Amateur Radio

Volume 84
Number 11
November 2016
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Amateur Radio

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General

Technical

This month's cover

Jenny Wardrop VK3WQ receiving the Chris Jones Award trophy from WIA Director Robert Broomhead VK3DN. Photo by Peter Wolfenden VK3RV. Read the story on Page 21.

Columns

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

Back Issues
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Disclaimer
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs, that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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Editorial

Peter Freeman VK3PF

Problems, problems

It appears that many members experienced significant delays in delivery of the October issue of *AR*, notably in VK2 and VK6. Those who made contact with the office had a new copy sent out promptly.

See the report on page 16.

All members are asked to check their details as recorded in Memnet, and check the entry about if you wish to, or do not wish to, receive a hard copy of the magazine. **NOTE: be careful with this entry! The question is in the negative, so answering "Yes" means that you will not receive the hard copy! If you wish to continue to receive the hard copy, answer "No".**

At least one member has noted that the form of the question is poor and has requested that it be changed. I reinforce that sentiment – we should ask simple clear questions, not questions that are negative, which can result in confusion. So please read carefully before you answer!

I must offer my apologies to Joe VK3YSP and Julie VK3FOWL: I failed to download an updated version of the article on the School Amateur Radio Club (SARC). It was totally my error in collating the content prior to production. So I offer my sincere apologies to all involved.

The updated article contains a forward from one of the school principals and a reference to the *http://www.sarcnet.org/* website. Those interested in the SARC activities and promoting STEM amongst youngsters will find a number of useful resources on the SARC web site.

Challenges

Now that some states have moved to Daylight Savings Time (DST), there is at least a perception of more daylight hours being available. Those who do not use DST know that this is simply a perception, as a similar result can be achieved by going to sleep and waking earlier on the "normal" clock.

For those of us using DST, we need to remember to readjust our thought processes to convert log times to UTC, at least for a little while after the changeover. DST does make evening operations in the field more attractive to some amateurs.

For those interested in Park or SOTA operations, this gives additional possibilities.

But the challenge comes with the changing space weather as we move towards the solar minimum, plus the effects that we have been seeing recently of earth-facing coronal holes impacting on ionospheric propagation.

During a recent weekend away, HF propagation was poor, especially for short-haul contacts as NVIS was notably absent. Fortunately, we had several groups on summits in relatively close proximity on the Saturday, so summits were often qualified using VHF and UHF contacts. Another option to consider was to use 80 m, even in the middle of the day. I am sure that these factors will need to be considered frequently in coming months, testing those in the field and those at home attempting to chase the activators.

Until next month,

Cheers,

Peter VK3PF

WIA comment

Phil Wait VK2ASD

The WIA through the looking glass

As you know, the Wireless Institute of Australia (WIA) is governed by seven elected members who work together as Directors on a Board that meets each month by teleconference. Recently, the Board has been subjected to numerous assertions and allegations by those who seem to want to take the Institute in a different direction, and a lot of misinformation has been published in the process.

The matter came to a head at an extra meeting of WIA Directors in September, where a motion was put by Directors Andrew Smith VK6AS and Paul Simmonds VK5PAS requiring an external audit of the WIA finances, accounting procedures and operations, for the three years 2014 - 2016. The audit would be performed by a registered auditor.

The other five Directors were concerned that this type of audit could incur very substantial open-ended costs, and they voted to amend the motion to refer such a significant decision to a General Meeting of members, in addition requiring at least two fixed-cost quotations obtained by the original proposer and seconder, to be presented to that meeting. The amended motion was passed unanimously.

There is also concern about the time and effort required to attend to an Audit when the WIA must focus significant efforts and resources over coming months on advocating future licence conditions, responding to the update of the Australian Radio Frequency Plan, public consultation on the new Radiocommunications legislation, and the upcoming STEM symposium in Canberra.

By the time this magazine is published, no doubt there will be lots of information supporting the yes case for bringing in the auditors, and/or the no case to forgo the significant expenditure.

Let me give you my **personal** view about this.

The WIA has been through a busy period with many government submissions on radio communications issues, and a reform of the WIA office procedures that has delivered improved customer service to members and prospective radio amateurs. What is abundantly clear to me is that everyone involved with the WIA – its Directors, officers, staff and volunteers, are all working in what they believe is in the best interests of the organization. In all the years I have been a Director, I have never seen anything that could possibly amount to fraud or wrongdoing by anyone involved in the WIA.

It is also clear that the WIA is not at any risk of insolvent trading. Although there have been losses in recent years, with a strong asset backing given its turnover, a predictable and regular membership income, and mostly known costs, the WIA is in a strong financial position. Also, the Board has identified potential areas for increased revenue and cost savings in future years.

So what else could be wrong? Could it be a financial mismanagement issue?

The WIA has also been through a challenging period, with the unexpected resignation of two Treasurers and the appointment of a temporary, paid professional Treasurer for the period from February to the end of June. At the time of writing, the WIA's accounts are in the process of being brought up to date, and simplified, by an external team of MYOB specialists. By the time this Comment is published, I expect the accounts will be up to date and we will be well on the way to having a new WIA Treasurer.

The WIA's accounts are reviewed each year by a Registered Auditor (appointed by the WIA and ratified by the members at an AGM) and the Financial Statement they prepare states that the financial accounts are accurate and meet accepted accounting practice and the law. As the WIA is a Tier-2 corporation with a turnover of less than $1M per year, its accounts are Reviewed rather than Audited. This is normal practice, and quite appropriate for a small company, as yearly Auditing is a very expensive process – about twice the cost of a Review, I understand. So, are we questioning the authority and competency of the WIA's independent Auditor/Reviewer or the appropriateness of a yearly Review?

What else could it be?

Some people have challenged the appointment by the Board of a company, in which Fred Swainston VK3DAC is also a Director, to carry out an office review in mid-2015, and the subsequent appointment of Fred as a contractor administering the office to implement a change program in the six-month period up to the commencement of a new Executive Administrator. This has been perceived by some as a conflict of interest. Is the conflict real, or manufactured? There are some important factors here that need to be considered.

Continued on page 5

WIA news

IARU sets WRC-19 Priorities and Strategies

The International Amateur Radio Union Administrative Council has formulated the approach it will take the World Radiocommunications Conference in 2019. The plan was finalised by the Administrative Council responsible for the policy and management of the IARU when it met recently in Chile.

It assigned priorities to agenda items for the 2019 World Radiocommunication Conference of the International Telecommunication Union (ITU), and affirmed a matrix approach be taken in preparation. That matrix coordinates the numerous IARU volunteers who are participating in, and monitoring the preparatory meetings of the ITU and regional telecommunications organisations. The agenda includes, along with several items of potential concern to radio amateurs, a possible Region 1 allocation of 50-54 MHz to the amateur service to harmonise with the allocations in the other two IARU regions.

The Administrative Council includes representatives of the three IARU regions and met just prior to the IARU Region 2 Conference, October 10-14. International coordinators reports came from the International Beacon Project, Satellite Adviser, EMC matters, and Hans Zimmermann HB9AQS on Emergency Communications with evidence of radio amateurs bridging communications gaps following natural disasters.

An emergency communications workshop was to be held in conjunction with the IARU Region 2 Conference. An IARU AC news release is available on the WIA website.

Review of the Australian Radiofrequency Spectrum Plan

The Australian Communications and Media Authority (ACMA) has opened consultation on its proposed update of the Australian Radiofrequency Spectrum Plan. The ACMA announced it on its website on 22 September 2016.

The Authority has issued a discussion paper and related documents, referring directly to possible changes, and invites submissions before 24 October 2016. The Spectrum Plan includes a table of frequency allocations from 8.3 kHz through to 420 terahertz (THz) that divides up the spectrum to show the general purpose of each band, to which services they are allocated, and associated footnotes relevant to particular allocations. It was last reviewed in 2013.

The Spectrum Plan reflects Australia's treaty obligations following the International Telecommunications Union's World Radiocommunications Conference in late 2015. The ACMA acknowledges that Australia was a signatory to the decisions of that ITU conference, was working with those affected domestically, but due to various factors, all foreshadowed changes may not occur by the end of 2016.

Also expected to be reflected in the remake is the Federal Government's proposed new legislation that removes prescriptive process to replace these with a simpler, more flexible licensing system.

The updated Australian Radiofrequency Spectrum Plan is expected to begin on 1 January 2017. Once the Spectrum Plan is amended subordinate legislation, such as licence conditions, will also be amended subsequently, as necessary. Any individual or group with an interest in radiofrequency spectrum allocations and use can make a submission.

As the peak representative body for the Australian radio amateur community, the WIA is preparing a submission.

Amateur Reciprocal Qualifications Review

The Australian Communications and Media Authority has reset the qualification equivalency of the US Technician licence for new applications to that of the entry level Australian Foundation licence. The majority of submissions to the ACMA inquiry fully agreed that the Foundation licence was the most appropriate for reciprocal licensing purposes. Before the review it was set at the highest Advanced licence.

The ACMA said a report prepared by the Wireless Institute of Australia (WIA) indicated that the US Technician licence was no longer equivalent to the Advanced licence. The WIA sought to lower the level of reciprocity to the Foundation licence. It also reflected the ACMA's confirmation by independent inquiry that the basis on which the US Technician licence was conferred had changed over time. The ACMA review asked: Do you support the ACMA and the WIA's stance that the US Technician licence is no longer equivalent to the Advanced licence and that the Foundation licence is the most appropriate for reciprocal licensing purposes?

A total of 23 submissions received, 15 agreed, seven disagreed and one neither agreed nor disagreed with the proposal.

Among those agreeing was the American Radio Relay League (ARRL) that stated that the US Technician licence was very close to the Foundation licence, but not higher (it was downgraded in 1999). Four respondents who agreed to the downgrade believed existing licensees should have their licences reviewed and possibly downgraded to Foundation level. However five submissions who agreed to the downgrade, also felt that existing reciprocal licences already issued should remain, and that the downgrading start from the date of the ACMA decision. Those against the downgrading felt that the US Technician licence was more aligned to the Australian Standard licence than the Foundation licence.

The ACMA said what must be assessed was the relative levels of each qualification - what level of knowledge was the best fit for each class of licence. Based on this test, the US Technician licence aligns best with the Foundation licence. However, the ACMA ruling was not retrospective. Existing licensees who obtained their Advanced licence based on the US Technician licence were grandfathered and may continue to operate at the Advanced level.

 Continued from page 3

WIA Board members stand aside during any decision where there could be a possible conflict of interest, as required by both our Constitution and the Corporations Act. As is normal practice, Fred stood aside (indeed, left the room) during the decision in August 2015 when he was appointed as a contractor to manage the office. This decision was a unanimous Board decision (in the absence of Fred), and no objections were raised by other Directors or officers present at the time.

As Fred has intimate knowledge of the functions of the WIA, the ACMA contract work, and the WIA Assessor system, it was a pragmatic decision to appoint him for a limited period and in the best interests of the organisation. Anyone else with the necessary skill and experience would take many months to come up to speed with the complexities of the WIA's operations. Over the few months following his appointment, Fred made many significant improvements in the office operations, including increasing security, controlling access and documenting processes and procedures. He wrote over 30 new office procedures in that time.

Working (executive) Directors are **very common** in all types of organisations and Fred has a very long history of performing this exact type of work. The fee Fred was paid was equivalent to the salary and on-costs of the previous Office Manager role, and far less than what we would have had to pay a contract manager hired on the open market, or indeed, what Fred would have received doing the same type of work for his other clients. In my view, and supported by my own legal advice, Fred did not derive any unreasonable personal benefit. **There is no real conflict of interest**.

Many of you will be aware that Fred's company is also the WIA's training organization for the training and assessment of new amateurs. Fred's company provides this service on a voluntary basis and Fred does not derive any benefit.

Some of your Directors have also come under criticism because they are doing "too much work themselves and not acting as Directors". Experts in corporate governance will tell you that there should be a clear delineation between the executive (managers and staff) and the Board. The executive should be responsible for all the work of an organization and should focus on targets, outcomes and achievements. Directors, on the other hand, should be free to take a "helicopter view" of the organisation, without the burden of actually having to produce anything, in order to make unbiased long-term decisions in the best interests of the corporation. Those decisions may be at odds with the short-term view of the executive. That is perfectly correct and appropriate for a larger organization.

However, much like in a small-sized business, the WIA evolved over time to meet the conditions of its environment; short on cash and short on people able or willing to put in the hard yards. In the WIA, Directors have performed much of that executive role themselves. That does put a strain on Directors and some things do slip, and some decisions are made expediently, but, unless we either win the lottery, have a large increase in membership, or find many more skilled volunteers who are willing to totally manage particular functions (not that we haven't tried flushing them out), I can't see that changing anytime soon.

Some people have even called for the resignation of several Directors. However, if the end-game is the removal of some WIA Directors and some as-yet unannounced new direction for the WIA, that doesn't make any sense either, as elections for three Board member positions occur over the first quarter of next year, with appointments confirmed at the AGM next May. So the membership will get ample opportunity to make that decision for themselves.

So, what else could it be?

The WIA has always had its detractors – that's just the nature of the beast – but, more recently, there has been an orchestrated campaign against the WIA, both in social media and elsewhere, which, quite frankly, doesn't seem to have any cohesive focus.

Personally, I think all this is to do with personalities and perceptions; the perception that something serious and hidden **must** be wrong with the WIA. The WIA's detractors have been very actively promoting this and, together with some heightened sense of corporate grandeur and of injustice, it makes for a bit of a storm on the horizon.

Voluntary organisations are never perfect and, no doubt given a large enough looking-glass and the benefit of hindsight, an auditor will probably find some things that could have been done differently, and some things that could have been done better, but nothing so critical as to threaten the organisation. When I go to the dentist, there is always something to fix and it's usually expensive, with some pain involved. I'm sure any outcome from the proposed three-year comprehensive audit will be no different.

Will it be expensive? – Naturally, very. Will they find anything serious? – No, I'm certain they won't. Will it be worth the expense? – I very much doubt it.

That's why the motion was amended, so that the members should decide how to proceed.

P.S. Don't forget the WIA STEM symposium in Canberra. I have just heard that Australia's last TAFE course providing RF training in Australia is in danger of closing. If we ever needed to spark an interest in wireless technology, which is so pervasive in our modern lifestyle, it's now. Check out the WIA website for details.

The versatile Icom AH-4 auto antenna matching unit

Tony Boddy ZL3DQ, VK2ADQ, VK6DQ
e *vk2adq@wia.org*

The woes of moving interstate!

Having moved to Mandurah during the first quarter of 2015, I was left with no antennas apart from those strapped horizontally on the rack of our escape from NSW trailer.

The whereabouts of my amateur gear in the fifty or so boxes were unknown, the Wouxun handheld lost all functions the day before we left NSW and I can tell you that the withdrawal symptoms were really bad. Travelling with no radio was a traumatic experience. It took a month after our arrival to get an antenna off the top of the trailer up and a further month before I could find the Wouxun and do a factory reset. Now it talks to me in Chinese but it works.

I did find the IC-706 and the AH-4 as well as my Diamond X-50.

The first antenna to go up was the X-50. That and the IC-706 got me on VHF/UHF but what about HF?

During the time that I have owned my Icom gear I have really come to appreciate the AH-4. There is little information in the Icom AH-4 blurb sheet when it comes to the versatility of this excellent matching unit.

It is supposed to be for random longish wires. Well, I can tell you that I have used it on long and short wires, the longest 380 feet (a lot of metres) and the shortest about 2 metres. It works well on dipoles, loops of all shapes and of course verticals.

My colleague, VK2AST, under my instruction, put a full size 80 metre horizontal loop up at about 25 feet; it is fed with two parallel RG58U coaxes taped together from

A view of an Icom AH-4 tuner, terminated with short cables to interface to an Icom transceiver.

an AH-4. The 60 foot feed-line runs from his underground shack to one corner of the loop which is only at about 25 feet. It works really well.

The first antenna up here was the X-50 on top of a 4 m fiberglass pole. An extremely good, gain antenna on 2 m and 70 cm but what was I to do for HF?

My mentor from my newbie days used to tell me that everything was possible and that we had the technology to do anything. Using that philosophy I wondered if the X-50 could be made to perform on HF. If I were to shorten the braid to the inner at the bottom of the X-50's coax and feed it as a long wire I would have a 25 foot vertical and the ground plane could be the metal RHS frame of the patio awning. Hooked it up with the AH-4 and bingo I was on air. My first contact was with VK3CM in Tangambalanga Victoria, he gave me a 15 over nine report but he was using an Optibeam at 100 feet (approx. 30 m). The contact into ZL was 57, more realistic, then a 40 m contact into the states at 53. Pretty good going I thought.

The block I am on is a nightmare to stand up poles but stand one up I did. I used 30 feet (c. 10 m) of aluminium from my mate Brian at NBS Antennas. 3 sets of guys all in 1.2 mm stainless MIG wire broken up with insulators to 10 foot (3 m) lengths, non-resonant in the amateur bands, no harmonics here - looking good already. I hung a 100 foot (c. 30 m) doublet non-resonant on the amateur bands, fed it with 50 feet (c. 15 m) of 450 Ohm ladder line from the AH-4 under the patio

awning and checked out 80 m to 6 m and the AH-4 delivered a 1:1 SWR on all bands. My contact into the states was now 57 on 20 m. I will be happy for a while.

There is no reason why you can't stick the AH-4 up at the top of your pole, it is weatherproof but the overseas weather blokes have not encountered our Aussie sun which will kill most things exposed to it, even to the extent that it will decompose granite. You can make your own ladder line if you wish. If you keep the coax feeding the tuner as short as you can, you will have less feedline loss.

The AH-4 has a hot terminal on the top and an earth terminal on the bottom. Icom says that the earth terminal must be grounded. I only do that for vertical or long wires. For the rest I float the AH-4 above ground and remotely feed the antenna, albeit dipole or loop, with 450 Ohm ladder-line.

Connect one side of the dipole to the hot terminal and the other to the ground terminal. Do NOT connect the braid of the incoming coax to this terminal at any time. The coax feeding the tuner will have losses which are directly proportional to its length. The SWR on that will be 1:1 after the tuner has done its bit. Make no mistake about it there is a relatively high SWR on the ladder-line but effectively at our frequencies and lengths we can consider it to be loss-less. I like to use it because it gives me access to the tuner at people level and keeps the sun off it. The AH-4 will tune into most things, don't bother trying to feed coax with it. It is possible you may have to modify ladder-line lengths if you have a severe tuning problem on any one particular band. So far all of my feed lines have been random in length and I have had no problems. The control cable can be up to 120 feet (c. 36 m) long with no trouble at all. As for ladder-line, run it wherever you want, just keep it about 150 mm away from steel and give it a twist every 2 feet (0.6 m) or so. RF in the shack where I usually mount the AH-4, I just don't get it.

Over the years I have used just about everything as a high frequency antenna even to the extent that I used a metal framed kitchen chair on 80 m on top of a dining room table from Albury to Tasmania with a 57 report. You can't just chuck a chair down, connect it up and have it work. In my experience if you have the right matching unit there is no limitation. The efficiency of short radiators is very suspect and I have to question the effects of the RF energy, enough to light up a hand held fluorescent tube whilst talking, that is very present during transmissions. Just between you and I, the home brew link tuner I used was a bit of magic stuff but I think the AH-4 would give it a run for its money.

Want to know more? Drop into a PARG club meeting and ask about antennas for tiny spaces. There will be someone there to help you get on air at your "no antennas" tenancy.

73
Tony VK6DQ

Some Amateur fun in the wilds of Papua New Guinea

Ewen Templeton VK3OW and Michael Wakefield P29WA

Photo 1: The station with David P29ZFF on the mike, Michael P29WAK and some of the audience.

I suppose it's not your typical holiday destination, however, recently I had the privilege to visit the people at the Christian Radio Missionary Fellowship (CRMF) located in Goroka in the highlands of Papua New Guinea. With a reciprocal licence in hand (P29VTT) and a KX3 in my luggage, I had all the essentials needed to travel and play radio at the same time. There are already two amateurs at CRMF: Michael VK3WAK/P29WA and David P29ZFF who is a PNG local, however both would tell you they haven't had much airtime experience.

The first thing I found was the QRM in Goroka was quite high, typically S8-9 and 2-3 S points worse than my QTH in Melbourne, so David said we should head out to his village 20 km from town, where there is nothing electrical, only grass huts, rolling hills and a couple of very tall trees! So a mini field day was planned. The drive was easy, however we had to carry the gear the last 100 metres up a pretty steep slope. Soon we had a nice little portable setup on the top of a hill in the middle of nowhere and with the nearest power line many kilometres away. Getting the 20 metre dipole up into the trees was quite easy, a local guy with a bow and arrow made things simple; however I don't think the installation method would meet Australian Occupational Health and Safety requirements! And it didn't take long before we had quite an audience, the hillside dotted with local children wondering what sort of strange language these westerners were speaking, such as "5/9, thanks, QSL and 73 etc….". The low noise on 20 metres of S1-2 would almost make a grown man cry, and as the band opened up in the afternoon we got a small pileup of people wanting a P29 call in their logs. Our thanks to Greg VK3VT for putting us on a spotting site. It made for a great day.

Apart from being in an exotic location with spectacular views and low noise, more importantly, the afternoon offered David the chance to practice some of the radio theory he had learnt in his training as a radio technician with CRMF. He had got to calculate the 20 metre dipole, then to make it out of left over coax and copper wire and finally to connect it up and talk to friendly contacts in Australia, USA, Ireland, and Japan. For him it made all the theory come alive, it actually worked, and that is what amateur radio is all about, building and trying and learning about radio. My time up here also gave me the opportunity to train David towards upgrading his Standard licence to Advanced, something hopefully he will do in the near future. CRMF would also like to thank the WIA generally for its support as they try to train PNG locals in radio, as there are not many true Papua New Guinean amateur operators up there.

Photo 2: The view from the station. The antenna was strung between the two trees either side of the picture. Visible just right of centre is a five eight vertical for 20 metres. This was an experiment and didn't appear to work well, so was not used.

CRMF have for nearly 60 years provided a lifeline to remote villages in PNG through HF radio communication. They sell and service HF equipment and monitor their HF radio network. The network carries voice and internet data. For further information their web site is *www.crmf.org*

73

Ewen Templeton VK3OW.

A balanced antenna coupler for portable use

Peter Parker VK3YE

A coax-fed half wavelength dipole is a popular choice amongst HF portable operators. Performance is dependable and it's the standard by which other antennas are judged. A lot of work is required to build anything that performs much better.

Unfortunately they're basically a monoband antenna. This is a waste because such antennas allow only a fraction of the frequency capability of most transceivers to be used. Band agility can make the difference between a successful and an unsuccessful portable outing. Plus you don't want to be stuck with hearing activity you cannot work for want of a suitable antenna.

The 'link dipole' is the logical next step. It allows operation on several bands, but only one at a time. Switching requires lowering the antenna and changing two or more clips. This is always a hassle, particularly at night or during a contest where frequent band changes are necessary. Adding insulators and clips also make the antenna heavier, bulkier, flimsier and less reliable. Most link dipoles have only a few bands, still missing most of the eight we have between 3.5 and 28 MHz.

Replacing the coax feedline with an open wire tuned feeder can offer relief. Impedance mismatches occur at the antenna end but, due to the feedline's inherently low loss, the extra attributable to the mismatch is minimal.

A tuned feeder can allow a single band half wavelength dipole to operate as an efficient radiator at frequencies ranging from 3/8 wavelength to 10/8 wavelength, or a ratio of more than 3:1. Even higher frequencies are possible but the radiation pattern breaks up into multiple lobes and nulls, giving unpredictable performance. Band changing is done by adjusting an antenna coupler at the transceiver end.

Obtaining a suitable feedline and balanced antenna coupler are perhaps the main reasons for more people not to use tuned feeder dipoles, especially when portable.

Suitable feedline was easier to get when it was sold for TV antennas. Today you need to scour specialist radio suppliers or make your own. Fortunately this is not hard to do with thin wire, plastic spacers and glue. Small irrigation tubing, sections of plastic coat hangers or cut up plastic knitting needles can all work as spacers. 1 to 3 cm spacing between the wires is suggested.

Balanced antenna couplers are also less common. Most commercial and homebrew designs are for unbalanced antennas such as end-fed wires or anything fed with coaxial cable. Some coupler designs are an unbalanced Pi, L or T-match with a ferrite balun on the output. Unfortunately a reactive load on the output can increase balun losses so this arrangement is not always ideal. Instead it's better to use a balanced coupler such as described here.

Description

Given the paucity of commercially-made balanced antenna couplers, building your own may be the only option. Popular homebrew designs sometimes employ either hard-to-get roller inductors or open tapped coils. The former are hard to obtain and require mechanical coupling to allow a single adjustment. The latter, with their open box and tapped coils may be inconvenient for portable use.

The balanced coupler described here is a derivative of a derivative but has been made smaller for portable use. It uses a 1:1 balun to convert the transceiver's coaxial feed to a balanced output. This is done at a constant 50 ohms resistive so added losses should be small.

Both the balun's outputs go to two identical but adjustable L-networks which are connected to the open wire feedline. Simultaneous adjustment inductance and capacitance is provided. Inductance is switched while the capacitance is continuously variable by a two gang variable capacitor. Each capacitor section needs to be the same – the type of variable capacitor often used in radios with dissimilar gangs is unsuitable for this project.

Photo 1: Front of Coupler.

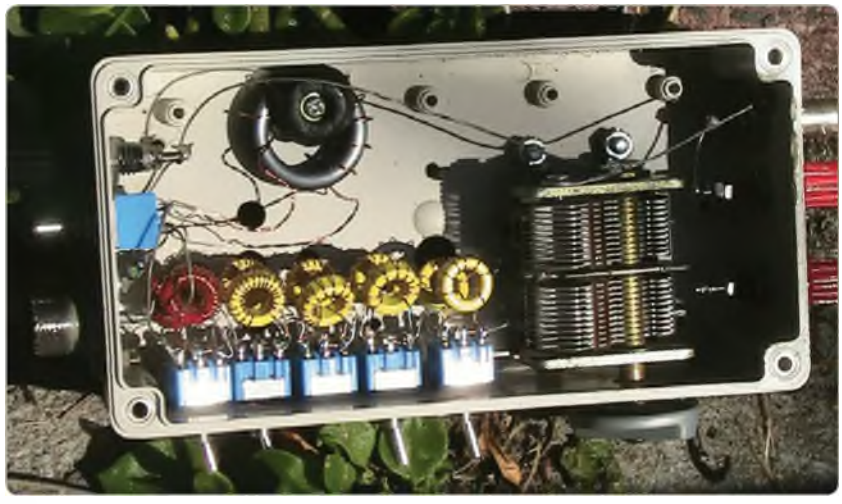


Photo 2: Inside the coupler.

The original coupler, described in Reference 1, used two identical roller inductors which must be geared so that both inductances are the same. These are both expensive and hard to get and considerable economies can be had by having a tapped inductor. A difficulty here is that you need a two pole switch and these rarely have more than six positions. Hence you have only coarse steps between inductance values. This is a disadvantage if you want your coupler to match a diversity of antennas on a diversity of bands.

A way around this, used in Reference 2 and the inspiration of this design, is to have multiple inductors in series. Like series resistors this gives the highest possible value but it can be lowered by shorting unwanted inductors out. If you have a string of switched inductors with each twice as large as the previous one you can get a wide range of values. Like binary counting on your fingers the number of combinations possible is 2 to the power of the number of switches.

In other words if you have five switches then you have 2^5 or 32 values available. This is better than the six positions possible with the rotary switch. You will need to get used to flicking several switches to change values but this is easily mastered. Double pole switches, as commonly available from local suppliers or overseas via eBay, allow both sets of inductors to be controlled from the one switch.

If desired a further switch can be added to short out the balun and allow the coupler to be used as a conventional unbalanced type. This may be useful if you are using an end-fed wire or loading up a tuned feeder dipole with the feeders tied, such as you might do on a low frequency HF band to obtain a lower angle of radiation.

Photo 3: Set of Toroids for Coupler.

Components

The dual gang air spaced variable capacitor is possibly the least obtainable component. As noted before its sections need to be identical. Possibilities include Hamfests or eBay.

The rest of the parts, including toroids, switches, binding posts and sockets are more widely available. Enamelled winding wire can come from old transformers. Different sized toroids can be used instead of the T50-2 or T50-6 but the number of turns will change. The schematic diagram gives values to aim for if using different cores or open coils. The T114-43 is ferrite and can be replaced by any other of that material. You could even use the smaller and more common T50-43. Some builders stack two on top of one another if aiming to run higher than QRP power levels.

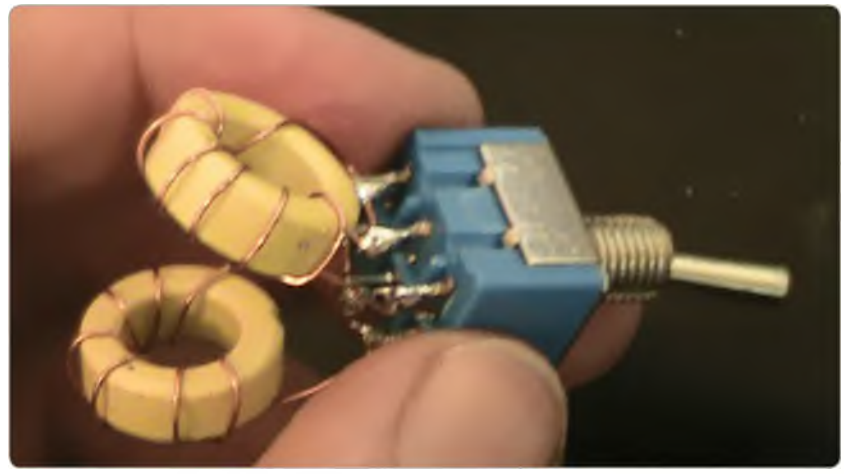


Photo 4: Pair of Toroids on Switch.

Construction

Winding the toroids is the most time-consuming part of the project. You will need eleven; two banks of five for the switched inductors and one for the balun.

Because 32 inductance values are possible the exact value of each is less important than those in each section being identical to maintain balance. This means using the same wire spread over the same percentage of the toroid in each. Wires are kept short by mounting each pair on the back of its switch. The switches are closely spaced to minimise stray inductance. Two connections on each switch are unused but can be used to pass wires through to the next switch.

The balun comprises two twisted wires passed through the hole of the ferrite toroid ten times. This toroid is larger so thicker wire can be used to reduce losses and improve power handling capacity. Two lengths of this are twisted in a drill bit before being wound on to the former. Alternatively, if you have no ferrite toroid and are willing to tolerate the extra bulk, a balun can be formed from ten turns of coaxial cable on a 10 cm diameter piece of plastic pipe.

The whole assembly is mounted in a plastic case to which sockets have been added.

Operation

Connect an open-wire fed dipole that is more than 3/8 wavelength long on the lowest frequency band of interest. Ensure the balun is switched in. With various switch combinations adjust the variable capacitor for maximum noise on receive. Apply low power and make minor adjustments if necessary for 1:1 VSWR. Tune-up on all frequencies from 7 to 28 MHz should be possible. If you can't load up on 3.5 MHz add a switched pair of 6.4 µH inductors, possibly foregoing the 0.2 µH set if the lower HF bands are more your interest.

Using the coupler as an end-fed tuner is also possible. In this case switch out the balun. You will be only using one of the two L-matches. Connect the antenna to the binding post that gives most noise in the receiver and attach a counterpoise or radial to the grounded one. Tune for maximum noise on receive then switch to transmit as before.

The better QRP transceivers include relative VSWR indicators. If yours doesn't, alternatives include an external VSWR meter or an internal resistive bridge such as shown on VU2ESE's circuit.

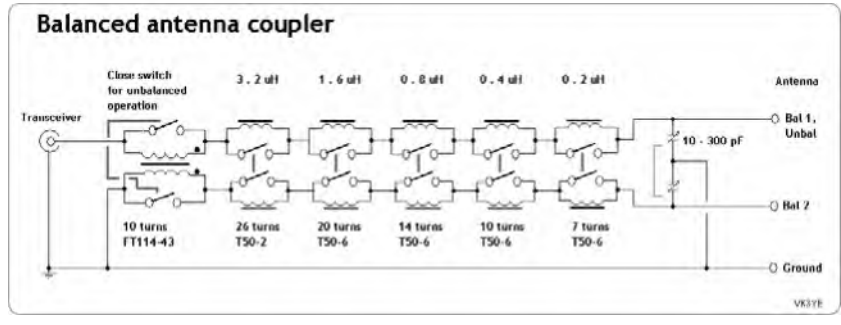
Conclusion

A versatile antenna coupler has been described. With an ability to operate with both balanced and unbalanced antennas it should allow multiband operation from a wide variety of dipoles, loops and end-fed wires.

References

1. Richard Measures AG6K, A balanced antenna tuner QST February 1990
2. Ashar Farhan VU2ESE, A balanced tuner *http://hfsignals.blogspot.com.au/2015/06/a-balanced-tuner.html*

Figure 1: Circuit of Coupler.



Australia Remembers: The Battle of Long Tan 50th Anniversary

Jim Linton VK3PC

One of the most well-known Australian engagements of the Vietnam War was the Battle of Long Tan, 18 August 1966. The battle saw the action of 108 ANZACS against an enemy force estimated between 1,500 and 2,500. It was one of the heaviest conflicts of that war as well as one the few battles in the world's history to be won against such odds. Leading the commemorative initiative was Malcolm VK6LC, who served in the Royal Australian Signals in Vietnam.

VI6BLT50 from Malcolm K. Johnson VK6LC

As the nation marked the Battle of Long Tan anniversary, the Wireless Institute of Australia had commemorative Amateur Radio stations on air for up to 30 days in West Australia VI6BLT50, the Australian Capital Territory VI1BLT50, Queensland VI4BLT50 and the Northern Territory VI8BLT50. Those who made a contact with VI6BLT50 paid their respects to those young ANZACs who made the supreme sacrifice, and if they were alive would be very proud of this Commemorative Event Station.

Our West Aussie team were: Phil VK6GZ - CW, Steve VK6OZ - Phone, Martin VK6RC - Phone, Craig VK6VCK - Phone and Mal VK6LC - Phone-CW-Digital.

All of the team worked during the week and on weekends and were flat out with various modes and bands. It has been a long month opening up on 18 August 2016, "Long Tan Day" and progressing through to the end of the ACMA licence on 17 September 2016.

To start with, our reception was second to none and created much interest locally and globally. The QRZ.COM page counter, explaining in detail the event, just grew and grew with more than 6,800 hits. The team worked 2,066 QSOs covering seven continents using multi-bands and modes. The commemoration needed some explanation to the younger operators, who were not around 50 years ago.

Photo 1: The VI6BLT50 team QSL card.

The event certainly helped to raise awareness worldwide. Some comments received were very complementary of the Diggers at Long Tan and how they overcame unbelievable odds.

Mal VK6LC was able use his low band antenna DX farm, utilising these famous 4-square arrays located at Crossman, high in the Darling Ranges, 120 km southwest of Perth. This site is also isolated and we all took turns in the rain and cold, some early mornings at about 5 degrees to re-fuel the generator. Over three extended long weekends we burnt up to 300 litres of fuel, cartons of eggs and a few kilos of steaks, bacon and sausages all round.

The boys enjoyed driving the big guns and having great QSOs 59+. To mention VI6BLT50 being eight digits and in Morse code heaps of penetrating dits caused some a real headache and very slow CW QSO rates.

Photo 2: Operational picture of VI6BLT50 in action at Gidgegannup with Phil VK6GX.

Mal VK6LC also backed up Phil VK6GZ and it was not easy going at all, some who had computer CW readers were fast, others were a very long pain! CW speeds were kept low from 14-18 wpm.

Band conditions on 20 m from Western Australia were not very pleasing at all, some days lucky to get two, one hour openings to EU, and other days even poorer copies from Perth to Sydney. However 20 m achieved the best tallies; over all 40 m was the recovery band with intermittent excellent copies to North and South America short and long paths resulting.

It has been a demanding and challenging month for all. They received many "*thanks for putting it on*" from both local and overseas stations, including many Veterans.

Below shows the great response overall:

Summary

Total QSOs **2,066**, 91 DXCC countries and 7 Continents: that Included 500 VKs and 50 ZLs.

Operational statistics

Phone

Total QSOs: 1,365
DXCC Countries: 77
Continents: 7: AF-AN-AS-EU-NA-OC-SA
CQ Zones: 28
Prefixes: 437
Bands worked: 20 m, 40 m, 80 m.
VK =420
ZL: 28

CW

Total QSOs: 278
DXCC Countries: 33
Continents: 6: AF-AS-EU-NA-OC-SA
CQ Zones: 21
Prefixes: 138
Bands worked: 15 m, 17 m, 20 m, 30 m, 40 m, 160 m.
VK: 231
ZL: 5

Digital

Total QSOs: 423
DXCC Countries: 55
Continents: 6: AF-AS-EU-NA-OC-SA
CQ Zones: 26
Prefixes: 249
RTTY: 123
PSK31: 298
JT65: 2
Bands worked: 15 m, 20 m, 17 m, 30 m, 40 m.
VK: 30
ZL: 6

Combined Phone-CW-Digital

Total QSOs: 2,066
DXCC Countries: 91
Continents: 7: AF-AN-AS-EU-NA-OC-SA
CQ Zones: 31
Prefixes: 601
Bands worked: 15, 17, 20, 17, 30, 40, 80, 160 m.
15 m.: 4
17 m.: 1
20 m: 1,380
30 m: 2
40 m: 592
80 m: 78
160 m: 9
VK: 473
ZL: 39

Photo 3: Operational picture at Yokine: Martin VK6RC.

Photo 4: The famed antenna farm of VK6LC that put VI6BLT50 on air.

Note: Mal VK6LC will take full responsibility for all VI6BLT50 QSLing via WIA QSL Bureau, Direct and ARRL LoTW.

(Those confirmed via the ARRL LoTW will not be sent via the Bureau unless requested.)

eQSL will be advised by the WIA.

Finally the WIA Awards administration will be presented with the full VI6BLT50 log in ADIF international computer format.

VI8BLT50: Top end joins the commemoration

Eager to play his part was Stuie Birkin VK8NSB, a DXer who also supported the VI8ANZAC commemoration for the century of the ANZAC in WWI.

The Corporal of the Royal Australian Airforce in Darwin put VI8BLT50 on air for three days on SSB amid home duties and not always under favourable propagation.

The commemorative callsign went to air after work and on the last Saturday of the licence, operating on 20 m with 215 contacts and 15 m had 132 logged.

It helped raise awareness of the Battle of Long Tan and the role played. Contacts were then alerted to further information on *qrz.com*

VI1BLT50 in the Australian Capital Territory

Tex Ihasz VK1TX who was in the Denvermen, who performed to the troops in Vietnam, put the commemorative station VI1BLT50 on air.

It began when Mal Johnston VK6LC asked whether he was interested in the opportunity.

Tex VK1TX said: *"I was so honoured to do it as I had a special memory of that era as our singer Digger Revell and the Band went over to entertain the troops."*

He was with the Australian rock icon, singer and songwriter Digger Revell, playing in his band the Denvermen. Digger commented on the 50th anniversary: *"It's certainly winding back the clock; it's such a long time ago."*

The band went to Vietnam to entertain the troops, the 3rd Battalion (Airborne), 506th Infantry (Currahees) and 101st Airborne.

Digger Revell and the other Australian entertainers were flown in and out of fire bases where they played three shows a day, seven days a week, spending much of their time, when not on stage, sheltering in bunkers. During the Vietnam War he notched up 11 tours.

Among others was Little Pattie aged 17, who was singing on stage when the Battle of Long Tan started nearby.

Photo 5: Tex VK1TX at VI1BLT50 with a shack wall picture of Digger Revell and the Denvermen.

She later recalled: *"During the third show I was given the sign, which of course is the fingers across the throat, which in show business means you better finish. We were very swiftly evacuated ... but I could see thousands and thousands of orange lights, which of course was the gunfire, and I'll never forget it. Never."*

In the days after the battle, Little Patty visited injured soldiers in hospital to comfort and sing to them.

Tex VK1TX played the band's hit song *'Surfside'* before the troops. He can be seen playing the number one hit tune at the National Folk Festival 2014 at *https://www.youtube.com/watch?v=dYmesrG7NUU*

He said: *"Quite a few stations were contacted by VI1BLT50, namely a lot of US stations and many others who expressed interest in the call as they also served and remembered the Aussie soldiers. Also a number of VKs from all the states and New Zealand participated. European stations also were very interested in the commemoration."*

Like all involved, Tex VK1TX felt the callsign was a bit long winded, but it told the story behind the 50 year anniversary and certainly raised awareness and interest.

VI1BLT50 Operational Statistics:
Total QSOs: 511
DXCC Countries: 52
Continents: 6
Bands worked: 20 m, 40 m - all on SSB
QRZ look ups for VI1BLT50: 1454

The log submitted concluded with the words: Let We Forget.

VI4BLT50 Queensland part of the commemoration

VI4BLT50 went to air in Northern Queensland with often poor band conditions, although many contacts were logged with hundreds of QSOs to VK, ZL and overseas stations.

This was led by Dale McCarthy VK4DMC, a Vietnam veteran who was mainly in the 1st Australian Field Hospital as an Operating Theatre Technician and Intensive Care Medic. Almost 60,000 Australians served their country in that war.

The Battle of Long Tan has come to symbolise our involvement, and VI4BLT50 helped raised awareness of it. Being involved meant a lot to Dale VK4DMC and the other veterans who took part as well as the general community. He earlier commemorated the Battle of Long Tan on its 49th anniversary from Atherton in August 2015 as the organiser of VI4ANZAC, on the centenary of ANZAC at Gallipoli.

Joining him with VI4BLT50 were Ewan VK4ERM, Bill VK4ZD, Chris VK4CL, Kathy VK4KJ, Stu VK4SDD, Merv VK4DV, Bob VK4RJ and Bernard VK4KX.

The commemoration ended at midnight on Saturday 17 September, after being on air up to 30 days. All have now filed with the WIA their electronic logs for QSLing purposes.

More video information on the Vietnam War can be seen at:

Battle of Long Tan Documentary - Sam Worthington - Vietnam War
https://www.youtube.com/watch?v=8gUSq7pxux4

Battle of Long Tan - Peter Harvey 60 Minutes - Vietnam War - Forgotten Heroes
https://www.youtube.com/watch?v=uODWvj8aP-Q

Some *Amateur Radio* hard copies did not arrive

The Wireless Institute of Australia has investigated the non-arrival by post of the October edition of its journal, Amateur Radio magazine.

The WIA has investigated why a few mainly VK2 and VK6 members did not get their expected magazine.

When a few members queried the non-arrival, the WIA began its investigation to reconfirm that it had sufficient copies and the correct list to the mailing house by Monday, 26 September.

An examination of addresses reveals only scattered postcode numbers across VK2 and VK6, there is no discernible pattern to it. All members who reported non-receipt have been sent a replacement copy.

The investigation is continuing. Meanwhile, members who opt-out of receiving a paper copy and prefer accessing a digital magazine, may still receive a hard copy but in the long term the hard copy will be stopped.

Monitor Sensors 630 m Transverter Review

Justin Giles-Clark VK7TW

Initial Impressions

The unit is a sleek long (318 mm long, 114 m wide and 76 mm) aluminium case with two line LCD, on/off switch micro USB connector and push button knob for menu selection.

It comes very well packed, with good documentation and all cables are included:

- Power cable with Anderson Connectors.
- PL259 to PL259 cable
- Micro B USB to USB A cable
- RCA to RCA cable

The documentation is easy to understand and takes you through the connections, user interface, operation, design and specifications. There is also a calibration certificate for the unit covering the test results and test equipment references with a personal touch that is signed and dated by a technician.

There is a nice feature that when the unit is switched off, the transceiver SO239 is connected to the HF Ant SO239 and when the unit is switched on the MF Ant SO239 is connected to the transceiver SO239. This means you can leave the transverter in-line without replugging.

Photo 1: The transverter unit.

Design

The transverter was designed by Roger Crofts VK4YB and Ralph Loveday from Monitor Sensors which is a wholly Australian owned Company that has been manufacturing electronic environmental sensors and weather stations for over 30 years.

Photo 2: The rear panel.

The receive chain features a 500 kHz low pass filter to attenuate MW broadcast signals, into a narrow skirt roofing filter (472-479 kHz). The filtered signal is then mixed with a 1.33 MHz oscillator and a low pass filter to select the desired 160 m mixer frequency which is then amplified and sent out the transceiver socket.

The transmit chain takes the 160 m RF output and puts it through a microprocessor controlled stepped attenuator to control drive for optimization and excessive SWR. The signal then goes through the mixer and low pass filter and into the 50 dB class AB FET push-pull amplifier. The amplified output is put through the final low pass filter to reduce harmonics then through the SWR bridge to the MF antenna socket.

The unit is controlled and monitored by a microprocessor with feedback and reporting via a two line LCD display unit.

Specifications (as quoted)

- The unit is capable of 50 watts continuous (100% duty cycle) and is capable of more for short periods of time. Drive is 3-5 watts into the class AB FET push-pull amplifier.
- Modes covered are CW, SSB and Digital.
- Supply voltage and current (50 watts output) is nominally 13.8 VDC @15 amps.
- Receiver conversion gain is nominally 6 dB.
- Receiver Noise Floor is -125 dBm in 500 Hz bandwidth.
- Transmitter harmonics and spurii are better than -50 dB.
- Transmitter conversion gain is nominally 10 dB, and
- Mass is 1.5 kg.

Photo 4: The front panel displaying the IF details.

Operation

After following the instructions and plugging everything together it was switch on and tune time. The first thing the author needed to recognise was what he thought was an increased noise level on the 630 m pass-band. A quick read of the instructions and a look at the circuit description and this was the effect of the roofing filter with a sharp 472-479 kHz passband. When I compared it with WSPR levels received without the roofing filter there was a small difference of between 1-2 dB on the WSPR scale which matches the filter specification of +/- 1.5 dB across 472-497 kHz.

I setup and used the unit on both a HPSDR (Hermes) Software Defined Radio and a Yaesu FT-847 and both performed well and as expected. I tested using WSPR, WSJT (JT9 and JT65) digital modes, SSB and CW modes.

The LCD screen function is colour coded - receive screens are light blue.

Menu screens are purple and transmit screen are green.
The warning screens are red!

Navigation around the screens is via a push button 360 degree rotary knob on the front of the unit.

Photo 3: The front panel display when in receive.

Monitoring is provided for temperature, voltage, current, drive level and SWR. In transmit, both the output wattage and SWR is displayed along with any attenuation that has been applied. You can put the unit into a tune mode that disables the auto SWR protection and enables the user to manually dial in and out attenuation when tuning, this is helpful as many 630 m operators remotely tune loading coils and matching on their antenna system.

Other warnings are provided when RF is detected on input at start-up, when there is low voltage, drive level too high, there is out of the band transmission and when the temperature is too high and drive power is automatically bypassed.

There is a fan that is temperature controlled and forces air through the unit drawing air from the holes underneath the case and out the back grill. You hear it spin up and then gradually slow down as the temperature drops and you can the monitor the heatsink temperature through the front panel display.

A note for users who wish to utilise the transverter with the weak signal narrow band application WSJT: There is a function that allows an offset to be applied to the displayed frequency so that the WSPR and WSJT reported

Photo 5: The front panel display when in transmit.

frequency is correct. This is very handy with transverters of either positive or negative offsets. This is particularly helpful as the PowerSDR transverter functionality does not support negative offsets which are required for this transverter that mixes down not up.

In Summary

This is a professional and very well made transverter. It is plug-and-play and provides monitoring (and auto bypass or shutdown) of many of the worrying aspects for running reasonable power at 630 m namely temperature, voltage, current, drive level and SWR. This means you can operate with some confidence on this challenging band.

The market is primarily for amateurs who do not natively have the ability to operate in the MF - 472-479 kHz part of the spectrum. This transverter provides 630 m capability through their HF/MF transceivers (160 m) and it performs this role really well.

The power level from the unit will enable most amateurs the ability to get a signal well over thousands of kilometres with a modest antenna and extend that with larger antennas and weak signal modes. I make note that Roger Crofts VK4YB, the transverter's creator, made a WSJT JT9 contact between VK4 and Steve McDonald VE7SL on 15 September 2016 at 1319 Z over a distance of 11,822 km using these transverters at each end. The author also heard and was decoded using the transverter and the WSPR mode by WH2XCR in Hawaii over a distance of 9107 km.

I congratulate Steve and Roger on the first VE-VK 630 m contact and Roger and his company on the excellent transverter they have created and made available to the amateur community.

The cost of the unit is AU$880 or US$660 and they are only available directly from the factory.

Monitor Sensors (Aust) Pty Ltd
Unit1/42 Cessna Drive
Caboolture, Qld 4510

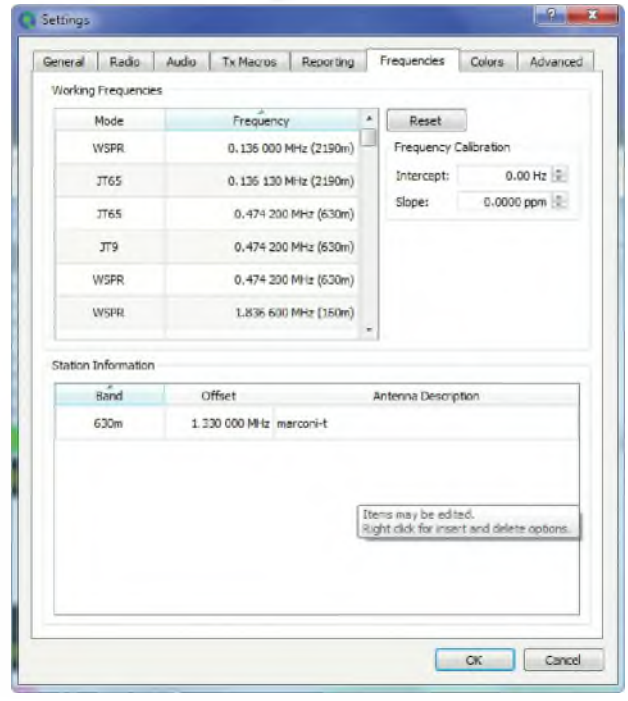
Tel 07 54285900
Fax 07 54952276

roger@monitorsensors.com
www.monitorsensors.com

I thank Roger for allowing me to operationally review the unit.

Peter VK4YB has just advised that a 2200 m version of the Transverter will be released early in 2017.

Photo 6: The WSJT Settings screen.



WIA Contest Website

To keep up to date with all of the major Australian contests, including rules and results, at the WIA Contest Website at:
www.wia.org.au/members/contests/about

WIA STEM Symposium details announced

The Wireless Institute of Australia has called for expressions of interest in its **STEM** Symposium to be held in Canberra.

It will be at the **Canberra Club, 9 am to 3 pm on 19 November, 2016**, with morning and afternoon tea, and a light lunch provided, but participants need to fund their own transport and accommodation.

The aim is to develop a role for WIA members and the radio amateur community to use their technological expertise toward Federal and/or State Government STEM Programs.

The initiative is to enable young Australians to learn technology-based skills and knowledge, rather than being a recruitment exercise although some may also want to later be radio amateurs.

The symposium will look at ideas on many areas where radio amateurs can provide expertise in STEM-related projects, test the suggestions as to their viability, identify project groups and leaders who will develop project briefs and submit these to relevant government agencies.

There has already been great interest in the Symposium, among those wanting to attend, or send written papers on subjects and experiences.

Much more detail and how to be involved is found on the website: ***www.wia.org.au***

AMSAT-VK

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Group Moderator
Judy Williams VK2TJU
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Group site:
group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial amateur radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft. AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly net
Australian National Satellite net

The net takes place on the 2nd Tuesday of each month at 8.30 pm eastern time, that is 0930 Z or 1030 Z depending on daylight saving. Check-in starts 10 minutes prior to the start time. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales
VK2RBM Blue Mountains repeater on 147.050 MHz

In Queensland
VK4RIL Laidley repeater on 147.700 MHz
VK4RRC Redcliffe 146.925 MHz IRLP node 6404, EchoLink node 44666

In South Australia
VK5TRM, Loxton on 147.175 MHz
VK5RSC, Mt Terrible on 439.825 MHz IRLP node 6278, EchoLink node 399996

In Tasmania
VK7RTV Gawler 6 metre repeater 53.775 MHz IRLP node 6124
VK7RTV Gawler 2 metre repeater 146.775 MHz IRLP node 6616

In the Northern Territory
VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT or VK3JED conferences. Past experience has shown that the VK3JED server offers clearer audio. The net is also available via IRLP reflector number 9558. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email. Frequencies and nodes can change without much notice. Details are put on the AMSAT-VK group site.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night. Currently only SO-50 is available.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

WIA Merit Award recipient most worthy

Jim Linton VK3PC

The prestigious Chris Jones Award for 2016 has been presented to Jenny Wardrop VK3WQ, for consistent support of the Wireless Institute of Australia (WIA), the Australian Ladies Amateur Radio Association (ALARA), and the WIA journal *Amateur Radio* magazine.

Announced at the Norfolk Island annual general meeting, the WIA Board awarded it and mentioned her latest contributions of articles in 2014 and 2015 for the ANZAC Centenary.

The Chris Jones Award is named after the National WIA's secretary, an inspirational and passionate individual, who passed away in 2006.

WIA Director Robert Broomhead VK3DN made the presentation to Jenny in September at the Mechanics Institute in Prahran.

Jenny VK3WQ was very appreciative of being honoured, with her long history of many notable contributions that impressed the WIA Board.

She said: *"I had the opportunity to research and write about women who contributed to the war effort, and contribute to the ANZAC 100 coverage some of the roles done by them".*

"An important part of our history has been recorded for current and future generations. New parts of the story emerged, it has been a pleasure to be able to share these and put them on record."

Jenny VK3WQ receiving the Chris Jones Award trophy from Director Robert Broomhead VK3DN. Photo by Peter Wolfenden VK3RV.

Robert VK3DN said it was a great pleasure to make the presentation and share the occasion with her partner Peter Wolfenden VK3RV.

The conversation quickly turned to the enormous contribution made by Chris Jones VK2ZDD. While Jenny and Peter had heard a lot of his enormous contribution to the hobby, they unfortunately did not meet him.

Jenny and Peter are now in London to attended Amateur Radio events (YL International Conference and RSGB Conference), visit at least two museums, and undoubtedly continue adding to their knowledge of history.

DX Awards

Marc Hillman VK3OHM

Below are listed all new awards issued in September 2016, plus all updates to DXCC awards. Go to *http://www.wia.org.au/members/wiadxawards/about/* to use the online award system.

New awards

DXCC Multi-band (1)

#	Call	Name	Mode	Band	Count
143	VK2BYI	Christopher Fredericks	Open	20 m	101

DXCC Multi-mode (CW)

#	Call	Name	Count
245	VK4CAG	Graeme Dowse	101

DXCC Multi-mode (Digital)

#	Call	Name	Count
55	VK3GA	Graham Alston	100
56	VK2BYI	Christopher Fredericks	105

DXCC Multi-mode (Open)

#	Call	Name	Count
440	VK2BYI	Christopher Fredericks	107

Grid Square

#	Call	Name	Mode	Band
255	VK2BYI	Christopher Fredericks	Digital	HF
256	VK2BYI	Christopher Fredericks	Open	HF
257	VK3GA	Graham Alston	Digital	HF

WIA DX & operating awards

WIA offers a range of operating awards, including DXCC, VHF & UHF and many other awards.

Details can be found at: *http://www.wia.org.au/members/wiadxawards/about/*

DXCC Multi-band (3)

#	Call	Name	Mode	Band	Count
24	VK3EW	David McAulay	CW	30-20-17 m	847
41	VK6DU	Lance Martin	CW	40-20-15 m	775
62	VK6DU	Lance Martin	Digital	20-17-15 m	475
66	VK3EW	David McAulay	Digital	30-20-15 m	420
36	VK7CW	Steven Salvia	Open	20-17-15 m	762
39	VK6DU	Lance Martin	Open	40-20-15 m	876
44	VK2FR	John Sharpe	Open	20-15-10 m	618
63	VK2ZQ	Michael Ramsay	Open	40-20-10 m	519
73	VK3GA	Graham Alston	Open	20-15-10 m	473
95	VK3OHM	Marc Hillman	Open	20-15-10 m	450
40	VK6DU	Lance Martin	Phone	20-15-10 m	607
43	VK2FR	John Sharpe	Phone	20-15-10 m	614
64	VK2ZQ	Michael Ramsay	Phone	40-20-10 m	481
86	VK3GA	Graham Alston	Phone	20-15-10 m	356
96	OH8LXT	Veikko Pennala	Phone	20-17-15 m	462

DXCC updates

DXCC Multi-band (1)

#	Call	Name	Mode	Band	Count
49	VK6DU	Lance Martin	CW	40 m	269
54	VK3EW	David McAulay	Digital	20 m	168
47	VK6DU	Lance Martin	Open	20 m	319
91	VK2ZQ	Michael Ramsay	Open	20 m	227
100	VK3GA	Graham Alston	Open	20 m	199
48	VK6DU	Lance Martin	Phone	20 m	252
92	VK2ZQ	Michael Ramsay	Phone	20 m	209

DXCC Multi-band (5)

#	Call	Name	Mode	Band	Count
21	VK3EW	David McAulay	CW	40-30-20-17-12 m	1311
35	VK7CW	Steven Salvia	CW	30-20-17-15-12 m	1085
37	VK6DU	Lance Martin	CW	40-30-20-17-15 m	1223
64	OH8LXT	Veikko Pennala	CW	20-17-15-12-10 m	814
66	OH8LXT	Veikko Pennala	Digital	20-17-15-12-10 m	828
34	VK7CW	Steven Salvia	Open	30-20-17-15-10 m	1171
36	VK6DU	Lance Martin	Open	40-20-17-15-10 m	1366
65	OH8LXT	Veikko Pennala	Open	20-17-15-12-10 m	1203
49	VK6DU	Lance Martin	Phone	40-20-17-15-10 m	844

DXCC Multi-band (7)

#	Call	Name	Mode	Band	Count
10	VK3EW	David McAulay	CW	160-40-30-20-17-15-12 m	1678
14	VK7CW	Steven Salvia	CW	40-30-20-17-15-12-10 m	1426
17	VK6DU	Lance Martin	CW	40-30-20-17-15-12-10 m	1590
15	VK7CW	Steven Salvia	Open	40-30-20-17-15-12-10 m	1523
16	VK6DU	Lance Martin	Open	40-30-20-17-15-12-10 m	1805

DXCC Multi-band (9)

#	Call	Name	Mode	Band	Count
12	VK3EW	David McAulay	CW	160-80-40-30-20-17-15-12-10 m	1979

DXCC Multi-mode (CW)

#	Call	Name	Count
189	VK6DU	Lance Martin	327
240	VK3GA	Graham Alston	151
243	VK3WE	Rhett Donnan	104
244	OH8LXT	Veikko Pennala	275

DXCC Multi-mode (Digital)

#	Call	Name	Count
12	VK6DU	Lance Martin	278
20	VK3BW	David McAulay	263
33	VK7CW	Steven Salvia	125
48	VK2ZQ	Michael Ramsay	113
54	OH8LXT	Veikko Pennala	278

DXCC Multi-mode (Open)

#	Call	Name	Count
328	VK6DU	Lance Martin	333
364	VK3DGN	David Green	300
395	VK2FR	John Sharpe	337
413	VK3WE	Rhett Donnan	131
417	VK2ZQ	Michael Ramsay	294
419	VK3GA	Graham Alston	275
439	OH8LXT	Veikko Pennala	308

DXCC Multi-mode (Phone)

#	Call	Name	Count
328	VK6DU	Lance Martin	329
596	VK2ZQ	Michael Ramsay	284
606	VK6XT	Richard Hill	114
613	OH8LXT	Veikko Pennala	249

VI4SEA

Announcing the activation of the special event station Victor India 4 Sydney Emden Action

This commemorative call sign, VI4SEA, is in honour of the Officers and Sailors of the Light Cruisers HMAS SYDNEY and SMS EMDEN who gallantly fought in the first ever naval action of the Royal Australian Navy, on 9 November 1914, off the coast of the Cocos Keeling Islands in the Indian Ocean.

VI4SEA will hit the airwaves on 1 November 2016, and continue through to 9 November. Our operations will see us transmitting on the 630 m band through to the 6 m band. Our team of amateur radio operators are a combination of ex-naval, military and professional individuals.

We do not seek to glorify War in any form, but rather to commemorate the deeds of brave men at sea in a time of war. A special webpage has been set up on qrz.com under VI4SEA.

The VI4SEA Team look forward to working you one and all, as we pause to remember these brave sailors from Australia, Britain and Germany who fought in a devastating naval action on the high seas that November day back in 1914.

Mike Charteris VK4QS
Team Leader VI4SEA

DXTalk

Luke Steele VK3HJ

For the month of September, solar activity remained low, but a number of recurrent coronal hole high-speed streams pushed the solar wind speed up, at times causing geomagnetic storming on Earth. At the end of September, the solar wind increased above 700 km/s, and moderate geomagnetic storms resulted.

A coronal hole is an area of the outer solar atmosphere which is less dense and cooler than the surrounding corona. These areas may allow a higher speed solar wind stream to be emitted, due to their magnetic structure and its relationship with interplanetary space. Coronal holes may last for many months, and are therefore quite predictable in their effect as the sun rotates. During the sunspot peak, solar flares may cause coronal mass ejections, and these may result in geomagnetic disturbances on earth. Coronal holes may occur at any time in the cycle, but are most common during the declining phase of the cycle, where we are now.

The higher bands have been very quiet, almost nothing heard on 10 and 12 m here. There has been some activity on 15 m, a little on 17 m, but 20 m has been quite good to most places. Strong signals have been quite consistently heard on 40 m, 80 m has been okay, and 160 m is picking up, with North America, the Pacific and Asia coming in most evenings. In the morning, there have been some openings to Europe on Top Band.

There has been plenty of activity in our region during September. Ken and Nob were very active from Rarotonga as E61Q, Niue as E6AC, then Tuvalu as T2J. Also on Tuvalu were T2R. On Chuuk Is, Micronesia was V63KS. Operating from Honiara was H44GC, then as H40GC from Nendo Island, Temotu Province. The "Quake Contesters" operated from Norfolk Island as VK9NZ.

Tom KC0W was operating as T30COW from Tarawa, Western Kiribati, until he was robbed of absolutely everything except the clothes on his back. He has cancelled the remainder of his trip, and is returning home to the USA. Tom is okay, but this is a sad end to his trip. All logs have been uploaded to ClubLog.

Other DXpeditions on air were TO5FP Saint Pierre and Miquelon, D66D Comoros, and XX9TYT Macau. Ulrich VP6AH continues to be heard on 20 m from Pitcairn Island almost daily. Kamal 4S7AB in Sri Lanka has been active with his homebrew 40 and 30 m cubical quad most days, and Agustin CP5HK from Cochabamba, Bolivia was very loud on 20 m with his new Hex Beam.

Budi YF1AR, who is a very active IOTA activator, has been using a 2 element Yagi for 80 m on a 40 metre high tower at the station of YC1CT in Java. He is active most nights, usually on 3511 kHz.

Upcoming DX

There is plenty of DXpedition activity to look forward to in November, including the following.

ZL7G Chatham Islands. 27 October - 10 November. The "Six-Gs" will be on 160 – 10 m, mainly CW and RTTY with some SSB. QSL via G3TXF. For more information see their website. *http://www.6gs.org.uk/zl7g-chatham-island-2016/*

XU7MDC Cambodia. 4 - 13 November. A large group of operators from the Mediterraneo DX Club will be active from Sihanoukville, with five stations. They will have a focus on Low Bands and Digital operations. QSL via LotW or IK2VUC. For more information see their website. *http://www.mdxc.org/xu7mdc/*

XU7AEZ Cambodia. 16 November - 5 December. A Russian team will be operating from Koh Rong Samloem Island (AS-133). They will be on HF, various modes. QSL via LotW or RC3C.

6V1IS Senegal. 6 - 16 November. An Italian group will be operating from Isole Ngor e Goree (AF-045). They will be on 160 - 6 m, SSB, CW, PSK31-63-125, RTTY, and perhaps SSTV. They will also be supporting a humanitarian organisation there. QSL via Club Log, or via IK7JWX direct and eQSL. For more information see their website. *http://www.qrz.com/db/6v1is/*

5H3MB Tanzania. 7 November - 2 December. Maurizio IK2GZU will be returning to Tanzania. He plans operation on 80 - 10 m, SSB, CW, RTTY using dipoles and a ground plane antenna. QSL via LotW or via IK2GZU, Club Log, and eQSL.

TL8AO Central African Republic. 10 - 22 November. Ken LA7GIA will be operating from Bangui, with plans for 80 - 15 m, and maybe 10 m. He is raising funds for Doctors Without Borders there. Ken made a great effort to work VK stations when he was in Equatorial Guinea in March this year. CAR has not been active since about 2011, due

to the political instability there. QSL via LotW, or LA7GIA. For more information see his website. *http://la7gia.com/tl8ao/index.html*

PJ6M Saba & St Eustatius. 11 - 18 November. Bill K2HVN plans operation from Saba I (NA-145), on 40 - 10m, CW and SSB. He may use the callsign PJ6/K2HVN. QSL via K2HVN direct.

TO2EE St Barthelemy. 18 - 25 November. After his time in Saba, Bill K2HVN will be operating from St Barthelemy (NA-146), on 40 - 10 m, CW and SSB. He may use the callsign FJ/K2HVN. QSL via K2HVN direct.

FJ/KO8SCA St Barthelemy. 19 - 26 November. Adrian KO8SCA plans a holiday-style operation, 160 – 10 m, CW, SSB and digital, with 500 W to a BigIR vertical. QSL via LotW, or via Club Log. For more information see his website. *http://www.qrz.com/db/FJ/KO8SCA*

J5 Mauritania. 15 - 30 November (dates approximate). The Italian DXpedition Team will be on 160 - 6 m, using CW, RTTY and SSB. QSL via LotW, or via I2YSB, or OQRS. This group usually has an almost live online log, and makes an effort to work VK stations. For more information see their website. *http://www.i2ysb.com/idt/index.php*

8Q7SP Maldives. 20 November - 3 December. A Polish team will be activating Dhiffushi I (AS-013). They will be on 160 - 10m, CW, SSB and RTTY. QSL via LotW, Club Log OQRS, or direct or bureau via SP6FXY. For more information see their website. *http://www.8q7sp.dxing.pl/*

9Q0HQ/3 Democratic Republic of the Congo. 20 November - 25 December. Christian IS0BWM will be operating from Kengé, all bands, SSB only. QSL via Club Log, or direct to IS0BWM with US$2. For more information see his website. *https://www.qrz.com/lookup*

ZL7/W1XGI Chatham Islands. 24 November - 1 December. Haru JA1XGI will be operating from Chatham Islands (OC-038). He plans operation from 160 - 10 m, mainly on CW, with some RTTY, JT65 and PSK. Haru will focus on 160 and 80 m. QSL via LotW, or direct and bureau via JA1XGI. For more information see his website. *http://island.geocities.jp/chathamholiday/*

CE0Y Easter Island (SA-001). 24 November - 2 December. Yan CE0Y/RZ3FW and Sergey CE0Y/R4WAA will be operating on 160 – 10 m, mainly CW, with some SSB and digital. QSL via Club Log.

Other news

VK1DX Phil reports that he is receiving QSL cards, despite not being on air at all since November 2000, and no plans to go back on air in the near future. If you think you hear a "VK1DX" on air, listen carefully. It may be "VK1TX" Tex, who is quite active.

Pirate Hassan has been active again recently as YI1H, amongst other callsigns. According to Razi YI1RZ, Hassan was expelled from the Iraq Amateur Radio Society, and since 2004, all his operation is unauthorised. See *QRZ.com* for more information.

Please email me with any DX related news for inclusion in this column. I am particularly interested in hearing about DX worked or heard in other states. *vk3hj@wia.org.au*

73 and good DX,
Luke VK3HJ.

International Radiotelephony Spelling Alphabet

Stephen Ireland VK3VM / VK3SIR

CQ CQ CQ... This is VICTORIA KILOWATT THREE VEGEMITE MOTHER... CQ CQ CQ VICTORIA KILOWATT THREE VICTORY MODERN this is VICTOR KEITH THREE SUGAR ITALY EMMA !

Listening this morning (21/5/16) to 7.090 MHz LSB I was hearing quite a number of portable and QRP stations on 20 and 40 m trying to get signals out – but readability, due to QSB and noise at my location, was relatively poor. Sometimes stations were as high as 5/9+ - then seconds later the same station could just be heard 2/3 (just above the noise). Callsigns were hard to establish...

Once stations started to use "Phonetics" – a form of communication designed around ease of readability and avoidance of confusion – ta-daa! Callsign recognition was improved and I was able to make contact at my noisy station.

I realise that the subject of this article will be somewhat controversial as amateurs do have the tendency to have the attitude "who is he lecturing me on protocol... He is is not perfect either". No, I am not – but the focus here is HF – where our signals do extend outside our borders. All of us tend to have a little fun on occasion, on repeaters. Yet I hear all sorts of variations of amateurs on HF using all forms of twisted, hard to decipher phonetic spelling alphabet. I unfortunately hear this constantly extending to new operators and F-callers, which "pricks up my ears". As a trainer and assessor of new amateurs I have concerns at the example that this sets towards new amateurs that we are encouraging into amateur radio – especially on HF.

The aim of this article to provide a brief history into the International Radiotelephony Spelling Alphabet – commonly known as "NATO Phonetics" – in a way that explains how it evolved and why we have it. Hopefully this may promote and educate its usage.

What is The International Radiotelephony Spelling Alphabet?

Wikipedia is often shunned in the academic community – but in this case it gives an excellent introduction to this subject:

The International Radiotelephony Spelling Alphabet, commonly known as the NATO phonetic alphabet and also known as the ICAO radiotelephonic, phonetic or spelling alphabet and the ITU radiotelephonic or phonetic alphabet, is the most widely used radiotelephonic spelling alphabet. (Source: Wikipedia, 2016)

This scheme assigns code words to the letters of the English alphabet in a standardised fashion. As a result, critical combinations of letters and numbers can be pronounced and understood by those who exchange voice messages by radio or telephone regardless of language barriers or the quality of the communication channel (Wikipedia, 2016). It is designed to work with multiple languages with different verbal inflections (accents). It is designed to be readable under the harshest of phone (voice) reception conditions.

Development and Evolution

The driver for the development of a standardised way of translating letters of the alphabet into standardised codes that could be broadcast over radio or telephone media was driven by one important factor – the need to decipher information from the surrounding noise. Not only were telephone lines of dubious quality in the early part of the 20th century, but also the battlefield with its multitudes of sounds - guns firing, bombs exploding, soldiers yelling– often made the reception of low-quality voice signals difficult. Aircraft noise was also phenomenally loud. Spelling out individual words improved recognition considerably, but it still had its limitations (Study.com – 2016).

In 1927, the International Telecommunication Union (ITU), created a spelling alphabet that was originally developed as a tool for aviation communications (Twidell, 2010). This version evolved so that in 1932 the ITU had approved the following phonetic mnemonics, based primarily around geographic entities:

Amsterdam, Baltimore, Casablanca, Denmark, Edison, Florida, Gallipoli, Havana, Italia, Jerusalem, Kilogramme, Liverpool, Madagascar, New_York, Oslo, Paris, Quebec, Roma, Santiago, Tripoli, Upsala, Valencia, Washington, Xanthippe, Yokohama, Zurich (source: Twidell, 2010)

Earlier versions were not global; the USA developed its own military version as early as 1913. The ITU system was used until World War II. Radio was the primary mode of communication in World War II, but given the earlier-mentioned issues, it was not a perfect system.

The US adopted the Joint Army/Navy Phonetic Alphabet during 1941 to standardize systems amongst all branches of its armed forces. This system became known as "Able Baker" after the words for A and B.

Able, Baker, Charlie, Dog, Easy, Fox, George, How, Item, Jig, King, Love, Mike, Nan, Oboe, Peter, Queen, Roger, Sugar, Tare, Uncle, Victor, William, X-ray, Yoke and

Zebra (Source: Wikipedia, 2016)

Deficiencies were found with this system - especially during WW II and were addressed when the NATO organisation was formed in 1949. Nations that did not use English as a native language also were required to use these same codes. According to Wikipedia (2016), the languages and speakers of/from 31 nations were analysed in order to come up with a set of words that represent letters of the alphabet that could easily be recognised under adverse conditions with native English-language and non-English languages speakers alike – all with different accents and vocal inflections.

The final version was implemented by the International Civil Aviation Organization (ICAO) in 1956 and subsequently adopted by the ITU. Also according to Wikipedia (2016): "Because the ITU governs all international radio communications, it was also adopted by all radio operators, whether military, civilian, or amateur. It was finally adopted by the IMO [International Maritime Organization] in 1965." (after Knoji, 2016).

Phonetics and AR

In the early 20th century there were very few countries in which radio amateurs had been able to organize themselves into national associations. In many countries, amateur radio operation was actively discouraged or even illegal. Fortunately, there were far-sighted individuals who understood the problem and were able to find a solution. In 1925 they met in Paris and formally created the International Amateur Radio Union or IARU (IARU, 2016).

The IARU is recognized by the International Telecommunication Union (ITU) as the representative of the interests of radio amateurs throughout the world. It is the voice of amateurs in the offices and meeting rooms of the ITU and regional telecommunications organisations, where the decisions affecting our future access to the radio spectrum are made (after IARU, 2016).

The Official Version

The official version listed under "Amateur Operating Procedures" by the ACMA (2015) is reproduced below:

Letters

Letter	Code words	Spoken as
A	ALFA	AL fah
B	BRAVO	BRAH voh
C	CHARLIE	CHAR lee or SHAR lee
D	DELTA	DELL tah
E	ECHO	ECK oh
F	FOXTROT	FOKS trot
G	GOLF	GOLF
H	HOTEL	hoh TEL
I	INDIA	IN DEE AH
J	JULIETT	JEW lee ETT
K	KILO	KEY loh
L	LIMA	LEE mah
M	MIKE	MIKE
N	NOVEMBER	no VEM ber
O	OSCAR	OSS cah
P	PAPA	pah PAH
Q	QUEBEC	keh BECK
R	ROMEO	ROW me oh
S	SIERRA	see AIR rah
T	TANGO	TANG go
U	UNIFORM	YOU nee form or OO nee form
V	VICTOR	VIC tah
W	WHISKY	WISS key
X	X-RAY	ECKS ray
Y	YANKEE	YANG key
Z	ZULU	ZOO loo

Numbers

Number	Spoken as
1	WUN
2	TOO
3	THUH-REE
4	FO-WER
5	FI-YIV
6	SIX
7	SEVEN
8	AIT
9	NINER
0	ZERO

(Source: ACMA – 2015)

Pronunciation

The ACMA have provided these tables as a guide for all amateurs to follow. They have also provided a rough assistance with pronunciation, suggesting that "Emphasis should be placed on the syllable which is shown in capital letters" (ACMA, 2015).

In Conclusion

Protocol is important in amateur radio; without it we would descend into chaos. Amateurs do not want the chaos and abusive nature of the effectively unpoliced "Citizen bands". We go through extensive training not only in technical areas but also in regulations and protocol in order to avoid descending into chaos.

The International Radiotelephony Spelling Alphabet (NATO Phonetics), and its usage, are a key part of the on-air protocols that we as amateurs internationally should adhere to. Therefore, we all must make the effort to use this – not only so that our signals and callsigns can be easily heard, but also so that we do not let standards slip. We must set examples not only for our new operators but also to other operators internationally – some who abuse these protocols considerably and as a result are rather difficult to understand in our part of the world.

Note that this article is only designed as a brief overview – somewhat of a "reminder" to all Amateurs that we do have protocols and conventions that we follow in amateur radio. I would actively encourage others with a passion for the history of the development of radio to expand this article and its concepts further as there is a lot that can be learned from this.

As I state in most articles, the acronym "HAM" can be broken down into the words "Help All Mankind". Perhaps just this simple adherence to an IARU and hence ITU standard is just one way of assisting all in the

amateur community making better communication with each other?

73

Steve Ireland VK3VM / VK3SIR

Assessor: 3-072

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Contests

Trent Sampson VK4TS

e *vk4ts@wia.org.au*

Contest priorities for November

Contest	Date (UTC)	Rules	Difficulty	Software	Modes
WAE DX	12/13 Nov	*http://www.darc.de/der-club/referate/dx/contest/waedc/en/rules/*	Easy Fun Setup +++	N1MM/TR4W	RTTY
JIDX Phone	12/13 Nov	*www.jidx.org*	Easy Fun	N1MM/VKCL	SSB
Spring VHF-UHF Field	26/27 Nov	*www.wia.org.au/contests*	Easy Fun	VKCL	SSB CW Digital
CQWW DX	26/27 Nov	*www.cqww.com*	Easy Tough 48 hours	N1MM/TR4W/VKCL	CW

Some ideas on entering the contest

WAE RTTY

In the RTTY portion of the WAEDC there are no continental limits; everybody can work everybody. Only QTC traffic must be performed between different continents. QTC means previous QSO and exchange that you send to a new station.

Every station may send and receive QTCs. The sum of QTCs exchanged between two stations (sent plus received) must not exceed 10.

This does take some preparation time but is very well implemented in N1MM and Writelog. Basically they have the QTC traffic ready to go at

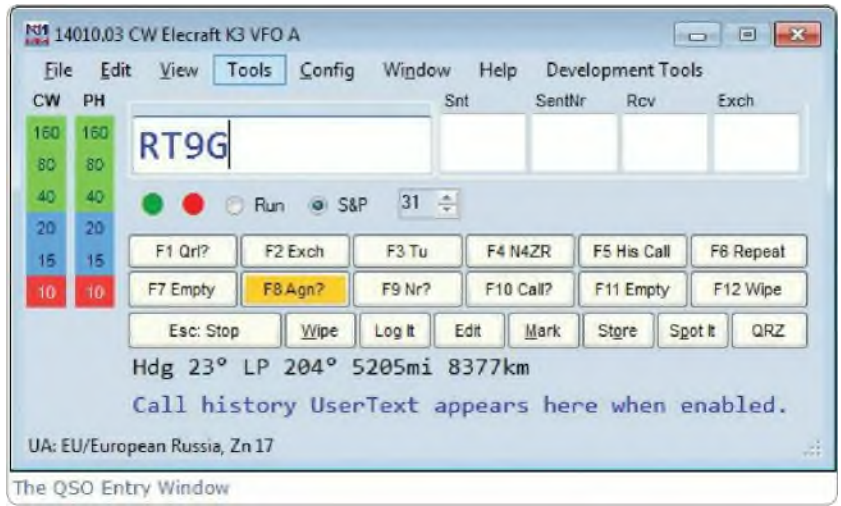

Photo 1: The N1MM software Entry Window.

the push of a button. Check them out with a Google search and you will be surprised how good you can make RTTY.

JI DX Phone

If you are chasing JA Awards this contest is a must do - all with the All Asian DX Contest, the JIDX concentrates on our Northern neighbours and effectively there is a band open to Japan 24 hours a day. Simple exchange is the Signal report and CQ Zone.

WIA VHF/UHF Field Day

This year the Spring Field Day clashes with the CQWW CW. Moving it back one weekend may be worth looking at, but such is the lot of the Contest Manager. This is the last chance to grab points in the WIA Peter Brown VK4PJ Contest Champion Trophy.

There are more certificates and categories here than you can poke a stick at as the committee has still not made a decision as to what is best for the contest; Distance Based or Grid (traditional).

So while the loophole exists jump on a have fun.

Read the rules and select categories ruthlessly.

CQWW DX CW: The Daddy of them All

If you have never tried this contest, it is the big one. Typically over 60,000 different callsigns are on for the weekend. Every band from 160-10 m has activity and for the DXers there is always a glut of new countries and zones.

We try to target DXCC on our prime bands as motivation and keep an eye on the run rate to decide on band change opportunities. Having a second radio is very hand to help decide change time. Depending on the category you are entering Cluster use helps options but expect it to be over flowing with information. Prepare to filter out unwanted spots.

Contesters Tricks

N1MM+ and why it is so good

Like the VK3AVV-produced VKCL, N1MM+ is a labour of love and has been at the forefront of international contesting for some time.

Photo 2: Screen view of the N1MM+ package.

Completely set up N1MM offers: CW RTTY PSK and SSB Contest capability.

In the simplest form, N1MM+ offers an entry window and a log scoring mechanism and then you can tailor it to be as advanced as possible. **It is not a good general logger.**

Networking support is excellent including chat between multi-op stations.

CW RTTY and SSB Messages are all supported (you will need an interface).

Interfacing to CW Skimmer / RBN and Spotting networks is extensive.

To setup N1MM follow the extensive documentation on the website - do not be afraid to ask questions regarding setup.

Minimum Hardware Requirements

N1MM Logger+ incorporates the latest multi-threading technology and will take full advantage of multi-core CPUs. It is difficult to set an absolute minimum configuration that will work under all circumstances. A single-core 1.6 GHz processor is probably the minimum required but the CPU requirements depend quite heavily on which program options, modes, etc. are selected. So, this may not be adequate depending on how you use the program. The program itself does not require a large amount of memory, but the more memory you have, the more smoothly Windows multi-tasking works.

Photo 3: Trent VK4TS with Alan VK4SN (seated) at the VK4SN station.

The recommended minimum graphical resolution is 1024 by 768 (SVGA) or 1366 x 768 (720P) for wide-screen monitors, with many hams running higher resolutions and dual screens. At vertical resolutions of less than 768 pixels, like many netbooks, several of the larger windows will not fit entirely on the screen.

Radio control can be done through serial ports or through a USB-to-serial adapter. CW keying, FSK RTTY and PTT can be done through serial or parallel ports through a USB-to-serial adapter or through K1EL's Winkeyer (an excellent solution which offloads CW processing entirely). For PTT with MMTTY, an extra serial port is needed. For AFSK, PSK31 and other modes requiring audio interfacing, the same methods described for phone interfacing can be applied.

USB-to-serial converters and USB interface devices are supported through virtual serial ports provided by their associated driver software. USB-to-LPT converters cannot be used for either SO2R control or CW/PTT functions, except for the PIEXX SO2RXLAT (which is specifically designed for this purpose).
Source: *http://n1mm.hamdocs.com/tiki-index.php?page=PC+Requirements*

NOTE: Windows only from XP Service Pack 3 onwards is supported.

Next month we will look at VKCL Super Tweaks.

This month we asked the questions of one of regulars on the Australian Contest scene.

Contester of the Month VK4SN

Alan is well known as the manager of the RD Contest, a regular winner of the Peter Brown WIA Contester of the Year Trophy and a regular in VK4 Contest teams.

Alan's website *www.vk4sn.com* is full of contest ideas and heavy in detail from rig setup to entire station arrange.

Photo 4: Alan VK4SN receiving the WIA Contester of the Year 2014 Peter Brown Trophy from Kevin VK4UH.

What is your favourite Contest?
I love all contests. Each one has its own unique rules and strategies and may require different setups and antenna types to gain advantages.

What is your favourite Rig?
Yaesu FT-2000. It's a great radio and settings are easily made on the fly by the multitude of knobs on the front panel.

What modes do you contest in?
Mainly CW or mixed modes.

What is your favourite contest band and why?
I don't have a favourite band but 20 metres would be my least favourite.

What is your preferred Contesting Software?
N1MM Contest Logging Software because it allows full integration of sending and receiving different modes, and keyboard control of more than one radio. It has excellent network, cluster and rotator capabilities. User defined contest function allows programming of some VK contests.

What is your preferred Mic?
Heil Pro-Set Plus because they're comfortable on the ears and have 40 dB attenuation of outside noise. Two microphone types are available which allows rag chew with excellent quality and dynamic range and a higher tone one more beneficial for contesting.

What is your best tip to a newbie contester?
Join a club and tap in to experienced ops. Try VK contests as a starting point to build up skill levels. To maximise one's score, stay on one frequency and call CQ. Searching and pouncing most of the time will waste precious time and result in minimal contacts. I normally only S&P once or twice per hour and do a sweep up and down the band then go back to running. If you have a good run happening then stays running and wait till it gets quieter to search for others. Remember to send in your log!

Contest Terms

Run = Call CQ and stay on the same frequency.

Search and Pounce = Tune across bands looking for stations calling CQ.

Multiplier= a station that increases your score owing to contest rules.

Multi - Short for Multiple operator or transmitter.

VK4TS Trent is the admin of VK Contest Club (VKCC) web (*www.vkcc.com*) and Facebook pages and has been an active contester since the 1970s.

Emails can be sent to *vk4ts@wia.org.au*

Spring VHF-UHF Field Day 2016: the Farnham encore

Roger Harrison VK2ZRH

Spring 2016 Event Dates

Saturday 26 and Sunday 27 November

Duration, all call areas other than VK6
0100 UTC Saturday to 0100 UTC Sunday

Duration in VK6 only
0400 UTC Saturday to 0400 UTC Sunday

A Spring Haiku

Spring air stirs in silent rigs.

Beams and dishes turn to break the silence...

Pop idol John Farnham (formerly Johnny Farnham) is famous for his "final" encore concerts. Reflecting that meme, the rules for this event remain the same as the Winter event, even though I foreshadowed that there would be an Options Paper published to canvass views about the rules for, and conduct of, future VHF-UHF Field Days. I've had to postpone it to concentrate on WIA efforts advocating future licence conditions, and responding to the ACMA's consultation on the Australian Radiofrequency Spectrum Plan as well as the Federal government's proposals for the new Radiocommunications Act. I'm sure contestants would like a new band or two to play on in future contests, wouldn't you?

As before, the two Divisions are retained for this event – grid-square scoring and distance-based scoring. The Sections and Sub-sections, the two-hour re-work period and the exchange of 6-character locators for all contacts remain the same as for the 2016 Summer and Winter contests.

About your contest strategy

The **Single-band only** Sub-section is designed to encourage newly-licensed operators, those new to the bands above 30 MHz, those returning to the hobby after a period of absence, or any operator who takes it in mind to join in casually.

If you're in this group, but have your act a bit more together, consider entering the **Four-bands Sub-section**. At a minimum, you can operate on any two of the bands 6 m / 2 m / 70 cm / 23 cm, or three, or the whole four.

A founding principle of the Field Days is to spend time outdoors and have fun, so the Single-band and Four-bands Subsections meets that philosophy and provides a taste of that for newbies. Look out, you might get hooked!

For those who are 'old hands' at VHF-UHF Field Day shenanigans, why not invite an F-call or Standard to join you in the field. Or, invite an F-call or Standard to your home QTH for a few hours of the contest.

Likewise, if you know someone returning to the hobby, get them involved and mentor them through the process of making contest contacts. You never know what might happen.

Acquaint yourself with the **Contest Radar** website (*www.contestradar.com*). Enter your planned portable location (4- or 6-character locator), or your home QTH, along with other salient station details. The website will display your details on a map – along with the fleet of other stations doing the same. You can see at a glance who is where. Notably, the website is integrated with the VKCL logging software.

The Rules

Sections

A: Portable station, single operator, 24 hours (A1) OR 8 hours (A2).
B: Portable station, multiple operators, 24 hours (B1) OR 8 hours (B2).
C: Home station, 24 hours (C1) OR 8 hours (C2).
D: Rover station, 24 hours (D1) OR 8 hours (D2).

Note that 8 hours means any period up to 8 hours (but the period must be contiguous); i.e. you can submit a log for a few contacts (even just one!). Likewise, 24 hours means any period from 8 hours up to 24 hours.

Sub-sections

(a) Single-band only: any single band permitted on the operator's licence.
(b) Four-bands: 6 m/2 m/70 cm/23 cm – any two, up to the four – only.
(c) All-bands: all bands 50 MHz-up permitted on the operator's licence.
(d) Digital: contacts using non-voice digital modes (e.g. FSK441, JT4, JT65, MAP65, PSK31, RTTY, etc) are encouraged for any Section–Sub-section, but entries must be submitted in a separate log, scored separately. Operators may submit a log for any other section in addition to

their digital log entry. 'Digital' means those modes where the received signal is decoded by a computer.

Stations entering the all-bands sub-section cannot enter additional logs for the four-bands or single-band sub-sections.

A station operating on any number of bands cannot enter the single-band section for each band they use.

That's not in the spirit of this section!

General Rules

There are two Divisions:
Division 1 scores contacts on the basis of Squares (4-character locator) worked.

Division 2 employs distance-based scoring. Operators may enter either Division 1 or Division 2, or both. See the scoring rules below.

A Square refers to the Maidenhead Locator system definition – as denoted by the 4-character locator. To facilitate scoring for Division 2, all stations are required to exchange Sub-Square locations (i.e. the 6-character locator).

Operating periods:
Stations may elect to enter either a 24-hour section or an 8-hour section, but not both. Those stations entering the 8-hour sections may operate for more than eight hours, and nominate which 8-hour period they wish to claim for scoring purposes, ***but the 8-hour (or lesser) period submitted has to be contiguous.***

Rover stations:
The Rover section is for all portable or mobile stations that operate from more than two Squares or that change Squares more than twice; i.e. Square A to Square B to Square C, etc, or A-B-A-B etc. However, a station may move from Square A to Square B and return to Square A, without having to enter as a Rover.

Entering more than one section:
If a Portable or Rover station spends part of the contest period operating from their home station, they may also enter the Home station section.

Two operators:
If two operators set up a joint station with shared equipment, they may choose to enter Section A or C as separate stations under their own callsigns, or Section B under a single callsign. If they enter as separate stations, they may not claim contacts with each other.

Multi-operator stations:
Portable stations with more than two operators must enter Section B under one callsign. Operators of stations in Section B may not make contest exchanges using callsigns other than the club or group callsign.

Home stations may enter as a multi-operator station, but only one callsign can be used.

Operating Rules

One callsign per station. Operation may be from any location. A station is portable only if all of its equipment is transported to a place that is not the normal location of any amateur station. You may work stations within your own locator Square.

Portable stations may change location during the Field Day,

The VK3ALB VHF-UHF Field Day caravansery.

provided that the station is dismantled and reassembled at each move.

Repeater, satellite, EME or crossband contacts are not permitted.

Except for CW, no contest operation is allowed below 50.150 MHz. Recognised DX calling frequencies must not be used for contest activity. Suggested procedure for SSB stations is to call on .150 or higher on each band, and QSY *up* to make the contest exchange.

Stations may enter either Division 1 or Division 2, or both.

About Contest Exchanges

RS or RST reports, a serial number, and your **6-character** Maidenhead locator (the Sub-Square). The

Maidenhead locator is optional if it has already been exchanged in a previous contact during the Field Day and neither station has moved since then.

Note that Squares must be used for Division 1 scoring calculations.

For digital contacts, as RS or RST reports plus serial number make for a cumbersome exchange, it is sufficient to exchange callsigns and 6-character locators, plus two further digits that cannot be predicted by the other station. This is similar to the practice used in the annual Ross Hull contest. However, when compiling your log to enter the contest, include a unique serial number for each successful contact.

Repeat Contacts – Re-work Period

Stations may be worked again on each band after two hours have elapsed.

If either station moves to a new location in a different Square, repeat contacts may be made immediately.

If the station moves back into the previous locator Square, the re-work period limit of two hours still applies to stations worked from that Square previously.

Your Log

Your log should cover the entire operating period and include the following information for each contact:

UTC time, Frequency, Station worked, Serial numbers and locators exchanged.

- All-band stations cannot submit a separate log for a single-band or four-band entry.
- Logs for a single-band operation must not include any contacts on other bands.
- Logs for a digital operation must not include any contacts using non-digital modes.
- Logs for a four-band operation must not include any contacts on other bands.

Division 1 Scoring

For each band, score 10 points for each Square (4-char. locator; i.e. the first 4 characters of your 6-char. locator) in which your station operates, plus 10 points for each Square worked, plus 1 point per contact.

Multiply the total by the band multiplier, as follows:

6 m	2 m	70 cm	23 cm	Higher
x 1	x 3	x 5	x 8	x 10

then total the scores for the bands used. Thus, the score is based on totalling the number of locator Squares worked and the number of contacts made.

Division 2 Scoring

All contacts are scored on the basis of one point per kilometre, multiplied by the scoring Multiplier for each band in Table 1, with points/100 km applied after 700 km for 6 m, 2 m and 70 cm, to 'flatten' scores for DX experienced under enhanced propagation conditions on these bands. A 200 km contact on 432 MHz would be 200 x 2.7 = 540 points. A 1000 km contact on 50 MHz would be 703 x 1.7 = 1195.1 points.

The distance error of using Sub-Square (6-character) locators is small and accuracy is sufficient for the purposes of this event. Distance is calculated from the Sub-Square centre.

Total the scores for the band or bands used.

Submitting Your Logs

Only electronic logs in ASCII text (.txt) format are being accepted now. **Note:** If any operator participating in the contest has a genuine disability or other impediment preventing submission of a digital log, a paper log will be accepted, provided it reaches the WIA National Office by post or fax by the deadline time and date.

The free VK Contest Log (VKCL) software, from Mike VK3AVV, caters for the VHF-UHF Field Days (including Division 1 and Division 2 scoring) as well as a host of other contests. You can download it from:

www.mnds.com.au/vkcl/

A Cover Sheet must be included with your log, which clearly states:

- the Contest event (i.e. Winter 2015 VHF-UHF Field Day) and its date;

Band	Multiplier	Distance Scoring
50 MHz	1.7	1 point / km to 700 km; thereafter 1 point / 100 km or part thereof
144 MHz	1	1 point / km to 700 km; thereafter 1 point / 100 km or part thereof
432 MHz	2.7	1 point / km to 700 km; thereafter 1 point / 100 km or part thereof
1296 MHz	3.7	1 point / km
2.3/2.4 GHz	4.4	1 point / km
3.4 GHz	5.4	1 point / km
5.7 GHz	6.4	1 point / km
10 GHz	7.4	1 point / km
24 GHz & up	10	1 point / km

- Division 1 / Division 2 (as appropriate);
- the relevant Section–Sub-section and the Period (24 hr or 8 hr);
- Name and Callsign of operator submitting the entry; Names and Callsigns of other operators for Multi-operator stations;
- contact email address; mailing address, and
- a declaration that the operator/s have abided by the rules.

Upload your logs via the WIA website Field Day Log File Uploader, at:
www.wia.org.au/members/contests/upload/

Logs must be received by midnight, Monday 12 December 2016. Early logs would be appreciated.

Certificates

Each top-scoring station in every Section–Sub-section will receive a colour certificate in .pdf format, sent to the contact email address on their log cover sheet.

In addition, colour certificates will also be sent to the top-scoring Foundation stations.

Check Website for Updates

Check for any updates or advisories on the VHF-UHF Field Days website at:
www.wia.org.au/members/contests/vhfuhf/

The Next Event

Consulting "An Algorithm to Determine VHF-UHF Field Day Dates", posted to the Field Day web page in July 2016 (so you've all had near-on six months' notice), the **Summer 2017 event** will be held over **Saturday 14** and **Sunday 15 January**.

References

1. Roger Harrison VK2ZRH, *The basis of distance-based scoring for the VHF-UHF Field Days*, Amateur Radio, June 2014, pp 11-13. Also posted on the VHF-UHF Field Days web page.

Participate

Summer VHF/UHF Field Day	14-15 January 2017
Ross Hull Memorial VHF/UHF Contest	January 2017
John Moyle Field Day	18-19 March 2017

SOTA & Parks

Allen Harvie VK3ARH

Photo 1: VK3CAT on Mt Scott W7O/CS-003.

Two mountain goats join the herd

Tony VK3CAT only started activating on 30 March 2013. Tony is an avid 4WD driver and bush walker. Taking this passion to SOTA and with the ever patient Nan, has showed the direction in VK with a string of activations pushing into the Alpine and other remote sites.

- 162 CW & SSB activations (he will take any contact from anywhere!)
- 96 Unique Summits
- 78 winter bonus points
- to achieve Mountain goat status 16 September 2016.

Tony maintains a blog that is a comprehensive source of information for anyone looking to activate: *https://vk3cat.wordpress.com/*

Not just activation information but equipment and access tips. A good read and highly recommended.

In true form, Tony gained the final points whilst on North American holiday with Nan patiently waiting for Tony to activate any summit within reach. This adventure is still in progress and available online - *https://vk3cat.wordpress.com/north-america-2016/*

Al VK1RX first heard about SOTA from Andrew VK1DA at local ACT VHF/UHF get-to-together. Even before SOTA, he was keen to get out to explore local summits in an effort to find the perfect VHF/UHF field day summit. SOTA gave him the ideal opportunity to undertake this research.

Al started activating on 2 February 2013 from a local summit 1 km away from his QTH. Initially his SOTA pack weighed 25 kg but now his pack is down to about 15 kg. An Icom IC-706MKIIG has been used for all activations with linked dipole (40 m, 20 m, 15 m, 12 m, 10 m and 6 m) supported by a 7 m squid pole. For the first 12 months, Al used an 8 Ah lead acid battery to power up his SOTA station but now he uses a much lighter 8.4 Ah 4S LiPo 13.2 V battery.

Al's SOTA Activation summary:

- 213 SOTA summits activated
- 78 unique summits activated
- 123 winter bonus points (Al's a keen winter activator)
- Achieved Mountain Goat status 24 September 2016.

Al is keen on the physical challenge especially hiking to the tops of new and more challenging summits. He undertook his first dual activation with Andrew VK1AD – many more followed with Andrew, including a memorable one day 32 km winter

Photo 2: VK1RX working Matt VK1MA in Canberra from Mt Nungar in the Snowy Mountains.

hike to Sentry Box Mountain in the Namadgi National Park, many 20 km plus hikes and several overnight SOTA hiking and camping trips.

Other dual activations with Ian VK1DI, Andrew VK1DA, Andrew VK1MBE, Adan VK1FJAW, Tony VK1VIC and Rod VK2TWR (Rod introduced Al to the Snowy Mountains – now some of Al's favourite countryside in Australia).

Also an active chaser, Al's first SOTA contact was with Andrew VK1AD from his front yard while testing out 40 m dipole for SOTA activations. Al is a regular in my activation and chaser logs.

Al acknowledges the important things about SOTA, the friends you make, the countryside you see, the chasers that contact you and the adventures you have while enjoying amateur radio and hiking.

Congratulations go to Tony and Al. I look forward to working you both more in the future.

VK4 Activation News September from Rob VK4FFAB

VK4 continues to be a hot bed of activation activity, with 11 SOTA activations and 15 WWFF activations for the month. With good weather and warm but not hot days October should also provide plenty of opportunity for activators to get out and put some parks and peaks on the air.

Lawrie VK4SQ joined me in Hays Inlet CP for his first activation of a park. We had a ton of fun and made plenty of contacts on both 40m and 20m. With a bit of luck we might have another regular VK4 activator in the making.

Bill activated a couple of parks in western QLD on his way out to Emerald for a hamfest. With weather making the travelling conditions into the parks a little on the difficult side. Dirt roads and rain do make for some interesting time. Bill had to go back to one park and finish it off rather than get bogged and be stuck there for a month.

I also found out the hard way that 2WD and clay in Connondale NP do not mix well. Getting bogged on a 5 degree incline made for some interesting times!

International visitors David, Sid and Adele have been busy flying the SOTA flag and have been out activating some peaks this month. Well done guys and I do hope you are enjoying your stay.

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Rob VK4FFAB

KRMNPA from Tony VK3XV

I have received an eligible Chasers Log from Ian VK1DI, containing contacts with all 45 VK3 National Parks. This gains Ian the KRMNP Merit Award.

Ian commenced chasing the 45 VK3 Parks in September 2012 with two contacts on the same day both with Peter VK3ZPF who was activating the Grampians National Park and later the Little Desert National Park. The final contact was four years later, almost to the day, with Rob VK4AAC/3 who was activating the Lower Goulburn National Park.

Great effort Ian! 45 Parks! Some VK3 Parks can be elusive, but your dedication ensured you bagged the lot! Well done! Thanks for participating and we look forward to future contacts on your VKFF adventures.

Cheers,

Tony VK3XV.

Upcoming Activities

QRP Hours contest to be run on 23 October. A separate section has been included for QRP portable stations running from battery or solar power. For more information, go to *vkqrpclub.org* or contact Andrew VK1DA.

Keith Roget Memorial National Park Award activation weekend 2016

11 to 14 November

The annual KRMNPA activation weekend is designed to encourage portable activities in Victoria's 45 National Parks. The weekend of 11 to 14 November will see most of Victoria's National Parks available for contacts. There are several still available to activate so view the parks to be activated or the list of parks being sought at *http://parksnpeaks.org/viewKRMNPA.php*

Contact Tony VK3XV or visit *https://www.amateurradio.com.au/awards*

WWFF Activation weekend

26 to 27 November.

Contact Paul *VK5PAS@via.org.au*

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Allen VK3ARH.

VHF/UHF - An Expanding World

David K Minchin VK5KK

Introduction

Hello again. This month we have news on some early Tropospheric openings across the southern parts of Australia as well as the 144 MHz world record that wasn't! In the technical corner we have part three of the microwave local oscillator series discussing surplus PLL sources as well as Kevin VK4UH's Meteor Scatter report.

2016/2017 Tropo Season

Last month's section on the Indian Ocean Dipole (IOD) was not meant to be timely! The extreme weather that occurred through southern VK5 and parts of VK2 and VK5 late September 2016 was a direct result of the record IOD temperature variations in the Indian Ocean. The peak that occurred early in September gave an almost text book display of what happens when everything lines up. Indications are that the effects will be with us till November.

Meantime in between the IOD events there has been some emergence of Tropo across VK2, 3, 5 and VK7 with some contacts out to 900 km around early September as well as early October. Nothing recorded across to VK6 at this stage, last year we did have one Tropo opening early October.

Conditions according to Hepburn looked promising in the near Pacific towards ZL however the only "overseas" report so far has been VK4KSY copying the FK8ZHA (Noumea) repeater on 146.700 MHz at RST 51 on 7/10/2016 at 2317 UTC.

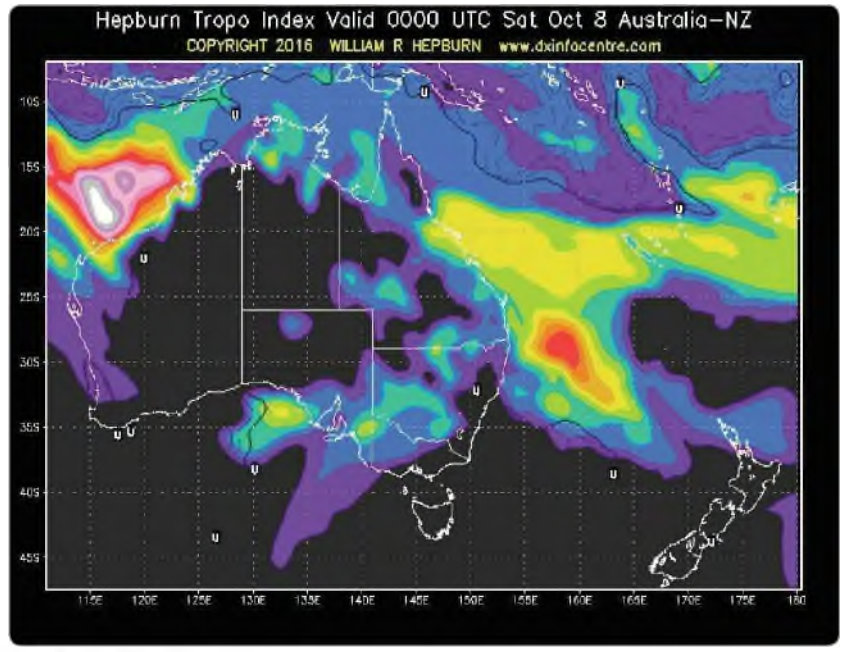


Photo 1: Hepburn Chart for 8/10/2016.

New 144 MHz World Record that wasn't!

The excitement of a possible new world record on 144 MHz between South America and South Africa was short lived. On 4/5 October, it was reported that signals were copied both ways between PY1MHz and V51PJ over 5987 km, over 1200 km further than the current record between KH6HME (SK) and W1LP/MM set in 1999. The mode used was the new QRA64 mode available in the WSJT-X 1.7 Release Candidate 1 software released for testing in the past few months. The first clue something was wrong was inconclusive Hepburn data, unfortunately it would seem a combination of operator error and pre-release software "created" the reports. *QRZ Now reports:*

"The reported transatlantic 2 meter contact between PY1MHZ in Brazil and V51PJ in Namibia turned out to be a false alarm, based on an incorrect interpretation of screen captures from the event - possibly the result of using an unreleased "development" version of the WSJT-X protocol's QRA64 mode"

"As initially reported, extremely weak signals using QRA64 were received and decoded on both the African and European ends of the path across the southern Atlantic. Screen captures of the protocol software were supplied to document the contact, but the software's lead developer, Joe Taylor, K1JT, noticed debugging information, indicating that a prototype version of the protocol was being used. On closer inspection, the indicator

values showed that the decodes were probably based on call sign information being known in advance, as is common with scheduled contacts."

From sources it would seem that both V51PJ and PY1MHZ have been working towards this for some time. Equipment used: PY1MHz 2 x 12 element Yagis, 400 Watts PEP + Preamp, V51PJ 2 x 13 element Yagis with 1000 Watts. We hope they can move on from this "False start" and wish them good luck!

VK5RSE Beacon Update

Last month I reported on the VK5RSE Beacon update. A further update from Colin VK5DK:

"Just advising that the VK5RSE 144.550 MHz, 432.550 MHz and 1296.550 MHz beacons are back on air. The 144.550 MHz beacon has three different modes JT65B, JT4D & CW & 1296.550 MHz beacon is running JT4F & CW. Any reports welcome to my email address vk5dk@bigpond.com

When in JT4D or JT65B mode, the current temperature / highest temperature for the (UTC) day is sent every ten minutes, otherwise the decode is VK5RSE QF02FL"

John VK5DJ reports further *"The temperature measurement in the non CW digital modes of the new beacons is the temperature measurement of the heatsink for the PA. The repeater/beacon shack on Mt Graham near Millicent can get very hot in summer so if the fan cooled heatsink gets too hot we'll remote turn off beacons starting with the highest frequency first."*

Converting beacons to use digital modes is an obvious transition; it will improve their usability and help automate the discovery of openings. All we need now is a simple program looking at WSJT-X ALL.txt files for a target beacon callsign to set off an alarm!

The microwave Local Oscillator Part 3

This month we will talk about surplus microwave PLL sources but firstly some information and feedback on those Chinese PLLs appearing on eBay after last month's discussion.

There are at least half a dozen different PLL variants now on eBay all using the "ADF4350/1" PLL. A bit more feedback from "the field" confirms what was suspected that not all have been created equal! Firstly, there is a fair variation in pricing from $25 to $60 for a bare PLL PCB. Some now do have an on board controller and even an LCD display; all of these are priced $60 - $200.

There is a great variation in construction quality. One of the cheapest ones clearly has all the SMD components being hand loaded, surprisingly it works better than most (a good PCB design). Not

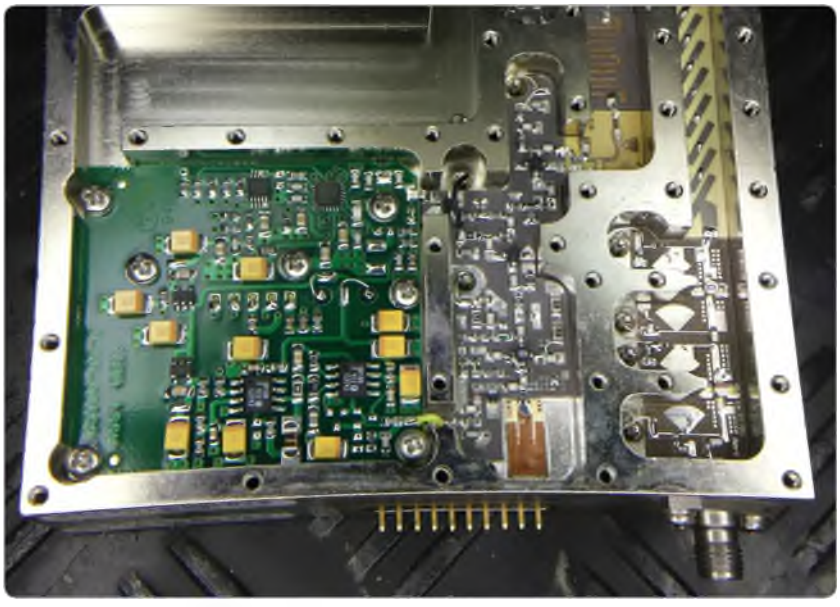


Photo 2: Elcom LCDSL1201 PLL Oscillator – GHz PLL side.

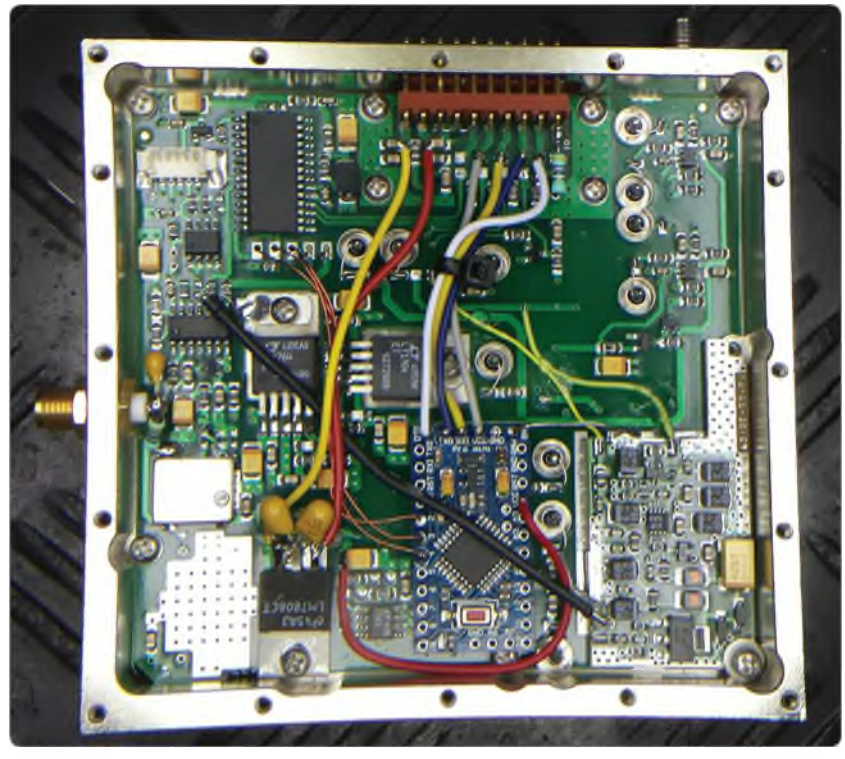
all designs follow Analog Devices spec sheet, Iain VK5ZD found this out when he was investigating why he had significant noise issues when multiplying from one. He discovered on the particular PLL he has that 4 of the 6 DC supply pins on the ADF4350 don't have individual bypass capacitors; all pins are simply connected together! Another type tested does have the correct number of bypass capacitors but they all seem to be the same value! It has minimal DC rail bypassing, no tantalum capacitors and a standard (not low noise) 3.3 V regulator. There were significant spurs +/-10 MHz as well as related products evident across the spectrum.

All PLLs seen so far seem to use genuine ADF PLLs; they at least passed the wet finger attempt to rub off the printing! But there has been at least one report of an ADF4351 not working below 135 MHz i.e. the chip is probably a reject or maybe just cheaper ADF4350 rebadged. In summary, it is safe to say that they are fine for use as a signal generator or other less demanding jobs. Indeed some are quite clean at 2 - 3 GHz on a spectrum analyser so OK for direct use there. But when you multiply most of these PLLs 4 or 8 times you do start to see excessive phase noise, spurs, etc. As always, it is caveat emptor.

OK now we will discuss surplus microwave PLL sources. We will focus on a couple of types that operate above 10 GHz originally intended for use in mmWave links. Given the era from which these come, none use "on chip" VCOs, beneficial for the reasons we discussed last month. Most use either a conventional "VCO" using a GAsFET or a Dielectric Resonant Oscillator (DRO). The "Q" of the oscillator resonator is a significant factor in the PLL's performance; unfortunately this usually means a much reduced frequency range. There are some DRO PLLs on the market that are quite cheap and good performers but on some unusable frequency. Unless you can find another DRO "puck" on the right frequency they make a great paperweight.

The Elcom series of PLL Microwave source is a popular GHz oscillator for 24 GHz and above since they first started appearing around 2010. These have all come from dismantled Ceragon microwave Outdoor Units (ODUs) original designed for use on various frequencies from 18 to 38 GHz. All these ODUs date from the late 1990s to around 2006. Unfortunately the newer ODUs appearing use integrated PLLs on one PCB (to save cost) and are hard or impossible to modify.

Photo 3: Elcom LCDFSL1201 PLL Oscillator – DC Control side with Arduino.



A number of eBay vendors (mostly in Israel) have sold hundreds of Elcom PLL sources over the last 5 - 6 years. There are a number of different variants (and 2 models) as they were built specifically to suit various ODUs. All use very similar control circuitry so the same controller can be used. Verticom also manufactured an equivalent range with the same 10 way header pin out and format that is almost a plug in replacement. Both Elcom and Verticom PLL sources were made for 4 different frequency ranges across 10.55 GHz to 13.35 GHz. The most common are 11.2 to 12 GHz in either as used in 26 GHz ODUs. All have a minimum output of +13 dBm.

Early Elcom PLLs with a part number starting with "DFS" use a 100 MHz reference and mostly a PMB series PLL with an external prescaler. The PLL runs around 1.5 GHz and is then mixed with a 9 - 11 GHz fixed signal multiplied up from the 100 MHz reference. Not a bad scheme but requires a low noise sine wave reference on 100 MHz. The internal oscillator was never designed to be used with narrowband modes, so the GHz output drifts with temperature 5 - 10 kHz! An external 100 MHz OCXO or GPS source is required, a bit of a complexity vs. a 10 MHz reference!

The latter and perhaps more desirable Elcom PLL sources have a part number starting with "LCDFS". These almost exclusively use an Analog Devices ADF4252 PLL with an external VCO using a ceramic substrate resonator. If you look at the Elcom GHz side (Photo 2), the resonator is the copper "E" near the header pins in the photo. The VCO runs on a frequency between 2 - 3 GHz and is then multiplied 4 or 5 times to the final frequency. The reference is a 10 MHz TCXO that can be easily replaced by an external 10 MHz reference.

All Elcom PLL sources have an internal PIC 16F877 to control the PLL and various housekeeping functions. Each time an Elcom PLL is powered it needs an SPI code string sent externally to it through pins 5, 6, 7. The most popular way to do this is with a 12F675 MHz PIC. You will find various references on the web; the original article was done by Dave Robinson G4FRE for the Verticom PLL sources *http://www.mavin.com/pdf/Using-1500-Oscillators.pdf*

Using the original frequency programming of either the Elcom or Verticom PLL sources comes with a moderate limitation. As all were originally intended for wideband links the frequency steps are 3.333 MHz! Also both types have programmed band limits that only allow +/- 50 MHz operation outside of the published band. You can be lucky and get a frequency close to a "rounded MHz" but more usually you need to look at different IF frequencies to the usual 144/432 MHz. i.e. for 47088 MHz we use a 448 MHz IF, the LO is 11660 x 4 = 46640 MHz.

There is a way around the 3.33 MHz steps, bypass the internal PIC and directly program the PLL chip. A couple years ago Rex VK4REX mated up an external 18F2520 PIC controller to directly program the AD4252 in the LCDFS types. It can also be done in the older DFS types but with some code changes. This enables you to "open up" the Elcom PLL source and use more friendly steps like 0.5 - 1 MHz. I've made a quite a few of these with various controllers. Rex's idea has been copied by quite a few around the globe; the most recent version was published in the October 2016 UK microwave group newsletter using an external Arduino controller with the earlier DFS type.

Once the Elcom is opened up you will find the VCO works over a far wider range before performance drops off. It also allows you to experiment with the various ADF4252 parameters (charge pump current, etc.) to better optimise its spectral purity. The final frequency bandpass filters are at least 1 GHz wide on all models. For example, a 10.575 to 11.54 GHz Elcom can operate down to 10.2 GHz with no modification, if you want to add some "L" to the VCO resonator you can go down to 9.9 GHz. The filters can be lowered in frequency by placing some dielectric on the top of them. The passband of the filter can be easily shifted down in frequency by 500 – 1500 MHz; any lumps caused are not really an issue as we are usually only interested in one frequency.

Conversely I've been able to modify a 12.65 - 13.35 GHz Elcom to go up to 13.6 GHz. The target was 13535 MHz (122 GHz LO), with some judicious trimming of the VCO resonator and snowflaking the output stages to peak the output to +15 dBm. When attempting to raise the upper frequency limit, make sure that you have 12 - 13 Volts on pin 2. The varicap diode needs close to 10 - 12 Volts to tune the resonator to the upper frequency end else it simply won't lock or will be subject to temperature instability.

For interest you will see a photo of the DC side of one of my newer modified LCDSF1201. The aim was to mount everything inside including the 8 volt regulator and an Arduino Pro Mini controller. The only external connections to the Elcom are now +12 V, GND and an external PLL lock LED. The internal 10 MHz TCXO has been disconnected and a SMA mounted on the side for an external reference. The header pins have been modified to route the RXD/TXD/DTR connections to a standard plug in FTDI USB adapter to make frequency reprogramming easy. This one is programmed to 11736 MHz (times 4 = 46944 MHz + 144 = 47088 MHz).

Elcom PLL sources are still available on eBay; the other ones to look out for are Verticom PLL Sources. They are physically similar to the Elcom and have the same pin out/programming requirements. The Verticom PLL sources use a DRO oscillator and they have a better internal OCXO that the Elcom. They are noticeably cleaner than the Elcom. I use one on 24 GHz still with its internal OCXO; it is usually stable enough after 10 minutes for SSB operation. If you want to externally lock them it is a bit more complex, the OCXO is usually on a high frequency (around 52 MHz), so you

need to construct a separate locked oscillator in the same fashion as you do for the older Elcom DFS models.

Another DRO PLL source is the Herley CTI PDRO series (I think the P stands for programmable). They are about half the size of the Elcom and are a step better in specification. These are widely used in DL/OE in mmWave transverters up to 122 GHz. They use a 10 MHz reference but are have a limited +/- 100 MHz range around their nominal frequency. The other drawback is, as they are still used commercially, they cost nearly A$400! Beware when you look for these; make sure they have an external reference oscillator SMA connector. If not, it is probably just a Herley CTI DRO with no PLL.

Another source of DROs is old VSAT LNAs and BUCs. Look out for older NEC types; they all have very good DRO oscillators in the 12 - 15 GHz range. They are very clean, albeit a bit hard to move (old discrete PLL) and they rely on a 100 MHz reference.

I haven't spoken about the old harmonic lock type PLLs (Frequency West type). Often these were designed for -15 V supplies from the 1960/70s microwave link days. Personally I think their time has passed. Next month however I will discuss the ultimate PLL low noise system for mmWave use that combines old and new technology!

In closing

That's it for this month. Feel free to drop me a line if you have something to report. Contributions regarding club projects or proposed activities are always welcome. Just email me at *david@vk5kk.com* and I'll include it in the column.

73

David VK5KK

Meteor Scatter Report

Dr Kevin Johnston VK4UH

Although spring has *"sprung with a vengeance"*, at least here in VK4, and the rest of the country has been devastated by weather events of one sort or another, September remained in the doldrums for meteor scatter. As we turn away from winter into the spring season, the change of the earth's axis relative to the sun generally improves MS conditions as more *"rocks"* reach the optimum velocity before burning up in the pre-dawn peak to provide more frequent and strong meteor returns. The trend is there however and 50 MHz MS activity is improving and indeed persisting long after dawn. Hopefully 144 MHz activity will follow suit before this article gets to press.

By the time this article is being read, we should also have seen the Orionid Meteor Shower which was predicted to peak around 22 October 2016. Hopefully there will have been some enhanced activity to report from that major event in the next edition.

In previous reports, descriptions and the characteristics of a variety of new digital Meteor Scatter modes, as alternatives to FSK441, have been offered. FSK441 remains the mainstay of digital Meteor Scatter operation in VK and ZL. This *"workhorse"* mode from Joe Taylor's K1JT original WSJT software suite is now over a decade old. The introduction of the WSJT software suite marked a revolution in operating practice for amateurs all around the world, bringing digital EME, meteor scatter and a variety or other esoteric propagation modes into the hands of ordinary back-yard hams with modest, real world stations and antenna systems. Time does move on, however and very rapidly at times in the digital domain.

Over the last 18 months or so a number of new digital modes designed for MS activity have appeared. A review of previous articles either from the printed or digital versions of *AR* magazine, through Memnet and the WIA website, will give descriptions of many of these modes including PSK2K, JTMS, Iscat, JT6M, FSK315, JTMSK and MSK144. The variety of available modes is increasing; some are easier to use than others, some are very good but have proved unpopular for one reason or another, some are less than useful, some are forward error correcting and some offer automatic QSO advance for those that like this facility. In addition, there have been some complete software suites as alternatives to the original WSJT, these including MSHV and the very powerful but receive only MSRX package on offer, many with very attractive GUIs and screen options. The original WSJT suite designed by Joe Taylor himself has now *"morphed"* into two packages WSJT and WSJT-X. One focussing on the fast/burst modes for Meteor Scatter, Iono-Scatter and Aircraft Enhancement etc.; the other focussing on developments in slow-modes for EME and other extreme weak signal propagation modes. Ongoing development of WSJT and WSJT-X has now been passed to internationally based development teams from within the amateur community. Development has been rapid with developments and revisions occurring on an almost weekly basis. Too rapid to even follow at times, the developments eventually filter down to complete and tested software versions.

	Meteor FSK441	Scatter JTMS	Iono-scatter JTMSK	JT6M	ISCAT
T/R Period secs	30	30	30	30	30
Modulation type	4-FSK	MSK	MSK	44-FSK	41-FSK
Keying rate (baud)	441	1378	2000	21.5	43.1
Bit Rate (bps)	882	1378	2000	----	----
Characters/sec	147	197	286	14.3	32.3
Bandwidth (Hz)	1764	1378	2000	947	1809

Table 1: Transmission Parameters of the pre-existing "Fast Modes"

In an attempt to allow some practice and exposure to the newer MS modes, activity sessions have been running in parallel to the Sunday morning MS activity sessions. Since virtually all modes are incompatible, with the possible exception of PSK2K and FSK441 which can both be decoded in the PSK2K package, the *"new mode"* sessions have been run on 144.330, the secondary MS activity frequency in VK-ZL leaving FSK441 running on 144.230 as normal. This frequency and timing was selected to prevent the confusion from trying to compete on the same frequency with incompatible modes and also prevent conflict with the normal VK-ZL activity period on 144.330 on Saturday mornings. Notice and coordination has been through the VKLogger.

On UTC Sunday 24 September 2016 a JTMS session was run. General conditions were very poor over this weekend. Successful completions were achieved from VK4 to Matt VK1MT (QF44nm), Jim VK3II (QF21rn) and Arie VK3AMZ (QF22fe). JTMS appears as a full option in the later versions of WSJT and MSHV. Its operation is almost identical to FSK441 in terms of operation and reporting etc. although the data transmission rate is significantly higher in JTMS hence improved performance when conditions are poor on 144 MHz and received pings are of shorter duration.

On UTC Sunday 1 October 2016 a JTMSK session was run. General conditions were also average over this session. Successful completions were achieved from VK4 to Matt VK1MT (QF44nm), Darrell VK2BLS (QF55kk) and Arie VK3AMZ (QF22fe). JTMSK mode (as distinct from JTMS) is a new mode which has been available on a number of trial versions of WSJT-X and MSHV although not in either of the currently available packages. JTMSK was described by Joe Taylor himself as *"the potential replacement for FSK441"*. Using minimum shift keying and FEC this mode is potential capable of data throughput rates of almost twice that of FSK441. Those on air had previously downloaded the programs. Operation on JTMSK is quite different to FSK441. There is minimal flexibility in available text that can be transmitted, no options for multiple callsigns and simultaneous QSOs to be used and the report sent appears to be the DF (frequency offset) rather than a signal report for some inexplicable reason. That being said the impression was however that very little "ping" was needed to get a decode.

At this point the situation becomes confusing. Over the last few months it has been anticipated that the JTMSK mode was under rapid development and would appear in a full version of both WSJT-X and MSHV platforms. This however has not occurred. What has appeared however is yet another new mode MSK144, briefly mentioned here two months ago. There is now a suggestion that MSK144 may be the new and improved development from JTMSK, which will itself drop off the radar.

For those interested in these modes I suggest you have a look at Peter VK5PJ's site where several working and downloadable versions of WSJT-X can be found. WSJT-X ver.1.7.0 RCI has a fully functioning version of MSK144 available. Also on Peter's site is an older but rather unstable version containing JTMSK mode.

vk5pj.com/wsjtx see ver. 1.7.0 r.7136 RCI

I will try to get some clarification over the next few weeks and report my findings.

Anyone interested is gaining experience with alternative modes on the Sunday morning sessions is advised to follow the VK-logger for advanced notifications or to contact me, on the e-mail address at the bottom of the page, to be added to the MS activity e-mail-out list for notifications of proposed MS activities.

The next significant Meteor Showers on the calendar will be:

Leonids: peaking around 17 November.

Any contributions or MS activity reports for this column are always welcome.

Dr Kevin Johnston VK4UH
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Over to you

The Future of The Foundation Licence & Other Related matters
John Fisher VK3DQ

It was with great interest that I read of the WIA submission (to the ACMA) regarding the future of the Foundation licence.

The main thrust seems to indicate that the WIA wishes to make amateur radio more attractive to the so called "makers": i.e. people who would like to combine amateur radio with other related hobbies such as high altitude balloons.

I think this is a great idea and one that should be encouraged. However, I would point out that there is a well-defined pathway for such people and I submit it is via our stepping stones of Foundation, Standard and Advanced licences.

We must consider why the Foundation licence was created and why it was "set" at the technical level it is now.

After the introduction of the Foundation licence, a large number of new amateurs entered the hobby (myself included), many of them had a background in CB radio.

After the in-rush of the CB people, the nature of the people entering the hobby has changed. We see a large number of ladies deciding that if they cannot beat the hobby they might as well join it and a number of amateurs have been quite surprised at the enthusiasm shown by their ladies and how this has provided a huge increase in social activities associated with the hobby.

The Foundation licence has changed the social aspect of amateur radio and, I for one, consider this change to be for the good.

I see the future of Amateur Radio firmly in the hands of what I call "AR families" where we see mum and dad and the children involved in our hobby. People who enter the hobby by this route tend to stay in the hobby as opposed to those who are isolated. This applies especially to children where I have observed a large number drop out of the hobby after the first year. I feel this is because they have a lack of support at home.

The Foundation licence is set at such a level that it allows almost anyone to obtain a licence with modest study... If we decide that we will allow F calls more bands and modes it would be remiss of us not to ensure the people sitting the licence have received proper training in their use and any safety implications. It would mean we have to increase the technical knowledge required to gain the licence to cover these extra topics.

If we do this, we will alter the Foundation licence and possibly move it away from being the simple entry level licence that it now is and this may discourage some people from entering our hobby.

I submit that it is quite unnecessary as we have an excellent pathway already in place in the form of the Standard licence which is not hard to get and allows access to most of the things that the technical experimenters require.

The Standard licence is underused and under-valued. It provides an excellent way to enjoy amateur radio.

I suggest to the WIA that they do NOT change the Foundation to allow it more bands/modes but encourage interested people to sit for the Standard licence.

This would fit well with a desire to help people gain technical qualifications to help encourage technical innovation and experimenters.

Now for a short note on power.

The realities of life are that very few amateurs stick strictly to the rules regarding power - for one reason and another.

My thoughts are that we need to make the rules reflect the reality of the situation.

Most F calls when they gain their licence wander down to the "Toy Shop" and buy a radio. If they buy one of the very popular "shack in a box" systems, the power output on HF will be 100 watts and on VHF/UHF 50/30 watts.

They may well stick to the 10watts for a while when first on the air but after a while frustration sets in and those knobs get turned to the right.

My suggestions for power are:
Foundation: 100 watts PEP
Standard: 400 watts PEP
Advanced: 1500 watts PEP.

I suggest that the above power would reflect the real world situation.

Best Wishes,
John Fisher VK3DQ

New Foundation Manual is available now

Your ***Entry into Amateur Radio***.
The Foundation Licence Manual 3rd Edition is **now available** for purchase.

The Manual is attractively presented and contains all the information needed to qualify for the Foundation licence in Australia.

It includes the Foundation licence syllabus and other extracts reproduced with permission of the Australian Communications and Media Authority.

To purchase the Manual, order on-line at the WIA bookshop or obtain a copy through the learning facilitator at your local radio club.

http://www.wia.org.au/members/bookshop/page_data.php?id=113

VK7news

Justin Giles-Clark VK7TW
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w *https://groups.yahoo.com/neo/groups/vk7regionalnews/info*

North West Tasmania Radio and TeleVision Group (NWTR&TVG)

From all reports, there was an excellent roll up at the NWTR&TVG Activity and Social Day early in September 2016. Many dual band 2 m/70 cm "Flower Pot" antennas were constructed and tested thanks to David VK7DC. A BBQ lunch was then served thanks to Lucas VK7LSB and the Ulverstone Lions Club for their facility and BBQ.

There is a new repeater in the NW thanks to Dion VK7DB and David VK7DC on Table Cape. Call sign is VK7RAC transmitting on 147.375 MHz and receiving on 147.975 MHz; please note the positive offset and there is no CTCSS tone required. The repeater is also linked to the VKLink VK7 Hub Node 1700 and is periodically linked to other repeaters in the VKLink Network.

Northern Tasmanian Amateur Radio Club (NTARC)

NTARC had a busy start to September 2016 with their BBQ meeting and an Equine Endurance Event on Saturday 10 September, 2016. The BBQ was expertly cooked by Idris VK7ZIR and Lewis VK7FLPL and enjoyed by members. The business meeting was then held and then the author did a presentation titled *"The future is here - SDR is the only future-proofed option - a detailed look at the HPSDR and excerpts from GippsTech"*. This covered some history, SDR generations & evolution, Softrocks, RTL, HPSDR, PiHPSDR, GNURadio, CUDA and a demonstration of RTL, PowerSDR and PiHPSDR.

Photo 1: LtoR – Roger VK7ARN, Ken VK7KKV and Norm VK7KTN standing in front of the Comms Trailer. (Photo courtesy of Alvin VK7ADQ).

NTARC provided safety communications for the Jill Sheehan Memorial ride at Sassafras on the same Saturday. This included an 80 km ride with 39 starters and 40 km ride with 23 riders. The weather gods shined upon the team and once the fog and mist had cleared it was a good day for riders and comms operators. Thanks go to Peter VK7KPC, Ken VK7KKV, Alvin VK7ADQ, Bill VK7MX, Roger VK7ARN and Coordinator Norm VK7KTN.

A big thank you goes to Shane Fuller VK7ABB who has donated an RP3800 UHF repeater and a spare replacement PA stage. This will replace the CB Repeater LNC-2 which is operated by NTARC Inc. from the Mt Arthur repeater site. This will provide a narrowband transmitter for CB Repeater Services as required by the ACMA.

Radio and Electronics Association of Southern Tasmania (REAST)

The 23 cm QSO Parties are held each Sunday morning in Southern Tasmania after the broadcast and have seen record numbers with a peak recently of 11 participants in and around Hobart. Signal levels are improving all the time with experimentation with antennas, feedlines, preamps and location. We also have a new regular participant in the North for the WSJT contacts with Peter VK7PD. We start on 1296.1MHz FM at 10:30 am, move

Photo 2: The ABC Tour group standing around the TV News desk – Far Left - Damien VK7SD. (Photo courtesy of Allan VK7KAN).

to SSB and those wanting digital contacts on WSJT JT65C moving to 1296.2 MHz. Thanks to Rex VK7MO who is the driving force.

REAST's September 2016 visit was to the ABC TV & Radio Facility in Hobart. A huge thank you to Damien VK7SD and Alan VK7KAN, who work at the ABC and were our wonderful hosts for the night. Damien and Alan organised people in each area to give us a rundown of the function of the area and their role. We went through the radio and TV chains from creation, production, processing, scheduling and finally out to transmission.

The REAST website has had a facelift thanks to the work of VK7BEN, VK7LXX and the author. There are now a special interest group sections, blog style news and events and individual member logins to a member's only area. Much of the data and information has been migrated across so that things will look at little bit familiar. Check out the new website today – *www.reast.asn.au*

REAST has been trialling opening the clubrooms on Saturday. There has been club station operation, experimentation and the SDR Special Interest Group spent time installing Linux on laptops and Raspberry Pis and getting RTL-SDR receivers up and going. Take a look at the REAST Facebook page (REASTTAS) for the next one.

The REAST DATV nights have featured some interesting show and tell that included Rex VK7MO with his new 75 watt GaN 10 GHz power amplifier and EME experiments, thanks Rex. Sean VK7FAZE described his LIPD connected Raspberry Pi terminals and his experiments with an Orange Pi (Raspberry Pi clone), thanks Sean. The author showed his 10 GHz YIG low phase noise programmable oscillator, optical and magnetic rotary encoders and PiHPSDR experiments along with Martin VK7MA who showed his ANAN-10 SDR. There were also reviews of the latest copies of Lo-Key and DUBUS magazines along with the QTRadio the SDR server/client architecture. Our videos were sourced from the recent 2016 EME Conference in Venice, Amateur Logic TV and the interweb.

73, Justin VK7TW.

Photo 3: REAST Saturday clubrooms opening. (Photo courtesy of Ben VK7BEN).

Participate **Spring VHF/UHF Field Day** | Saturday 26 & Sunday 27 November 2016

VK6news

Keith Bainbridge VK6RK
e *vk6rk@wia.org.au*

I must start off this month's note with an apology. In my Hamfest ramblings last month I forgot to thank Altronics for attending and, once again, putting on a very interesting display. They have supported us for several years now, so I'm sorry that I missed thanking them.

Now to business:

It's been like getting blood from a stone this month but in the end some contributors have come good:

WA VHF Group

Firstly the **WA VHF Group** and Terry VK6ZLT.

On 26 September 2016 the WA VHF GROUP Inc. held its 57th Annual General Meeting. The members present voted to return the executive and committee un-opposed for the New Year 2016-2017.

The President, Terry VK6ZLT, thanked the members and committee for their support.

In his report on the last year operations, a number of very positive outcomes, such as the increased afternoon activity of meetings on the first Saturday of the month as well as normal meeting nights on the fourth Monday of the month, were mentioned. On the down side however, as the club provides numerous propagation beacons, the loss of beacon sites at Esperance and Bunbury are becoming a worry. But the search goes on.

Construction aims for the New Year involve completing the overdue GPS based beacons at Mount Barker and Esperance.

Members are currently investigating 10 GHz receivers using satellite LNBs and SDR receivers.

Photo 1: NewsWest On Air.

Some members have aspirations towards analog and digital EME operations.

Ongoing interest in digital micros such Raspberry Pi and Arduino is providing a welcome return of personal experimentation for amateur radio. All in all there appears to be genuine interest in making the 2016-2017 season a memorable one.

Readers are reminder that WA VHF GROUP INC. meet on the fourth Monday of the month and the first Saturday of the month at the club radio shack and meeting room in the "Operators Cottage" at Wireless Hill, Ardross. Further information can be found at *http://www.wavhfgroup.org.au/* or contact Graeme VK6LV *secretary@wavhfgroup.org.au*

Thanks Terry, nice to see things are moving at the VHF group again.

News West

Next up today we have an update and some history from **NewsWest**, thanks Bob.

This year, we celebrate 85 years of Amateur Radio News broadcasts in Western Australia. The first news broadcast went to air sometime around July 1931 from the headquarters of the Wireless Institute in the Perth CBD under the callsign VK6WI.

The news was produced and broadcast by a succession of individuals over the years. No evidence has been found to prove that the service had continued unbroken since 1931.

Dennis VK6KAD produced the news for about ten years until he became ill and passed away in 2011. During his illness a small number of volunteers produced the news.

Over the next few years, with a small team of volunteers having formed to produce the weekly NewsWest broadcast, it became clear that one way to assure the long term continuity of NewsWest was to form an incorporated body to be responsible for news production.

WA Amateur Radio News was incorporated in early 2015, with the objectives to provide regular news broadcasts aimed at Amateur Radio Operators and people interested in the science and technology associated with Amateur Radio, to provide education and development of practical skills to those interested in entering or furthering amateur radio or allied hobbies and to conduct activities that will support, develop and promote amateur radio and electronics as hobbies of choice.

WA Amateur Radio News produces a weekly thirty minute news programme for Western Australian Amateurs and radio enthusiasts, maintains the *VK6.net* website and encourages clubs to use NewsWest and other means to promote activities and attract new members.

Of course no story about amateur radio news broadcasts can be complete without acknowledgement of those who actually put it to air. NewsWest, long with the WIA National News, goes to air in Western Australia on Sundays at 0600, 0800, 0900 and 1900 Perth time. The 0900 and 1900 broadcasts originate on the WA Repeater Group's linked repeater network, which along with the Southern Electronic Radio Group's repeaters, covers the South West of the State. Coupled with relays and simultaneous broadcasts on HF, coverage is extended to the rest of Western Australia.

Further information about WA Amateur Radio News and NewsWest is on the *VK6.net* website.

73, Bob VK6POP.

Bunbury Radio Club

Mr Reliable, Norm VK6GOM, has this month's update from the **Bunbury Radio Club:**

The next monthly meeting of the Bunbury Radio Club will be held on Saturday 8 October 2016 from 2:00 pm at 21 Halsey Street, Bunbury. This will be our quarterly meeting to discuss various administrative matters. Visitors are very welcome.

The technical program for the rest of this calendar year is as follows on the table below:

The club's Christmas party will be held at the local museum in Boyanup on 19/20 November 2016. It is planned to operate the club station on that occasion in order to keep some members out of the local waterhole (some chance). Darren VK6FGWM will be senior BBQ officer. Those members who are allowed to come out and play will be camping there for the weekend. All members are encouraged to attend.

This month several members swarmed to Richard's VK6VRO place to reinstall his G5RV following its failure to remain elevated. Despite much advice from onlookers, a couple of F calls managed to get it back up.

Any South West based amateur (or anyone interested in radio or electronics) is more than welcome to join and participate in our activities. Because so many of our members come from near and far we are evolving into a semi "virtual" club. Consequently, regular attendance at meetings is not a requisite for membership. The annual fee is only $50.00. Those wishing to join can contact the Club via our Secretary, Nick Evans on 0429 201 343, or vk6brc@wia.org.au. Further details can be found on our website at *http://bunburyradioclub.wordpress.com*

Sounds like a busy few months ahead Norm, thanks for the update.

Southern Electronic Group

I was very fortunate to be able to accompany Stuart VK6BG, Wayne VK6EH and Andrew VK6IA on a very wet, stormy day on the four hour journey each way to the Quinninup

November	Shaun VK6PAL	How to build a home brew antenna analyser
December	Richard VK6PZT	Raspberry Pi and robots
February 2017	Bob VK66TJ	AM Broadcasting
March 2017	Shaun VK6PAL	AIIMS

Photo 2: Quinninup Tavern.

Photo 3: Manjimup HamFeast meal.

Tavern to join in with the Southern Electronic Group and others to celebrate the **Manjimup HamFeast**, and here is a report from the organiser Rob VK6LD.

Many thanks to everyone who came along to the 2016 Manjimup HamFeast at the Quinninup Tavern on Tuesday 27th September 2016.

There was a great turnout with 45 attendees enjoying the day; it was fantastic to see so many people joining us.

Amateurs and partners came from Albany, Katanning, Mandurah, Perth and all destinations in between - plus Manjimup (thanks to Max for pointing this out!

The day was enjoyed by everyone, with plenty of social and technical conversations taking place, the All Star 'Show and Tell' demonstration in the corner by Mal VK6MT, helped along by a good variety of food and refreshments.

The day went very quickly and before I knew it, the time had gone past 4.00 pm.

First ticket drawn in the HamFeast raffle went to Bevan VK6BL, who demanded a redraw take place and the dual band handheld prize went to Lee VK6TY, continuing his lucky streak after also winning a raffle prize at the Katanning HamFeast back in January 2016. Second prize was another dual band handheld and won by Stuart VK6BG. Third prize was a Jaycar gift voucher won by Lance VK6LR (another frequent raffle winner) and fourth prize was a Bunnings gift voucher won by Mal VK6MT.

A big thank you as well to Nigel VK6NI who brought along some surplus electronic equipment donated to SEG by a Denmark resident. Nigel ran an impromptu fundraising auction for this equipment that attracted some very keen bidding. I reckon we might see a cameo role for Nigel in the next series of "Storage Wars" on TV with his auction skills.

Chris VK6JI has uploaded his photos from the day to his website (*http://www.cwjames.info/manhamfeast/index.htm*). If anybody else has some photos they would like to share, please feel free to post them to the SEG Mailing List or I can upload to the SEG website.

Thanks once again to all who made it a great day and you all enjoyed the day as much as I did.

Photo 4: Crane needed for repair of 40 m beam.

Look forward to seeing everyone again at Katanning in 2017. (Late January)

73 Rob VK6LD.

It was an enjoyable day Rob, made all the better by my recent retirement and now being able to attend these midweek functions!

NCRG

Finally this month an update from the **NCRG:**

A considerable amount of antenna work has been going on over the month of September including repairs to our Stepplr beam, major work on the 40 metre beam, a new 80 metre dual element phased vertical for the contest season (maybe permanent if it performs?) and many other maintenance items.

The repair to the 40 metre beam involved the hire of a rather large crane to lift it down and back up again, which went very smoothly, but did hit the bank balance a little.

Our new Kenwood TS-990 and Expert amplifier are now installed at the club and will be blooded extensively over the next few weeks of the contest season. Once proved, the system will be the backbone of our Remote Station for members who can't attend or put up a decent antenna at home. Our thanks go to Lottery West for providing the funds to achieve this upgrade.

We will also be hosting the Scouts from Ellenbrook and possibly Joondalup for JOTA, which will have passed by the time you read this news. Hopefully they will have had fun and been enthused to join the hobby.

The NCRG is also setting up an exam service, with several members helping. Mel VK6ER has been writing a training manual based on the WIA procedures, Ham College's recommendations and some ideas of his own.

Hopefully, the first courses will be run at the club in the next few months, more to follow on this. The NCRG ran an exam service for many years from Carine TAFE College and it will be good to be able to assist in this side of the hobby once again.

Our AGM took place on Sunday 2 October 2016 and as this is two days away still, I will report on the committee changes (if any) next month.

The NCRG Car Boot sale will take place on Sunday 13 November 2016 at 9 am.

Sellers $5 per bay, buyers free. There will be snags, burgers etc. and soft drinks available as usual. Please contact us via the website at ncrg.info or contact me at *vk6rk@wia.org.au* if you plan to attend. This is an outdoor event, so please bring along shade, as it is usually a hot day.

The club's Christmas dinner will take place at Bellissa's Café, Walter Rd West in Bedford on Friday 11 December 2016. The cafe is owned by the XYL of Mel VK6ER, so I am sure we will get very special treatment.

So that's about it from me for this month.

Please remember the December issue of *AR* magazine covers January as well, so if you have any special announcements please let me know before the deadline day.

See you all next month.

73 de Keith VK6RK.

Over to you

The WIA Board

I wish to offer qualified support for Marin Luther VK7GN about his views and observations in AR October 2016. I was on the Publications Committee (for almost 10 years) at the time moves were afoot to try and nationalise the WIA from the former federal/divisional structure that was inefficient, suffering many/all of the pitfalls of Australia's three tiered government administration. Where I diverge from Martin is in his views about governance and qualifications of Directors.

I agree the debate about Board process is uneconomic however it has been brought about, in part and in my view, by some curious decisions the current and recent past Boards have made. I am a keen supporter of the WIA and like bodies as I understand only too well the importance of peak associations to represent causes and lobby on behalf of those causes to government. If any individual thinks that this can be done sans an effective representative body, they plainly misunderstand how to play the 'government game'. Having been a public servant I understand why governments tend to want to deal with peak bodies and not disparate groups of individuals. Non-WIA members that sponge of us that are, are naïve in thinking all that the WIA does will magically take place by itself in the absence of the WIA as our hobby's representative body.

Martin asserts that, inter alia, "To train directors is simply a waste of our money" and "…in a voluntary organization like ours, there should be no need to waste our limited resources on the 'how' and not the 'what'!" Sadly this is dated thinking and does not reflect contemporary practice. I work for one of Australia's largest industry peak bodies delivering a federal government economic development program with a focus on skills and training. I see, and have the opportunity to delve into many businesses on a weekly basis, many of them in the micro and SME category. Today, most businesses of this type are incorporated bodies rather than sole trader or partnerships to gain the protection of the Corporations Act and other legal instruments. I often am advising clients to put their directors through governance (Director) training to equip them for the roles they are performing, often poorly and ignorant of their obligations as Directors. Same applies to special interest groups such as the WIA. Unfortunately the days of directing (in any type of organisation) sans the necessary skills are fast fading, and for good reason. Taking on the role of a Director of any organisation, be it small, large, not for profit, or for profit is not a task to be taken lightly. It is becoming the norm for many not for profit and community organisations, in particular those of any magnitude, to mandate some type of governance training/qualification before being admitted to a Board role.

The duties of Directors is available at: asic.gov.au/regulatory-resources/insolvency/insolvency-for-directors/directors-what-are-my-duties-as-a-director/ . "Generally, in addition to the requirement to ensure compliance with general and specific laws applying to your company's operations, your primary duty is to the shareholders. However, if your company is insolvent, or there is a real risk of insolvency, your duties expand to include creditors (including employees with outstanding entitlements)." Don't put too fine a point on the term "company".

Our hobby is, understandably, dominated by technical people. Experience tells me such people are often bereft of commercial skills and knowledge. I sometimes read correspondence in Over to You, and almost daily on social media by jaw-flapping 'experts' knocking the WIA, frequently without tabling their alternative courses of action or policies. Such is the territory of the 'keyboard warrior'. I encourage all members of our hobby to actively consider nominating for the WIA Board. Deliberations about such should include reading material on the Australian Institute of Company Directors, Family Business Australia, and the Governance Institute www sites. All these organisations deliver courses that all candidates should consider successfully completing.

In closing I thank Enzo VK3FRAD for his letter in the same edition of AR and Peter VK3PF for his pertinent responses. I encourage Enzo and like-minded radio amateurs to nominate for the next Board elections, table their manifestos and get into the driver's seat, placing their hands on the levers and steering the WIA into a rosy future.

73

Bruce R Kendall VK3WL/9V1WL

VK3news Geelong Amateur Radio Club

Tony Collis VK3JGC

Photo 1: Antenna erection at the Lighthouse.

International Lighthouse Weekend 2016 and the GARC

The GARC fielded two teams for the ILLW, one at **Point Lonsdale White Lighthouse (AU0028)** and the other at the Queenscliff Maritime Museum (QMM) adjacent to the **Black Lighthouse AU0050.**

The GARC was part of the 471 amateur groups around the world that participated in this event.

At **Point Lonsdale,** for the first time, the GARC ran two bands concurrently – 40 m dipole with FT991 and 20 m vertical supported on a squid pole with FT857.

Due to the inclement weather, the Club took the VK3ALB *"caravan of courage"* for the 20 m shack and the Garry VK3VLA *"Venga bus"* for use as the 40 m shack.

For those of you that have been following the saga over the last few years, we are pleased to announce that for the first time the Venga bus made it to and from the site with no dramas. No one was more pleased than Garry VK3VLA when he pulled the old girl into the campsite. After a big cheer from the 20 club members assembled for the event, they all got down to the business of setting up our ILLW station. With many willing hands the antennas were assembled and raised in no time and a quick radio check showed all systems go.

Meanwhile at the foot of the lighthouse members of the public huddled against the brisk sea breeze as local dignitaries including the **Mayor of the Borough of Queenscliffe**, **Cr Helene Cameron** and GARC Life member **Lee VK3PK** addressed the crowd explaining the significance of ILLW.

Then it fell to local lighthouse expert **Les Irving-Dusting** to fire the station's steam driven foghorn - one of two in Australia - to signal the start of the weekend tours of the facility.

Overall conditions were not as favourable as in previous years but nevertheless the members got stuck in and called *"CQ Lighthouse"* throughout the day. Since last ILLW the GARC has had an influx

Photo 2: Point Lonsdale Lighthouse.

Photo 3: The QMM Marconi Hut.

of new members and a number of Foundation members came down to experience their first field day activity. Field operation can be a bit of a baptism by fire for a newbie. They have to contend with new surroundings, unfamiliar equipment, uncertainty with operating protocol, onlookers and of course a few nerves, it's no wonder many first timers say, *"no, you go ahead"*, when offered the microphone; *not our GARC members!* After a bit of coaching they all had a go at the microphone and with encouragement from other club members as well as other hams on air, they quickly got into the swing of things.

Some of them were lucky enough to get into an EU opening on 20 m and worked their first DX.

Members of the public came and looked at the GARC information booth where the significance of the ILLW was explained as well as ham radio. Some of them spent some time in both shacks listening to the activity; others remembered relatives that *"used to do ham radio"*. There was even a SWL who came over with his radio asking to tune in to our signals. All too quickly the ILLW activation came to an end but as always, the GARC team pulled together and were packed up in no time.

In summary although only 130 contacts were made on the two bands at **Point Lonsdale**, mostly on 40 m as conditions were rather poor, overall team spirit and enthusiasm, especially with the first time Foundation participants, was very high and all present are looking forward to next year's activation.

ILLW 2016 – with Dallas VK3DJ – AU0050

Whilst the morning dawned gloomy, the weather held off and Dallas VK3DJ arrived at the Queenscliffe Maritime Museum (QMM) to set up his station and to activate the **Queenscliffe High Light**, better known as the **Queenscliffe Black Lighthouse**, to find the curator and volunteers had arrived early to let him in.

Setting up at the QMM for Dallas was a very straight forward operation since the mast/flagpole was erected by the GARC last year. It is perfectly located as it is next to the replica Marconi Hut, which was his shack for the weekend, but also as the distances from the mast to the next highest tie off points happened to be perfect for an OCF dipole used. With the additional luxury of having 240 V right outside, set up was completed and he was on air in around 45 minutes.

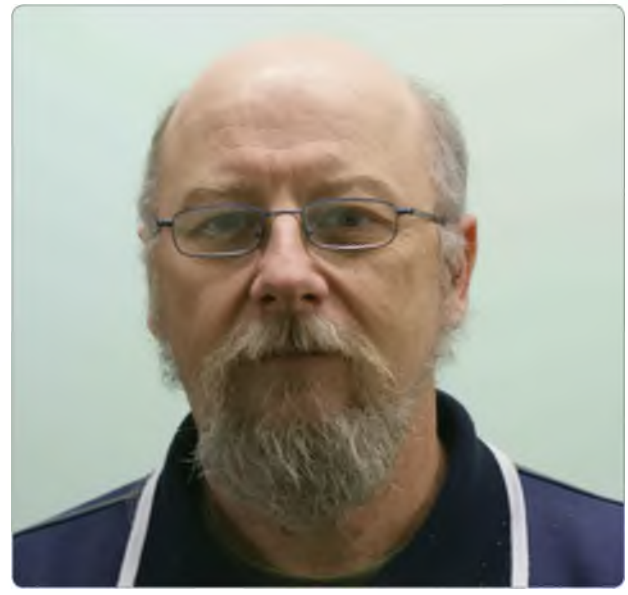
Through-out the day there was a steady flow of QMM visitors in the shack, curiosity and intrigue prompting many questions and even some taking the spare chair and sitting down to listen to the activity for a while. A few GARC members also showed up during the day bringing a welcome distraction, but no food!

Luckily, Meryl, the QMM curator, regularly came in to ask him if he wanted a cuppa or anything, Dallas reflected, *"I can't get that kind of service in the shack at home"*.

The only downside to the weekend was the conditions on air. This year there was a lot more QRM on all bands than previous occasions making contacts very difficult. However he did manage to get 54 contacts, but sadly only one from overseas, that being ZL.

Dallas has already booked in again for the GARC, for next year, hoping for less QRM and more contacts.

Photo 4: Dallas VK3DJ.



ALARA

Christine Taylor VK5CTY – Publicity Officer

'Tis Hamfest Season

This is one of the best seasons for Hamfests in VK-land. If you go to the Dubbo or the Wyong Hamfest in VK2 you will most likely find Dot VK2DB with her combined ALARA and Hornsby Radio Club table. If you go to Gisborne, EMDRC, Rosebud, Shepparton or Moorabbin Hamfests in VK3-land you will find Jean VK3VIP and her group at the ALARA table and when you go to the AHARS Buy, Swap and Sell you will find the VK5 YLs there.

It is great that ALARA takes to opportunity to welcome old and new YLs to our great hobby. There are only a small percentage of amateur operators who are YLs but we have a marvellous band of friends everywhere. Let us keep reminding other amateurs that we are here. If you do have a table please make sure you get a photograph for our albums to keep the history going and please send a copy to Kaye VK3FKDW and/or to me Christine VK5CTY.

The YL International in the UK

This year the YL International is being combined with the RSGB AGM so it is in Milton Keynes. Australia has two representatives there. June VK4SJ, a long-time member of ALARA and Irene VK2VAN, a new YL amateur and member of ALARA. Hopefully one or the other will send us a report on the MEET which as well as the AGM will include a visit to Bletchley Park and one to Woburn Abbey.

When the next International is advertised, do consider going to it. These MEETS are so full of happy memories and the renewal of friendships and are a valuable way of showing the world the YLs are really a part of the radio amateur world.

The 222 Net

Reports suggest that the sunspot cycle may be rising, as a consequence of which propagation is improving. The 14.222 net is on from 0500 Zulu and is followed by the ANZAS net (which is at a slightly kinder hour for the European stations). Amateurs have been heard from Russia and the Ukraine as well as France and looking the other way, from Mexico and the Pacific islands.

It is great that we hear the improvement in propagation after the very long period of low sunspot numbers. Do look this up through the internet; I think we will be surprised.

Another new member introduces herself

Amanda VK1WX

My introduction to amateur radio was through my uncle (G6GU) back in the late 1950s, so my first love of amateur radio was, and still is, the HF bands.

I have been President of the VK1 Division of the WIA as it was then and President of the Canberra Region Amateur Radio Club at various times since 1970. My focus with amateur radio is helping those interested in becoming radio amateurs. To this end, I have been a WIA assessor for the past eleven years and been directly involved in running foundation licence courses for the same period. Having been well and truly retired, I now have more freedom to devote time to amateur radio.

I would welcome making contact with ALARA members in the area. If any of your members in the ACT and surrounding districts need assistance with the technical aspects or advice on the hobby I am happy to help.

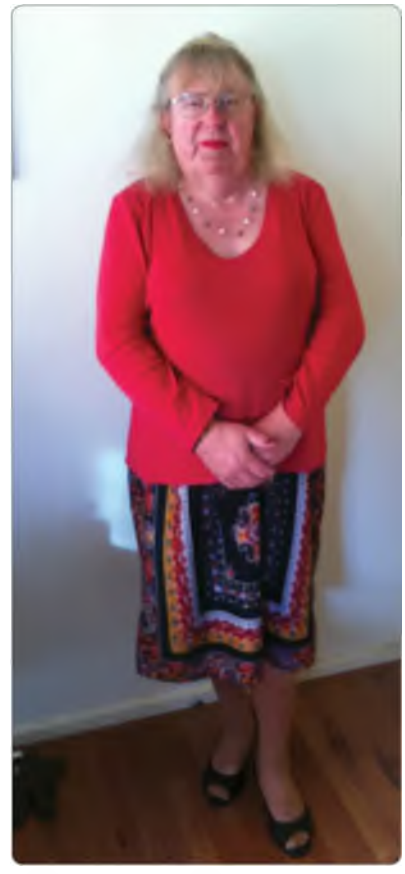


Photo 1: Amanda VK1WX.

It is good to have someone in VK1-land and someone who is keen to help others. Welcome Amanda.

The Monday night nets

The new arrangement of some EchoLink and some 80 m nets is working well although, once Daylight Saving arrives, the earlier time will make propagation more of a problem.

It is very satisfying that some of the members who have started through EchoLink are also coming up on 80 metres. Whether it is on EchoLink or HF, new voices are always welcome.

In case you have forgotten, during the winter we start the nets

Photo 2: Back – Kaye VK3FKDW, Tania and Lorna (both SADARC team). Front – Jean VK3VIP, Elsie and Heidi VK3FHID.

Photo 3: Dinner in Shepparton Elsie (Mum), Jean VK3VIP, Kerri VK3-A and Kaye VK3FKDW.

at 1030 Zulu or 0900 EST but during summer we start at 0830 DEST which makes us start at 1000 Zulu.

VK3 report

Shepparton Hamfest 11 September 2016

ALARA set up two tables provided by SADARC which were covered with information and reading material about ALARA. Mike VK3FMAA brought along Mia VK3FMIA as he had been promising on air for weeks. Mia did join ALARA and is a very keen radio operator who wants to hear from as many YLs as possible. Welcome Mia.

Heidi VK3FHID joined us for a chat and gathered information to take to BAREC events at the local markets around Bendigo. Well done Heidi and Monica VK3MON.

Also, many thanks to Peter VK3FPSR and his team for their support of ALARA. It is much appreciated.

While in Shepparton, we visited a very interesting car museum, SPC to pick up some specials and went out for lunch and dinner at several places. There are quite a few things to see and do but swimming not possible as weather was not suitable.

ALARA Lunch Warrandyte 24 September 2016

Judy VK3FJAG and OM Jim VK3ZKK arranged the last ALARA lunch in the Grand Hotel, Warrandyte where 21 YLs and OMs enjoyed lots of food and frivolity. This is a lovely spot in the Dandenong Ranges with lots of venues for shopping and sitting in the sun.

Photo 4: Back – Susan VK3FZZY, Diane VK3FDMP, Judy VK3FJAG, Jean VK3VIP, Pat VK3OZ and Donna VK3FRET. Front – Carla VK3-A, Elsie (Mum), Robyn VK3WX, Kaye VK3FKDW, Cheryl VK3FCYL and Susie VK3FSUZ.

Next ALARA Lunch – Sunbury 26 November 2017 – lookout for more information soon. Jenny VK3WQ and OM Peter VK3RV are at BYLARA in Milton Keynes and due back soon.

Champion ALARA Member

Jean VK3VIP

How did you get started in amateur radio?

While in New Zealand, OM John VK3DQ promised to join TOWN (Take Off Weight Naturally) if I got my amateur radio operator licence. He needed to lose weight so I studied for my Foundation licence.

When did you start using radios and what was your first radio?

I started with a hand-held radio in April 2007 when I had achieved my Foundation Licence. I use OM's radio shack for ALARA Nets, communication and competitions.

When and where did you get your Foundation licence?

I studied with the EMDRC at their clubroom in 2007.

When did you join ALARA?

May 2007.

What is your current position in ALARA?

Photo 5: Jean in the shack.

ALARA Vice President
ALARA State Representative for Victoria.

What ALARA events have you attended?

ALARAMeets
International YL Meet (Australia)
WARO 50th Anniversary in New Zealand.

What do you see as important for the future of ALARA?

Increasing ALARA membership particularly for younger people.

What are your other interests?

Family, TOWN, walking group, part-time work and meeting people.

All VK3 Ladies: As your State Rep, please contact Jean for any information regarding ALARA or to give her any news about events that YLs have attended.

Jean's contact details can be found at *alara.org.au*

Thank you Jean.

33,

Christine VK5CTY.

VK5news Adelaide Hills Amateur Radio Society

Christine Taylor VK5CTY

Buy, Swap and Sell

Do not miss out on the biggest Hamfest in VK5-land. Come along and meet all your friends. Exchange some of your unwanted items for new, wanted ones from the traders or from the tables inside.

Sunday 6 November 2016. The venue is the same; the Goodwood Community Hall, just off Goodwood Road and just past the Showgrounds as you come into the city.

The doors open at 9.00 am for you to have a chat and a cuppa before the main doors open at 9.30 am. By the time you read this it will be too late to book a table but the doors open for those of you who have booked a table, at 7.30 am.

September Meeting

The meeting consisted of a talk by Paul Lawson VK5SL on the various computer programs that amateurs might use to assess LF, MF and HF propagation conditions and the use of such tools as "DosBox" to successfully run some of the older DOS based prediction programs in a Windows or Linux environment.

Paul prefaced his talk with some brief and topical comments regarding the propagation of radio waves in the vicinity of bush fires. He mentioned that since the nineteen sixties Fire Brigades across the world had made increasing use of VHF/UHF (rather than HF) spectrum to coordinate fire suppression work. However, the move to the higher frequencies has been accompanied by increased reports of problematic (including the catastrophic loss of) communications in the vicinity of intense bush fires. He also made mention of a number of "Australian specific" scientific studies that have been carried out in this area over the last fifteen or so years. Copies of these papers have been made available to AHARS.

This was a very appropriate in view of the recent communication trouble in the bushfires last summer. Once again the fire fighters had trouble communicating at the height of the inferno. The 400 MHz GRN (Government radio network) radios failed when attempting to communicate across the intense fire front.

It was an experience in the 60s that prompted the CFS to change from HF to VHF. During the day they could talk to Port Pirie or to Mount Gambier but not to the Adelaide Hills, where the fire was located. At night they could communicate with the trucks quite well. It was WICEN who set up a station on Mount Lofty and several at the Fire and Police headquarters and on some of the fire trucks that saved the day. They passed messages between the WICEN stations in daylight hours. Their own systems worked at night.

However, as Paul pointed out, neither HF, VHF nor UHF systems will work in all cases. He did have some recommendations suggesting that a simple (near vertical incidence sky wave) HF communications system cross linked into one or more of the current VHF/UHF state repeater systems could provide a far more robust communications network, especially where the safety of life was concerned.

Paul went on to talk about some aspects of LF and MF propagation, showing how to predict antenna patterns for different heights antennas and heights above the ground. He also left some software with the club for members' use.

It was clearly a very interesting talk and one that will very likely be followed up by some talks at the Shack in the future

Future meetings in December and January

In December AHARS will have the Christmas Dinner and in January we will have the picnic.

February 2017 is our AGM with a short talk but from then, regular meetings will be held in the Blackwood Community Centre on Main Road Blackwood starting at 7.30 pm.

73

Christine Taylor VK5CTY

VK3 news Amateur Radio Victoria

Jim Linton VK3PC
e *arv@amateurradio.com.au*
w *www.amateurradio.com.au*

Clearance sale attracts interest

Bargain hunters viewed and walked away with many items mostly from deceased estates during a sale afternoon put on by Amateur Radio Victoria at Ashburton.

This year, such a variety was on offer that the adjoining vacant shop was also used. A few radio amateurs socialised or talked about what was on the display tables or underneath them. A lot of gear was sold, with a number of questions asked about items of gear and no shortage of knowledgeable hams on hand.

Thank you to the gang that helped set the sale up on Saturday 24 September 2016 and ran the busy cash registers and receipt books.

Looking and buying at a section of the clearance sale display tables.

In National Parks this month

With warmer weather ahead of the summer holiday and fire seasons the Keith Roget Memorial National Parks Award activity period will be on **Friday 11 until Monday 14 November 2016.**

This event now in its sixth year has in the past resulted in portable activity in Victoria by those mostly from VK1, VK2, VK3, and VK5 with contacts made to all states and some DX operation too.

Nearly 20 parks are expected to be activated. This is an excellent opportunity to contact those who venture out to operate portable. More registrations, even if only for an hour or so, will be most welcome.

Please register the National Park and the intended time and day, so others know when to look. Signals can pop up at some unusual times, so have a listen for them and lend your support.

The latest to qualify for having worked all 45 National Parks is Ian Sinclair VK1DI – the first to do so in the Australian Capital Territory.

Ian VK1DI commenced chasing the 45 National Parks in September 2012 with two contacts on the same day, both with Peter Fraser VK3ZPF who was activating the Grampians and later the Little Desert National Parks.

The final contact four years later was with Rob Janoska VK4AAC/3 who was activating the Lower Goulburn National Park while caravanning. The KRMNPA Merit Award has been awarded to Ian VK1DI, himself an active bushwalker and hiker.

To register or for any KRMNPA inquiries, please contact the Award Manager, Tony Hambling VK3XV at *awards@amateurradio.com.au*

VK3RTV to Move

At the start of this sixth annual event annual World QSO Party Peter Cossins VK3BFG announced that after 36 years, the repeater VK3RTV would have to be re-located.

This is due to a decision by the Education Department to dismantle the tower and the adjacent building sometime in the next year.

The commercial tenants of the site have been told that their lease will not be renewed. VK3RTV is the longest continuous service ATV repeater in Australia and also among the first in the world to convert to digital operation.

ARV Secretary Ross Pittard has stated that *"Amateur Radio Victoria maintains its commitment to a TV repeater in the Melbourne area and a number of options are currently being explored."*

During the relocation there may be some interruption to the operation of VK3RTV but this could be an opportunity for the ATV community to experiment with simplex contacts.

The World DATV QSO Party

The World DATV QSO Party was help on Friday 23 and Saturday 24 of September 2016. Friday night's activity included segments from VK2CRJ, VK3DQ, VK3KIS, VK3CH, VK3WWW, VK3BCU, VK3ATV, VK3CSJ, VK3WV, VK3KQ, VK3ZSJ, VK5ADM, VK5DMC and VK7AX.

The stations took the opportunity to undertake a show and tell about their experiments, equipment and activities over the past year.

Saturday activities included a cross to the DATV Repeater WR8ATV in Columbus, Ohio and later in the early afternoon to the W6ATN network in Southern California. We used a new technique of a streaming service between W6ATN and VK3RTV.

This was not automated and required the anchor stations, Don Hill KE6BXT and Peter VK3BFG, to make the interface connections. Units used for the transmitting over the web were Grandstream GXV 3500s which are used extensively for remote monitoring of security cameras. The software used for receiving was the versatile VLC.

Due to the weekend also being the BATC Convention, no contacts were had into the United Kingdom.

Some in Saturday's activity were VK2CRJ, VK2ME, VK4CSJ, VK3DQ, VK3ER, VK3BCU, VK3CH, VK4XRL, VK5ADM, AA8XA, KB8YMQ, W8DMR, W8MA, KE6BXT, WR8RMC and W8BZW.

These were just a few of the stations noted while Peter VK3BFG was acting as the net controller and liaising with his corresponding anchors in the USA.

Peter VK3BFG hopes the transfer of VK3RTV to an alternate location will be as seamless as possible.

Digitised *Amateur Radio* magazine

The Wireless Institute of Australia (WIA) has begun its new scheme for members not wanting to receive in the post a paper magazine, and read only the digitised version.

The move is in response to members who no longer want to get a paper copy, and prefer to read it online. It will also save the WIA in rising postage costs.

Members who don't want to receive the magazine in the post, should use the tick-box in MEMNET Member Self-Service Portal, or the Contact Form on the WIA website.

Remember, this is an Opt-out system - those members who still value the paper copy will not be affected, and do not have to do anything.

Here is how to register. Visit: www.wia.org.au/joinwia/wia/emailwia/

On the Contact Form select 'National Office' and request the *'AR Opt Out'*.

Please include your member number to verify the name on the web form - that is the log of all requests.

VK3news Southern Peninsula Amateur Radio Club VK3BSP

Timothy Conboy VK3TJC

Rosebud RadioFest 2016

Another year has passed and once again the Southern Peninsula Amateur Radio Club (SPARC) will be holding its fifth annual Rosebud RadioFest on 20 November 2016 at the Eastbourne Primary School, Allambi Avenue, Rosebud, Victoria.

Successive years have proven this event to be very popular amongst the amateur fraternity resulting in a significant growth in vendor tables and attendees. The resulting relaxed and fun social environment is a great way to meet other amateur radio enthusiasts.

Tables are still available at our excellent venue for those amateurs and traders keen to sell their wares and can be booked on-line via our website: *www.rosebudradiofest.com*

To avoid disappointment, please book early as only a limited number of tables are still available. Many bargains and rare 'boat-anchor' items are always available with both vendors and buyers enjoying the interaction on the day.

Another major draw-card of the SPARC Rosebud Radio Fest has been the very interesting range of technical forums and lectures. This year is no exception with several well-qualified speakers giving presentations during the morning.

The first presentation for the day, starting at 10.30 am, will be given by SPARC club members on the design and development of the SPARC auto-tune HF mobile antenna (SPARCTENNA) being developed by the members. This very exciting and challenging project will result in an antenna that we expect will perform far better than most commercial products. Details of the RF, mechanical and software control architecture will be provided with a live demonstration of the first prototype.

Jack Bramham VK3WWW will provide the second presentation on ARDF (Fox Hunting) and Orienteering. Jack, who has attended the recent international ARDF championships in Japan, will highlight how this fast growing amateur radio event has now become recognised as a sport along with details of the equipment and events.

And finally, Peter Parker VK3YE, well known for his excellent QRP and home brew skills, will cover the topic of Hand Held HF antennas for QRP operation. Peter has achieved amazing results from his designs that will be of great interest to many amateurs.

Apart from the sales and presentations there will be displays of various equipment, vintage radios, WICEN and emergency services. Catering will again be provided throughout the event by the Lions Club.

As the Rosebud RadioFest is located on the Mornington Peninsula with very easy access from Melbourne via the new Peninsula Link, the days outing to the Rosebud RadioFest can also provide entertainment for the whole family through the wide range of nearby tourist attractions.

We look forward to seeing you all on Sunday 20 November 2016, starting at 9.30 am (ticket sales at 8.30 am). For further details or table booking information refer to the advertisement in this issue of AR magazine or go to the web site: http://rosebudradiofest.com.

73 from VK3BSP, The Southern Peninsula Amateur Radio Club.

Tim VK3TJC

Part of the crowd at the 2015 event.

Participate

The Rosebud RadioFest. SPARC 20 November 2016

Silent Key

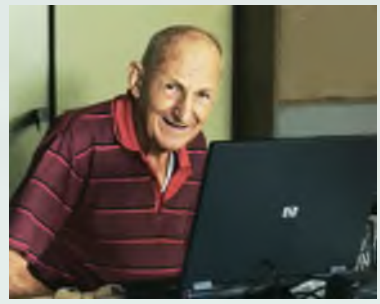
Terry Hine VK8TA

9-3-1933 to 4-6-2016

Terry was born in Northern Tasmania in March 1933. He was educated and served a carpentry apprenticeship in the area of his birth. Terry moved to the NT in the early 1960s as a fireman with the Department of Civil Aviation. Following service in this role, he was accepted for "Flight Service" training and completed a six-month course in Melbourne. During this period, he learned and developed a high degree of skill in CW which he enjoyed for the remainder of his life both as a user and mentor.

Following his training he was posted to Katherine and, following a number of years in Katherine, he moved to back to Darwin. Terry was a founding member of the Darwin Amateur Radio Club (DARC) in 1966 and gained his licence in 1976; serving as president in 1975, 1979 and 1981.

It is interesting to note that Terry was a member of the Wireless Institute of Australia and President of the Darwin Amateur Radio Club prior to obtaining



his call sign. Terry and other members of DARC were regular attendees of Seanet Conventions, representing Australian Amateurs.

Terry was very active in his younger years, keen on fox hunting and annual contests; particularly the John Moyle Memorial Field Day. Later in life he was a well-respected mentor and guiding force within DARC.

With the forced relocation of DARC to first floor level premises at Knuckey Lagoons Nature Reserve in March 2013, Terry was eventually unable to handle the stairs and his activity within the club waned but not so his interest. Post the move to Knuckey Lagoons, he was always available at his "Office" in the Nightcliff Shopping Centre for consultations at lunch times as a prelude to afternoon dialysis sessions three days a week.

Terry was a busy person, with deep and longstanding interests in the Darwin City Brass Band, where he played Double B flat Bass and played the Bass drum on the march. He was a Committee member forever. He had a similar commitment to the Scouting movement. Terry was a founding member of the National Servicemen's Association in the NT. As if this wasn't enough, Terry was a keen Ballroom dancer from way back, retaining the interest but not necessarily the activity to the last.

Although not well at the time of his passing, it was a shock to his family and friends.

Provided by Brain Bates VK8LBA.

Silent Key

William Mackenzie (Bill) Sinclair VK2ZCV

Bill passed away peacefully on Monday 29th August, 2016 aged 78 years.

Bill was born at Kurri Kurri on 28 July 1938 to Thomas and Christina Sinclair who had moved to the Hunter Valley in NSW from Scotland.

Bill built his first radio at the age of 13. He was active in Amateur Radio from a young age and his callsign VK2ZCV was well known to several generations of Amateurs.

After leaving school, Bill remained in the Hunter Valley and worked for Taylors Radio, BHP and AWA in Newcastle before entering National Service in 1958. In 1965 Bill moved to Tamworth where he continued to work in the electronic service industry.

Bill and his family settled in Port Macquarie in 1975 where he worked in the TV and electronic service industry until his retirement.

Bill joined the Oxley Region Amateur Radio Club in 1975 and became a life member of the club in 2006 in recognition of his contribution to the club. He was

a Past President and Secretary and had served many terms on the ORARC Committee.

Bill was a very keen VHF and UHF weak signal operator and was a regular participant in the aircraft enhancement nets for many years. He built many projects as part of his hobby. His library of information and collection of hard to get components and equipment was legendary. He helped to build and maintain the Oxley Region Amateur Radio Club's repeaters for several decades. He was a keen proponent of foxhunting. Bill helped to organise the club's Field Days for almost 40 years and never missed a club event.

For over 50 years, Bill had an almost perfect attendance record at both the Urunga Convention and the Central Coast Field Day.

Bill was active in the Scouting movement and through the 1st Port Macquarie Sea Scouts he introduced several generations of Scouts to amateur radio via JOTA with the Radio Club.

Bill is survived by his three sons, John, David and Bryan, and their families.

The Amateur Radio service is much poorer for Bill's passing and he is sadly missed.

Vale Bill Sinclair VK2ZCV.

Submitted by Henry Lundell VK2ZHE on behalf of the Oxley Region Amateur Radio Club.

VK2news

Tim Mills VK2ZTM
e *vk2ztm@wia.org.au*

While October was a quiet month for **ARNSW**, it is busy in November with the final activities for the year.

On Sunday 6 November 2016 there is a Talk Fest.

A Foundation course and assessments over the weekend 19 and 20 November 2016 and the Trash & Treasure, followed by the Home Brew and Experimenters gathering on Sunday the 27 November 2016.

Inquiries for the Foundation weekend by an email to *education@arnsw.org.au*

These courses are in heavy demand and may well be full by the time these notes appear. Updates on all activities are given on the Sunday VK2WI news sessions. ARNSW can be found on Facebook, go to facebook.com/ARNSW

WICEN NSW held their AGM in September with most of the committee re-nominating. President is Steven VK2BOS; Vice President John VK2LJ; Secretary Steve VK2MCA and Treasurer Doug VK2DCR. Committee members are Jan VK2FEB, Al VK2KAM, Irene VK2FIRV and Eric VK2VE.

During September WICEN was involved in the annual search for missing aircraft VH-MDX. There was media coverage of the operation with many images of the WICEN facilities. You can see these on the many internet sites. WICEN has also just concluded communications for the annual Hawkesbury Canoe Classic over the weekend 29 - 30 October 2016. The WICEN website at nsw.wicen.org.au is a good point of contact. They also have a presence on Twitter and Facebook.

Summerland ARC at Lismore have education planned this month with an Advance course from 7 to 11 November 2016 followed by a Foundation course on 12 and 13 November being provided by Duncan VK2DLR.

Email *vk2src@gmail.com*

Waverley ARS in Sydney's Eastern suburbs at Rose Bay have a Foundation and assessment weekend during November with details via *education@vk2bv.org* They have been having Morse sessions on Thursday evenings, first on 20 metre around 14.020 at 2000 hours before they move to the Paddington 70 cm repeater 438.575 using AFSK. They have been holding a weekly net on Monday evenings on the new VK2RBV Fusion repeater in the FM mode on 438.1125 MHz with a minus 5.4 MHz offset with 91.5 Hz CTCSS tone. Their web site at *vk2bv.org*

The **Mid-South Coast ARC** is scheduled to have their quarterly meeting on the second Saturday of November 2016.

The **Oxley Region ARC** is working towards the establishment of their 6 metre repeater at the VK2RCN site. The Christmas party and monthly meeting is to be held on Saturday 3 December 2016. Their next Foundation course will commence when sufficient candidates have registered, do so by writing to PO Box 712 Port Macquarie 2444. An extensive report on their activities in words and pictures in the bi-monthly newsletter, Oxtales, to be found on the website: *orarc.org*

The November 2016 issue will be out soon.

The 2017 **Central Coast Field Day** is scheduled for Sunday 26 February 2017 with a reported lower entry fee.

73

Tim VK2ZTM.

Participate

AHARS Hamfest | 6 November

Keith Roget Memorial National Parks Award Activation | 11-14 November

What they say and what they mean: Decoding the lingo of ham radio ads

Peter Parker VK3YE

A popular activity when the bands are dead is to trawl through radio equipment advertising websites. Thoughts like "At that price they're dreaming", "I'm tempted", "Why selling after only three months' ownership?", or "I used to have one of those" may run through your mind.

Anecdotes from friends and online reviews may plant the desirability of particular equipment in your mind. You imagine yourself with it. Yearning turns a 'nice to have' into a 'must have'. At this point you're vulnerable, at risk of throwing caution to the wind to have it now for the lowest price.

So you hit the web; today's main way to find used gear for sale. Online ads have existed for at least 20 years, often as a section of a larger ham radio webpage. Generalist sites like eBay, with their bigger audience, seller ratings and better display photos, have also become popular.

Transactions became less personal, often made without visit, on-air test or even phone call. Hamdom is looser-knit with the explosion of sub-interests on disparate wavelengths. With online ads accessible to anyone anywhere, buyers and sellers may not be fellow countrymen or even radio enthusiasts.

There remains a strong used market, despite the relatively low cost and long warranties of new transceivers. Indeed careful second-hand buying can save money, especially for accessories which still seem quite dear new.

While most deals go smoothly, it still pays to be wary when scanning the ads.

Do claims made match known capabilities of the equipment? Do photos show the actual item or have the images been ripped off Rigpix? Are prices neither 'back of a truck' cheap nor 'same as new' expensive? And can addresses and callsigns be confirmed and current, and are not some silent key's stolen identity?

Then there's the ad's wording. Does the advertiser write like they know what they're selling? Or are their 'amateur radios' (sic) promoted with numerous errors or pasted hype from brochures?

Typical used equipment you may find at a Hamfest or online (Lee Moyle VK3GK).

Sometimes a 'tell-tale' phrase in the advertisement may convey a meaning that affects an item's value, and thus your price limit. Or even whether to express interest or steer clear.

It's like real estate, where that 'renovators' delight oozing with character' may be the termite-invested hovel by the swamp that's been vacant for years. The difference is homebuyers are forewarned thanks to the frequency such clichés are used and explained.

We thought it time that radio buyers, including newcomers and returnees to amateur radio, received similar consideration.

Below is a (mostly) serious guide to some common expressions in used radio equipment ads. Read it! It may help you get the drift to ensure that the next rig you buy doesn't.

All band (antenna) = performs equally poorly on any frequency.
Amateur (sic) = may indicate the seller isn't of the licensed radio variety.
As is = doesn't work.
Boat anchor = gives a hernia when lifted. A likely restoration project.
Bonus spare set of final tubes = because the ones inside are blown.
Broadband (antenna) = traps full of water and corroded.
Classic = often desired when younger – before we knew better.
Collectible = because you wouldn't dare put this on the air. Often a boat anchor.
Compact (antenna) = dummy load.
Dial cord needs re-stringing = frustration for a week or more.
Directly imported = no local warranty. Don't make them like this anymore = see boat anchor.
Drop-in equivalent (battery) = half the original's capacity.
DSP = has tone control that muffles receive audio.
Exceeds full rated output (transmitter) = been tampered with by 'screwdriver expert'.
Experimenter's delight = needs fixing.
Fantastic mobile rig = contains outback dust, spiders, etc.
F-call special = finals blown.
Fully aligned = IF transformers have been

twiddled and are now stuck.
General coverage = see Exceeds full rated output.
Genuine accessory = overpriced.
Great receiver = does not transmit.
Great transmitter = does not receive.
Great reports when last used = been in cupboard for 30 years. See untested.
Ideal back-up rig = great motivator to get the main rig repaired.
Immaculate = not many visible marks from last drop.
Includes protection (power supply) = contains blown fuse.
Includes spare ..... = original ..... inside is blown and held by unreachable bolts.
Includes sub tone = nice 50Hz hum on transmit.
LCD missing one digit = can't read frequency.
Matching speaker = overpriced box full of air.
Much-loved = see collectible and vintage. Needs repair = irreparable.
Never missed a beat = seldom switched on.
Never used mobile = but may be from a smoker's shack.
Newly aligned = IF transformers have been twiddled and are now stuck.
Newly reconditioned = rust sanded off.
No timewasters = you're on your own if it doesn't work.
Non-smoker owner = seller quit last week.
Offers over = seller's starting price – work down from there.
Omnidirectional (antenna) = performs equally poorly in all directions.
One owner since new = fifth-hand.
Only been on air 5 hours (transmitter) = has intractable RF feedback caused by bad internal earthing 6 layers down.
Owned by yachtsman = saltwater damaged.
Partly-built kit = missing critical parts and supplier out of business.
Picks up static (receiver) = noisy volume control.
Plastic still over display = didn't you know that a piece cut from clear book covering lifts resale value by $100? Plugged in, lights come on = good luck getting the rest working.
QRP special = see F-call special.
Rare model = only a week to wait until another pops up.
Regretful sale = said by seller to make buyer guilty about offering less.
Restoration project = I've given up.
Scanning = stops on every bit of interference or spuria.
Selling on behalf of ... = Not my responsibility if it doesn't work.
Selling to fund other interests = because this rig has turned me off radio.
Selling to fund upgrade = dealer wouldn't take it as trade-in.
Sensitive (receiver) = hears every switch-mode power supply in neighbourhood.
(Of) Sentimental value = see regretful sale.
Serviced by authorised agent = just back from them for the umpteenth time.
Simple repair only needed = basket case. See also restoration project.
Speech processor included = can transmit distorted audio.
Suit new buyer = because no one else would pay the asking price.
Suit portable use = has handle but still weighs a tonne.
Suit tinkerer = requires constant realignment. Or an experimenters delight.
Superior strong signal handling performance (receiver) = deaf.
Tested then put back in carton = not specified was the length of the 'testing' period.
Unmodified by owner = rusted-on screws prevent opening.
Unopened = been main rig for 10 years.
Untested = see as is.
Unwanted gift = lemon.
Urgent sale = purchase not approved by spouse.
Vintage (i) = Not current model. Used by seller to convey impression of rarity and justify high price. Also see rare model.
Vintage (ii) = Drifts. Capacitors leak. Hot chassis - Lacks today's bands/channels.
Wide band (receiver) = Unselective. Poor image response.
Wide band (transmitter) = transmits spuria and harmonics.
Will not separate = Speaker and power supply worth more than the transceiver.
Worked 300 countries (transceiver) = in conjunction with the tower, beam, linear amplifier and seaside location which I'm keeping.
Worked when last switched on = because it's unwise to turn on again after the smoke's escaped.
6 metre monoband = paperweight (southern states).
23 cm monoband = paperweight (everywhere). (Ed: Many would disagree!)
200 memory channels = impossible to program.

Acknowledgement: I wish to thank Lee Moyle VK3GK for feedback on the draft and supply of the photo.

Hamads

FOR SALE – WA

Complete operating station: Kenwood TS-140S HF transceiver; Yaesu FT-200 with external power supply; FTV-250 2 m SSB transceiver; Kenwood FM dual band 2/6 m transceiver TM-733; FB 33 Tri-band 3 element beam plus CDE Ham IV rotor and control box mounted on a crank-up/tilt-over steal lattice mast. All the above with manuals.

IC 2 m portable transceiver; Search 9 Daiwa FM 2m receiver; Morse key; Box full of CB transceivers. Mike Goldberg VK6MG Mobile: 0423 975 331 Perth WA.

WANTED – WA

Drake R4B 160 – 10 metres valve receiver, preferably in good to excellent condition. Steve VK6VZ *vk6vz@srach.net.au*

Contributions to *Amateur Radio*

AR is a forum for WIA members' amateur radio experiments, experiences, opinions and news.

Your contribution and feedback is welcomed.

Guidelines for contributors can be found in the AR section of the WIA website, at *http://www.wia.org.au/members/armag/contributing*

Email the Editor:
editor@wia.org.au

About Hamads

- Submit by **email (MUCH PREFERRED)** or if written and mailed please print carefully and clearly, use upper AND lower case.
- Deceased estates Hamads will be published in full, even if some items are not radio equipment.
- WIA policy recommends that the serial number of all equipment for sale should be included.
- QTH-R means the address is correct in the current WIA Call Book.
- Ordinary Hamads from those who are deemed to be in general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being re-sold for merchandising purposes.
- Commercial advertising on these pages Contact admanager@wia.org.au
- Copy to be received by the deadlines on page 1 of each issue of Amateur Radio.
- Separate forms for For Sale and Wanted items. Include name, address STD telephone number and WIA membership number.

'Hamads'
PO Box 2042
BAYSWATER VIC 3153
hamads@wia.org.au

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The work of the WIA extends beyond Australia's borders.

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The WIA is involved in Australia's preparations for the World Radio Conferences and attends with the Australian delegation. Institute volunteers do this work. WIA attendance is funded by the Institute on behalf of all Australian radio amateurs.

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