

OXTALES

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Club Nets on VK2RPM
146.700MHz
Every Sunday 0830
Every Wednesday 1930

Newsletter of the Oxley Region Amateur Radio Club Inc.
PO Box 712 Port Macquarie 2444

Club e-mail address: vk2bor@orarc.org
Club Website: www.orarc.org

September 2010

Compiled by VK2TT & VK2AYQ

PRESIDENT: Henry Lundell VK2ZHE 6582.0534
VICE PRES: Bruce Walker VK2HOT 6583.8360
TREASURER: John Bailey VK2KHB 6582.2192
SECRETARY: John McLean VK2KC 6584.6220

President's Report

We are all saddened by the untimely passing of our esteemed member Alan Nutt VK2GD. On behalf of all members of the Oxley Region Amateur Radio Club I extend our deepest sympathy to his wife Elaine and their family.



It was very heartening that all positions were filled at the AGM this year. The new financial year for the club is off to a good start. Congratulations to the new Committee and thank you to the outgoing Committee. The success of the club relies on many people sharing the workload. I would like to take the opportunity to thank everyone who volunteered their services. The great thing about sharing the workload is that end result is greater than the sum of the individual efforts. I'll refrain from writing a thesis on synergy. You will find volumes written on the subject if you look it up on the internet. Suffice to say that synergy basically describes that two or more people working together will achieve more than the total that they can achieve by individually working in isolation.

Last month was a busy month of on air participation for the club station VK2BOR in the Remembrance Day Contest and the International Lighthouse and Lightship Weekend. Thank you to everyone for making both events a great success for the club.

I am certain that everyone takes a look at "Down the Co-ax" to see what is happening in the immediate future. You will see that in October we have the Beechwood Billycart Classic and the Jamboree of the Air coming up. Richard Court VK2CHC is co-ordinating the club's safety communications contribution to the Billycart Classic. If he hasn't been in contact with you yet, you should expect to hear from him soon. Please assist if you are able. The communications task is straightforward and it's an opportunity to have a great day out while putting something back into the community and showcasing Amateur Radio at the same time. Don't forget that this year the

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Down The Coax

All scheduled meetings held in the S.E.S. Building
Central Road Port Macquarie

Friday Night Get-Together

Friday 17th Sept 2010 7.00pm

October Monthly Meeting

Saturday 2nd October 2010 2.00pm

JOTA Weekend

Sat-Sun 16th/17th October

Friday Night Get-Together

Friday 15th October 2010 7.00pm

Beechwood Billy Cart Classic

Sunday 24th October

November Monthly Meeting

Saturday 6th November, 2010 2.00pm

e-mail Directory

Reflects ALL changes notified up to
31st August 2010

Peter Fletcher fletcher@physics.usyd.edu.au
VK2AG (Lewis) lewisgreen@bigpond.com
VK2EI (Neil) neilsan@tpg.com.au
VK2EM (Bruce) vk2em@tpg.com.au
VK2GD (Alan) anu16734@bigpond.net.au
VK2KC (John) vk2kc@bigpond.com
VK2TT (Trevor) grumps@midcoast.com.au
VK2ATM (Arthur) arfamo@midcoast.com.au
VK2AYD (David) dvdply@midcoast.com.au
VK2AYQ (John) hansenjo@ozemail.com.au
VK2BEL (Allan) belly@skymesh.com.au
VK2BOR (ORARC) vk2bor@orarc.org
VK2CJM (Chris) Chris@CalmDowns.org.au
VK2CHC (Richard) yachtsman@midcoast.com.au
VK2CLL (Larry) vk2c11@clearmail.com.au
VK2DDL (Stan) svellis@tsn.cc
VK2KK (Steve) haddie_007@hotmail.com
VK2EJK (Bob) rbr01962@bigpond.net.au
VK2EVB (Peter) vk2evb@swiftdsl.com.au
VK2HOT (Bruce) bw_vk2hot@yahoo.com.au
VK2IEV (Joe) rbivona@bigpond.com
VK2KCE (Charles) cpedmond@midcoast.com.au
VK2VIV (Jim) jim.neil@gmail.com
VK2VTH (Steven) sharkbait_@hotmail.com
VK2YOR (Roy) rjburgess@bigpond.com
VK2ZCM (Craig) vk2zcm@dodo.com.au
VK2ZCV (Bill) wsi54224@bigpond.net.au
VK2ZCW (Bill) cabrooke@westnet.com.au
VK2ZHE (Henry) lundell@tpg.com.au
VK2ZIS (Graeme) admiral@midcoast.com.au
VK2ZTM (Tim) c/- info@tvig.com.au
VK2FABJ (Ailsa) cabrooke@westnet.com.au
VK2FBRG (Barry) bgilson11@hotmail.com
VK2FHKO (Horst) horstko@bigpond.com
VK2FJKD (Jim) jaidanl@bigpond.com

Net Controllers' Roster

Nets on Voice Repeater VK2RPM 146.700 MHz

Sundays

(0830

Wednesdays

Local)

September 2010

VK2TT	Sep - 05	VK2ATM	Sep - 01
VK2OA	Sep - 12	VK2ZHE	Sep - 08
VK2VIV	Sep - 19	VK2EI	Sep - 15
VK2TT	Sep - 26	VK2AYD	Sep - 22
		VK2ZCM	Sep - 29

October 2010

VK2OA	Oct - 03	VK2ATM	Oct - 06
VK2VIV	Oct - 10	VK2ZHE	Oct - 13
VK2TT	Oct - 17	VK2EI	Oct - 20
VK2OA	Oct - 24	VK2AYD	Oct - 27
VK2VIV	Oct - 31		

November 2010

VK2TT	Nov - 07	VK2ZCM	Nov - 03
VK2OA	Nov - 14	VK2ATM	Nov - 10
VK2VIV	Nov - 21	VK2ZHE	Nov - 17
VK2TT	Nov - 28	VK2EI	Nov - 24

e-mail Directory (Cont'd)

VK9FLHI (Des) lhibluelag@bigpond.com
VK2FMDW (Michael) michaelw@kingcampbell.com.au
Lyle Smith lylesmith@cv27.net
Josh Holmes holmesj91@gmail.com

Annual Beechwood

Billy Cart Classic –2010

The organisers of this popular annual event have again approached the ORARC for assistance in providing communications coverage for this event.

The event is scheduled for Sunday, October 24th at Beechwood CBD.

Richard Court, VK2CHC, is the nominated co-ordinator, and he is seeking ORARC member's support to man the 16 stations required for complete coverage. Richard's contact details are:

Telephone: **0418 652 001**

E-mail: yachtsman@midcoast.com.au

There is a further invitation for all volunteers to attend a free BBQ to be held on the 19th Sep., at the Beechwood Rec Ground, with a start time of 12:30 pm, but the organisers will need numbers for catering purposes.

Please make contact with Richard if you are able to assist on October 24th, also, please advise him if you intend being present at the BBQ on the 19th.

Vale Wendy Monck



On 16/5/2010 The ORARC membership learned, with great sorrow that the devoted XYL of Arthur (VK2ATM), Helen "Wendy" Monck (nee Newlinds) had passed away. Wendy, aged 72, had lost a valiant battle with Mesothelioma over the previous four months. Mesothelioma, a form of cancer of the lung, arises from exposure to asbestos dust and fibres. It is believed that this exposure occurred 45 years ago when Wendy and Arthur played an active role in the building of their first home in Park St., Port Macquarie.

Born in Earlwood, she was only two years old when her parents moved to Port Macquarie. Her father died when Wendy was five. Her mother brought up Wendy, her two sisters and one brother, on her own.

Wendy went to school at Port Public School and left after Intermediate level, High School, to earn a living and to assist her mother. She held several jobs in garages and a debt collection agency before her marriage to Arthur in 1959.

Following her marriage, she became an active partner in Arthur's electronic service business and all their club and sporting activities.

An expert at needle-work, both sewing and knitting, she kept up a continuous supply of hand-made goods to a number of local charitable organisations. She actively raised money for all the schools her

daughters and grandchildren attended.

Wendy also was particularly good at "encouraging" prizes and donations out of various businesses on behalf of the many organisations, including our very own ORARC.

During our club's almost four decades of existence, it has enjoyed enormous support from Wendy. Her previously mentioned skills were applied enthusiastically to enhance our field day weekends' funding, and the acquisition of prizes for events. Many of the prizes were interesting collections of items created by Wendy's own hands, wrapped and presented in attractive packaging.

One of our club's major social functions was the 35th Anniversary Celebration, held at the Marian Function centre in October of 2006. Wendy played a major role in the organisation, catering arrangements and decoration/displays at the venue, giving magnificent support to Henry, VK2ZHE, who co-ordinated the event. Part of her efforts was the creation of large display boards featuring historic photographs of early club members, the activities of yesteryear, and vintage equipment have been prepared by Wendy. These remain with the club for display on occasions such as field days or milestone celebrations that take place, serving as visible reminders of Wendy's dedication to the functioning of our club.

ORARC will long remember this enthusiastic and respected supporter of the club, who contributed so much over the years since foundation in 1971.

The membership expresses sincere condolence to Arthur, daughters Megan and Tania, and the extended Monck family.

FIRST IN THE WORLD

It was reported that a farmer in England, whilst digging a ditch, discovered a copper cable said to be over 150 years old, causing scientists to say there was cable communication 150 years ago.

A few months later an Irishman digging hole down to 10ft, also discovered a copper cable and scientist rated this over 200 years old again saying that cable communications existed in the 18th century.

A farmer just north of Melbourne needed water and dug down over 30 ft and never discovered a cable. Conclusion: Australia had wireless communication first! *de David*

Silent Key

Alan David Nutt VK2GD

(By Henry, VK2ZHE & John, VK2KC)



It is with great sadness that we record the passing of Alan Nutt VK2GD, at Port Macquarie on Monday the 5th of July 2010 after a short illness. He was aged 75 years. Alan is survived by his wife Elaine and their five children. His funeral was held in Port Macquarie on Friday the 9th of July with a large attendance from a wide cross section of the community including many members of the amateur radio fraternity.

Alan led a very interesting and full life. After completing his Leaving Certificate at Sydney Boy's High School in 1949 Alan began his working life in 1950 and gained numerous technical and Theological qualifications over the next 6 years. He and Elaine were married in 1955.

By 1956 Alan was already working as research and development technician with the Telecommunications Company of Australia which was part of the Philips Company, and a leader in the rapidly evolving telecommunications industry.

In the years from 1957 to 1969 Alan undertook a missionary posting in New Guinea. His knowledge and ingenuity served him well in servicing and operating an extensive communications network in a very challenging environment. During this period he gained an enormous amount of practical experience which he continued to share with others throughout his life. Yes, he did find time to enjoy his hobby of Amateur Radio as VK9AN.

In always taking every opportunity to contribute to the organisations to which he belonged, Alan served as a Councillor of the NSW Division of the Wireless Institute of Australia in 1961 and 1962 during a period of furlough from his posting to New Guinea.

Many of the Amateur Radio Operators attending his funeral service first met Alan through the pages of the magazine "Electronics Australia". When Alan returned to Australia in 1970, as VK2GD he became a Technical Journalist for a year for that magazine which was read by almost everyone with an interest in electronics.

Alan then spent an interesting 10 years as divisional manager for a record manufacturer at Ambassador Press in Granville. This was followed by 3 years at Shaw Consulting Services in Castle Hill as a technical consultant to the marine insurance industry.

From 1983 to 1995 Alan taught electronics at the Sydney Institute of Technology at Ultimo. Teaching was one of Alan's great loves and he excelled at clearly explaining technical concepts in a manner that everyone was able to understand and remember.

After retirement in 1995, Alan still continued to teach part time at both high school and TAFE in Sydney and later in Port Macquarie, when he and Elaine moved to Port Macquarie in 1997.

On arriving in Port Macquarie, he immediately joined the Oxley Region Amateur Radio Club as a very active member. He was the Club Secretary for three years from 1999 to 2002, followed by three years as President from 2002 to 2005. After a year as Vice President he again became President in 2006 for another three years until 2009, when he continued to serve on the committee.

With his great interest in education, Alan was quick to gain accreditation as a WIA Assessor for all grades of Amateur Radio Licence in 2005 when the Foundation Licence was introduced and the structure of Amateur Radio Licensing changed. He teamed up with a fellow member of our club, Larry Lindsay VK2CLL who also became an assessor at the same time. Together they added more than 30 new Amateur Radio Operators to the hobby through teaching and assessing candidates.

Alan's many interests including radio broadcasting, where he was able to use his constantly updated technical skills in solving many problems for Radio Rhema

and various other endeavours.

Alan will be remembered for his great enthusiasm for all things, and for so freely taking the time to share his knowledge and experience using his great gift as a teacher. He was a real gentleman and a great communicator in every sense of the word.

The members of the Oxley Region Amateur Radio Club wish to express our sincere condolences to Elaine and family members.

Alan was a committed Christian, that was mirrored in the way he treated his fellow man.

Vale Alan David Nutt VK2GD.

President's Report (Cont'd)

organizing committee has invited volunteers to attend a thank you BBQ in September prior to the event.

You should also shortly expect to hear a call for volunteers to assist with JOTA.

The Christmas party is a great opportunity for members and their families to socialize before the festive season begins in earnest. Don't forget to mark your calendar as soon as the date and time are announced.

It is only four months to the calendar year 2011. After having spent the year 2010 celebrating 100 years of Amateur Radio, we have the perfect opportunity to continue to celebrate. The Oxley Region Amateur Radio Club will be 40 years old in 2011. The actual birthday is the 2nd of October 2011 but as 2011 marks the 40th year of the club it's a good opportunity to continue celebrating though out the entire year! The 2011 Field Day will be held at the Tacking Point Surf Club on the Queen's Birthday Weekend next June. While it will be our 36th annual Field Day, the theme will be club's 40th anniversary. Of course we will hold a special event on the 2nd of October 2011 to mark the actual anniversary of our founding. The 2nd of October 2011 is the Sunday of the Labour Day Long Weekend next year. Monday the 3rd is the Public Holiday. Now is the time to start thinking about how we should celebrate on the Sunday. Please let the committee know your thoughts.

Back to 2010 and the Centenary of Amateur Radio.

- Henry Lundell VK2ZHE
President.

The 2010 Lighthouse Event Results

(VK2HOT (Bruce))

Well the Lighthouse event is over for another year.

My day started with breakfast at 5.30am so that I could be fully awake when Barry VK2FBRG arrived at 6.15 am. We travelled to the home of Henry VK2ZHE and hooked up the caravan. The trip to the Lighthouse and to get the van into a good position was next on the list.

The additional willing participants who turned up to man the operating positions, were:

Barry VK2FBRG
Bill VK2ZCW
Arthur VK2ATM
Neil VK2EI
Bill VK2ZCV
Henry VK2ZHE
Des VK9FLFI
David VK2AYD



A bitterly cold wind welcomed us on arrival at the Lighthouse. We positioned the van and then set up the multi-band vertical antenna. Prior the start of the event we had a couple of contacts some within Australia and some overseas. One being to Bulgaria at around 0730 UTC on 40m which made the event look promising for good conditions.

Results for the event are as follows:
Total contacts = 96... 94 on HF (40 & 20 only) and one each on 2m & 70cm simplex.

40m was the main band used (84 contacts) with only another ten on 20m. VK contacts to 1,2,3,4,5 and 7. Nothing heard from 6 or 8 on the day.

Total Lighthouses contacted were 31, with 27 being in Australia, 3 in New Zealand and 1 in Germany and 65 Home-

stations made up the total of 96.

Overseas countries contacted were New Zealand, Belgium, Italy, United States and Germany.

We also had a contact with 8J1RL operated by Tani who is located at the Japanese Syowa Base in Queen Maud Land down in Antarctica (Iota AN-015).

Some facts about the day:
We started at 0000 UTC and finished at 0630 UTC.

We averaged one contact every 4.06 minutes.

0000 to 0059 = 32

0100 to 0159 = 16

0200 to 0259 = 17

0300 to 0359 = 8

0400 to 0459 = 12

0500 to 0559 = 5

0600 to 0630 = 6 (1/2 hour)

Overall a great result for the short time that we were on air.

Thanks to those operators and recorders who assisted in making another great ORARC event.

I understand that the hot dogs (Thanks Henry!) were great, as was the tea, coffee, drinks and biscuits.

The Eqsl cards are already arriving on my PC for this event. — Cheers.

VK2BOR's caravan on site at Tacking Point Lighthouse

(Photographs by John Hansen (VK2AYQ))



Below: Graham Mason, VK3KMG, and XYL, visitors from McCrae, Vic.
At the L/H event, Graham was handed the mic. and was able to talk back to a member of his home Club.

Bruce (VK2HOT) and VK3KMG



More Lighthouse Weekend Pics



**Some of the attendees at the 2010 Lighthouse event at Tacking Point
L to R: Lyle Smith (new member, son of SK Dave, VK2DAL), Larry
VK2CLL, Josh Holmes (new member), John VK2KC, Barry VK2FBRG.
(Photograph by Henry, VK2ZHE)**



**Neil (VK2EI) with
Bill (VK2ZCV)
having a spell from
operating. The
binoculars suggest
some
whale-watching may
have been planned?
Or, perhaps beach-
browsing?**

Remembrance Day Contest (14th-15th August 2010)

The ORARC club station, VK2BOR, was activated and participated in this annual event, operating from the club's caravan located at the QTH of Henry (VK2ZHE).

The operating crew was made up of:

Bill Brooke VK2ZCW
Neil Sandford VK2EI
John McLean VK2KC
Barry Gilson VK2FBRG
Henry Lundell VK2ZHE
Bill Sinclair VK2ZCV

utilising the VK Contest Logging application, written by VK3AW.

Advantage was taken of Henry's new purpose-built 160M antenna to work that band in the contest. Each contact made on 160 metres attracted double points.

As usual, Henry's superb catering arrangements were made available to nourish and sustain the participants over the period from 0800 on the 14th to 0800 on 15th.

Below is a table that summarises VK2BOR's achievements in the contest.

Remembrance Day Contact Summary & Score

Band	CALL SIGN REGIONS									Points	
	VK1	VK2	VK3	VK4	VK5	VK6	VK7	ZL1	ZL2		ZL3
160M		14	2	5	1		1				46
80M	2		5	3	3		5	2			20
40M	10		20	13	14	1	9	1	1		69
20M			1		4	1				1	7
10M		2									2

Total Contacts Made = 121

Total Points = 144

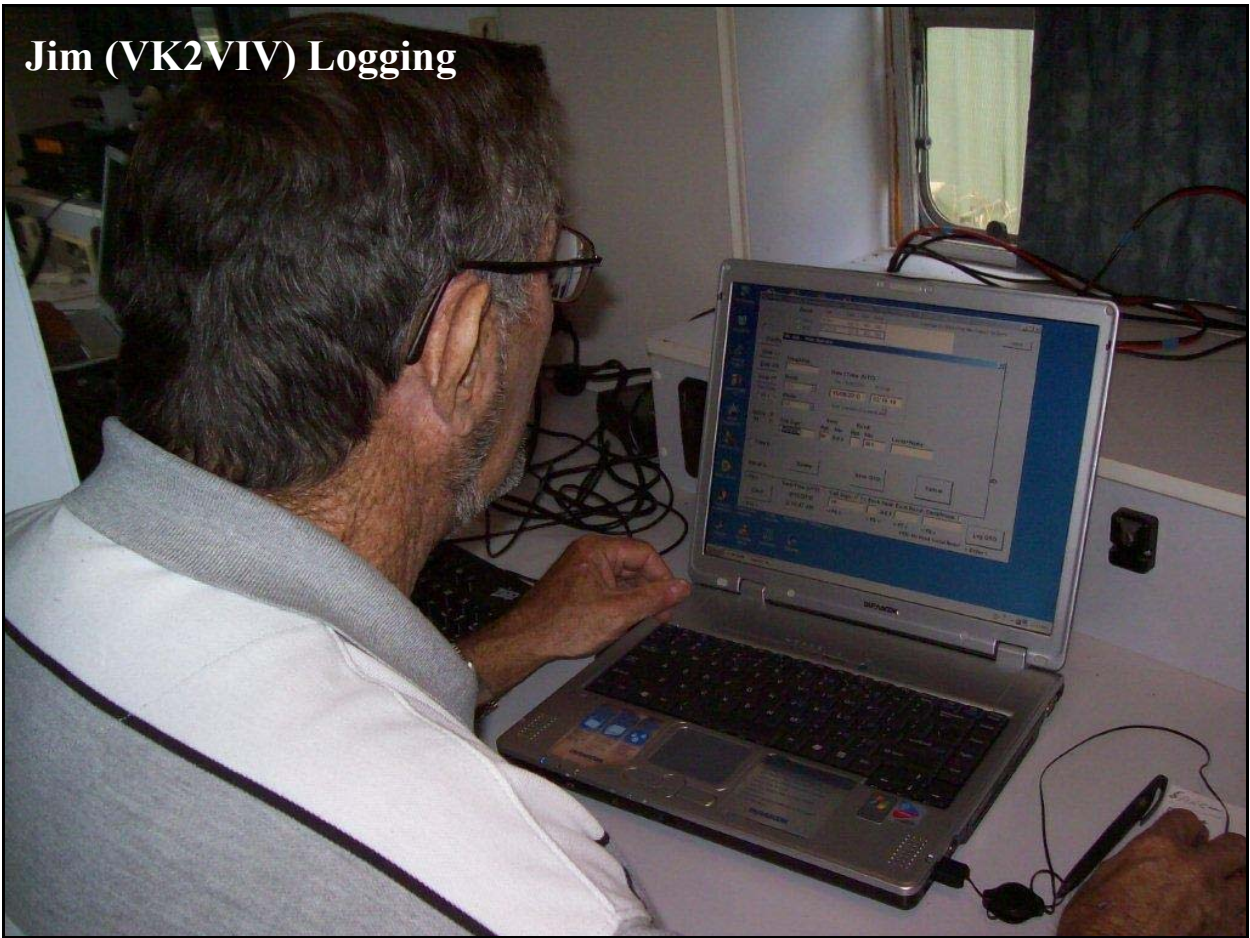


Bill (VK2ZCW) at the keys

John (VK2KC) at the console

More Remembrance Day Pics

Jim (VK2VIV) Logging



Barry (VK2FBRG) Searching



ORARC's 2010 AGM

ORARC's 2010 AGM, held on Sat August 7th at the SES HQ, attracted a roll-up of 16 members, a little down on last year. Congratulations to Henry (VK2ZHE) on being re-elected for a further term as our President, also to John (VK2KHB) on his re-election to the position of Treasurer. We have a newly elected Secretary, John (VK2KC), who has taken over the reins from Jim (VK2VIV). Jim spent last year as our Acting Secretary, and we express our thanks to him for the filling the role for the whole 12 months. The club can confidently look forward to another successful year with a full compliment of office bearers, all of whom bring experience in their specific roles

Here is the line-up of office bearers that emerged from the AGM:

President	Henry Lundell	VK2ZHE
Vice President	Bruce Walker	VK2HOT
Secretary	John Mclean	VK2KC
Treasurer	John Bailey	VK2KHB
Committee Member 1	Bill Brooke	VK2ZCW
Committee Member 2	Arthur Monck	VK2ATM
Committee Member 3	Bill Sinclair	VK2ZCV
Public Officer	Roy Burges	VK2YOR
Auditor	Victor Hume	
Repeater Chairman	Bill Brooke	VK2ZCW
Oxtales Editors	Trevor Thatcher	VK2TT
	John Hansen	VK2AYQ
VK2BOR Station Manager	Henry Lundell	VK2ZHE
Welfare Officer	Bill Sinclair	VK2ZCV
Publicity Officer	John McLean	VK2KC
Education Officer	Larry Lindsay	VK2CLL
Equipment Officer	Barry Gilson	VK2FBRG
Club Historian	John Bailey	VK2KHB
Social Director	Barry Gilson	VK2FBRG
WIA Liaison Delegate	Henry Lundell	VK2ZHE
SES Liaison	Jim Neil	VK2VIV

Congratulations Barry!



At our August monthly meeting, tireless, hard-working member, Barry Gilson, VK2FBRG, was awarded the 2010 certificate and badge for "Clubman of the Year". A truly deserving token of recognition of his valued regular efforts in club activities.

Education Session Brings New Members

On August 21st 2010, Larry (VK2CLL) our club's Education Officer and WIA Accredited Assessor, together with Eric Shaw (VK2ES) from the Coffs Harbour Club, conducted a training and examination session for Foundation Licence candidates.

Three of the four candidates attempting the examination, passed and are now awaiting their call signs.

The successful candidates were Lyle Smith, (son of the late Dave Smith - VK2DAL), Josh Holmes (SES member from Bonny Hills) and Richard Barlow from Bellingen.

Lyle and Josh have both joined ORARC Inc.

A previous session, held prior to August, saw Michael Ward (an SES member from Port Macquarie), together with his father, Kelvin Ward of Morisset, successfully gain their Foundation Licences. Michael is now VK2FMDW, and Kelvin is VK2FKJW. Michael has also joined our club membership ranks.

These specially conducted courses are encouraging younger interested members of the community to take their first step into the hobby. Success at this level can then lead to further study, practice, and participation in amateur activities, all of which enhances their progress towards the Advanced Licence.

A further "Plus" is that candidates who are successful in gaining their Foundation Licences via ORARC's training & assessment sessions, also qualify for Ordinary membership of our club, under a very attractive condition for their first year. The first year's membership subscription is free!

Congratulations to all, and a sincere "Welcome aboard!" to the new members of the AR hobbyists.



Michael Ward (VK2FMDW) receiving his ORARC membership badge from Henry (VK2ZHC) during our June 2010 meeting at the Port Macquarie Hastings SES HQ in Central Road Port Macquarie.

For Sale

Contact **VK2YOR Roy Burges**
Telephone 6583 8801 or rjburges@bigpond.com



SCOPEX 4D-10A Solid State Double Beam Oscilloscope. Purchased in the UK. 2 Probes and many Coaxial Fittings. Manual and a complete set of spares. Original Packing. Bandwidth to -3dB points: DC Coupled ... DC → 10MHz AC Coupled ... < 3HZ → 10MHz > Price \$200.00



Yaesu FRG-7 Receiver
Freq Range: 0.5KHz—29.99MHz
Type of Emission: AM, SSB (USB/LSB) CW
Purchased 1978. In original packing case.
Changed all electrolytic capacitors in 2005 as preventive maintenance. Includes manual.
Price \$100.00



Farnell Type LFM2 Sine-Square Oscillator Range 1Hz-1Mhz Price \$80.00



Radio and Hobbies Crystal Calibrator Range 1 Mhz – 1Hz. Price \$ 30.00

Contesting

(By David—VK2AYD)

Saturday/Sunday 24th/25th July weekend was the IOTA (Islands On The Air) contest. I had never entered this test but after 6 weeks 'off-air' in horizontal mode, I was chaffing at the bit to rattle the keyer again. I had no idea of the rules but my computer showed a logging programme existed.

A spin around 20 metres discovered Bruce VK2HOT on SSB making points. I listened. He was using the i.d. code of OC01 (Oceania 01). So I slipped down to 14020 KHz and after a couple of hours had 71 QSO's and over 10,000 points. The band went dead so I gave up.

Next day I e-mailed my log to the RSGB (UK) and Ha!... The robot which receives and analyses the log, rejected me...said Australia was not an island... you learn something every day!

Over the past 12 months, I have entered a half dozen HF contests, all in

CW mode. I've received certificates from the "All Asian Contest", The John Moyle F.D. and the ARRL DX contest to say I was first in Australia or a particular section. It's not difficult to be first when there is little competition!

Over my 60-plus years of AR competitions I've won over 300 awards and, proud to say, I represented Australia in the World Radio Sport Contest in 1997. (The Olympics of AR).

You don't need big stations and an antenna farm to mix with the best. Running 120 stations an hour can be a real adrenalin buzz and to see a log with over 1,000 stations over a weekend is worth seeing.

My days of contesting are fast closing. I've got the 'want' but not the stamina.

I just hope that some of you that are new to AR will take up the gauntlet and have a go. If you need help, just give me a call.

Home Brewing a Mobile HF Antenna

(John McLean, VK2KC)

After a long discussion with Paul, VK2DEL, on the merits of different types of HF mobile antennae, and, after reading an article in the July edition of AR by David, VK5DWC, covering his experiences with a very long mobile HF antenna, various types of mobile antenna and their efficiencies were discussed at length. Further, having noted the success of my High Sierra HS1800 motorised antenna during a trans Australian trip last year, it was decided that a reasonably efficient tapped mobile antenna could be home brewed, using the junk box as a source for parts.

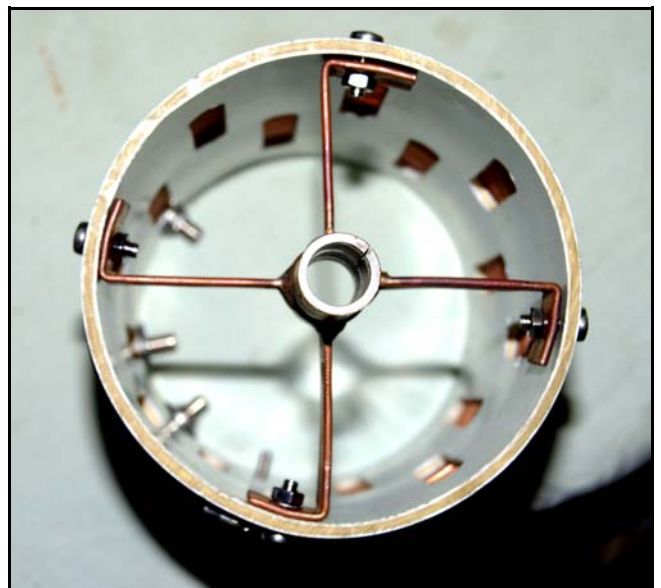
This project led me into a lot of research on the subject. My extensive library, plus the internet's limitless resources, led me to design what I figured should be a very efficient HF mobile antenna. It was found that if the loading coil diameter was maximised, and the fitting of a 600mm diameter capacity hat at the very top of the antenna, the end result should be a reasonably efficient radiator. Weight and wind resistance was a consideration, so every effort was made to keep these factors in mind. Further research showed that for maximum antenna efficiency, the loading coil should be placed at the top of the antenna, but this was ruled out due to the fact that the coil would have to be almost twice the length of one mounted midway, and the excessive wind resistance would be a problem.

An article by Mark Lowell N1LO, of a tapped mobile HF antenna complete with a diagram, showed a lot of promise, with reports of outstanding on-air reports from those who had built one, led us to believe that with what resources we had on hand, the N1LO design was the best option.

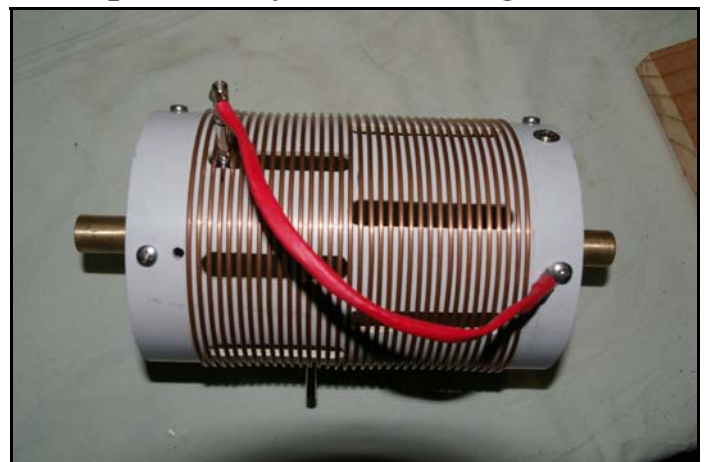
N1LO's antenna looks very much like the renowned "Texas

Bugcatcher", produced for 30 years in the USA, but sadly, as of 31st October 2009, the builder, Henry Allen, retired with no one to take over the business.

The fibreglass rod used for the mast was an old HF whip of unknown origin being just over 2400 mm long and 15.9 mm in dia (5/8"). The top brass ferrule was removed using a heat gun and then 50mm long brass sleeves were machined up and slotted radially in 4 places to take 4 lengths of 15mm wide copper strap. These were bent at right angles on



one end to allow them to be bolted to the inside of the coil former. These copper straps were silver soldered to the sleeves, making up a four-legged spider, and the sleeve body slotted vertically to enable them to be clamped firmly to the fibreglass rod.



A piece of 100 mm dia PVC stormwater pipe was selected for the

coil former and a 250mm length cut, and an 8-threads-per-inch groove machined in it on the lathe for 40 turns. At this stage we were flying blind as to how many turns would be required, as the dimensions differed to the antenna built by N1LO. A series of overlapping slots were machined longitudinally in the PVC coil former to allow the taps to be soldered to the coil at the resonant points later on, also to reduce the wind drag at highway speed.

The two fabricated “spiders” were then bolted to the top and bottom of the coil former. Then 40 turns of 2mm dia hard drawn copper wire were wound on the former and secured with bolts. This allowed a short jumper wire from the bottom of the coil to connect with the top of a 1200 mm length of 2 mm copper wire which had been wound on the lower part of the rod. This in turn was soldered to the bottom-mounting ferrule and terminated on one of the arms of the bottom of the coil support.

A further 1200mm of 2mm copper wire was wound around the fibreglass rod above the loading coil and then bolted to the top of the coil spider and soldered to the top ferrule that had been removed earlier.



Then a capacity hat mounting hub was machined to allow 8 x 3mm aluminium radials 300mm long to be fitted. This assembly in turn was fitted to the top ferrule, locking it into place using 2 x 4mm grub

screws. It was decided to use four 600mm pieces of 3mm hardened aluminium wire and bend each one into a “U” and they were fitted to the hub. This gave a 4-leaf configuration. Allowance was made for a 200mm stinger to protrude above the capacity hat. As it turned out, this allowance proved to be very fortuitous. Further research has revealed that a 300 mm diameter full circle capacity hat has the same capacity as the 600 mm cloverleaf type. This idea will be utilised on the Mk2 version at a much later date!

Time to fit the antenna to the vehicle. In this case it was a Nissan Patrol which has the standard 4wd HF mount fitted at the rear of the vehicle close to the spare tyre.

Using an MFJ antenna analyser, a resonant point was established at the desired operating frequency of 3.6 MHz, and found that this was at the 37th winding. The antenna was removed and another coil former was manufactured; this time a lot shorter than the prototype as we were able to cut 3 turns from the original coil and mount the coil “spiders” within 5mm of the end of the coil windings.

The unit was then reassembled and rechecked for resonance at 80m. Having achieved this, 40m and 20m taps were then found and once those points were established, the antenna was removed and then banana jacks were then modified to enable them to be soldered to the coil for the 40m and 20 m bands.

To make the sockets, binding posts (Jaycar PT0640) were stripped of all their hardware and then cut with a mini hacksaw across the hole, leaving a semi circular indent to mate with the coil winding. A chamfer was filed on both sides, parallel to the hole so that they would clear the adjacent coil windings. Then the modified sockets were soldered in the correct position on the coil. A small wander lead was made up to allow the taps to be selected using, naturally, a banana

plug on one end. It was interesting. Because of the High Q of the coil, the positioning of the tap made a huge difference and even an eighth of a turn made quite a difference with respect to antenna resonance.

The final assembly included fitting of heat shrink over the top and bottom sections. The top ferrule was then epoxyed into position, the loading coil assembly was fixed in position on the fibreglass mast using two stainless steel hose clamps, the capacity hat hub assembly fitted to the top ferrule, and the antenna was then fitted to the vehicle.



Much to our annoyance, it was found that the heat shrink had lowered the resonant points of the antenna. After some thought, this was remedied with the removal of the 200mm stinger and this brought the antenna back into resonance. Thank goodness that the initial design, and tuning, included the 200mm stinger! Murphy has lost this battle!

In building the antenna it was

found that the feed point radiation resistance on 80m was 21 ohms, with a resultant VSWR of 2.5:1, but the reactance was almost zero. As the vehicle has an ATU fitted, the high VSWR was ignored. The most interesting part was that on the 20m band, the feed impedance was 45 ohms, with the reactance almost zero again.

This project certainly absorbed a lot of man hours, but both of us were determined to home-brew a decent performing HF mobile antenna, and this objective was definitely achieved. Many hours of frustration were experienced, but all obstacles were overcome with time and careful thought and, at times, re-engineering. The most costly item was the stainless steel hardware, as most of the components used, were available in our junk boxes!

The antenna can be tapped at other points of interest, as the length of the antenna allows for any frequency of operation between 10m to 80m. It is just a matter of finding the resonant point and soldering another socket on the coil, even at commercial frequencies.

The downside of the antenna is that it's not at all portable. Being 2400mm long, Mk11 plans are already on the drawing board. It is planned to make the antenna in 3 parts. Top and bottom of the mast will screw into the loading coil, utilising some custom machined adaptors, making the longest part approximately 1000mm long when disassembled. This will enable undercover parking lots to be negotiated without the dreaded scraping noise!!

Paul has reported on some very good contacts. One I know of is an 80m contact, at 1.00pm, into Sydney, with a signal strength of 10 over 9. He also found it performed extremely well on 40m and 20m in the car park at the local Town Beach, and it created a lot of interest with other AR operators.

Overall it was a very interesting, but at times, a frustrating project! ■

References used

<http://www.qsl.net/n1lo/mobilhf.pdf>

2010 ARRL Handbook

www.k0bg.com





OXLEY REGION AMATEUR RADIO CLUB Inc.

MEMBERSHIP REGISTER.

(As at August 31st 2010)

Cat.	Surname	Given	Spouse Name	Call	Location	Tph
1	O	BAILEY	JOHN (FLORENCE)	VK2KHB	PORT MACQUARIE	02 6582.2192
2	D	BELL	ALAN	VK2BEL	COOLONGLOOK	02 6554.1689
3	O	BIVONA	JOE (ROSE)	VK2IEV	PORT MACQUARIE	Mob 0405040953
4	L	BLYTH	BOB	VK2XIQ	TELEGRAPH POINT	-
5	D	BRICE	GRAHAM (CYNTHIA)	VK2VV	SCONE	02 6545.0411
6	O	BRODIE	BOB	VK2EJK	PORT MACQUARIE	02 6582.0592
7	O	BROOKE	AILSAS (BILL)	VK2FABJ	PORT MACQUARIE	02 6581.0547
8	O	BROOKE	BILL (AILSAS)	VK2ZCW	PORT MACQUARIE	02 6581.0547
9	O	BURGES	ROY (JUNE)	VK2YOR	PORT MACQUARIE	02 6583.9349
10	O	DANIEL	JIM	VK2FJKD	PORT MACQUARIE	02 6583.1933
11	O	EDMONDSON	CHARLES (PAT)	VK2KCE	PORT MACQUARIE	02 6584.0495
12	D	EKERT	BRUCE (YULIA)	VK2EM	FORSTER	Mob 0414532496
13	D	ELLIS	STAN (BETTY)	VK2DDL	TUNCURRY	02 6554.7996
14	O	FROST	ROBERT (SUSAN)	VK2FRF	PAPPINBARRA	02 6587.6129
15	O	GILSON	BARRY (FAY)	VK2FBRG	PORT MACQUARIE	02 6583.8814
16	O	GREENWOOD	GRAEME	VK2ZIS	McMAHONS POINT	-
17	L	HANLON	KEITH	-	PORT MACQUARIE	-
18	O	HANSEN	JOHN	VK2AYQ	PORT MACQUARIE	02 6582.7932
19	O	HARDING	DAVID (ISABELLA)	VK2AIF	WAUCHOPE	02 6586.4980
20	A	HOLMES	JOSH	-	BONNY HILLS	-
21	D	JANES	LES (BEVERLY)	VK5JL	SALISBURY HEIGHTS	08 8281.3878?
22	O	KOPPEL	HORST	VK2FHK0	LAKE CATHIE	02 6585.5992
23	L	LINDSAY	LARRY	VK2CLL	WAUCHOPE	02 6587.1155
24	L	LUNDELL	HENRY	VK2ZHE	PORT MACQUARIE	02 6582.0534
25	O	MADIGAN	ALLAN (DAWN)	VK20A	WAUCHOPE	02 6585.2043
26	A	McGUIRE	MARK	VK2MGM	PORT MACQUARIE	02 6583.8875
27	O	MCLEAN	JOHN (CORRINE)	VK2KCE	PORT MACQUARIE	02 6584.6220
28	O	MEEHAN	TERRY	VK2KL	PORT MACQUARIE	02 6584.2997
29	D	MILLS	TIM	VK2ZTM	BEECROFT	02 9868.1434
30	H	MINAHAN	CHRIS	-	HALLIDAYS POINT	02 6559.3516
31	L	MONCK	ARTHUR (WENDY)	VK2ATM	PORT MACQUARIE	02 6581.0960
32	O	NEIL	JIM (CAROL)	VK2VIV	PORT MACQUARIE	02 6581.2481
33	O	NEWHAM	LAURIE (ROBIN)	VK2ELN	PORT MACQUARIE	02 6583.5387
34	O	PILLEY	DAVID (DEE)	VK2AYD	KING CREEK	02 6585.2647
35	O	SANDFORD	NEIL (VERENA)	VK2EI	PORT MACQUARIE	02 6582.5830
36	L	SINCLAIR	BILL (CORALIE)	VK2ZCV	PORT MACQUARIE	02 6583.9302
37	A	SMITH	LYLE (JANNINE)	-	WAUCHOPE	02 6585.2947
38	D	TARRANT	DAVID (AILEEN)	VK2TBC	ILUKA	-
39	O	THATCHER	TREVOR	VK2TT	WAUCHOPE	02 6585.2278
40	O	THOMPSON	DES (BETTY)	VK9FLHI	LORD HOWE ISLAND	02 6563 2152
41	O	WALKER	BRUCE (GWEN)	VK2HOT	PORT MACQUARIE	02 6583.8360
42	O	WARD	MICHAEL (RUTH)	VK2FMDW	PORT MACQUARIE	Mob 0427291276

Category Key: O = ORDINARY A = ASSOCIATE D = DISTANT H = HONORARY L = LIFE

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