conditions.

