Amateur Radio

Volume 81
Number 11
November 2013
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WIRELESS INSTITUTE OF AUSTRALIA

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- ILLW 2013
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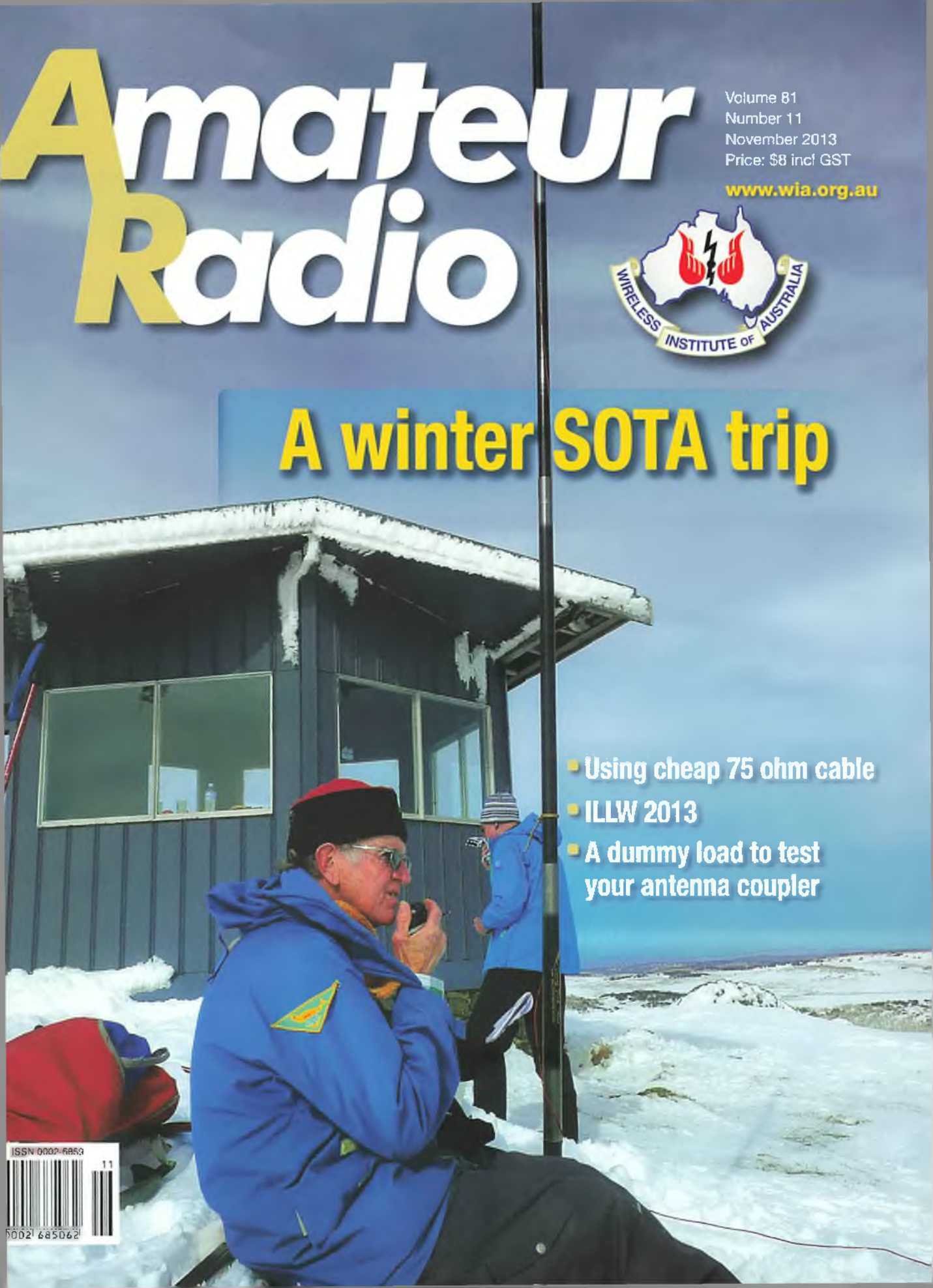

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General

This month's cover
This month our cover shows Keith VK5QQ/3 operating at Mount McKay near Falls Creek in Victoria. Mount McKay is SOTA summit VK3/VE-007. Keith gives us an account of his ski trip to Mount McKay in the story on page 6.
Photo by Ian Ritchie.

Technical

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.

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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.

Amateur Radio Service

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.

Wireless Institute of Australia

The world's oldest
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Representing
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Member of the International Amateur Radio Union

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Editorial

Peter Freeman VK3PF

Publicity for our hobby

A few days ago I received a copy of the front page of a local government publication. Much of the page was taken up with a story of a group of local amateurs who activated a nearby lighthouse as part of the International Lighthouse & Lightship Weekend in August. It gave some details of those involved and their activities, including two good photographs.

It is terrific to be made aware of such instances of positive stories about our hobby. However, those that send in such stories must recognise that we are unlikely to be able to use the material within these pages. The most important point is that the material has already been published and is protected by copyright. Any republication would require written permission from the owner/s of the copyright.

The material was supplied as a hard copy. Even if we had permission to use the material in *AR*, we would not be able to use the images – even if we scanned the images, the quality would be insufficient for our needs. We would also need to completely retype the text in this case, as the text ran across part of one of the images.

How to contribute to *AR*

Whilst the notes have not been updated for some time, we have had details of how to contribute to *AR* available on the WIA website for several years. Simply find your way to the *AR magazine* pages in the **'For Members'** drop-down menu. Near the top of the left hand menu is a link '**Contributing material**.'

That link will take you to an overview of how to contribute.

At the bottom of the page are two documents available to download: "How to write for *AR* magazine" and "A word about photographs". Please read the page and these documents, preferably before you start writing. Please note we much prefer to receive material in electronic format, with documents preferably as *Word* files and images as JPEG files, preferably at least 1 MB per image. Technical drawings have their own separate requirements and the web page provides guidance as to how they might best be prepared.

Think about what you might contribute well before you commence your project or before the event you plan to describe. If you plan ahead, you can consider how you can ensure that you have good quality, high resolution images available to illustrate the story. Always set your camera to take and then store the image at the highest possible resolution, preferable in a RAW format if that option is available.

What to contribute?

We prefer to have a mix of news, general stories related to amateur radio and technical articles. For many readers, preparing a technical article might seem daunting. However, feel free to write up your latest project – our team can offer you guidance and/or polish your writing. Take some good high resolution photographs. Most people can send jpg images of at least 1 MB size via email. If you are unsure, simply contact us for

Continued on page 5

WIA comment

Phil Wait VK2ASD

Radcomms 2013

Every year the ACMA hosts a two-day Radio Communications Conference featuring a series of speakers from various industry sectors, and the ACMA, covering a broad range of topics. Several "panel sessions" provide an opportunity for audience interaction. It is a valuable opportunity for the WIA to interface with industry and gain insights into the future directions of radio communications. WIA Director Roger Harrison VK2ZRH attended day one, and I attended the second day. These are our combined observations and comments.

Although the event was subtitled "4G and Beyond", to emphasise the role of mobile broadband technologies, the subject matter covered quite a lot more than that, including: competing demands for access to spectrum; the value of spectrum to the government, the economy and society; the rapidly changing uses of spectrum; the role of broadcasting; innovation in spectrum use; and the future role and work of the ACMA.

In opening Radcomms 2013, the Chair of the ACMA, Chris Chapman, highlighted the issue that "*. . . regulation must be responsive to innovation*" and the fact of tension between interests in spectrum access where divergent views collided. To stay abreast of developments and the requirement of the ACMA "*. . . being an evidence-informed regulator*", he outlined two studies commissioned to contribute to the agency's future work: one being on forecasting likely future demand for spectrum, the other on the impacts of mobile broadband technologies on the Australian economy and society. Two speakers provided insights into preliminary results of these studies, which highlighted the rapidly changing impact that wireless devices have in everybody's work, living and leisure activities.

Panel members were quizzed about attitudes to the licensing system and the concept of "parameter-based" licensing was raised, creating some lively debate. This idea does away with the current system of apparatus, class and spectrum licensing, and regulates access to and use of spectrum by specifying a list of parameters (in much the same way that LCDs do, for example).

Rob Fitzpatrick from NICTA, Australia's Information Communications Technology (ICT) Research Centre of Excellence, gave a presentation on aspects of NICTA's current R&D work, in which he pleaded the case for having "sandpits" of unlicensed spectrum for researchers to "play with" as needed from time to time.

The Secretary of the Department of Communications, Drew Clarke, gave a talk in which he canvassed the idea of "unchaining spectrum" to engender innovation; "what more can it do?", he asked, raising the spectre of spectrum demand for uses as yet unimagined. Tellingly, he advocated the case for providing "adequate (spectrum) for public interest uses".

Apart from anything else, the Radcomms conferences provide a valuable opportunity to network with ACMA staff and key people from industry and academia, and the WIA's participation is always very well received.

Second day speakers discussed the future of traditional broadcasting, innovation in spectrum use, and where to from here. Speakers included representatives from Commercial Radio Australia who argued a case for more Digital Audio Broadcasting (DAB), especially in non-urban areas, and from Free-TV canvassing ultra-high definition free-to-air television broadcasting using high-definition and content-rich formats like MP-4, and linking the provision of free-to-air broadcasting (as opposed to paid subscription services) to healthy democracy.

Speaker Anthony Gherghetta, from the App Studio, cited the "internet-connected car", a world of on-line motoring where you choose the streaming content prior to your commute to work, maybe starting with the local traffic report, BBC news world headlines, the latest country music hits and a bit of talk-back. Not to mention everyone will know where you are, and your credit card will automatically get debited if your right foot gets a bit heavy. Hopefully we will be able to remove that module!

All these applications are driven by strong public demand, and they have one very critical feature in common - they are all spectrum hungry. Conventional spectrum usage is inherently inefficient, with most frequencies being vastly underutilised. Just tune across any of the non-broadcasting bands and note how most frequencies are vacant most of the time.

Continued on page 5

WIA news

RSGB 1913-2013 congratulated

The Radio Society of Great Britain (RSGB), which is celebrating its centenary with a variety of events, has been thanked and wished well on the occasion and into the future. Fellow International Amateur Radio Union (IARU) member society, the Wireless Institute of Australia (WIA), has described the array of events organised throughout this centenary year as marvellous.

WIA President Phil Wait VK2ASD said the events engage the membership, clubs, and radio amateurs worldwide, while further raising the profiles of the organisation and the amateur service.

"The RSGB has been a true friend through its 100 years of international cooperation including strong leadership on issues at the IARU and other forums. It continues to display a leading role both locally and throughout the world," said Phil VK2ASD.

"The WIA acknowledges that it relied heavily on the RSGB for its own introduction of the Foundation Licence that has proven to be highly successful in Australia. RSGB publications continue to sell well through the WIA Book Shop."

The WIA has sent a plaque to the RSGB extending the warmest of wishes on achieving the milestone and for its future.

The question is: .... "Explain amateur radio?"

Seems to be a pretty simple question, but think about it, do you have the right answer or answers? Dare say most of us would not be able to succinctly give an answer. That is, without saying what we did, and even a few who would slip into jargon and ham-lingo to give some sort of a reply.

As every good salesperson learns it is essential to know about the product or service on offer to have a hope of clinching a deal with a customer.

So it should be with amateur radio, if we are to be successful in recruiting new people into our ranks. Unless we have the right messages and can communicate them, true success is not realised.

The WIA in the lead-up to its PR4AmateurRadio Expo in April will help clubs or groups maximise their involvement in this publicity drive.

Click on the "For Members" tag at the top of the WIA homepage, and under "Services" read more detail of "Promoting Our Hobby". This new section will be updated.

Inaugural Michael J. Owen VK3KI Award announced

The Administrative Council (AC) of the International Amateur Radio Union (IARU) held its annual meeting on 2 & 4 November 2012 in Ho Chi Minh City, Vietnam. Due to the passing of Michael J. Owen VK3KI, who had been a member of the Administrative Council for most of its existence and had been a long-time contributor to the efforts of IARU to promote and preserve amateur radio, the AC decided to establish an award in recognition of this contribution.

The Michael J. Owen VK3KI Award was established to recognize an individual or individuals that best exemplify the dedication and hard work of IARU volunteers.

Following an IARU request for submission by member Societies of possible recipients, the AC at its meeting in Cancun Mexico on Sunday 22 September 2013, considered submissions and agreed to jointly award the first Michael J. Owen VK3KI Award to Dr David Wardlaw VK3ADW and Wojciech Nietyksza SP5FM.

David Wardlaw VK3ADW became involved with the IARU in 1968 as a part of the Secretariat provided by WIA for the inaugural Conference of IARU Region 3 in Sydney. While serving as WIA President he attended the 1976 IARU world meeting in Miami, held in conjunction with the Region 2 Conference, at which the global objectives and strategy for WARC-79 were developed. Along with Michael Owen, David was appointed to the Australian delegation to WARC-79 to represent amateur radio. He served as a Director of Region 3 from 1988 to 1994 and from 1997 to 1999, resigning at that time to succeed Michael as IARU Vice President. He served as IARU Vice President from 1999 to 2004. David was an effective representative of both Amateur Radio and the Australian administration at the ITU.

Wojciech Nietyksza SP5FM began his long and intensive IARU involvement as a member of the IARU team attending the 1974 Maritime Mobile WARC in Geneva. From that time through WRC-03 he was the most consistent face of the IARU at ITU meetings and conferences. He was elected Vice Chairman of Region 1 in 1975 and was re-elected to that position every three years until 1999 when he relinquished it for Tafa Diop 6W1KI. Wojciech remained a member of the Region 1 EC and chairman of its External Relations Committee through 2002.

The WIA congratulates Dr David Wardlaw VK3ADW and Wojciech Nietyksza SP5FM on the receipt of the inaugural Michael J. Owen VK3KI award.

Geoff Atkinson VK3TL, IARU Region 3 Director, in Mexico attending the AC meeting and IARU Region 2 Conference, phoned Dr Wardlaw from the meeting to advise him of the Award and extend congratulations on behalf of the IARU Region 3.

Editorial

Continued from page 2

guidance or copy all your files to a CD and post the CD in to the WIA office. If using the postal method, always include your highest resolution images on the CD.

Remember that we are always looking for stories and good images. It may be several months before your contribution appears in print, but it may appear in the next issue to be produced, depending upon content at hand here and the timeliness of your story.

Remember that all material needs to be in our hands by the first of the month of the month prior to the cover month on the magazine. Until next month....

Cheers,

Peter VK3PF

WIA comment

Continued from page 3

If any of the conference predictions come true, new ways must be found to increase spectrum efficiency and usage. New radio technologies and vastly different ways of thinking about spectrum will be required.

Cognitive radio is a technology where a transmitter and receiver negotiate with each other to find a clear frequency. Unlike the rigid fixed-frequency operation that we are all familiar with, cognitive radios continually negotiate with each other or as part of a network, seamlessly jumping around within defined frequency limits and communicating with each other, totally invisible to either primary users or to other spectrum users.

In the cognitive radio model, spectrum usage and spectrum efficiency is dramatically increased. Spectrum Brokers may purchase chunks of spectrum and re-sell it to cognitive users on a dynamic basis, but no user 'owns' any particular frequency.

So, in this brave new world of frequency sharing and dynamic spectrum allocation, where does all this leave amateur radio?

Several speakers explored the issue of the "value" of spectrum – the economic or monetary value, the political value and the social value. The concept of spectrum having an "imputed value" was raised in one panel session, along with the concept of certain spectrum bands and uses having an intrinsic or "intangible" value as a social good – not everything could be reduced to monetary value.

Amateur radio has a rich history of public benefit. Albeit through a fairly rigorous set of entry criteria, amateur radio already provides spectrum for public interest users and, since the very early years, amateur radio has exploited spectrum for experimentation, research and development. There are many examples from over the decades, where amateurs have explored radio communications concepts that have been subsequently developed into successful commercial technologies – cellular telephony being one telling example.

As Maureen Cahill from ACMA noted, "spectrum is the great enabler of the 21st century, ...with a projected 30 billion wireless connected devices by 2020, up from 10 billion today". It may be in this 'brave new world' there is a renewed place for amateur radio as a protected public space, available through our system of individual amateur licensing, for public usage, education, research and other non-commercial purposes.

Radio Communications Conference attendance currently costs the WIA about $720 per year, not including any travel or accommodation expenses. WIA members fund this activity in the interests of all Australian radio amateurs.

2014 WIA AGM and Conference Venue Announced

The Sunshine Coast ARC is honoured to host the 2014 WIA Conference.

The date for the conference is the weekend of the 17th & 18th May 2014, one week after Brisbane Amateur Radio Club's 'BARC Fest', so road travellers may be able to take advantage of both events. Also on in the region is the Noosa Food and Wine Festival, a very popular event.

The theme for the Conference is 'Rescue' and planned events include visits to the various rescue agencies in the area, and naturally Mooloolaba's Underwater World.

Further details will be announced in the coming months.

Trent Sampson VK4TS

A winter activation of Mount McKay for Summits on the Air (SOTA)

Keith Gooley VK5OQ

Photo 1: Ian and David heading up McKay Road on the journey to the summit.

Mount McKay, at 1848 metres, is one of the higher peaks in the north east Victorian high country. It is located about three km as the crow flies east of the ski resort village of Falls Creek. Mount McKay has been activated at least twice in recent times to my knowledge but these activations have taken place in summer or autumn when the winter snow cover has well and truly gone. I thought it would be a rather unique challenge to carry amateur radio equipment to the summit and operate during winter with a cover of snow to add to the interest. The opportunity to do this came in July 2013 when the writer accompanied by XYL, Jeanne VK5JQ, and a group of friends not involved in amateur radio, spent a week skiing at the Falls Creek resort.

The weather for the first three days of the holiday most people would consider as awful, with snowfalls and strong winds. But since most of the snow that had fallen earlier in the season had been washed away by rain, the new snow was most welcome and it put a cover of 30 to 50 cm over the slopes. After the snowfalls the weather cleared up and when the forecast was for fine weather the decision was made to attempt the climb to the summit.

Getting there

Going to the top of Mount McKay in summer or autumn involves driving along the good dirt road, McKay Road, then branching off and

driving up the 4WD track to the minimum 100 m below the summit and carrying the gear. It is a different story in winter though. Although the summit is only about 3 km in a straight line from the village, by road it is a good 6 km and with snow covering the ground, a motorised trip must be done by an over-snow vehicle such as a snowmobile. This is an expensive option. As my friends and I had done cross country (XC) skiing for a number of years, we thought this trip on skis was well within our capability even carrying the amateur radio gear. Needless to say the trip involves quite a bit of steep climbing at times along the road and trails.

The equipment

I had checked and packed the radio gear a couple of days earlier and ensured that all I needed to activate the summit was in my pack. I acquired an FT-817 transceiver a couple of years ago but this was to be the first time I had used it in anger on HF. The main antenna was a nine metre squid pole, a light weight fibreglass telescoping pole which collapses down to a length of only a bit over a metre. A backup antenna was a 30 metre length of lightweight flexible wire. I was sure the wire could be supported by the tower which was clearly visible on Mount McKay. To tune either antenna I carried a home brew manual antenna tuning unit. This was probably the heaviest item in the kit as I had housed the tuner in a steel case. Short coax leads, two 10 metre lengths of wire for a counterpoise and a spare battery for the '817 completed the kit.

The team

On the appointed day, Thursday 25 July, the morning dawned with a clear, sunny sky and only light winds. The group of three to make the climb consisted of Ian, a very experienced cross-country skier, David who had taken up cross-country skiing only a couple of years ago and myself, who had done only a modest amount of XC skiing spread over 30 years or so. David had had a knee replacement which forced him to slow down his downhill skiing and do more XC skiing. I was the only amateur radio operator in the party. We prepared snacks and lunch to take with us as well as a small gas stove to make hot drinks plus we carried spare clothing such as socks, neck warmer and gloves. The weather can change quickly in the high country and it pays to be prepared.

Cross country skiing

The difference in height above sea level of the ski lodge in the village and the summit is about 250 metres so this height must be scaled over the six km of road and trail. XC skis differ from downhill skis in that the boots of the former are fixed to the ski at the front only allowing the heel to lift off the ski. This makes negotiating uphill ski trails much easier than with downhill skis where the boots are much heavier and fixed to the skis, toe and heel.

The trip to the summit

We were ready to go at 10 am and set off along the Aqueduct Trail out of the village. I had the squid pole conspicuously strapped to the outside of my pack and it was remarked on by a number of people we met. This allowed the opportunity to explain about amateur radio. One lady we spoke to said 'Let me introduce you to the mobile phone' but I treated this with mock scorn.

It took about 30 minutes to get up to McKay Road, quite a steep climb on XC skis so we were well and truly warmed up by the time we turned onto the road. This was much easier going and in another half hour we were out of the area used by the majority of downhill skiers. It was a lovely clear morning and Mount McKay was clearly visible up ahead. We were not the only people heading up the mountain that day; there were at least two other groups on their way.

Setting up

I had flagged my intention to attempt the activation by registering on the SOTA website. I said I would be on 7150 kHz from 0230Z or 12:30 pm local time. We had to walk carrying the skis for the last several hundred metres due to the steepness of the track. Arriving at the summit at about noon, we had no time to lose setting up the radio and antenna. We laid the skis upside down on the snow and used the resulting 'bench' to take the '817 and the ATU. Most of the bottom section of the squid pole was stuck into the firm snow and the 10 metre counterpoise rolled out in a south-westerly direction as I thought it likely that most contacts would come in that general direction. David is a keen amateur fisherman and he was very interested in my use of a squid pole as a support for my antenna. It was never clear to me how fishermen actually used a nine metre long fishing rod. David explained that they put a squid 'jag' on a short line attached to the end of the pole. They then dip the baited jag into the water and move it around where the squid are biting and hope for a catch.

Photo 2: Erecting the antenna.

Radio operation

A couple of CQ calls near the 12:30 time brought no reply which was not surprising considering the QRP power level and the fairly quiet band at that time of day on a week day. A few kHz down the band, a net was in progress with a number of amateurs having a chat with excellent signals. I was able to make contact with several of them and the net controller, Gerry VK7KO, kindly passed me the frequency. Ernie VK3DET then came up and said he had 'spotted' me on the SOTA website, letting others know that Mount McKay was activated. A few more contacts ensued until the cold got to my microphone hand. The outside temperature was estimated at between zero and -5° C with a light breeze, so operating time was not as long as I would have liked. I retreated to the comfort of the hut, warmed by the sun shining through the windows and restored circulation to my hands. While eating my sandwich, toasted on the gas stove, I heard Jeanne VK5JQ come up on 146.5 FM and

I added her to my list of contacts from the summit. She was at the top of the skiing area a couple of kilometres away.

Back to the village

The return trip was quite straightforward, with Ian, the most experienced skier, heading off on his skis and David and I walking down to the point where we could ski confidently. We had a nice long glide down McKay Road and arrived back at the lodge at about 4 o'clock. It was a very satisfying day. We had skied up to the summit of Mt McKay, set up and operated the amateur radio station in the snow and achieved more than the required number of contacts for the activation. And better still it has got me started on activating hill-tops in Summits On The Air.

Photo 3: Keith VK5OQ/3 sitting in the snow with the shelter hut in the background.

Citadel Island Lighthouse ILLW 2013

Tim Buckley VK3MTB

Photo 1: The top of the old Citadel Island Lighthouse.

Four members of the Eastern Zone Amateur Radio Club Inc. activated the Citadel Island Lighthouse (AU0110) using the call sign VK3MTB. This was the first activation of this lighthouse for the ILLW event.

Citadel Island Lighthouse is one of the exhibits at the Gippsland Regional Maritime Museum located at Port Albert in eastern Victoria. Port Albert was the home port for the vessels which serviced the lighthouses at the eastern end of Bass Strait.

Photo 2: Mike Hurnell VK3NMK and Fred Hobson VK3QH operating.

Operators included Tim VK3MTB, who organised the event, Bernie VK3BFH, Mike VK3NMK and Brian VK3BBB. Fred VK3QH, a museum committee member, also visited and operated the station.

The group suspended an offset dipole antenna from one of the museum's flagpoles and operated on HF using an IC-706 from within the museum and attracted much interest from museum visitors. Brian VK3BBB set up a portable digital station and operated on the Saturday afternoon.

The group made contacts with lighthouse stations from all states in VK and two from ZL. The group also participated in the Remembrance Day Contest.

Of special interest to the operators was the extensive

collection of maritime radio equipment in the Communications Room display. There is also a display of equipment from the nearby Omega navigation facility.

The management committee and the volunteers at the museum were incredibly supportive of the event and have invited us to make the weekend activation an annual event with them. They have offered us the opportunity to set up future event stations inside the Communications Room as a working exhibit – a great opportunity to show our hobby to the public.

Photo 3: In addition to flying the red ensign, the flagpole also supported the HF antenna.

Photo 4: The museum has several display items from the former Omega transmitter station.

Special thanks must go to Geoff, Bill and Dave for their support given to us over the weekend, during the planning stages and for publicising the event in the local media.

Photographs by Bernard Henne VK3BFH.

Cape Willoughby Lighthouse, 2013

Paul Simmonds VK5PAS

Photo 1: Roy VK5NRG and David VK5KC, operating on 40 m from the Museum, being watched by John VK5AJQ and Trevor VK5ATW.

This year for the 2013 annual International Lighthouse & Lightship Weekend (ILLW) members of the Adelaide Hills Amateur Radio Society (AHARS) again activated South Australia's oldest lighthouse, the Cape Willoughby Lighthouse on Kangaroo Island, IOTA OC-139. Completed in 1852, it is also the 17th lighthouse to be constructed in Australia, and lies at the easternmost point of Australia's third largest island, Kangaroo Island.

It was a cool but pleasantly sunny Friday morning, when eight members of AHARS arrived at Cape Jervis on the Fleurieu Peninsula, about 108 km south of Adelaide. It was from here that we were to catch the 9.00 am ferry, and it was also from here that the weather conditions spiralled downhill rapidly. After boarding the 'Spirit of Kangaroo Island' ferry to cross the 11 km stretch of water known as Backstairs Passage, the cold front hit with a vengeance. The wind picked up, as did the seas, and the docking at the little town of Penneshaw on the eastern end of Kangaroo Island was interesting to say the least. Little did we know that this was the last ferry to operate due to weather conditions for the next 48 hours.

This was the second year that AHARS members had travelled to Kangaroo Island for the ILLW. This year's group consisted of David VK5KC, Paul VK5PAS, Roy VK5NRG, Trevor VK5ATW, Andy VK5AKH, John VK5AJQ, Joseph VK5FJOE (10 years old), Doc VK5BUG, and budding operator, nine year old Mitchell, who is the grandson of VK5KC.

Our accommodation for the three nights on the island were the 'Thomas' and 'Seymour' cottages located adjacent to the lighthouse. The cottages, which were constructed in 1927 to replace the original 1850s cottages, have been beautifully refurbished and offer all the comforts of home. Despite the fact that we had arrived on the island early, our intentions

of erecting any antennas were thwarted by 'Huey'. Unfortunately the weather was so bad that we were forced to retreat for most of the day to the warmth of the cottages, with the wind speed at the lighthouse gusting up to 106 kph.

Fortunately a break in the weather late on Friday afternoon gave us a small window of opportunity to erect our antennas, which consisted of an array of dipoles and a hex beam. John VK5AJQ and young Joseph and Mitchell climbed the 102 steps to the balcony of the lighthouse, about 22 metres from the ground, where John secured a lanyard to the railing, allowing us to erect our dipole antennas.

This year we used the special call of VK5CWL for the ILLW, and we also participated in the Remembrance Day Contest, utilising the club call of VK5BAR. A number of different operating positions were established including the old weather station and the lighthouse museum, both being adjacent to the imposing lighthouse structure.

The set up in the old weather station building was primarily used for DXing. It consisted of an Icom IC-7600, 100 watts, and hex beam.

Whilst the museum station, which consisted of a Yaesu FT-450, 100 watts, and a broadband folded dipole, was used primarily for 40 metres. The dipole was erected in a sloper configuration from the railing of the lighthouse, and performed very well on 40 for both local contacts and some DX.

Inside the 'Seymour' cottage was the RD Contest station which consisted of an Icom IC-7000, 100 watts, and a 40 metre inverted vee dipole, and an 80 metre inverted vee dipole. They were supported by a seven metre pole attached to the wooden clothesline in the backyard of the cottage.

Over the duration of the ILLW event, we managed 444 contacts all around the world. A total of 35 different countries were worked on 80 m, 40 m, 20 m and 15 m on SSB, CW and PSK31. A total of 25 different lighthouses around the Australian coast were contacted, along with one New Zealand lighthouse. A further 142 contacts were made during the RD Contest.

Although Saturday saw the wind drop to gusts of up to 70 kph, the rain and hail hit hard, making it quite difficult at times with the acoustics from the old granite and sandstone buildings we were operating from. Cape Willoughby recorded 22.4 mm of rain on Saturday, and this resulted in the Willoughby Road becoming flooded and impassable to 2WD vehicles. Sadly this impacted dramatically on visitors to the lighthouse.

Despite the excitement of the lighthouse surrounds, and the

Photo 2: Sunrise on Saturday morning.

presence of their game boys, young Joseph and Mitchell also got on air on Saturday afternoon, working into the eastern states. In fact Mitchell managed his first ever QSO on amateur radio, with Ray VK3ACT in Victoria. This was under very trying conditions, with torrential rain on the tin roof of the museum.

On Sunday afternoon Andy VK5AKH and Paul VK5PAS ventured to the western end of the island near Cape Borda and activated a Summits on the Air (SOTA) peak in very blustery and wet weather conditions. The wind speed was gusting up to 80 kph and about 13 mm of rain was recorded, with a temperature of about 11 C.

Ashley Walsh from ABC local radio was kind enough to call us again this year, and a live on air interview was conducted on Sunday morning, which promoted the ILLW and the hobby of amateur radio in general.

An added bonus this year was the inclusion of two dedicated CW operators, John VK5AJQ and Doc VK5BUG, who were both kept very busy during both the ILLW and the RD Contest.

By Monday afternoon, the wind had dropped considerably and maximum wind gusts were 80 kph. So after a very enjoyable three nights it was time to board the ferry and travel back to the mainland. Again this year, our thanks go to the friendly Department of Environment Water and Natural Resources staff at the Cape Willoughby lighthouse. Additional thanks to Department of Planning Transport & Infrastructure, who allowed as to attach our antennas to the railing of the lighthouse.

More information on our journey to Kangaroo Island can be found on our website at *http://vk5cwl.weebly.com* Thanks to everyone who called us.

Photo 3: Doc VK5BUG operating CW during the RD Contest.

Photo 4: Andy VK5AKH working DX from the old weather station.

Photo 5: Paul VK5PAS chatting on 40 m from the Museum.

Antenna coupler dummy load

Warren Stirling VK3XSW

I have a penchant for collecting antenna couplers (tuners they're not!) intended for wire antennas and at last count I had eight, but unfortunately I had no way to test them short of connecting an antenna and making a pest of myself on the frequency I wanted to test on.

A follow up article in *AR* (Reference 1) got me thinking on how I might build a 'nasty load' to test with and the unit described here is the result. It is intended for testing HF antenna couplers, but I wanted it to be closer to a practical HF antenna and so it has resistive, capacitive and inductive components. Given practical HF antennas are capacitive below, and inductive above their resonant frequency the unit would have to be a series resonant circuit, comprising an appropriately rated resistor, inductor and capacitor.

As a starting point I investigated the equivalent circuit for a short HF vertical antenna as they're by far the worst to match given their small size. The simplified equivalent circuit for a typical short vertical antenna at HF is a resistance of approximately 0.4 Ω, representing the radiation resistance, in series with a capacitance of about 22 pF (Reference 2), representing the capacitive reactance, as a practical HF vertical antenna is always much shorter than a wavelength because of its size limitation and is therefore capacitive, not inductive. A ground loss of about two Ω is included, which represents a good ground at HF; so the basic circuit for the 'nasty load' is a 2.4 Ω resistor in series with a 22 pF capacitor.

Since I'm aiming for the 'nasty load' to be a more realistic load for any antenna coupler I might want to test I would also have to include some inductance so the load could be capacitive or inductive, depending on the test frequency. This all sounds very simple until you consider the magnitude of the voltages and currents that these components must safely handle. The capacitor is the most difficult component to source as it must handle the worst case current which is at resonance; because the sum of the voltages across the inductor and the capacitor is zero (they cancel because they are precisely out of phase, leaving the power 'applied' across only a pure resistance which in the case of this unit is 2.2 Ω.

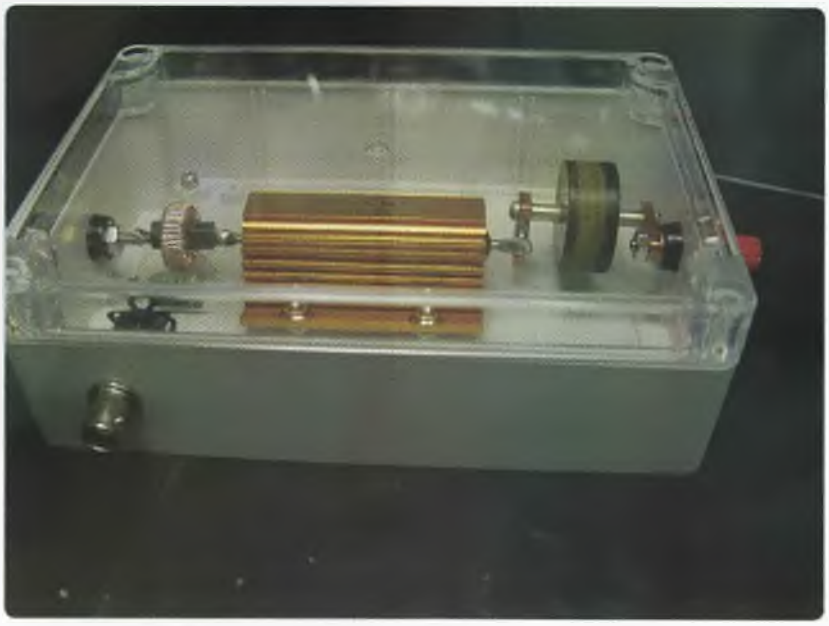


Photo 1: Overall view of complete load system.

Following this reasoning, for an applied power of 100 watts the worst case current is calculated at 6.7 A using the P=(I squared) x R formula. Power calculation in an AC circuit must account for the phase angle, theta, but for the worst case the calculation involving theta has a result of one, simplifying the formula to P=(I squared) x R, which will give the worst case values and the worst case is what the design should be about.

The inductor and the resistor are a single unit, which saved me the trouble of winding an inductor and sourcing a non-reactive resistor. I happened to have a 2.2 Ω 100 W 'gold anodised' Arcol HS100 series power resistor which is physically made up of a resistive spiral on a ceramic cylinder (that is, an inductor) which is then potted into an aluminium housing. The example I used has a measured inductance of approximately 1.96 µH and has a 'limiting element voltage' - the voltage that may be applied continuously to the terminations of the resistor, of 1900 V RMS/2686 V peak. The resistor 'isolation voltage', the maximum peak voltage which may be applied under continuous operating conditions between any of the resistor terminations and any conducting mounting surface, is not less than

1.42 times the limiting element voltage.

While the sum of the inductive and the capacitive voltages is zero the current still flows through both the inductor and the capacitor so they must be rated to carry the current without damage and also not break down from the resultant high voltage. The maximum voltage across the capacitor and the inductor occurs at resonance where the current peaks and this is calculated at 2012 volts.

I was able to source an appropriate capacitor, a Ducon 20 pF transmitting capacitor, rated at 20 kV. I have not been able to find out its maximum current rating but given the terminals are 5.16 mm (13/64") diameter solid cylinders there was a good chance it would pass the required current, and this has been proven in practice.

A current transformer, as designed by Drew Diamond, (Reference 3) was added so I could compare the effectiveness of one antenna coupler to another by measuring the magnitude, but not the absolute value, of the RF current in the load. It is inserted in series with the 'cold' or earthy connection so that the potentials around it are lower than they would be at the 'hot' end of the load.

Photo 2: Load resistor plus current transformer.

The DC output from the current transformer is passed through a 'DC output choke' recovered from a small switch mode power supply. Each of the wires from the rectified output of the current transformer is wrapped three times around a ferrite ring 13 mm outside diameter, 6.3 mm thick with an 8 mm bore, in such a way that any induced voltage appears across both 'windings' but the voltage appearing across one winding cancels the voltage appearing across the other winding and is then terminated to a BNC socket on the side of the box. A 150 kΩ resistor is soldered across the socket to provide a load for the current transformer output.

The resistor and capacitor are mounted to a Perspex sheet which is then fitted in a rectangular polycarbonate box with a transparent lid so I can see if anything is going wrong in the load. The antenna coupler on test is connected to the load via binding posts each of which is fitted to the ends of the box, ensuring maximum separation. The capacitor is connected to the 'hot' binding post using a short piece of hard drawn copper bar; another piece supports the other end of the capacitor and connects it to one end of the resistor. The other end of the resistor is connected to the 'cold' binding post via the previously described current transformer. The output of the current transformer is brought out to a panel mount BNC connector on the side of the box, near the 'cold' binding post.

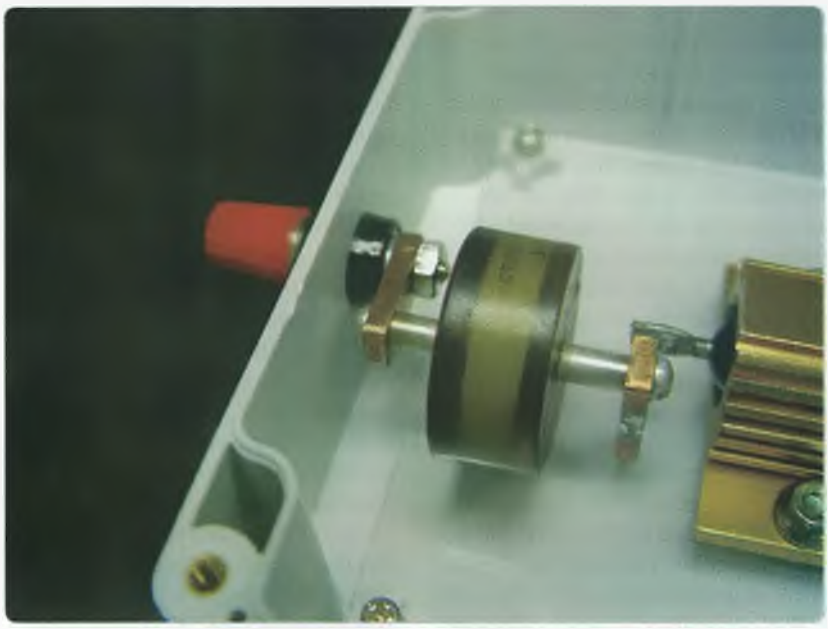


Photo 3; 22 pF high voltage capacitor and mounting.

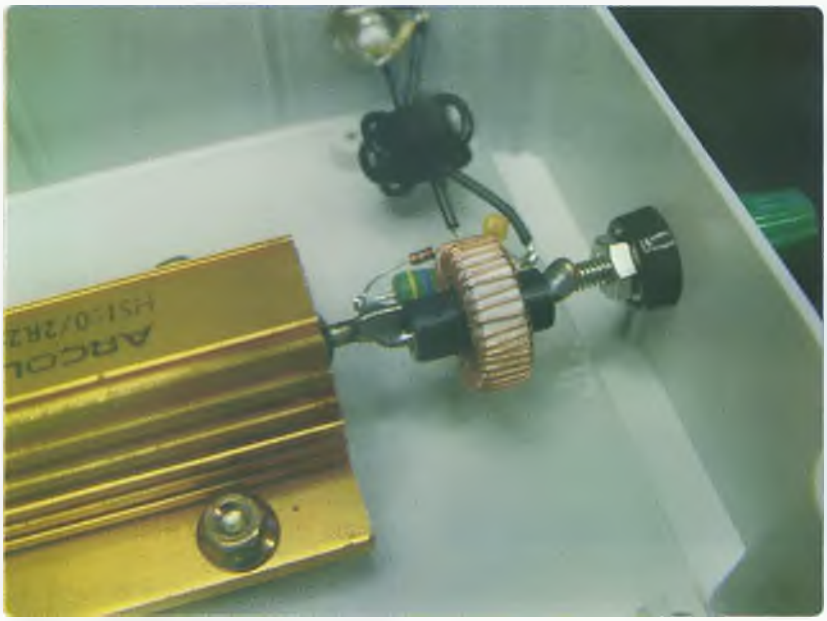


Photo 4: Another view of the current transformer.

The calculated resonant frequency, using the stated inductance and capacitance values is 24.237 MHz, the actual measured resonant frequency is 25.72 MHz and at resonance the SWR is 4.25:1.

In use the 'nasty load' is connected to the terminals of the antenna coupler to be tested without allowing either of the connections to come into close proximity and then neither the coupler, the nasty load or any of the connections is moved for the duration of the testing, which would skew any test results.

A coax cable, fitted off with a BNC connector at the 'nasty load' end brings the output of the current transformer up to a meter so the relative effectiveness of the antenna coupler under test can be plotted against frequency.

References

1. *AR* November 2008 – 'Antenna tuners - how we tested'.
2. ARRL Antenna Handbook, Chapter 16.
3. Drew Diamond, 'Radio Projects for the Amateur - Volume 3', page 113, 'RF Ammeters for high frequency measurements.'

Using cheap CATV 75 Ω cable to feed amateur antenna systems

Gary Gibson VK8BN

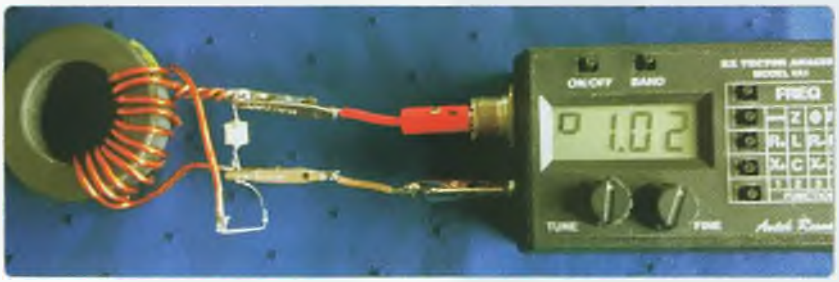


Photo 1: Shows the result obtained at 14.2 MHz with a 75 Ω resistor terminating the device and a 100 pF capacitor across the input prior to final assembly.

RG-6 type CATV cable is very cheap compared with the price of RG-8 or RG-213 type cables normally used by the majority of amateurs to feed their antennas. RG-6 can be found at electrical wholesalers for as little as $40 for a 100 metre roll.

The Belden datasheet lists RG-213 as having a loss of 1.9 dB per 30 metres at 100 MHz and RG-6 as having a loss of 1.95 dB per 30 metres at 100 MHz.

The problem is the 75 Ω characteristic impedance, or is it really a problem?

Most amateur antenna systems can be adjusted to present a reasonable match to 75 Ω; slightly altering the length of a half wave dipole can result in a near perfect match. If you happen to be using a transceiver with tube output the Pi coupler can be adjusted to perfectly match the 75 Ω feed line.

Not all SWR meters are capable of switching to measure SWR at impedances of anything other than 50 Ω; some however do. I have a Kyoritsu meter that does, and the good old Osker Block that many amateurs have is also capable of being switched to 75 Ω. So in conjunction with a transceiver with tube output and a suitable SWR meter there are no impediments to using cheap RG-6 cable and obtaining the same results as using much more expensive 50 Ω cable.

Now I should also point out that the mismatch presented to a 50 Ω system with a 75 Ω load is only 1.5:1 which will result in a reflected power of 4%.

Rearranging the equation defining SWR:

$$SWR = \frac{1+\sqrt{\frac{Pr}{Pi}}}{1-\sqrt{\frac{Pr}{Pi}}}$$

gives an equation to measure the power ratio:

$$\frac{Pr}{Pi} = \frac{(SWR-1)^2}{(SWR+1)^2}$$

$$= \frac{0.5}{2.5}$$

$$= 0.04.$$ That is, 4%.

So it will probably not be an issue using the average solid state transceiver either, without doing anything.

However if you do not have an impedance switchable SWR meter there is still another solution. A broadband impedance transformer wound on a decent sized toroid. A 50 Ω to 75 Ω transformation can be achieved by winding 11 turns of wire on a toroid and tapping at two turns; this will give a ratio of 9 to 11 or a turns ratio of 1.222 to 1.

The impedance ratio of a transformer is the square of the turns ratio, so this arrangement will result in an impedance ratio of 1.494:1, close enough to the required 1.5:1.

The two extra turns are on the top winding, and the nine turns are on the lower winding.

The constructed transformer when measured with an Autek RX Vector Analyst was found to be slightly inductive and I was able to improve the performance and obtain an SWR of less than 1.2:1 from 1.8 MHz to 21 MHz by placing a 100 pF 1 kV capacitor across the 50 Ω terminals. My device started to degrade above 26 MHz, possibly due to the toroid I selected.

I note that low power commercial units are advertised as covering from 1 to 1500 MHz, obviously using a better ferrite than the one from my junk box.

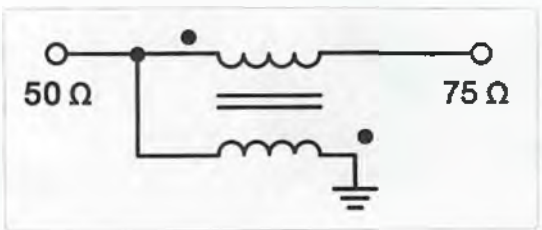


Figure 1: The schematic.

A light on your LDG AT-7000 auto ATU

Steve Mahony VK5AIM

Do you run an AT-7000 auto ATU? Mine goes well, no troubles at all. Just press the tuner button on the IC-706, and if it is quiet you can hear the latching relays do their thing, but there is *no* indication on the AT-7000 front panel to indicate that everything is working.

Previously when marking the interior with my call and name, I noticed a red LED located on the left side front of the PCB. Reading the instructions implied that this LED illuminated when the ATU was going through its tuning process. With the top cover removed, and the IC-706MkIIG on low power and a dummy load connected, I pressed the IC-706 tune button. The relays chatted, the LED came on for a few seconds and the IC-706 SWR meter indicated a low SWR. Good, I should be able to fit a new LED on the front panel. The existing LED was hard down onto the PCB, all the components were surface mount and any leaded components probably had plated through holes. No way was I going to be able to remove, or even unsolder, that LED. However, I could remember crushing components leaving only the wires sticking out of the PCB. The replacement component was then soldered to these wires without disturbing the PCB soldering.

I proceeded to crush the LED with a big pair of pliers, leaving just two little legs of the old LED sticking out of the PCB. The three connections for the coax sockets and the chassis earth were of heavy TCW (tinned copper wire) which allowed me to lift the PCB up at an angle of 45 degrees and check the polarity of the LED. I then marked -/+ on the component side of the board.

From my components drawer I then obtained a small three mm size, new, red LED from my junk box – good home brewers don't throw anything away! I dug out one of those little two pin sockets from a computer board. They are sometimes used to make connections for fans or the like. Even for front panel lights! I plugged my new LED into the socket, complete as it was with about 50 mm of red and white wire attached, and with correct polarity observed, via a small PSU set at two V DC. It lit up nicely. With the wires shortened to 50 mm, then stripped and tinned, I carefully soldered them to the tinned pins of the old LED.

With the PCB held up out of the way I marked and drilled a small pilot hole in the front panel hole first, then a three mm hole almost level with where the original LED was mounted on the PCB. Prior to drilling any holes in the panel I stuck a piece of sticky tape approximately where the drill bit would break through. It was to catch any swarf of aluminium. You can imagine what a small whisker of aluminium amongst the surface mounted components would do. No more auto ATU! With the PCB back in place I pushed the new LED on its flying lead through the hole in the front panel, holding it in place with a spot of hot melt glue.

The unit was shaken and blown out just to be sure there was no solder or drillings, the cover replaced and attached to the IC-706 along with the connecting cables. With the same test setup as before the tune button was pressed. The relays chatted, and the new red LED lit up for the duration of the ATU adjusting its settings. I now had an indication that the unit was functioning.

For any amateur that has an AT-7000 and would like to know all was OK, this modification is not difficult. Anyone with moderate electronic working skills could do the modification with just a bit of care and patience.

The LDG AT-7000 auto tuner with the newly installed LED.

'Ramsey QRP20' with HRD and AM

John Sutcliffe VK3TCT

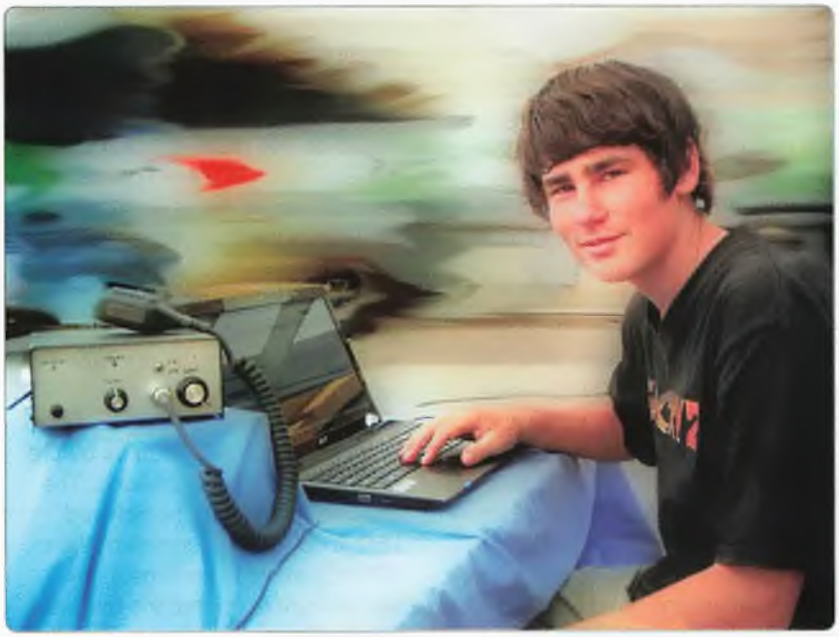


Photo 1: Bradley sending CW on the 'Ramsey'.

QRP is an interesting mode. Last June I worked UT7MT Anatoly in the Ukraine using PSK31. Anatoly was using two watts and I was using 45 watts. I was still able to give Anatoly an RST of 579; some two years ago I purchased a 'Ramsey' 20 metre QRP kit as the logic was simple, at $45 this was the cheapest way to procure the components, including a case.

'Ramsey' can also supply an almost identical 40 metre version, so you can have a choice of 40 or 20 metres; the kit is easily procured through eBay or Amazon.

'Ramsey' quoted the transmitter power as one watt but my example puts out nearly three watts; the transmitter will chirp on CW with an antenna of higher VSWR.

I suspect there are large numbers of these transmitters out there so this article should have a broad audience.

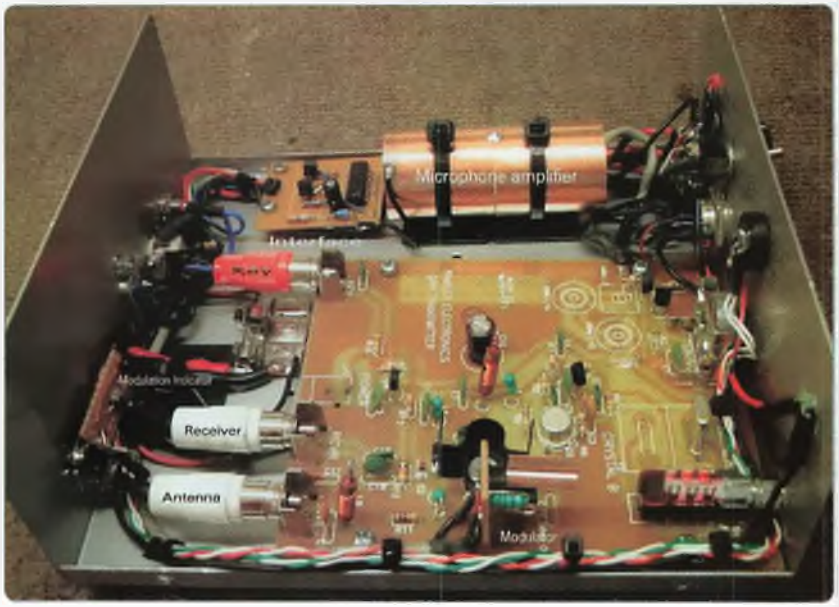
The kit is very easily built and the little transmitter was on air after one evening's work. However one gets tired of sending out CQ manually so it made sense to add a computer interface to the transmitter. Once the computer interface was built and working the transmitter could be automated with 'Ham Radio Deluxe' (HRD) and 'DM780'; then 14.060 MHz can be saturated with high speed CW at three watts.

AM mode was achieved with an emitter follower as by using an emitter follower this eliminated procuring or winding a matching modulation transformer. When AM was working all that was necessary was a connection from the computer audio to the modulator to enable the transmitter to send out popular digital modes such as 'PSK 31' in AM. (See note 2, 20 metre band plan).

The transmitter bandwidth as tested was under six kHz, the testing procedure consisting of the transmitter feeding a dummy load while transmitting the WIA news. The signal was tuned on a Kenwood TS-2000 receiver and analysed with 'Winrad' software coupled to the receiver.

The circuits developed for this project can be useful

Photo 2: The internal layout showing major components.



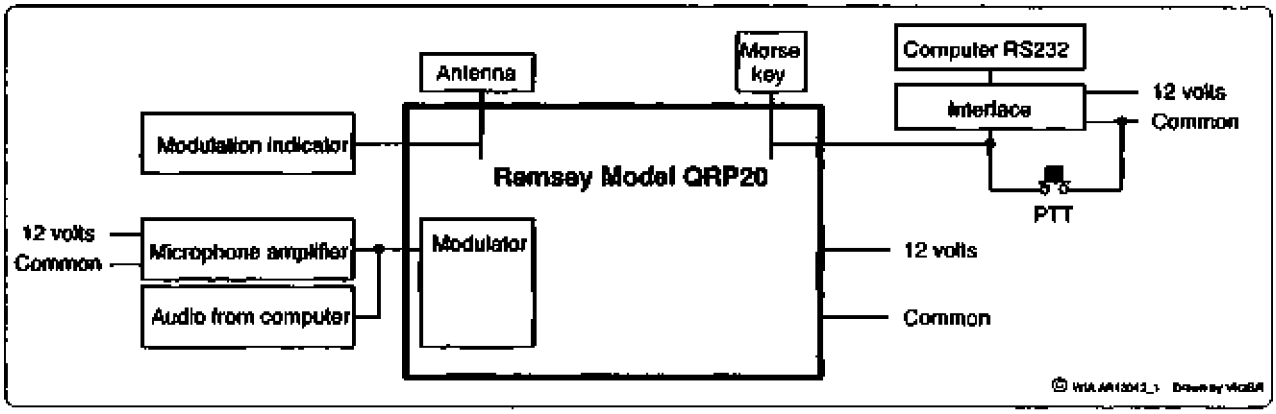


Figure 1: The QRP project block diagram.

for other applications and the following circuits are shown without interconnections, as the connections are basic and I did not believe it was necessary to draw in each wire, so possibly the construction is only suitable for experienced people. The project was completed by mounting the transmitter and all the components in a standard case. Before assembly study the block diagram, as it shows the connections between modules.

PTT

Simply grounds the Morse key 'in' from the microphone push to talk.

Microphone preamplifier

The microphone preamplifier is two common emitter amplifiers in series. Two are needed for a dynamic microphone. You will note on the circuit a vertical dotted line between the first and second stage, and you can break the amplifier here and run the first stage only if you wish to use an 'Electret' microphone, although some components will need to be changed and these are listed on the circuit diagram. The potentiometer (R6) is brought out to the front panel with shielded wire as a microphone gain control.

R5 and R9 affect the gain of each amplifier through negative feedback. Increase the resistance if you wish to reduce the gain and vice versa. My setting is about right as the transmitter achieves full modulation with the gain control at 45%.

Note on the bottom of the circuit a small regulator for the input voltage, which drops the supply by a couple of volts and should prevent any small DC fluctuations from the power supply getting into the pre-amplifier.

R1 is the microphone termination resistor and the value chosen suits the Kenwood hand microphone. Other microphones may need a different resistor.

The amplifier can be constructed on a piece of 'Vero' board again of a size to suit yourself. Mine fitted into a small piece of 20 mm plastic pipe. Finish off by shielding with some shim or aluminium foil.

The Modulator

The modulator transistor is a PNP with the collector grounded (common collector). This arrangement has a voltage gain of less than one but a high current gain. Another advantage is there is no signal inversion. The modulator has two inputs, one for audio from the microphone and one from the computer audio line out. Construction was simple, simply isolate the Ramsey final (Q3) emitter from common by cutting the etch around the emitter but allowing enough room for an additional connection to the emitter.

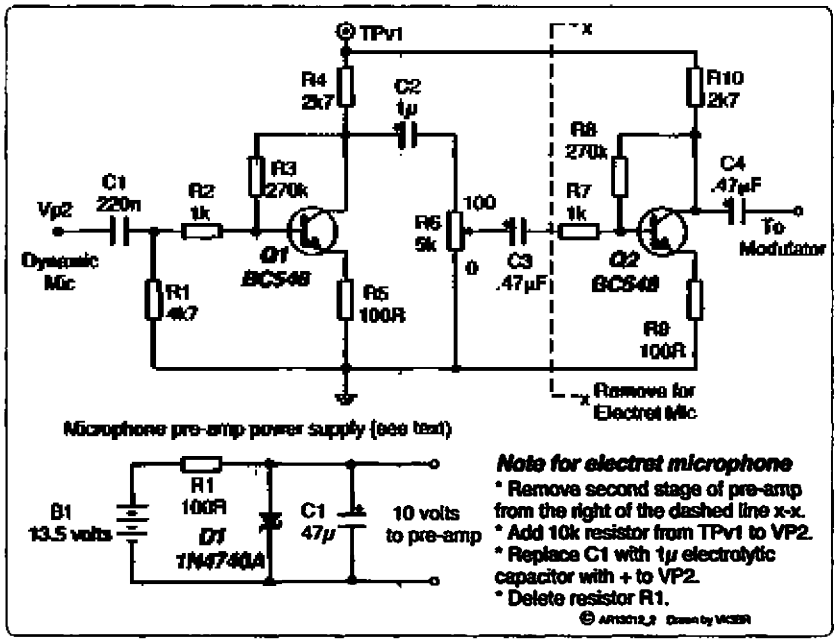


Figure 2: Microphone Preamplifier.

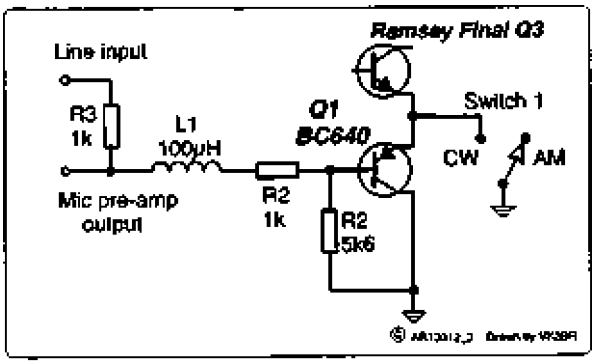


Figure 3: Modulator.

Construct the modulator on a small piece of 'Vero' board or similar; after mounting the other components fit two vertical tails from the modulator emitter and common on the modulator PCB. Drill two holes in the 'Ramsey ' mother board, one for the emitter connection and one for the common connection, then solder the small modulator board vertically onto the mother board – refer to Photo 2. The AM/CW switch simply shorts the emitter to ground so full power is achieved on CW.

Wire the microphone pre-amp and computer audio to the modulator using shielded wire then finish off by making a small heat sink for the modulator transistor. Note the shim copper heat sink in Photo 2.

Modulation indicator

The modulation indicator is an exercise in keeping it simple, as most constructors will not have an oscilloscope or be in a position to calibrate a level meter with shunts or similar. By using simple components and LED's the modulation can be set quite accurately.

There are two important points, first the diode D1 lead to the antenna connector must be kept short and when setting the modulation level ensure the transmitter is connected to a 50 ohm load, preferably a dummy load. A 50 ohm dummy load can be constructed with two 100 ohm one watt carbon resistors in parallel.

The modulation is at maximum when the green lamp is well lit and the red lamp can be seen. Diode D5 is the green and D7 is the red. Lifting the microphone gain until the red lamp is flashing brightly is flattening the tops of the audio signal and producing distortion. When the audio level is found mark the front panel of the transmitter. Again the lamps can give erroneous readings hooked to an antenna and results can be difficult to predict so do use a dummy load.

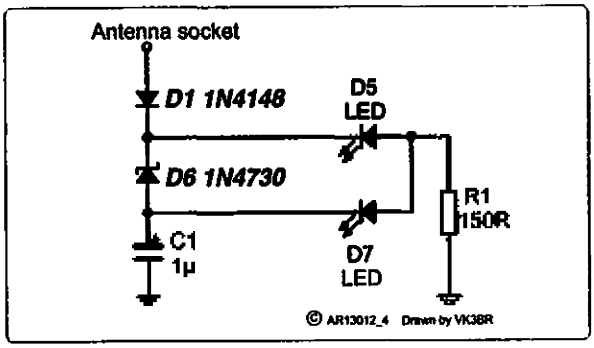


Figure 4: Modulation Indicator.

Computer interface

Two BC550 transistors are used to change the signal levels from RS232 to TTL and the two logic gates are all in the one chip (74LS38P). The circuit will handle both RS232 signals and non-standard RS232 signals from USB to RS232 converter systems. Note the entire circuit runs off five volts derived from the small regulator (C1, D2, R7).

Two inputs are used, Request to send (RTS) and Transmit data (TD). This ensures no one signal can key the transmitter. After signal conversion by Q1 and Q2 the signals are fed to the first gate U1, the output of U1 in Boolean is the inverse of the required data, and complementing the signal is simple by feeding the output of U1 into U2. In leaving one input on U2 open, U2 output is then (RTS^TD). No further processing is necessary; the output of U2 can be directly wired to Key input on the

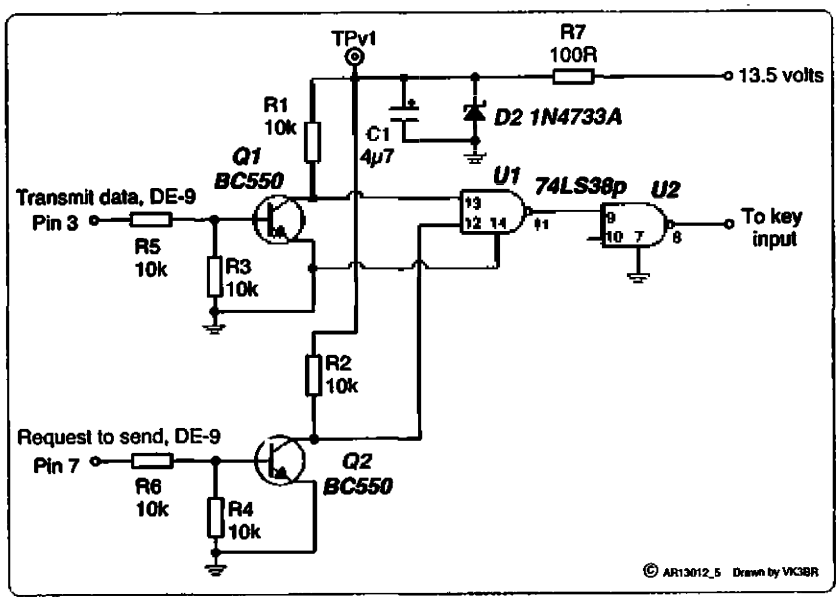


Figure 5: Serial interface circuit showing major components.

'Ramsey' transmitter - caution, if you are using this circuit on another transmitter you may need a buffer between U2 and the transmitter key input.

Conclusion

The little 'Ramsey' QRP20 can be modified for both AM and digital control quite easily and at minimum cost.

AM mode was an addition that is not particularly useful but digital modes can be transmitted.

CW by computer makes the little transmitter come alive and is fun on all speeds, and a digital computer saves the tiring repetitive work.

These modifications should have broad appeal both in Australia and overseas as there will be large numbers of these transmitters in service.

These modifications would only be suitable for more experienced constructors.

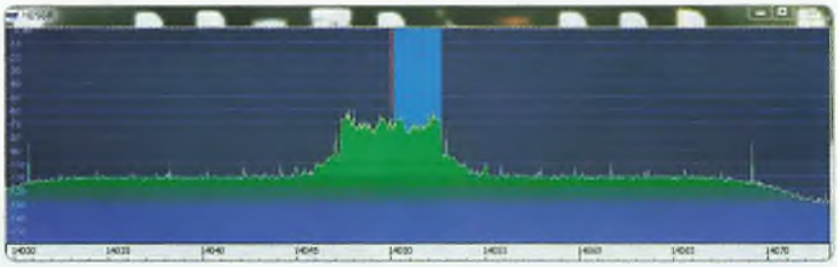


Figure 6: The Ramsey transmitting the WIA news.

'Ramsey QRP20' with HRD and AM - Parts List

Computer Interface

6 10 k .25 W carbon resistors
1 100 Ω one watt carbon resistor
1 4.7 µF 16 V electrolytic capacitor
2 BC550 transistors
1 5 V one watt Zener diode - 1N4733A - (4.9 to 5.1 volts is suitable)
1 74LS38p integrated circuit - U1and U2

Modulator

2 1 k .25 W Carbon resistors
1 5.6 k carbon resistor
1 100 µH choke
1 BC640 Transistor
1 Toggle switch - AM CW for front panel

Microphone Pre-amp

2 270 k .25 W resistors
2 2.7 k .25 W carbon resistors
2 1k .25 W carbon resistors
3 100 Ω .25 W carbon resistors
1 4.7 k .25 W carbon resistors - microphone termination, see text
1 5 k potentiometer - mine includes switch for power
1 220 nF ceramic capacitor
2 .47 µF 16 V electrolytic capacitor
1 .47 µF 16V electrolytic capacitor
1 10 volt Zener diode - 1N4740A
2 BC548 transistors

Modulation Indicator

1 150 Ω .25 W resistor
1 1µF 16 V electrolytic capacitor
1 1N4148 100 V diode
1 3.9 V Zener diode - 1N4730
1 LED – 5 mm dual bi-colour red/green bright 3-pin LED, RG5L
Hong Kong super seller

Other Components

3 LED Lamps - suitable colour
3 100 Ω resistors .25 W - inserted in series with LED lamps
1 Microphone socket
1 DE 9 socket - computer serial interface
1 3.5 mm audio socket
3 RCA plugs
3 RCA sockets
1 Chassis, nuts, bolts and screws
Material for sheathing microphone pre-amp and BC640 heat sink

Attend

Adelaide Hills Amateur Radio Society Inc HAMFEST	3 November
Yarra Valley ARG Hamfest	10 November
Rosebud RadioFest 2013 (SPARC)	24 November

Getting wire antennas into the air

Graeme Dowse VK4CAG

Photo 1: A view of the tennis ball launcher.

This article describes how I erect wire antennas between trees without leaving the ground.

I live on a country property with plenty of trees, many 20 to 30 metres tall. I have tried several methods of placing a halyard over the trees, strong enough to support wire antennas such as dipole, long wire, double extended Zepp, Windom and the like. I have found 10 mm diameter UV resistant rope to be the most durable. Thinner rope frays with constant movement of the branches in windy weather and eventually breaks after a year or so. Stainless steel wire survives, but it cuts through the branch and drops to a lower level after about the same amount of time. I am resigned to accept that any antenna support using trees is temporary only and needs to be replaced regularly. To this end I have devised a simple method of doing this.

When I visited Hamvention in Dayton, Ohio in 2006, I brought back with me an 'E-Z-hang' which is a kit consisting of a slingshot with a fishing reel and some brightly coloured sinkers and a roll of fluorescent coloured builder's line. See *https://ezhang.com/index.php*

When I declared this device at Customs at Sydney airport, they informed me that it was considered to be a restricted weapon, because the slingshot was equipped with a wrist brace, making it more powerful than a standard slingshot. It was legal to possess such a device in Queensland, but not in NSW. I landed in NSW to visit family, intending to drive back home to VK4, so appropriate paperwork had to be made out which permitted me to transport the E-Z-hang back home in the boot of my car, conditional that it not be used in NSW!

The E-Z-hang did the job OK, using 4.5 kg fishing line. Once the sinker was located, it was removed, then tied to the builder's line and wound back over the tree. The builder's line was then tied to the 10 mm rope and pulled over the tree again. The antenna could then be attached and raised. Insulators were

Photo 2: Another view of the tennis ball launcher, shown end on.

found not to be necessary, since I used 2.5 mm insulated green/yellow earth wire and the rope insulates well. I use an insulator in the centre of a dipole or other balanced antenna. The lack of end insulators makes for a lighter antenna and therefore less droop over a long span, such as with a 160 metre dipole.

The problem I had with the E-Z-hang system was that the sinker was too small to find, especially if hidden in the branches of surrounding trees. Also it was not heavy enough to reliably fall to the ground if snagged in foliage. Later I developed a crook shoulder, making it impossible to pull back far enough to get the range necessary to clear the tree.

So I decided to build a tennis ball launcher based on a design I saw on the internet. See *http://www.antennalaunchers.com/antlaunching.html* It uses compressed air from a small 12 volt compressor, maximum 90 PSI. It involves no physical effort, is easy to aim and is accurate. Best of all, it uses brightly coloured, cheap, tennis balls available from K-mart. I cut a slot in each ball and half fill it with sand and make a loop of heavy fishing line through the ball via two small holes. The heavy ball drops nicely through foliage and is easy to see. Photos 1 and 2 show my homebrew unit, of which all parts are available locally.

Putting a line over a tree is the easy part. I found great difficulty in using the small size builder's line to pull the 10 mm rope over the tree. Sometimes it works, but more often than not the large rope snags in a fork and refuses to go any further. I have tried different ways of splicing the two lines together, tapering the join using silicon tape, lubrication, the list goes on.

Recently I stumbled on something that works most of the time. I use a plastic nozzle, the one supplied with Silastic cartridges. I cut off the flange and the tip, leaving a tiny hole, just big enough to thread the builder's line through. The builder's line is then spliced into the 10 mm rope and tied off around one of the strands. The rope is a tight push fit into the big end of the nozzle, making for a smooth taper from the line to the rope diameter. Refer Photo 3.

(Prior to replicating such a device, readers should check their local firearms regulations. Ed.)

Photo 3: The homebrew nozzle and associated workings, shown referenced to a ten cent coin.

Calibrated shorts

Warren Stirling VK3XSW

I recently added a return loss bridge to my collection of test equipment and was discussing its use and application on the morning drive time net on VK3RCC when it was suggested to me that shorting the common port during the calibration procedure would be better than leaving it open (my test equipment requires the bridge common port to be either shorted or open during the calibration phase), so I investigated the purchase of 'calibrated shorts' and 'calibrated opens' specifically intended for use with RF test equipment like return loss bridges and network analysers.

The prices being asked put paid to my purchasing any so I thought about how to make up some of my own. The calibration procedure can also compensate for (null out) anything attached between the bridge common port and the short/open so I decided on making up a variety of shorted connectors so I could make use of this.

The shorts would have to have minimal inductance and capacitance and present as close to zero ohms as possible so as not to skew the bridge calibration procedure, which would then return erroneous results. The simplest way to do this was to short the connectors' centre pin to the connector body with a thin metal disk soldered to both. To find out what metal I'd be dealing with I

Photo 1: Shorting disc soldered onto type N female connector.

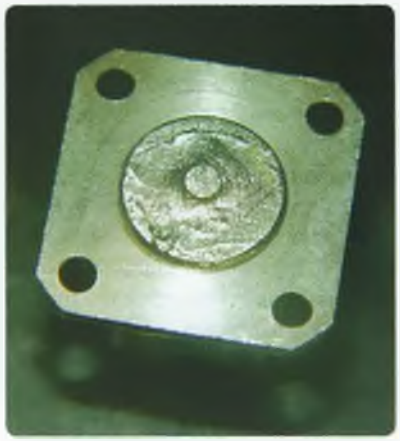


Photo 2: Shorting disc soldered onto type N male connector.

Photo 3: Shorting disc soldered onto SO259 connector.

gently filed the plating off part of the rear rim of each connector which revealed brass, so the shorting disc would also be best made from that metal.

Some oversize thin brass discs were made up and were mounted to a hex spacer with a metal screw through the hole where the connector centre pin would fit. The hex spacer was then inserted into the chuck of a drill press so that the discs could be reduced to the required diameter by carefully filing the disc which was rotated at low speed in the drill press. By rotating the disk I ensured that the disc would retain it's circular shape.

The plating along the rear rim of each of the connectors I wanted to use was then gently filed off to expose the brass which was then tinned with solder. The solder was then removed with desoldering braid, leaving a thin solder coating. The brass disc was then fitted to the back of the connector and a small tubular spacer was placed over the centre pin and the whole assembly was clamped in a vice so that slight pressure was exerted from the free end of the tubular spacer to the front face of the connector, along the axis of the centre pin to hold the brass disk in place while it was soldered to the connector body.

The connector was then removed from the vice and its centre pin was cut back and filed so it was slightly proud of the surface of the brass disk and then the centre pin was soldered to the disk. Gently wire brushing the brass disk removed all flux traces and then the soldering was inspected to confirm that it was intact around the perimeter of the disk and around the centre pin. I used a self-fluxing 'silver solder' which contained 62% Sn (tin), 2 % Ag (silver) and 36% Pb (lead) of 0.71 mm diameter.

The resistance of the connectors was then measured using the same method employed in commercial 'low ohm' meters; a known current is passed through the unknown resistance and the voltage drop across it is then measured; a simple application of Ohm's law will then determine the resistance value. In my case the test current was 100.87 mA, as measured on a Fluke digital bench meter which was left in circuit when each connector was tested. The voltage drop across each connector was then measured from the face of the connector body to the tip of the centre pin using another digital meter.

The inductance of each connector was then measured and the tabulated results are shown below:

Connector	Voltage drop	Calculated Resistance	Inductance
N female	0.453 mV	4.490 µΩ	0.04 µH
N male	0.163 mV	1.561 µΩ	0.02 µH
SO239	0.429 mV	4.250 µΩ	0.02 µH

More major developments in the WIA Award system

Marc Hillman VK3OHM

Show Award Status

This screen shows your progress towards an award. Select the award and press "Show".
The totals for Worked, Confirmed and Verified will be shown. Click on a total to drill down further to see the makeup of the total.

Worked	A station has been Worked - A QSO has been uploaded
Confirmed	A QSL (Paper, eQSL or LOTW), subject to your QSL filtering, has been received
Verified	A QSL (Paper, eQSL or LOTW) subject to your QSL filtering, has been verified. This entry qualifies for award submission.

Award: DXCC Multi-mode Show

WIA DXCC Multi-mode
Requires: 100 DXCC
- QSL preferences 'eQSL,LOTW'

Awards qualified for
DXCC Multi-mode (Open) Open 100 118 [Granted]

	Worked	Confirmed	Verified	Need QSL
Open	171	121	118	50
Phone	133	83	80	50
CW	7	2	2	5
Digital	117	92	88	25

Figure 1 - Award system page.

Building on the significant automation improvements in the Awards system in early 2013, early in 2014 there is a planned release of a dramatically improved Awards system. It will be fully online, secure, reliable, paperless, incredibly easy to use, and fast. It has been the vision of the Awards manager – Bob VK3SX – for such a system for some time, and the vision has been known as project Utopia. That's setting the bar high, but perhaps you will agree when you see it that it has been achieved. But before I give you more details of the system, it's interesting to tell the story of its genesis.

Although I gained my amateur licence in 1984, a combination of money, location, kids and other factors prevented me becoming active until 2012. Being new, I was as keen as mustard to achieve a few awards, and fairly quickly (well 9 months actually) got to 100 DXCC (or so I thought). I had seen on the WIA website that they accepted eQSL, so I dutifully manually filled in the WIA spreadsheet, and checked it 3 times. I must have spent about 9 hours in total, and I was going to make sure it got accepted first time. Within a day the long suffering Awards manager Bob rang me and in the nicest way possible said that the application was no good – we don't accept Logbook of the World (LOTW). Sacre bleu! They accept eQSL, why not LOTW which has higher integrity? I should have read the website more closely.

As we chatted I heard the words come out of my mouth, that I knew I would probably regret *"How hard could it be to automate this process so that it could be done in seconds, and not make silly mistakes like I did?"* I don't regret it, but it was hard. It was certainly worth it because we now have a spread sheet system that allows upload of an ADIF log. We have also been successful in working out how to validate QSL at LOTW, so they are accepted too. This is a big step forward that I feel that too few people take advantage of (but more on that later). Having said that, the improved spread sheet was only ever viewed as a stop-gap measure until Utopia was developed.

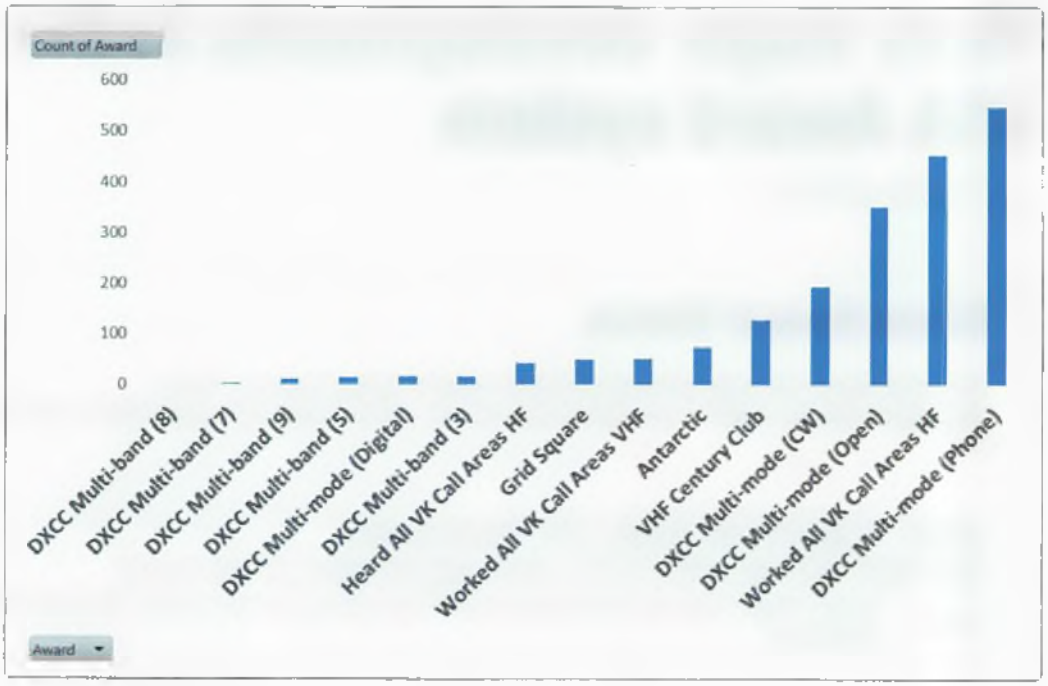


Figure 2 - Awards by type.

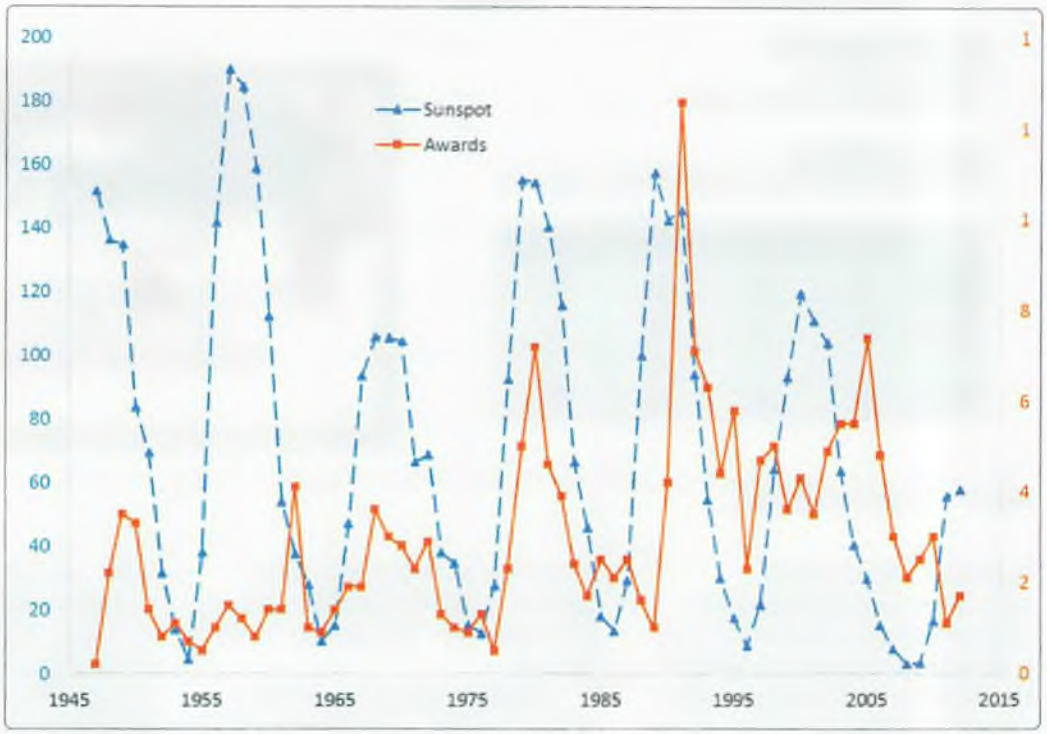


Figure 3 - Awards by year.

As of this writing, the new system is undergoing alpha testing. I expect it will progress to beta testing in November, with a view to release in early 2014.

The new system is a revolutionary shift in functionality and ease of use and will jump the WIA one or two generations ahead in how awards are handled. Users will upload their ADIF log, and be able to easily see any awards for which they qualify. The system will show you what entities you have *"Worked"*, *"Confirmed"* and *"Verified"*. You can click on any of these values and drill down to see the QSOs in question. Users are responsible for validating their own QSL. A DXCC check is done at clublog.org. eQSL and LOTW QSL are verified electronically. Paper QSL are verified online too – you just nominate 2 amateurs, and they check QSL online. After performing these validations, you can be

confident your submission will be accepted.

The system will calculate which awards you qualify for, and those for which you have not already received an award. It is a simple matter of pressing the *"Apply"* button and your application is forwarded to the Awards Committee. For their part, after validating the submission, they press a *"Grant"* button and you have your award. You can then print out your own award certificate! The WIA will send you one if you like, but it's much quicker to print your own. The whole process should only take days, but please allow two weeks.

The system contains details of all historic awards, so you can see what you have achieved, and even print those too. It even prints the endorsement stickers.

All current and historic WIA awards are supported.

Figure 1 shows one of several pages available for users to view and manage their awards.

As part of the system development I have access to the historical data, and it makes for some interesting analysis.

Figure 2 shows the number of awards by type. There are few surprises here, except that the numbers for the Grid Square award are lower than expected, given that it's probably the easiest award to achieve. Is it not a desirable award? Do people not know about it? Not sure. The data justifies the 2012 decision to drop the 3, 7 & 8-band multi-band awards – there are just insufficient applications. DXCC (Digital) is low, but I think this is on the increase with the recent availability of cheap digital interfaces.

I also looked at the number of awards by year, and there seemed to be a familiar pattern (Figure 3). I superimposed the sunspot cycle over it, and there seems to be a very high correlation. This was somewhat unexpected, but as most awards are DXCC, I suppose it makes sense. Awards peak a few years after the sunspot cycle peak (The low figures around 1958 reflect a gap in the data, not lack of enthusiasm).

Being a recent member of the awards committee it had always troubled me that we weren't being exactly run off our feet granting awards. I interpreted it as a general lack of interest, but fortunately I was wrong – it is no more than the seasonal variation you would expect – in fact we're probably going to be hit with a huge rise in applications within a few years. The new system will make the process of applying for awards easy, and the numbers are likely to be higher. The system will certainly have the capacity to handle it – so do your worst!

So, look out for the new online awards system early next year. Upload your ADIF logs and see what you qualify for. It's not too late to give the system a name. Currently, it will be known as the "WIA Online Award System". Descriptive, but uninspiring.

Silent Key

Peter Wylie King (ex MN, RAF and VK7WK)

I have the sad duty to let you know of the death of Peter King – ex VK7WK on September 4, 2013 aged 92 at Karingal, Devonport.

Peter was born in Lewisham on September 4, 1913. He served as a radio officer in the British Merchant Navy during the Second World War and also had two years with the Royal Air Force as a radio operator. He worked as a radio officer in a Norwegian cargo boat which was sold in Shanghai. He left England in October 1946 for Adelaide, Australia in 1947, having written to Sir Douglas Mawson applying for the position as Radio Operator for an Australian Antarctic Expedition then being formed. He was selected to serve on Macquarie Island for the first year in 1948.

In 1951 he returned to England and joined the Falkland Islands Dependencies Survey, spending 1952-3 at Hope Bay working on the hut and installing radio equipment. During this tour at Hope Bay he took part in a sledging journey to Duse Bay and Cape Lachman. After this he took over as Radio Officer in RSS John Biscoe for two seasons, during which he visited South Georgia and all the British bases in the Antarctic Peninsula.

In 1955 he returned to Adelaide and applied to go south again with the Australian National Antarctic Research Expedition and was selected to go to Mawson Station in late 1956. He flew to New Zealand and then via the American icebreaker Northwind visited McMurdo from where he visited the American base at Cape Adare and transferred to MV Kista Dan off Wilkes (now Casey Station), then on to serve at Mawson Station during 1957 and 1958.

During the first year he twice visited Taylor Rookery (Emperor penguins) for two weeks and two weeks in the Prince Charles Mountains at Beaver Lake. In the second year he helped full time with the dogs. He and two others were flown to Amundsen Bay by Beaver aircraft with sledges, dogs, food and equipment. From Amundsen Bay they did a 10 week and 410 mile running traverse back to Mawson Station. A mountain (Mt. King) 1,425 metres high in Enderby Land is named after him.

In 1977 after some twenty years interval he was again selected to fill the appointment of Radio Officer at Casey Station during which he took part on a three month ice core drilling trip some 50 miles inland from Casey Station. Finally, in 1979, he went back to Macquarie Island as Radio Officer. He was awarded the Polar Medal.

Fortunately, his stories will live on in over five hours of recordings that have been made as part of the ANARE history project. A copy of these is available in the British Antarctic Survey Archives.

Vale Peter.

Contributed by Winston VK7EM and Justin VK7TW.

VK6news

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

Well, I'm writing this column three days after the deadline as there has been no input at all this month from any of the groups. I will include a report held over from last month from Nigel VK6NI and Anthony VK6AXB on the *ILLW*, held recently.

Nigel VK6NI reports that *VK6CNL* at Cape Naturaliste was a great success given that we (Nigel VK6NI and XYL Jane VK6FJPD) could only operate during lighthouse opening hours. The 20 metre two element monobander worked well with contacts around Australia and New Zealand. On Sunday afternoon an opening into Europe long path saw over 40 stations worked in less than one hour including lighthouses in England and Portugal – dogpiles are fun! The lighthouse itself recognised the day and waived normal admission fees in favour of a gold coin donation and the local sea rescue organisation mounted a static display and sausage sizzle. Many people went past our operating position as it was strategically located adjacent to the cafe and the opportunity was taken to spread the word about amateur radio. We have already received a thank you note from the Geographe Bay Tourist Association and an invitation to return next year.

Anthony VK6AXB reports on behalf of the *VK6CLL* operation at Cape Leeuwin:

The VK6CLL team, consisting of Wally VK6YS, Steve VK6SJ, Shaun VK6FSAP and Anthony VK6AXB generally had a good time, but Cape Leeuwin's challenging weather was in evidence. Setup on the Friday was carried out in near-continuous rain and high winds. Our antenna options were thus limited to the Force12 40XK vertical dipole, wire dipoles for 160 m to 20 m and a 15 m quarter-wave. Due to the wild weather, the Spiderbeam and 40 m Hexbeam never made it out of their boxes! I can report that our temporary shack was nice and dry, and we did get to try out Wally's new SDR, which worked very well.

Contacts were made on all bands from 160 to 10 m. Activity on the Saturday afternoon through to Sunday morning was mainly focused on the RD, although we worked many VK lighthouses, and into Malaysia and NZ. Sunday afternoon also saw some openings into Europe and the UK. Despite the weather we had a good few visitors to the shack over the weekend, including other amateurs from as far afield as the UK. Thanks to all stations who worked VK6CLL, it was great to speak with everyone. We ended up with 430-odd contacts for the weekend, and are looking forward to being part of ILLW next year.

Thanks for the input folks and good luck next year too!

The *Northern Corridor Radio Group* (NCRG) is preparing for its car boot sale to be held on Sunday November 3rd at the club premises NPSARC in Whiteman Park, entry from Gnangara Rd. There will be a sausage sizzle and lots of goodies to cast your eyes over. Please feel free to come from 8 am if you want to set up and sell or from 9 am if you are a buyer. Just $10 a bay, and bring your own tables and awnings as it will be outside!

There are lots of new antenna projects on the go at the NCRG, including three stacked beams for 15 metres on a 30 metre tower, which should be a very potent signal in the contests, and the relocating of other beams to different towers to improve performance.

The club has also recently bought a three element Stepplr beam which will eventually be part of the remote operation of the club station from members own shacks. This will include full bandswitching and control of the rotators and filters. Things move slowly but we are getting there!

A new trailer mounted antenna system is being built for portable operation and may be given an airing early December in a remote contest operation from Beverley.

WIA Contest Website

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

VK2news

Tim Mills VK2ZTM
e vk2ztm@wia.org.au

Photo 1: ADARC members at play.

ARNSW will be conducting a mini Field Day at the VK2WI site on Sunday 10th November. Free to ARNSW members with a $10 entry to others. There will be some traders in attendance. The day will have four lecture presentations. A BBQ lunch. Bookings are required for attendance at the lectures and lunch. Email *fieldday13@arnsw.org.au* More details are being given via VK2WI News.

The ARNSW upgrade course will conclude in the middle of this month after the Foundation course and assessment weekend of the 16th/17th which will be the final one for this year. The first weekend next year will be the 18th/19th January, 2014. The upgrade course for Standard and Advanced licensces will start on Monday 3rd March, 2014. With regular ARNSW assessments every two months and several clubs also providing assessments, it has been decided by ARNSW educators not to conduct assessments at the Wyong Field Day. The 2014 AGM is to be held on Saturday 3rd May 2014. The final Trash and Treasure event for the year will be on Sunday 24th November from 9.30 am followed at 12 noon by the Home Brew and Experimenters gathering.

Westlakes ARC held a well-attended annual field day at the club rooms last September and have advised that the 2014 event will be on Sunday 14th September. They have a Car Boot sale scheduled for Sunday 9th November with a 9 am start. Westlakes are back in the exam assessments and held the first in late October. Another is scheduled before the end of the year and a booking sheet for registration is in the Common

Photo 2: External view of the tower and hut.

Room. The assessments are for all licence grades with a limit of five candidates per session.

Waverley ARS have a Foundation weekend scheduled for the 9th and 10th November. Oxley Region ARC plan to again have their Christmas meeting as a BBQ at Settlement Point on Saturday 7th December with a 9 am start. The early start helps secure the venue. The Central Coast ARC has meetings and talks every Saturday. Plans are well underway for the 2014 Wyong Field Day on Sunday 23rd February which is held regardless of the weather conditions. This year's attendance was down a bit after some thought to cancel due to the weather.

The VK2WI site at Dural is in a bush land setting on a five acre allotment as are most of the neighbours. The 1st October was a day of high winds and one of the neighbour's pencil pines broke off at the top and fell on the adjacent 11 kV power lines. We had an interesting couple of hours while the services dealt with the resulting bushfire. The winds blew the fire down into the old quarry after which our road is named. The fire was about 100 metres away from our property. Some years ago a water tank, pump and hose reels were installed on the property; we almost had a use for them.

Armidale and District Amateur Radio Club (ADARC)

In 2011, Roger Chubb VK2FGE contacted all amateurs in the Armidale area to a meeting to discuss the future of the ailing club. Only a few of the existing members attended and despite Roger's efforts there was a continual downslide in interest. Eventually, the club was unincorporated and we became a common interest group.

When he suddenly passed away in April this year, the four amateurs who attended his funeral (Brian VK2BLP, Rick VK4HF, Les VK2LES and Dean VK2ZID) decided to resurrect the club and dedicate it to Roger. This has been achieved largely through the considerable resources Rick VK4HF has at his fingertips. The new club now has a two metre repeater in operation with a 70 cm repeater awaiting licence approval. Plans are afoot to increase the 70 cm coverage and install an ATV transmitter.

August 3rd was a great day for amateur radio in Armidale as it was the day that ADARC installed their new two way radio repeater system at the best site available in Armidale. 146.725 MHz is the frequency of the radio club repeater.

Our 70cm repeater was also installed; however it is switched off right now as our licence paperwork hasn't turned up yet for the 438.650 MHz frequency. We are hoping to site another one closer to the coast

Photo 3: View of the repeater internals.

and link it with the one here in Armidale for coverage down to the Pacific Highway from Armidale.

The repeater equipment was supplied by the Redcliffe ARC and installed by two of its members Peter and Danny with assistance from James (2ARM-FMs technician). Many thanks for their help. The two metre antenna was mounted on the local Community FM station's tower at about 24 metres, on top of South Hill, Armidale, giving us 360 degree transmission/reception at about 1100 metres elevation. Equipment was contained inside the transmission hut owned by 2ARM-FM. This hut will be replaced soon by a more spacious building and the club has been allocated space for their equipment. Go to *http://www.youtube.com/watch?v=qm2PiyTMaTI&feature=youtu.be* for the video that was recorded on the day.

Mobile stations have checked in from Yarrowyck, Booralong, Uralla, Walcha, Moonbi, Guyra and Hillgrove and some home base stations have checked in from Glen Innes and West Kempsey.

We should have Echo Link operational on our two metre repeater by the end of October. We should be moving into our proposed clubhouse resplendent with equipment very soon. The proposed clubhouse, being a former site for the Rural Fire Service, has excellent facilities at our disposal including a tower, workroom, storage, conference and catering facilities. There are barbecue facilities and ample parking for all our contest weekend and social events.

Photo 4: The 2ARM-FM tower.

Proposals are with the Council for the erection of several HF antennas which, when combined with the line of site access to our repeaters will give us first rate amateur radio facilities.

Rick VK4HF (President) did a segment on the Community FM Station 2ARM as well as an item in the local paper about our reforming of the club and also the repeater being commissioned after many years of being off the air.

Amateur operators are invited to try the two metre repeater when travelling on the New England Highway from Uralla through to Guyra – you'll be surprised by its coverage. Formal membership details will be published once the legal process is finalised and amateurs will be invited to join. Our website is *www.adarc.keylink.com.au*

While we were very fortunate to be given some gear from Roger Chubb's estate, the club would appreciate any donations of equipment to assist the new membership.

Acknowledgement to:

2ARM-FM, Armidale Dumaresq Council, Armidale Express, Redcliffe ARC.

The photo of ADARC members (Photo 1) was courtesy of Armidale Express.

The Armidale Express article may be found at: *http://www.armidaleexpress.com.au/story/1724105/armidale-amateur-radio-club-hams-it-up/?cs=471*

Plan ahead

1-31 January 2014 **Ross Hull Contest**

11-12 January 2014 **Summer VHF/UHF Field Day**

VK3 news Amateur Radio Victoria

Jim Linton VK3PC
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w *www.amateurradio.com.au*

End of the RadioFest

Australia's big event known as the Centre Victoria RadioFest at Kyneton, which proved to be very successful, although never designed to be a huge generator of profit, has ended. When introduced it instantly became a very much needed and different type of event, one that had been innovative and parts of it copied by others both locally and interstate. Unfortunately an increase in the site rental charge, double that paid last year, meant it could only continue in 2014 with a dramatic lift in charges for the sellers, higher admission costs, or be abandoned.

It began as one of Australia's largest ham radio events in 2006 adding greatly to the amateur radio scene and held annually except in 2009. After lots of consideration, including going over its purpose and concept that was to be slightly expanded in 2014, the sad decision was made to reluctantly end it.

Thank you to the many hundreds of radio amateurs, commercial traders, second-hand sellers, the WIA, clubs, mini-lecture program speakers, the competition organisers and visitors who have supported it.

Victorian National Parks on air

The Keith Roget Memorial National Parks Award activation weekend is November 15-17 when radio amateurs venture out operating portable. Advise the Award Manager Tony Hambling VK3VTH now of your intention to operate from a National Park, the day, times and frequencies to be used.

A list of planned portable activations will be available and updated on the website; it also has the full KRMNPA rules, or any inquiries can be made to *vk3vth@amateurradio.com.au*

Get a Foundation licence

The entry level into amateur radio is through the Foundation licence qualification that assesses basic theory, safety and regulatory knowledge.

Most helpful is the quality training course and assessments held on 16-17 November at the Amateur Radio Victoria office 40G Victory Boulevard, Ashburton.

Some pre-reading is required, followed by theory, regulatory and practical training elements, with the knowledge assessed by a 25 question multiple choice assessment paper and a practical test.

A study and operational practice guide book is available on mail order for $26 delivered Australia wide at *www.amateurradio.com.au/shop/*

To enrol contact Barry Robinson VK3PV 0428 516 001 or *foundation@amateurradio.com.au*

The Homebrew Construction group

A lively discussion on homebrew topics and a show and tell session are regular features at group meetings held usually on the first Saturday of the month.

The next meeting is at 2pm on November 2, at Ashburton. All are welcome to attend and inquiries may be sent to Rob Whitmore VK3MQ at *homebrew@amateurradio.com.au*

Does your station comply?

Electromagnetic radiation is a regulatory obligation for all of us to control the human exposure to radiofrequency electromagnetic energy.

Community concern exists about the potential health effects of exposure, mainly due to the mobile phones and base stations, but it involves all transmitters in the range 100 kHz and 300 GHz.

The ACMA states that amateur radio stations can have the potential to generate high levels of electromagnetic emissions. Each such station, whether at home, mobile or operating portable is obligated to be self-assessed for compliance. Full information can be found at *www.wia.org.au/members/technical/emr/*

ALARA

Margaret Blight VK3FMAB – Publicity Officer

The weather varies from day to day, the sun shines, the wind blows, the rain falls. It must be Spring! Alongside a renewed interest in developing the garden at this time of the year, some thought should be given to picking up the mike and speaking on the radio. There have been a number of radio licence holders who for a variety of reasons have not followed through with the hobby. For new members it may simply be a lack of confidence. So to long-time users may I suggest you take notice when someone becomes a Foundation licence holder and give them support and encouragement. Even invite them to your shack to come on the air with you. We really can make a difference if we make an effort. So good luck, perhaps we can all try to bring back absent members to our clubs and make sure they feel welcomed. It also helps if they are invited to participate in club activities and feel part of a friendly group. If anyone has any further ideas on this matter, I would love to hear them.

Foundation licence – Women's course

Over the weekend of 14-15th September, a group of six women attended a course to obtain their Foundation licence. The course was led by Lino VK3EI and John VK3DQ, both of whom were involved in developing the concept. The course took place in the eastern suburbs of Melbourne and was a prototype hopefully for further courses whose aim would be to encourage more women into the hobby. There has been some concern expressed in the past that women have been somewhat neglected in amateur radio recruiting. It is hoped that an YL oriented Foundation course might help address any imbalance in encouraging new female members.

The course was advertised through the ALARA network and by word of mouth. The decision was made to limit participants to six as it was felt this would help establish a comfortable environment. It was also thought to encourage them in a less technical environment.

While the course followed the regular Foundation licence format, there was a good use of video and graphics to help illustrate the content. The presentation pace was steady but it was clear everyone felt comfortable and in good humour. Questions were encouraged throughout.

On Saturday Robert Broomhead VK3DN, one of the directors of the WIA, made a welcome visit to view how the course was progressing.

Photo 1: John VK3DQ, Lino VK3EI, Julie, Cheryl, Donna, Catherine, Amanda, Judy, with assessor Steve VK3VM.

Photo 2: Jean VK3VIP with her Taranaki Award certificate.

On the Sunday after a short revision the participants undertook the Foundation licence exam. They then participated in a practical demonstration of radio use. It was heartening to see how comfortable everyone was.

It is encouraging to learn that all six women have now qualified for their Foundation licence; at time of writing they were waiting acknowledgement of their new call signs and hopefully will soon be on the air.

The president of ALARA Jean VK3VIP is proposing to set up a radio net to be held specifically to encourage new licence holders so they can increase their experience and be encouraged to use their skills across a wider spectrum. Details will be given when this comes to pass.

33rd ALARA Contest – a report from Lesley R Smit VK5LOL, ALARA contest manager

As at 20/9/2013 I have received 27 logs. The results will probably be a little late as I am off to Townsville for a short time. Hopefully all logs will be received by 30th September.

It looks like the contest was enjoyed by all and I think the inclusion of EchoLink has been a resounding success. Not much activity on two metres. Leonie VK2FHRK had a couple of contacts on 21 MHz which was a first since I've been contest manager. It was nice to have a few newcomers on the air this year.

Unfortunately the weekend of the contest coincided with a family visit in Brisbane. I was portable in Queensland at the time, so I was only able to come up on the Saturday for an hour. I think the extra 10 points for contacting me was appreciated by the few who managed it.

VK3 news

Michelle VK3FEAT has found a new exciting job in Queensland and has relocated. Her move there will enable her to be to closer to family. Her friends in VK3 land will sorely miss her but hope that she is encouraged to link up with ALARA activities in that State.

Marilyn VK3DMS and her OM have made the decision to relocate to South Australia and they have sold their long established home in Mildura. We wish them well in their endeavours. Marilyn already has a long standing connection with ALARA members in VK5, so we expect to hear her back on air when she has settled in and set up her new antennas.

Jean VK3VIP attended the Shepparton HamFest and set up an ALARA table where she fielded a number of enquiries and sold several pieces of merchandise. Jean has also recently received the Taranaki Award for making 25 contacts during her visit to New Zealand. This award has also been received by Jenny VK3WQ and Pat VK3OZ. Congratulations to everyone.

On Saturday 28th September, there was an ALARA lunch held at the Mountain View Hotel in Glen Waverley. We had a good number attending making for two large tables, one of which held the OMs. It was a special occasion being the 45th wedding anniversary of Jean VK3VIP and John VK3DQ, so a special cake was shared by all to celebrate the event. As this was also Grand Final (Aussie Rules) day, it was especially pleasing to see so many attending. However, for those interested, there was time to return home after lunch to see the final quarter and watch the Hawks win the trophy.

VK5news Adelaide Hills Amateur Radio Society

David Clegg VK5KC

On Friday September 13th Professor Mike Underhill G3LHZ addressed a special gathering of all clubs. Mike spoke on 'impossible antennas and impossible propagation.' Over 100 people attended the St Andrews Church Hall. The PowerPoint presentation is available on the Club website, *www.ahars.com.au* (Look under *"Papers"*).

We are greatly indebted to Mike for making the time for us.

The September meeting was filled at short notice by Jim VK5TR and John VK5BJE. Jim VK5TR talked about crystals. He could tell us not only how crystals work, but how they are made and he had much of the history at his fingertips.

Jim had natural crystals he could hand around so that when he described the axes, it was clear what he meant. For more recent amateurs he explained the piezo-electric property of a crystal and how this can be used to provide frequency stability. Those of us who have had cause to use crystals were familiar with the way in which crystals can be mounted but Jim had samples of all these to show us as well. It was a very interesting and informative talk.

John VK5BJE then demonstrated several aerials and their mountings that he has actually used to activate National and Conservation Parks for the AHARS Parks award. John demonstrated his squid pole setup, and linked 20/40 metre dipole. John displayed his Yaesu FT-817 and Elecraft portable rigs.

He entertained us with several stories of successful and unsuccessful (do remember to take your coax with you) expeditions to the Parks. I am sure a number of the members of AHARS have been at the other end of some of those contacts, too.

Remember, our shack is open on the second and fourth Saturday morning, with a technical topic on the fourth Saturday. Remember that we have a BBQ breakfast on the 5th Saturday when it occurs

Our regular meetings are held at the Blackwood Community Hall on Young Street, Blackwood on the third Thursday of the month starting at 7.30. All visitors welcome.

VK3news Southern Peninsula Amateur Radio Club

Tim Conboy VK3TJC

RadioFest 2013

Following the excellent feedback and wonderful success of the first RadioFest held by the Southern Peninsula Amateur Radio Club (SPARC) in 2012, SPARC will be holding its 2013 RadioFest on November 24th at the Eastbourne Primary School, Allambi Avenue, Rosebud, Victoria.

This is once again a great opportunity to clean up the shack (tables available) and sell some of those treasures that are no longer needed to other hams who are keen to acquire the very rare bargains and components that are often only available at RadioFests.

In addition to the usual white-elephant sales there will be commercial dealers and a presentation on the very latest and technically comprehensive transceiver from Icom.

SPARC, as it did in its first RadioFest last year, is including a range of very interesting presentations on technical topics along with the display of home-brew equipment to make this an informative day. As well the opportunity to meet other amateurs with common interests makes this an excellent event to attend.

As the SPARC RadioFest is located on the Mornington Peninsula, with very easy access from Melbourne via the new Peninsula Link, the day's outing to the RadioFest can also provide entertainment for the family at the wide range of interesting tourist attractions.

We look forward to seeing you all there on the 24th of November.

73 from VK3BSP, The Southern Peninsula Amateur Radio Club
www.rosebudradiofest.com

Rosebud RadioFest. See page 17 for details.

VK3news Geelong Amateur Radio Club

Tony Collis VK3JGC

Photo 1: The GARC lounge and some of the Wednesday activity.

Now open for business on Wednesday

It was decided at the last AGM that the GARC club house would be opened on Wednesday as well as Friday. In the case of Wednesday, the opening times would be from 2 pm to 4 pm to facilitate those members that find difficulty in attending the Friday evening meetings. There are three key holders that are tasked with opening the club house, Tony VK3JGC, Bruce VK3HAV and George VK3FADQ; George also opens the club house, on alternate Saturdays, for the GARC Micro Electronics Group.

The GARC lounge on a Wednesday

Since its inception there have been upwards of a dozen members signing in each week. Unlike the Friday meetings there is no formal agenda to these sessions, just an informal get together discussing a variety of topics ranging from video presentations of when Geelong had a tram system, to electronic problems encountered and their resolution, in caravans; in particular the air conditioning units used by the *grey nomads* during their migration to the top end, during the Victorian winter. For those in and around the Greater Geelong area that would like to participate in these sessions a map showing the location of the club house at Storrer Street can be found at *www.vk3atl.org*

Participate **Spring VHF-UHF Field Day** **23 - 24 November**

VK3news The Geelong Radio and Electronics Society

Rod Green VK3AYQ

Advertising

Promoting a club or organization is often a quite difficult task. In Geelong, the local library in the suburb of Belmont is sympathetic to local clubs and organizations. They make available in the foyer of the library a display stand which clubs can use to advertise themselves. The display has to be set up by members, and the display can only remain in place for a period of one week. Recently we made use of this facility to help promote our society.

The display consisted of many items covering historic radios, to modern day equipment. There was an electronics kit to appeal to younger people, as well as projects built by club members. Also on show were pictures of group activities, a short history of the society, as well as a copy of our current syllabus.

Education and Community Service

Since our inception our society has been involved in teaching radio and electronics. One member who was very active in this area was John Collins VK3JCC. John is a retired school teacher who never stopped teaching. For many years he taught (with the help of other members) theory classes for those wishing to obtain an amateur license. In addition to this he also taught basic electronic theory and a foundation license course at a local primary school. He also had groups of school children, scouts and guides in our GRES workshop. Here the children made up small electronic projects under the instruction and guidance of club members.

Emma Baker shows her father the wireless microphone she made.

Unfortunately John can no longer assist in these activities due to on-going health issues. So other society members have stepped up to continue John's work. Recently we had two groups of Scouts in our workshop, on two separate evenings. Project leader for the nights was Neil Hancock VK3XNH. Neil had prepared a kit of parts including a pre drilled PCB for the Scouts to build an FM wireless microphone. In all 18 Scouts attended and were given assistance by six other society members. Prior to starting work on the project, the Scouts were given instruction on how to solder and also on safety issues. It was pleasing not only for the Scouts but also for the instructors that all the boards built on each night worked. As a result we are looking forward to next time, when more Scouts will visit us to make up another project.

Visitors to Geelong are reminded that they are most welcome to visit our club rooms. Meetings are held each Thursday evening at 8 pm local time, or Wednesday mornings at 9.30 am. The address is 237A High Street, Belmont at the rear of the Belmont Community Youth Club. Alternatively have a look at our museum, located in the Old Geelong Gaol, Myers Street, Geelong, which is open every weekend.

Help us

Contribute to the Weekly WIA News Broadcast. See our website for details.
www.wia.org.au/members/broadcast/contribute/

VK7news

Justin Giles-Clark VK7TW
e *vk7tw@wia.org.au*
w *groups.yahoo.com/group/vk7regionalnews/*

We had a great showing from VK7 for the 630 metre WSPR Activity Weekend over 14-16 September 2013. The challenge of this medium frequency band has certainly sparked some great ingenuity and homebrewing from around the world. The SOTA mapping of VK7 is coming along well and we are aiming to have it completed by Christmas. Thanks to all involved.

We had some great amateur radio promotion during the Lighthouse and Lightship Weekend. Ray VK7VKV sent through an article from the Georgetown Council Community News – True North. They carried a front page story titled 'Amateur Radio signals from Low Head to the World' and featured some great pictures as well. The Low Head activation involved eight amateurs and three support staff from Tasmania with one amateur travelling from Victoria. The station logged in excess of 300 contacts and featured the Low Head Fog Horn as a recording during the contacts.

Repeater and beacon news

The VK7RAA six metre repeater on Mt Barrow in north east VK7 has been replaced. Frequencies are RX: 52.875MHz and TX: 53.875MHz. The repeater has intelligent mute with the noise tail being dependent on the input signal level. So, if you are a weak signal into the repeater you will get a long tail. If you are noise free, the tail will be short. This provides an audible indication of your signal strength into the repeater.

Cradle Coast Amateur Radio Club

Congratulations to Matt VK7FMCR and Karl VK7FISH who both passed their Foundation Licence assessments recently with the help of assessors David VK7DC and Peter VK7PD. Kevin VK7FKEV also passed his standard/advanced regulations in preparation for his standard assessment later in the year. We look forward to hearing these new callsigns on the air.

North West Tasmanian Amateur TeleVision Group

Last month I mentioned involvement in the third annual DATV QSO Party run by Peter VK3BFG. Winston VK7EM, a pioneer ATV experimenter in VK7, was also involved for the third time and we had a new comer to the party this year in Tony VK7AX. Tony runs VK7RTV the analogue ATV repeater in Ulverstone and is also a long time ATVer in VK7.

Tony runs AR related video and audio material on Monday, Wednesday and Friday nights commencing at 8.00 pm local time for reception in and around Ulverstone and via the VK7RTV repeater video stream courtesy of the *www.batc.tv* website.

Tony also runs a Packet BBS and NOS gateway under the callsign VK7AX which uses the NetRom protocol via AX25 tunnelling over the AMPR ORG Network (*gw.vk7ax.ampr.org* or to IP address: *203.24.120.6* on Port 23).

Northern Tasmania Amateur Radio Club

Congratulations to Larry VK7FLAZ who recently passed his Foundation licence assessment with help from assessor Peter VK7PD and facilitator Idris VK7ZIR who travelled to St Helens for the assessment. Please welcome Laz to the airwaves when you hear him. It's great to hear that President Lewis VK7FLPL is back on deck after a period of sickness. The September meeting was a highlight with Rex VK7MO demonstrating his portable 10 GHz EME rig and many club members

Robin Harwood VK7RH enjoying the presentation at the Rocherlea clubrooms. Photo courtesy of Liz Lagato.

made their first EME contacts. Following the well catered BBQ, Rex then gave a talk on *Small Station EME at 10 and 24 GHz with Digital Modes* which by all accounts was very informative and was received very well.

Don't forget the regular coffee get-togethers are held every Monday and Friday at the clubrooms in Archer Street, Rocherlea commencing 10.00 am.

Radio and Electronics Association of Southern Tasmania

The REAST September presentation was given to us by David Rowe VK5DGR and was on his electric vehicle conversion. David took us through the process, equipment and learning as he converted his 1991 Daihatsu Charade. This involved the installation of a 10 - 50 kW electric motor, 12 lead acid deep cycle batteries (144 V, 75 Ah) which were later converted to lithium, and control and charging circuitry. This was a fascinating insight into the process, savings, learnings and resulting in running cost of about four cents/km! Thank you David for your presentation, which elicited many great comments and questions.

Our DATV Experimenter's nights have seen some interesting show and tell including RF pipe and cable location, an antique spot galvanometer, flood function in Google Earth, Beaglebone Black single board UNIX capable microcontroller, DUBUS magazines and a Williamson valve audio amplifier and power supply. Our videos have included Ham Nation episodes, 1950s NZ Antarctic Survey, European Space Agency and many more sources. Wednesday nights from 7.30 pm local on RF: 446.50 MHz DVBT around Hobart and VK7OTC member's stream on *www.batc.tv* See you there!

Silent Key

Roger Chubb VK2FGE

It is with very great sadness that the Armidale & District Amateur Radio Club records the passing of past President Roger Chubb on 28th April, 2013.

Roger was born in London, on the eighth of July, 1937. Soon after, the family moved to Gosport near Plymouth which became subject to bombardment by the Germans. Roger and his brother would collect shell casings from Ack Ack guns, polish them up and use as vases.

Roger and family moved to the Isle of Wight when he turned 16. After leaving school, Roger completed a Zoology degree at Exeter University and during this time met his wife, Valerie, when doing holiday jobs. They eventually married when he was 21 after a crisis filled wedding and reception. As almost no one in England owned a car, the wedding limo was a tandem bicycle! Valerie did the signalling up the back and Roger did the pedalling and steering.

Roger went on to do a Fellowship at a Research Station at Cheshire, where he gained an MSc. He then went on to Houghton Poultry Research Station, specializing in Marek's disease.

In 1969, the family moved to Armidale as 'ten pound poms' where Roger started a PhD at UNE.

Roger had an immense enjoyment of life. He had many hobbies, from watching birds, reading, cooking, to teaching himself electronics and gaining his amateur licence. He also taught himself to play a wide variety of instruments including guitar, keyboard, and clarinet. He loved giving people things, whether it was material items, his time, his support – Roger would not say no.

My first introduction to Roger was when he contacted all amateurs in the Armidale area and invited them to a meeting to discuss the future of the ailing club. Only a few of the existing members attended and despite Roger's efforts there was a continual downslide in interest. Eventually, the club was unincorporated and we became a common interest group.

When he suddenly passed away in April, the four amateurs who attended his funeral (Brian VK2BLP, Rick VK4HF, Les VK2LES and Dean VK2ZID) decided to resurrect the club and dedicate it to Roger. This has been done mainly due to the considerable resources Rick VK4HF has at his fingertips. Roger's club now has a two metre repeater in operation, and a 70 cm repeater awaiting licence approval. Plans are afoot to increase the 70 cm coverage with a second 70 cm repeater linked to the existing one and to install a digital ATV Repeater. We should be moving into our clubhouse resplendent with equipment very soon.

Roger inspired all who met him that age should not slow you down but gives you the opportunity to do more. We will miss Roger.

Contributed by the ADARC, with thanks to Roger's son, Peter VK2FPC, for the background notes.

VK4news QTC

Mike Charteris VK4QS
e *mikevk4qs@gmail.com*

G'day fellow amateurs and welcome to the November edition of 'QTC'. This month we have a couple of historical items of news as well as notice that another of our ranks has sadly become Silent Key. I appreciate the replies from my general email out to most if not all the Queensland clubs. Any news is good news, and these pages are all about *your club* and *your news* and happenings. So drop me a line and let's start promoting your radio club to the rest of Queensland, if not Australia for that matter.

VK4QC contacts ZL on 630 metre band

Since January 1st 2013 the 630 metre band has been available to Advanced amateur licence holders. The allocation in this band is 472 kHz to 479 kHz on a secondary basis. I, myself, have never operated on the band, but I have chased NDBs (Non Directional Beacons) down there and it can be a lot of fun indeed. With just an 80 metre dipole I have heard as far afield as Norfolk Island and all the way to New Zealand. Now listening is one thing, but actually deciding to operate on the band can seem a little daunting from a suburban back yard. Well, in the past few weeks I have heard from Peter Hewitson VK4QC, an ex-coastal station operator who by profession would have worked a few marine stations on 500 kHz from the likes of VIS, Sydney, VIM, Melbourne, and even from coastal stations in England. But in a recent email, Peter informed me of his most recent contact in the 630 metre band. Peter continues:

On Thursday 5th September 2013, I received an email on our reflector about a Morse code signal on 475 kHz from ZL1ZLD. I knew this station was ex ZLD Auckland Radio coast station, and they were still using the same Dansk transmitters they used when operational as a coast station. I quickly tuned up my Skanti TRP-8257 marine transceiver on 475 kHz, and there was the signal.

'This is a test transmission from Musick Memorial Radio Station Auckland New Zealand ZL1ZLD ZL1ZLD ZL1ZLD *www.musickpointer.org* QSX 7075.'

'I then sent back ZL1ZLD ZL1ZLD de VK4QC VK4QC K. He came back with VK4QC de ZL1ZLD Tnx for the call UR RST 339 Much QRN TNX for being on air you are first VK QSO Name Paul VK4QC de ZL1ZLD K.'

'I sent back ZL1ZLD de VK4QC QSL UR RST 539 Name Peter TNX for the first MF QSO TU 73.'

'The band was very quiet at my end, hardly any static and his signal, although not strong, was crystal clear.'

Station details, Skanti TRP-8257 marine transceiver, made in Denmark. This particular transceiver came from HMAS Waterhen, a Royal Australian Navy Shore Station in Sydney. It is 25 years old, all solid state with separate RX and TX tuning, and covers the MF band from 400 to 512 kHz as well as HF from 1.6 to 30 MHz. My antenna setup is a 160 metre dipole at 30 metres high, fed with 450 Ω ladder line. The aerial coupling unit is an ex aeronautical NDB Australian Air Transport Group LF/MF coupling unit. I had only been on MF for a week before I had to buy the MF Filters from the USA to permit MF transmissions. In Australia the 630 metre band is gaining popularity and many digital modes are in operation such as WSPR, Domino, JT65 and, of course, Morse code. All the best from Peter VK4QC.

News from Lockyer Valley ARC

Alan Shannon VK4SN reports that at the Lockyer Valley AGM a new committee was installed. Congratulations to the newly elected 'El Presidente' Ken Bawden VK4QH for being elected to high office. I am sure the club will further flourish under his leadership. No doubt there will be a particular emphasis on DXing and contests, which Ken enjoys from what I hear. Congratulations also to the new Vice President Michael Wethereld VK4FAKE. Well done my good friend Peter Nilon VK4MN, holding the position of Head Scribe, and well done also to long time club stalwart Alan Shannon VK4SN who gets to hold the purse strings once again, hence he must be doing a very good job.

News from Bunya Mountains & District AmCom

Neil Holmes VK4NF reports that Bunya Mountains & District AmCom held their AGM on August 3rd with the following new committee elected to office. Congratulations to Rick Lloyd Jones VK4FLRJ, being elected as the new President for 2013/2014. Former President Rick Lamas stays on to steady the ship as Vice President, while Neil Holmes VK4NF gallantly shoulders responsibility for the purse as well as the pen. The new WICEN Officer is Joe Manfred

Telegraph pole on Silver Valley Road.

VK4FMAN, and Publicity Officer is taken up by Andy Kellner VK4TH.

News from Ipswich & District Radio Club

Bob Beck VK4RJ reports that the Ipswich & District Radio Club recently held their AGM, with the following results. Congratulations to the new President Glen Woodrow VK4FARR, who I am sure will do a very good job over the next 12 months. The position of Treasurer is taken up once again by the unanimously elected John Edwards VK4IE, a man with a good grip on the purse. Training Co-ordinator is Graham Cotterill VK4GRA, who has successfully trained many new amateurs this past year in his spare time. The Ipswich Club also has a new club website, designed and maintained by Des VK4LOT. It is well worth a visit and the address is *www.vk4wip.org.au* so pop along for a look.

News from the Tableland Radio Group (TRG)

Well we have had an interesting weekend up here in the far north.

Saturday morning I picked up Dennis, hereafter known as Gramps, and we went out to Dimbulah to check on the Oppenheimer Pole that Lions erected for us. We then had a nice coffee and headed out to Thornborough where we looked at the cemetery for an hour, waiting for a relative who failed to turn up, then proceeded to Mt Mulligan. Dennis got to look over the camping ground and the old town and look into the mine shaft and see the cemetery – 75 miners died in the explosion in September 1921. The CFMUA has put sign posts in front of buildings and whatever showing what they were. During our trip Dennis came across a shovel obviously needing a home. It was a good trip and time flies.

Sunday morning Pat, Dave and myself were off on the great Silver Valley telegraph pole expedition. We stopped on the Herberton Range to view some telegraph poles there and we will do a walk following them to ascertain how many are there at a later date. We then proceeded up the Silver Valley Road - which was the original track from Mt Surprise to Herberton and along it ran the original telegraph line. We stopped off to look at the remains of an old mine or processing plant which had a small dam on the river. We then were pulled over by the police, assisted by flashing lights, to undertake a RBT. There was much laughter and talk about history but I did manage to get a pass on the breath bit. We found the above pole just off the road/track, and it is now photographed as it does have a slight lean but has a telephone line running under the ground near it.

Ross has been working away at operation resonator – the telegraph sounder audio amplification system used by the manipulators, as telegraphers were once known, but Eric claims it certainly didn't apply to him! They are for the museums at Mareeba, Cooktown and Coen and we also have other aged telecommunications equipment to go with them - no not you, Ross!

This afternoon I caught up with Bill for a coffee at Eacham Roadhouse and had a play with the Morse paddle on his KX3 - rather interesting.

Been a good couple of days which started with CW with Rob, Eric, Gramps, Keith and Len. Well the TRG has been getting around, eh!

There has been some talk about forming an Australian branch of the Telegraph Pole Appreciation group.

Silent Key

Leslie Rex Newsome VK4LR, 1932 – 2013

It is my sad duty to report that my good mate Rex Newsome passed away peacefully in September 2013. Many may have known Rex from his membership in the Radio Amateur Old Timers Club, as well as the Historical Radio Society of South East Queensland, and even as a long standing member of the Wireless Institute of Australia.

I met Rex many years ago by way of a phone conversation, followed by a visit to his home in St Lucia.

Rex was the quintessential amateur radio operator, having attained his licence in the 1950s. He initially got on air using AM at first, and later built his own single sideband (duck-talk) transmitter. Rex loved restoring old valve wirelesses, as well as valve communications receivers. Anyone who was fortunate enough to visit his home would agree he had one of the best collections in Queensland.

During his working life Rex attained a degree and PhD in Psychology, and went on to rise to the position of Head Lecturer of Psychology at the University of Queensland. If this was not enough, he also found time to write and publish six books, one of which was about restoration of valve wirelesses.

Rex was also involved with many disabled organizations, especially the Cochlear Implant to name but one. I am sure that his many good deeds in this life will find him in good company with the Head Honcho up above. Farewell and good luck old friend, your journey has just begun and already we miss you dearly.

Mike Charteris VK4QS

AMSAT

David Giles VK5DG
e *vk5dg@amsat.org*

Too many eggs?

If all goes according to plan, this month will see the largest number of amateur satellites in one launch. From the launch pad near Yasny in southern Russia a Dnepr rocket will be carrying up to 25 satellites into a 600 km orbit. As I write this column the final configuration hasn't been announced, but let's have a look at some of those proposed to go into orbit on 21st November.

Cubesats

FUNcube-1 from AMSAT-UK has been covered in this column in the past. In summary it is a 1U size cubesat containing a mode U/V linear transponder with an uplink of 435.150 – 435.130 MHz, the downlink 145.950 – 145.970 MHz and 400 mW BPSK telemetry at 145.935 MHz. [1]

Delfi-n3xt is the successor to DO-64. It is a 3U size cubesat that will demonstrate a micro-propulsion thruster, an advanced transponder and new solar cell technology. There are three radio systems on board. The PTRX is a mode U/V digital transponder for command and control with a 1200 baud BPSK 160 mW downlink on 145.870 MHz (similar to DO-64). The ITRX is an advanced transponder that will be similar to the PTRX but with a CW beacon as well. This is the backup transponder during the main mission. Afterwards it will be given to the amateurs as a 40 kHz wide, 200 mW mode U/V linear transponder. The main high speed data downlink is on 2405 MHz. Unlike DO-64 which used passive stabilisation, Delfi-n3xt will use attitude determining and the microthruster to keep the S-band patch antenna pointed towards Earth. [2]

ZACUBE-1 from the Cape Peninsula University in Cape Town South Africa is a 1U size cubesat that has a 20 m beacon. It will deploy a 10 m wire antenna with a small weight on the end. It is hoped the rotation will keep the wire taut. The beacon is 200 mW of CW at 14.099 MHz and will be used for ionospheric experiments. The main receiver is in South Africa but a secondary receiver will be a HF radar in Antarctica. It also has a telemetry beacon on 437.345 MHz with 1k2 or 9k6. [3]

CubeBug-2 is a 2U size cubesat that will test various new components. It will carry a packet radio digipeater. The downlink frequency is 437.445 MHz with 1k2 and/or 9k6 AX.25. Telemetry will be available from the start and the digipeater operation will begin after the main mission has been completed.

Triton-1 and Triton-2 are 3U size cubesats that will monitor Automatic Identification System (AIS) broadcasts from ships. Their mission is expected to last three months, after which the amateur transponders will be activated. Triton-1's mission downlink is 9k6 on 145.815 MHz with a backup on 145.860 MHz. The transponders are mode U/V with uplink on 70 cm FM with the two metre downlinks changed to DSB. Similar to AO-16's bent pipe transponder but the bands are reversed. Triton-2 also has a similar mode U/V transponder on the same frequencies as Triton-1 as well as a 38k4 downlink on 2408 MHz. In amateur mode the U/V transponder is the same as Triton-1 but the mode U/S transponder will be FM both ways (same as AO-51). It will depend on the power budget to see if both transponders on each satellite are on together.

GomX-1 from the Aalborg university in Denmark is a 2U size cubesat that will monitor ADS-B (Automatic Dependent Surveillance Broadcast) transmissions from planes. ADS-B transmissions give aircraft ID, position, altitude and intent. This will the first time an ADS-B receiver has been put in space and will demonstrate how useful to it is to track aircraft when they are out of range of ground based RADAR. Telemetry on 437.250 MHz at 1k2 to 9k6 baud. [4]

UWE-3 is the third cubesat from the University of Würzburg in Germany. This one will focus on attitude determination and correction (that is, figure out its orientation in space and alter it if necessary). A telemetry downlink will be on 437.385 MHz using 1k2 AFSK and CW.

HiNcube from the Narvik University College in Norway is a 1U cubesat. Its main mission is educational and it will carry a camera. Downlink is proposed to be on 437.305 MHz. [5]

Unisat-5

Unisat-5 from the University of Rome is a 50 cm cubed micro-sat. Among other duties it will carry and eject a total of eight other satellites. 9K6 baud telemetry on proposed frequencies of 437.125 MHz and 437.425 MHz. The following satellites will be ejected from it. [6]

ICUBE-1 from the University of Islamabad in Pakistan will have a FM to DSB transponder. Uplink is

435.060 MHz and the downlink on 145.947 MHz. The downlink will also beacon using CW and 1200 baud BPSK. [7]

HumSAT-D from the University of Vigo in Spain is a 1U size cubesat that will relay transmissions from ground based sensors primarily to the GENSO network. Telemetry downlink is on 437.325 MHz and 437.525 MHz. Universities worldwide are participating with GENSO stations and sensor development. The program is to develop an infrastructure for remote areas or third world countries.

The following are Qub-sats. Standard size is one eighth of a 1U size cubesat. [8] Their missions are educational and demonstrating new technologies. WREN is less than 400 grams and has a microthruster. Telemetry downlink on 437.405 MHz. PUCP-SAT1 from Peru has a 10 mW CW beacon on 437.200 MHz. Use FM to receive. EAGLE-1 from the Morehead State University (Kentucky USA) has a 9k6 downlink on 437.465 MHz.

A video was taken when ZACUBE-1, FUNcube-1 and HiNcube were installed into their POD ejector. This was the last time any of them were touched by human hands. [9]

Final Pass

If this launch is successful then we will have plenty of new satellites to enjoy. I'm particularly looking forward to FUNcube-1 as it is the first AMSAT built satellite in quite a while.

References

[1] *http://amsat-uk.org/funcube/funcube-cubesat/*
[2] *http://www.delfispace.nl/index.php/delfi-n3xt*
[3] *https://directory.eoportal.org/web/eoportal/satellite-missions/v-w-x-y-z/zacube-1*
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[7] *http://www.icube.org.pk/*
[8] *http://pocketqub.org/standard/*
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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.

Spotlight on **SWLing**

Robin Harwood VK7RH
e *vk7rh@wia.org.au*

It is November and summer is just around the corner. We had a very brief respite from the rain in September yet it returned in the final weeks of the month, accompanied by gale force winds. Also there have been constant disruptions in the village from heavy construction works, renovating the nursing home. Heavy trucks and machinery have been coming and going from early morning until late afternoon. I think there is a deadline for mid-November so hopefully it will have quietened down by now.

I can confirm that the Russian external services will indeed be leaving shortwave on the 31st of December, as I reported last month. It has been some time since I have heard the VOR in English beamed to Australia. In fact, there have been very few signals of late from what was the most prolific broadcaster in the 20th century. There are relays from the domestic Radio Rossi network still on shortwave in Russian and also slated for closure. There are small domestic relays in the Far East serving the vast sprawling steppes of Siberia. I believe that some programming does indeed emanate from studios in Vladivostok.

I believe that several smaller broadcasters, who left HF radio, are re-evaluating their Internet feeds because they did not obtain satisfactory responses and feedback from listeners. One unnamed source stated they got less than 50 replies or downloads. Perhaps they may re-appear on shortwave!

November 22nd 1963 was a very historic day in World History. I am referring to the assassination of President Kennedy. I vividly remember being awakened by my parents at 6 am on that Saturday morning (the 23rd) and asked to turn on my shortwave radio as they heard on the early morning news from Sydney that he had been shot. I quickly found an outlet of the Armed Forces' Radio Network on the 25 metre band and there learned that he in fact had died. I was transfixed to the radio as were millions of other people. At that time my parents were building a holiday home at Weymouth and I managed to persuade them to go off without me. Shortwave was exciting. Remember 50 years ago there was no satellite television in Australia and we had to rely on newsfeeds flown in from overseas. It would be several days before we saw film of the dramatic events in America.

Just a few weeks ago I met fellow columnist Rex Moncur VK7MO at a meeting of the Northern Amateur Radio Club. He was demonstrating moonbounce communications, prior to giving a lecture. Rex said to me to put my callsign in the computer and press the enter key and lo my callsign wafted into space. It took one and a half seconds to get there and an equal amount of time to bounce back to Earth, landing in Texas at the QTH of W5LUA. A return signal was sent from there and it was a new first for me. The highest I have ever operated on, being 10 GHZ and likely the one occasion I have bounced a signal off the moon. There were a few F calls present who could not participate and hopefully it is a spur to them getting a full call. Incidentally I am now a member of the said club.

Well that is all for November. Until next time, I hope you enjoy the very best of propagation and monitoring. Robin VK7RH.

Contests

James Fleming VK4TJF

There are two contests this month that should be both fun and easy to work. For those who like phone there is the JIDX. Propagation to Japan is always pretty easy even for the amateur who is just starting out and there are many operators in Japan wanting your contact. This is a good contest to get your feet wet as the Japanese amateurs are good operators. I'm also certain that by the end of the contest one could most likely achieve the Japan all districts award which is very nice. Most amateurs at my club will say that you can always find a Japanese station on the bands and that they are very common, I say let that be to your advantage and work a few for this contest.

The next contest is the CQ WW CW contest, a great contest to help you increase your CW speed and skill. There will be no shortage of real good CW operators on the bands that want your country multiplier and will work hard to get it. And because it is CW low power can be quite easy to make contacts. Most operators can make contacts below the noise floor. This is also a great way to increase your DXCC count. So there are two contests this month, one for phone lovers and one for CW lovers. Both contests offer up loads of fun.

The Japan International DX contest starts on the 9th of November 2013 at 0700 UTC and goes to the 10th of November at 1300 UTC, so a total of 30 hours. This contest is strictly phone. Bands are the usual suspects 3.5/7/14/21/28 MHz. Categories are single operator high power over 100 watts or low power 100 watts, and all band or single band, or multi-op with all band high power. You can use DX Summit and other spotting networks - just no self-spotting. Exchange will be RS plus CQ zone number and in return the JA station will supply RS and prefecture number. Only contacts with JA are worth points two points for 28 and 3.5 MHz and the rest of the bands are worth one point. Multipliers are the different Japanese prefectures. Email your log at *ph@jidx.org* in Cabrillo format. Certificates this year will be in PDF format so that you can download them and print them off yourself.

There is another good contest for you in November, the CW WW DX CW contest, and this one offers some nice things for those who do things the classic way without computers and for those that like to QRP. So without further ado the goal is to work as many other amateurs in other zones and countries. Bands are 1.8, 3.5, 7, 14, 21, and 28. Exchange is RST plus the CQ zone number. You get three points for working a station on a different continent, and one point for contact with countries on the same continent. The multipliers are the different zones and countries. You can do single operator high-power 1500 watts (for VK, 400 watts), low power 100 watts, or QRP five watts, assisted or Rookie or classic. Rookie if you have been licensed less than three years before the start of the contest. And for the classic category you can only use one radio, no QSO alerting assistance, only operate 24 of the 48 hours, and if you take a break it has to be for at least an hour. There is also multi-operator one, two, or multi transmitter. The dates are November 23-24, starting 0000 UTC Saturday to 2359 UTC Sunday.

So have a good contesting month and don't forget to submit a log, and if you hear a contest station on the bands don't forget to give a contact.

Contest Calendar for November 2013 - January 2014

November	2nd - 3rd	1200 UTC	24 hours	Ukrainian DX contest	CW / SSB
	9th - 10th	0000 UTC	48 hours	WAE DX contest	RTTY
	9th - 10th	0700 UTC	30 hours	Japan International DX contest	SSB
	17th	0000 UTC	24 hours	EPC PSK63 QSO party	PSK63
	23rd - 24th	**0100 UTC**	**24 hours**	**Spring VHF/UHF Field Day**	**SSB / CW / FM**
	23rd - 24th	0000 UTC	48 hours	CQ WW DX contest	CW
December	6th - 8th	2200 UTC	42 hours	ARRL 160 metre contest	CW
	14th - 15th	0000 UTC	48 hours	ARRL 10 metre contest	CW / SSB
	21st	0000 UTC	24 hours	OK DX RTTY contest	RTTY
	21st - 22nd	1400 UTC	24 hours	Croatian CW contest	CW
	28th - 29th	0000 UTC	24 hours	RAC Winter contest	CW / SSB
January	**1st - 31st**	**0000 UTC**	**Month**	**Ross Hull Memorial VHF-UHF**	**ALL**
	4th - 5th	1800 UTC	30 hours	ARRL RTTY Roundup	RTTY
	11th - 12th	**0100 UTC**	**24 hours**	**Summer VHF/UHF Field Day**	**SSB / CW / FM**
	18th - 19th	1200 UTC	24 hours	Hungarian DX contest	CW / SSB
	25th - 26th	1200 UTC	24 hours	BARTG RTTY Sprint	RTTY

Plan ahead

WIA AGM and Conference, Sunshine Coast, Qld., 17/18 May 2014

Remembrance Day Contest 2013

Alan Shannon VK4SN

This year the Remembrance Day contest fell on the same weekend as the ILLW activities. Some lighthouse stations worked both events which helped the activity for the RD. Although the logs submitted this year contained fewer contacts, there were more logs submitted than last year which shows that support for the RD is not lacking in any way, and that both activities can co-exist in harmony. Very poor band conditions on Saturday night saw a slump in activity during the evening.

Noticeable changes for this year are the huge increase in logs submitted from VK6, by 20%. An increase from 16% to 17.8% in logs submitted per actual participants. CW contacts rose almost 50% and from a 31:1 to 13:1 SSB to CW ratio. Great to see more CW activity, but we are yet to see any RTTY contacts. RTTY was introduced as it was a mode used in WW2. Operating in the tradition of WW2 was Terry VK4AAT using a Collins Art 13 transmitter with a BC348Q receiver and a dipole.

There were approximately twenty more stations involved this year with 1367 stations participating. Logs were received from 17 Foundation, 31 Standard and 195 Advanced licensees, making up 17.8% of actual participants. There were 127 unique Foundation licence calls logged, 35 QRP stations, 76 portable, and 31 mobile. 21 paper logs and 222 electronic logs were received. Of these, 5 were treated as check logs. 164 logs contained HF contacts only, 68 contained HF, VHF & UHF contacts, and only 11 VHF and above logs were received.

168 operators used VKCL Logger, 43 RD Logger, 5 Excel and the rest various non-conforming loggers not designed for the RD causing unnecessary work to be done by the manager. Why anyone would use loggers that don't do the job is beyond me, as good time and effort has been put into the RD loggers by our own hard working VK programmers, so let us try and support our own in future. There is no actual 'robot' for QSLing receipt of logs, and due to a windows upgrade the log checking software would not run as expected, so many Excel formulas did a lot of log checking along with quite a bit of manual checking.

Most logging errors were incorrect copying of received exchange or callsign, and failing to pay attention to what is in the entry window before pressing enter. Some had incorrectly copied the first exchange made with a station, and repeated the wrong exchange for every other contact with the same station, showing that they were looking at the loggers last entry rather than listening to what was being said. This of course saw many points being taken off the score for those mistakes.

Some people are still downloading the paper log cover sheet and not using the log book provided, and then missed needed columns in their own paper log, thereby missing relevant info and having the log totally rejected. If you have a computer and can download the files provided, please use them as making your own format up can easily lead to missing information and loss of points or having your log delegated a check log. Excel spread sheet entries last year showed a total lack of knowledge on how to use it, so I have removed the spread sheet from the download page as it is easier to download a logger and use that, knowing that your log will be correct when sent in.

140 logs had deducted points for mis-logged calls and wrong exchanges. You can see how you

Photo 1: Doc VK5BUG operating CW in the museum at Cape Willoughby Lighthouse using VK5BAR.

STATE	NR of LOGS	LOGGED CONTACTS	PH	CW	RAW SCORE	WEIGHTED SCORE	Percentage of participants who put log in
VK 1	6	385	381	4	445	1.17	25
VK 2	51	6651	5915	736	8177	1.95	15.9
VK 3	30	3460	3278	182	4051	0.99	10.6
VK 4	34	6677	6403	274	7416	2.62	13.4
VK 5	38	4549	3785	764	7402	5.63	22.1
VK 6	59	7480	7357	123	9537	7.08	37.3
VK 7	20	1807	1654	153	2063	3.56	25
VK 8	2	57	57	0	57	0.37	20
ZL	3	121	93	28	170	0.03	4.5
P2	0	0	0	0	0		
TOTAL	**243**	**31187**	**28923**	**2264**	**39318**	**TOTAL**	**17.8**

Table 1.

Photo 2: 1st Place QRP Phone and highest scoring Foundation licence holder, Monique Faulkner, VK6FMON portable.

Photo 3: Inside VK6FMON's tent.

did by downloading the full 2013 RD report from the website.

If you have been keeping an eye on the RD website, then it should be no surprise that by looking at the submitted logs by VK6 they should be in a league of their own. And you would be correct. A state score of 7.08 puts them well in the lead this year. Words of encouragement at the Perth AGM in May has shown that becoming heavily involved and submitting as many logs as possible is the key to winning rather than coming second as per last year. Well done VK6. Results can be seen in Table 1.

Individual efforts

The best individual effort goes to Iain Crawford VK5ZD who stayed up all night to get the big pointers and by working HF through to 3.4 GHz in the SO Mixed category. 1024 points set by Iain was only slightly behind Wayne VK7NET on 1055 points from last year, who holds the record so far for best score for an individual. Well done Iain.

82 operators were spread over 9 Multi Single and 9 MM stations. VK2GGC Multi-Single station operated by VK2ZMT, VK2PV, VK2FJ, VK2HFP, VK2FALL, VK2CQ and VK2ON produced a massive 983 points to win their section 2 years running. VK5AKM recorded another great score of 1050 taking 1st place in the Multi-multi section.

The QRP section was well represented with a total of 35 taking part and 17 submitting logs.

Tim VK5ZT topped the section with 810 points for the Mixed section.

Although there is no Rookie category (i.e. first year as an amateur), VKHAM (.com) has kindly sponsored an award for the highest scoring Rookie. This year six Rookies, VK2FGIN, VK2FJEF, VK2FRNK, VK4FDAD, VK5FACE, and VK6FDGB submitted scores from 4 to 223. Congratulations to Daniel VK6FDGB with his decent score of 223.

The top three Foundation licensees were VK6FMON 448 (QRP PH), VK4FAKE 423 (SOPH), and VK6FDGB 223 (QRP PH).

TEAM NAME	OP 1	OP 2	OP 3	TOTAL
West Oz Winners	VK6MAB	VK6BDO	VK6TWO	1797
Maroons	VK4QH	VK4GH	VK4SN	1735
Ghosts	VK2TQ	VK2KDP		1047
ORANA Amigos	VK2FSTU	VK2FJEF		64

Table 2.

BAND	CONTACTS	PHONE	CW
1800	499	404	95
3500	5035	4490	545
7000	15738	14565	1173
14000	4049	3939	110
21000	411	355	56
28000	322	267	55
50	283	243	40
144	3074	3015	59
432	1564	1510	54
1.2G	85	71	14
2.3G	63	32	31
3.4G	64	32	32
TOTAL	**31187**	**28923**	**2264**

Table 3.

ALL TIME RECORDS. 2012 Onwards			
Category	Year	Callsign	Score
SOPH	2012	VK7NET	1055
SOCW	2013	VK5NE	542
SOMX	2013	VK5ZD	1024
QRPPH	2013	VK6FMON	448
QRPCW	2012	VK3QB	222
QRPMX	2013	VK5ZT	810
MS	2012	VK2GGC	1148
MM	2013	VK5AKM	1050

Table 4.

Four teams were submitted with team West Oz Winners, Miles VK6MAB, Heath VK6TWO, and Neil VK6BDO taking honours followed by the Maroons, Catherine VK4GH, Ken VK4QH and Alan VK4SN. See Table 2.

A full list of statistics is on the WIA RD website in PDF format. Soapbox comments have been copied and pasted from logs and emails, and are also available.

Awards will be sent from the WIA office for all major first, second, and third place winners. Downloadable pdf certificates for individual state placings are available.

Thanks to VK6FMON, VK6TWO, VK5PAS, and VK2ZHE for supplying photos.

See table 5 for the complete list of operator rankings.

Best 73

Alan Shannon VK4SN

Photo 4: VK2ZHE and VK1ZRE operating VK2BOR.

Photo 5: ORARC caravan at Tacking Point for VK2BOR.

Single Op Phone						Single Op CW		QRP CW	
Callsign	Points	Callsign	Points	Callsign	Points	Callsign	Points	Callsign	Points
VK2TQ	841	VK2UP	116	VK2LEE	41	VK5NE	542	VK2ONZ	131
VK4YB	809	VK6PIG	116	VK5LSB	40	VK2IR	264	VK3AGQ	83
VK5CB	765	VK5DMC	111	VK4VBU	39	VK2AYD	252	VK2BJT	36
VK7NET	655	VK3ASU	109	VK3NCC	38	VK7RF	248	VK5CYM	24
VK4QH	631	VK4FR	109	VK3DY	36	VK5LJ	192	VK7AD	16
VK3SIM	625	VK6YA	102	VK2KTT	35	VK4VDX	172	VK1SV	8
VK4GMH	547	VK4PB	101	VK7QF	33	VK5DC	142		
VK4ADC	507	VK1MT	101	VK2JWA	32	VK2GR	138		
VK2MT	473	VK7FB	100	VK8FHIL	32	VK4XY	128	QRP Mixed	
VK4GH	465	VK5ALX	99	VK5SE	31	VK2KM	98	Callsign	Points
VK3GC	439	VK6USB	98	VK2BBQ	31	VK3BAA	56	VK5ZT	810
VK6CSW	438	VK6NWK	97	VK2OX	31	VK3TX	46	VK2IG	222
VK2AMW	436	VK6CN	93	VK2TTL	30	VK2AWD	44	VK2PN	53
VK4FAKE	423	VK7HAL	92	VK6OE	30	VK7RO	32		
VK6AIF	400	VK5SFA	86	VK6ZN	29	VK5UM	26		
VK5BC	375	VK6GHZ	83	VK6QK	29	VK2EL	22	Multi-Single	
VK4KLC	352	VK6LV	82	VK2YW	28	VK3GDM	12	Callsign	Points
VK6LD	340	VK6JP	79	VK6DF	27	VK6AFW	5	VK2GGC	983
VK3AVV	335	VK2AOA	78	VK7GN/VK8	26			VK2IM	480
VK6BDO	313	VK5XY	78	VK8HPB	25			VK2TS	340
VK6HDX	274	VK4MON	78	VK4ATH	25	Single Op Mixed		VK2AFY	228
VK5UV	268	VK7DG	77	VK4NJB	24	Callsign	Points	VK2ACW	202
VK1HW	266	VK6YD	77	VK4BSH	24	VK5ZD	1024	VK6AHR	177
VK3TCX	264	VK6RZ	75	VK5MPJ	22	VK6ZRW	833	VK2BOR	97
VK3GWS	252	VK6GG	74	VK2FSTU	21	VK6TWO	826	VK2WG	57
VK4MIT	240	VK7LTD	72	VK6DXI	20	VK6MAB	658	VK3OLS	49
VK6DT	235	VK5STU	71	VK6QM	20	VK4SN	639	VK6SH	40
VK6XLR	226	VK6SN	70	VK2FUSY	19	VK3IO	331		
VK6MM	219	VK7RM	68	VK2VV	19	VK6KTV	329	Multi-Multi	
VK5MTM	213	VK6HV	66	ZL4OL	19	VK4AMG	285	Callsign	Points
VK5DT	210	VK2JJW	65	VK2ZZ	16	VK5KX	224	VK5AKM	1050
VK3MEG	208	VK6QS	63	VK6BMW	16	VK3VT	210	VK6CLL	659
VK2KDP	206	VK5FCJM	60	VK7QP/VK8	15	VK2AR	173	VK4HH	640
VK4XQA	204	VK6SO	59	ZL3AKM	15	ZL3VZ	136	VK2AWX	584
VK3ADW	201	VK5NQP	59	VK7FM	15	VK5NI	134	VK4WIS	307
VK2IUW	182	VK4FDAD	58	VK5ZK	13	VK3DGN	108	VK5BAR	179
VK5MU	181	VK3BQ	58	VK6AN	13	VK3HJ	84	VK3SCG	113
VK6HAD	180	VK5NIG	55	VK5HCF	12	VK2KJJ	78	VK4WIR	73
VK6KW	179	VK4JRO	54	VK1CM	12	VK5FD	63	VK2MB	49
VK3IJ	176	VK6MJC	53	VK5AEY	11	VK4PQ	21		
VK5LTD	174	VK6LAW	53	VK3BCZ	10				
VK7HW	170	VK4FNQ	53	VK6WF	10				
VK7JGD	166	VK2FMSL	53	VK5ZKK	10	QRP Phone		Check Logs	
VK2HBG	164	VK6CNL	52	VK5OQ	9	Callsign	Points	VK4OC	
VK2FERM	158	VK4SR	52	VK5HP	9	VK6FMCN	448	VK6AR	
VK6FJA	156	VK1IAN	51	VK3VTH	9	VK6FDGB	223	VK5HO	
VK6NU	154	VK6DDX	50	VK2FGIN	8	VK2FRNK	131	VK6FPSH	
VK6KMC	150	VK3LM	50	VK3PH	8	VK6FLAB	106	VK6JES	
VK3YAR	131	VK7WR	49	VK1PE	7	VK2FLJD	75	VK6XCJ	
VK6DI	128	VK6PWD	49	VK3VD	7	VK6LO	50		
VK4ON	127	VK7KC	49	VK3LRE	5	VK2ADU	49		
VK2MEV	127	VK4FLR	48	VK5FACE	4	VK7TW	46		
VK7VH	121	VK4AAT	42	VK2ACD	4	VK4FPDG	29		
VK4GQ	121	VK2ODD	42			VK7KPC	12		
VK6RC	121	VK2FJEF	42			VK3FMPW	7		

Table 5: RD Operator results

Ross Hull Memorial VHF-UHF Contest 2014

John Martin VK3KM - Contest Manager

The next Ross Hull Contest will run through the month of January 2014. Logs will be due by Friday, February 14.

Please note that there has been some rewording of the general rules, to make their intention clearer. There has also been one significant rule change.

After last year's contest, there was some debate about the place of EME contacts, and one particular theme emerged. The contest was conceived in honour of the late Ross A. Hull and his discovery of tropospheric propagation, and it has always been basically a "tropo contest". There is a view that this emphasis should be restored. So, this time round, the rules will specifically exclude EME contacts.

Final note: If you participate in the Summer VHF-UHF Field Day, remember that you can count Field Day contacts (one per station per band per day) in your Ross Hull Contest log, so the Field Day can supply two of your Ross Hull Contest days. There is no need to exchange separate serial numbers for the two contests.

The Contest

The WIA maintains a perpetual trophy in honour of the late Ross A. Hull and his pioneering achievements in VHF and UHF operation. The name of each year's contest winner is engraved on the trophy, and other awards may be made in the various divisions of the contest. The contest is open to all amateurs.

Duration

0000 UTC January 1, 2013 to 2400 UTC January 31, 2013.

In Eastern Summer Time, that is 11 a.m. on January 1 to 11 a.m. on February 1.

Sections

A. Best 7 days, analog modes.
B. Best 7 days, digital modes.
C. Best 2 days, analog modes.
D. Best 2 days, digital modes.

Digital modes are defined as those in which the decoding of the received signal is done by a computer.

Entrants may submit logs for more than one section.

General Rules

One callsign and one operator per station. Stations may operate from any location. You may claim one contact per station per band per UTC day. Repeater, satellite, EME and cross band contacts are not permitted. Split frequency operation is allowed, for example on 50/52 MHz. Calling frequencies should be kept as clear as possible so as not to interfere with other stations making or listening for calls. If contact is established on a recognised DX calling frequency (i.e. 50.110, 144.100 etc), stations should QSY up to .150 or higher to make the contest exchange. All rulings of the contest manager will be accepted as final.

Contest Exchange

For Section A or C, entrants must exchange RS (or RST) reports plus a serial number. Serial numbers need not be consecutive. *NOTE: For propagation modes such as meteor scatter or short-lived sporadic E openings, it is sufficient to exchange callsigns plus two further digits that cannot be predicted by the other station.*

For Section B or D, exchange callsigns plus two further digits that cannot be predicted by the other station.

While not an essential part of the contest exchange, Maidenhead locators may also be exchanged as an aid to distance calculations.

Logs

Logs must contain the following for each contact:

- Date and UTC time.
- Frequency and callsign of station worked.
- Reports and serial numbers sent and received.
- Approximate location or grid locator of station worked.

Separate scoring columns for each band would be helpful.

Scoring

Scoring will be based on the best 7 UTC days nominated by the entrant.

For each contact, score 1 point per 100 km or part thereof (i.e. up to 99 km: 1 point, 100 – 199 km: 2 points, etc.)

Multiply the total by the band multiplier as follows:

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

Then total the scores for all bands.

Cover Sheet

Logs must be supplied with a cover sheet containing:

- Operator's callsign, name and address.
- Station location (if different from the postal address).
- Section(s) entered.
- A scoring table set out as the example below.
- A signed declaration that the station has been operated in accordance with the rules and spirit of the contest, and that the contest manager's ruling will be accepted as final.

Please use the following format for your scoring table. If you wish you can cross-check by adding the daily totals across the table, but please make sure that you include the separate band totals.

Date	6 m		2 m		70 cm		23 cm		etc		
	-----		-----		-----		-----		----		
Day 1	xxx		xxx		xxx		xxx		xxx		
Day 2	xxx		xxx		xxx		xxx		xxx		
	-----		-----		-----		-----		-----		
2 Day Subtotals	**xxx**	**+**	**xxx**	**+**	**xxx**	**+**	**xxx**	**+**	**xxx**	**=**	**xxxx (2 Day Subtotal)**
Day 3	xxx		xxx		xxx		xxx		xxx		
Day 4	xxx		xxx		xxx		xxx		xxx		
etc.											
	-----		-----		-----		-----		-----		
7 Day Totals	**xxx**	**+**	**xxx**	**+**	**xxx**	**+**	**xxx**	**+**	**xxx**	**=**	**xxxx (7 Day Total)**

A cover sheet and scoring table has been included in the postings on the WIA web site. Copies can also be obtained from the e-mail address given below.

Penalties

Minor errors may be corrected and the score adjusted. Repeated use of recognised DX calling frequencies (especially when the reports indicate strong signals) may lead to disqualification. Inclusion of any false log entries will lead to disqualification.

Entries

Paper logs may be posted to the Manager, Ross Hull Contest, PO Box 2042, Bayswater Vic 3153. Electronic logs can be e-mailed to *rosshull@wia.org.au* Acceptable log formats include: ASCII text, RTF, DOC, DOCX, XLS, MDB, PDF, or any Open Document format.

Logs must be received by *February 14, 2014*. Early logs would be appreciated.

Note on calculating distances

Absolute accuracy is not required. You just need to know whether each station is above or below the nearest multiple of 100 km, so you can use a compass to draw 100 km circles around your location on a map.

Alternatively, you can use contest logging software that can calculate distances. If so, you will need to exchange 6 digit Maidenhead locators to get an accurate distance measurement. You can also calculate distances from six-digit Maidenhead locators using a computer program that is available on the Ross Hull Contest page of the WIA web site. Also available on the web site is a sample summary page/cover sheet.

Contest web page

http://www.wia.org.au/members/contests/rosshull/

Silent Key

Leslie Rex Newsome VK4LR

Rex was born an only child in Townsville in 1932. Cerebral palsied, he had no formal schooling, and wandered where he pleased, mainly to neighbour's places where he observed many useful skills like lead wiping and carpentry, across the US air bases, and to the creeks and sandbanks where a former Brisbane Lord Mayor, Frank Sleeman, used to strand boats.

His good mates goaded him into going to University, so he privately studied and passed five matriculation subjects in two years. He received his first degree quickly, to a standing ovation, followed by a PhD in Psychology. He listened to lectures, as no other method of recording was reliable in his hands. At his lodgings, he would pull out an electric typewriter and type up the perfect lecture, while including material he had researched, or considered should be included.

As an academic, his students were never late to lectures, as they were keen to hear what he said. A former student recalled that on occasions he would roll into the lecture, a big smile on his face, rub his hands together, and declare with an evil chuckle 'I have your test results.'

Rex sat on many committees dealing with disabilities, and contributed greatly to the cochlear implant Hear and Say organization, run by Dr Dimity Dornan, one of his former students.

In his later years, he learned to sketch in charcoal, with creditable results. He tried many things, always believing that you could do it, if you wanted to. A disability was not to be a bar.

As a keen electronics experimentalist, he built and repaired many items, including a self-searching wheeled robot run by a 1T4 valve. His daughter Christine, the only child from his marriage to the late Annette Douglas, assumed it was normal for children to solder joints under the direction of a father. He once sold an HRO to Evan VK4EF in Townsville, only to buy it back from Evan in Brisbane 40 years later.

He travelled a lot in his early days, met (as he said) the first British TV technician, who had repaired Logie Baird's early TV receiver, and maintained contact through HF with the many hams he met.

Rex died 17 September 2013. Vale old friend.

Contributed by Peter Hadgraft VK4APD.

VHF/UHF - An Expanding World

David Smith VK3HZ
e *vk3hz@wia.org.au*

Weak Signal

There was a bit of action in September with the first opening for the season from VK4 across to the South Island of New Zealand.

With the demise of Newcastle Channel 5A as a beacon, Bob ZL3TY in Greymouth has been monitoring shipping traffic using an AIS receiver on 162 MHz. On the evening of September 26th, his receiver picked up a ship at a range of over 1000 km towards Australia.

At 1008 Z, he worked Adrian VK4OX on two metre CW with reports of 539/559. Scott VK4CZ was hearing Bob's CW at 519 on QSB peaks, but his reply could not be heard. He switched to JT65 and was joined by Kevin VK4UH. Signals from both stations were successfully copied by ZL3TY and exchanges made with signals peaking up to -07 dB at one point. At 1124 Z, Adrian worked Bob on SSB with 52 reports each way, over a distance of 2400 km.

Later that evening, NRJ FM on 93.5 MHz in New Caledonia was reportedly received in Brisbane over a distance of 1520 km.

Microwave Activities

November looks like being a busy month for microwave enthusiasts. Detailed below are the planned events. For the latest information, check the VK Logger Forums area.

Nov 2 – VK3/VK5 Microwave Activity Day

At this stage, no times have been organised. A number of stations are planning to set up on hilltops in VK5 and western/central VK3 to work each other on various microwave bands.

Nov 3 – VK4 5.7 GHz Shootout and BBQ

Starting at 11 am at the Redcliffe & Districts Radio Club premises, the Microwave Activity Day will focus on 5.7 GHz equipment. However, even if you don't have a 5.7 GHz system and have a fleeting interest in microwave operating, please drop in for a look and to enjoy a sausage from the BBQ.

Nov 10 – VK3 Microwave Test and Tune Day

Commencing at 10 am at the Eastern & Mountain Districts Radio Club premises, the Microwave Test and Tune Day will have a similar format to last year's event with a test range set up for 10 GHz and 24 GHz equipment. Further details of testing are yet to be finalised. The EMDRC will be running a BBQ with sausages and bread provided, and drinks available. Even if you don't have equipment to test, come along for a look and chat. More information on the EMDRC web site: *http://emdrc.com.au/microwave_day.html*

Nov 23/24 – Spring VHF/UHF Field Day

Of course, all of these Microwave Activity days have allowed people to tune their microwave equipment to peak performance in preparation for the Spring VHF/UHF Field Day. More information: *http://www.wia.org.au/members/contests/vhfuhf/*

Please send any Weak Signal reports to David VK3HZ at *vk3hz@wia.org.au*

Digital DX Modes

Rex Moncur VK7MO

Meteor Scatter by Kevin VK4UH

I am very grateful for the positive feedback about the Meteor Scatter (MS) Reports and for a number of interesting questions e-mailed to me regarding this mode of operating. I thought it might be useful to cover a number of the topics raised, each month, through this column.

Over the last few months, reference has been made here to the various digital modes being tried for MS in VK and ZL. These include FSK441 and JTMS, from the WSJT suite of digital modes written by Joe Taylor K1JT, and PSK2K written by Klaus Heide DJ5HG. The hobby is very fortunate to have free access to these software packages written by two amateurs who are both eminent University professors.

The mainstay of VK and ZL meteor operation, at this time, is using FSK441 mode. As we have discussed before, in this mode each minute is divided into two exact 30 second periods. Stations alternately transmit and receive in the first or second period depending on their call area and an agreed protocol. During normal operation, the Graphical User Interface in WSJT has two windows showing 'Main' and 'SpecJT.' A third 'black' window showing the audio configuration

and error codes also runs in the background but is usually placed behind the user panels.

SpecJT provides a horizontal waterfall display and a 'green' signal strength trace which sweeps left to right across the screen over the 30 second receive period. Any meteor returns (pings or burns) received are displayed as a 'splash of colour' image on the window with a corresponding deflection of the green signal strength trace. At the end of each 30 second receive period, the program itself does a number of things. Firstly the entire 30 second sweep is transferred to the Main window and the software automatically attempts to decode any received signals which are recognised as FSK441. Output from the decoder is displayed on the main window with additional information on timing 'T', duration 'width', signal strength 'dB', frequency offset 'DF' and report 'Rpt'. Secondly the last 30 second sweep is also transferred to the lower half of the SpecJT window until the next cycle and thirdly the entire 30 seconds of audio is saved as a .wav file on the hard drive, if this option is selected.

It is possible therefore to just sit back and watch even with the audio turned down. This is however not the optimum way to operate in FSK441 mode. With experience, audio from even the shortest ping becomes easy to recognise in the speaker. It is then possible to move the mouse cursor onto the corresponding image on the SpecJT waterfall display and 'click' with either mouse button. This forces a decode on-the-fly while the system is still receiving. Bear in mind that the automatic decoder will only look at the strongest ping on the sweep when there may in fact be several from the same or different stations spread across the display. Further, a ping extending more than a few hundred milliseconds may contain data from more than one station. It is not uncommon here in Brisbane for example to decode Arie VK3AMZ at one end and Gavin VK3HY at the other end of a single ping just by repeatedly clicking across the image.

This interactive trawling method of operating yields far more results than relying on automatic decoding alone. It is also possible to have multiple attempts with different settings of the 'S' sensitivity parameter of the decoder to trawl through each ping while still receiving. During the next transmit period it is still possible to attempt to decode by clicking on the sweep now on the lower portion of the SpecJT screen, or by clicking directly on the corresponding sweep on the main WSJT window. In effect therefore each ping is on the screen to decode on-the-fly for up to 120 seconds (that is, up to two receive periods and two complete transmit periods). In short, to get the most from this mode you need to watch and listen carefully while receiving, with the audio gain up and the AGC turned off, and force decodes on-the-fly as each ping comes in. This is particularly important when there are several stations operating and when meteor rates are high.

An alternative strategy to 'manual trawling' is by the use of another software package under development called MSRX (Meteor Scatter Receiver) - also written by Klause DJ5HG. I am grateful to Colin VK4MIL for his advice on this platform. MSRX is a receive-only system at this stage. With even modest computer power however it can be run simultaneously with WSJT and can share the same audio feed from the rig interface. The decoder effectively makes multiple decodes on every ping equivalent to automatic WSJT decodes with multiple 'S' settings. It is also capable of decoding both FSK441 and PSK2K signals, which are normally considered incompatible. Decoding is not possible, nor indeed necessary, on-the-fly in MSRX, and occurs once after the end of each receive period. There is a comprehensive description of MSRX, written by the creator, in DUBUS 4/4 2012 edition. A working guide is also available on Col VK4MIL's blogspot (*vk4mil.blogspot.com.au*). Advice on installation is given including the requirement to install MATLAB as is required for PSK2K.

My actual report on MS activity this month is fairly bleak but typical for the end of the winter doldrums. Without any significant meteor showers, this month's activity has been low and contacts have been hard work. Random meteor return rates have been low, but again typical for the time of year, with the majority being weak and very brief. As always, the occasional hyper-dense meteor burn has produced returns lasting many tens of seconds on 144 MHz with signals strong enough to kick the S meter hard. Roll on summer and don't forget the Orionid shower on or about October 21st.

I am always happy to receive reports, questions or enquiries about meteor scatter in general or the digital modes used. I can be reached at *vk4uh@wia.org.au*

Detecting very Weak Signals

With the tropo season upon us, it is often useful to detect the presence of very weak signals and then watch to see if they improve to allow a QSO. While digital modes such as WSPR and JT65a will work to around -28 dB, the two tone messages in JT65a such as RO, RRR and 73 can be seen down to around -32 dB. Better still, one can see single tones down to around -35 dB. Single tones at any audio frequency can be generated by inserting @XXXX in any TX box in JT65 or JT4, where the XXXX represents the audio frequency to be transmitted. There is a benefit in choosing @1270 as 1270 Hz is the sync tone for JT65 so if one moves to JT65 the sync tone should show up at the same place on the waterfall. On JT4, the four tones are spaced equally around 1270 Hz.

The JT4 mode on the current version of WSJT does even better with a facility to integrate the single tones over the full minute transmission period and then display this as a graph. To implement this graph, go to the JT4 mode and then to 'set-up' and then 'plot average JT4 spectrum.' Figure 1 is an example of the JT4 spectrum plot with a single tone detected as the peak in the centre by the yellow graph. If you move the cursor vertically around the peak a small yellow indicator is invoked which shows the error in frequency of the peak compared to a tone at 1270 Hz. Using this facility one can detect the presence of a single tone down around -38 dB. If there is some uncertainty this can usually be resolved by one station TX single tone only and then the receiving station can see a consistent yellow peak during each transmission period which is not present in the alternate period. In cases where the signal is even weaker, one can watch the peak over a number of periods to see if there is some consistency and then one can detect the presence of a signal down to around -40 dB.

The technique of using single tones has proved to be useful on 10 GHz troposcatter where VK3GHZ is normally able to see a single tone from VK7MO over a 560 km path over the mountains in central Tasmania.

Please send any Digital DX Modes reports to Rex VK7MO at *rmoncur@bigpond.net.au*

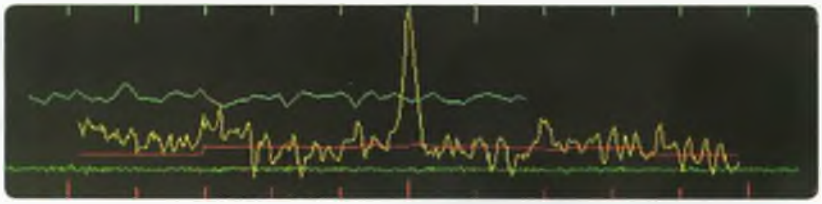


Figure 1: Example of peak on the yellow graph from a single tone.

The Magic Band – 6 m DX

John McRae
VK5PO

September has been another reasonably quiet month. The band has been open into JA from mostly the northern tropics region again, perhaps on more occasions than previous months. The equinox has not really sparked up any spectacular openings.

The scientific consensus is that the 'peak' of #24 sunspot cycle is the 'lowest' in some one hundred years! The observation is reflected on the rather poor, and general lack of, propagation on the six metre band. Hopefully a few 'surprises' spring up from time to time, as they can do. Hence the term 'MAGIC' band for six metres.

On September 21st, VK8AW work A92IO on CW. This was around 13:45 Z.

VK3XDX had a brief CW contact with Hiyo san, JR2HCB at 1030 Z on the 22nd. A surprise for them both!

25th September saw Frank VK7DX snare JR2HCB at around 0631 Z.

VK4s BG, WM and WTN had propagation into China and Japan from the Hervey Bay region. VK4WTN worked BA4SI on CW at 0951 Z. The band was open to Hervey bay on the 25th. Some of the signals were well over S9.

A short column this month, indicative of poor SFI figures! They have been hovering around the 110 mark, but went as low as 96 earlier in September.

Please submit reports, logs or other info you may consider useful to John VK5PO at *vk5po@wia.org.au*

DX- News & Views

Chris Chapman VK3QB and Luke Steele VK3HJ
e *vk3qb@wia.org.au*

September on the bands

The Spring equinox is something to look forward to, as Winter draws to a close, the days lengthen and the bands pick up. Just about all bands have improved since winter, with 160 m opening to North America in the evening, 40 m is going well, 30 and 20 m are good, 17 and 15 m are picking up, and 12 and 10 m are showing some activity again at last. 80 m is worth a look any time of year. In the evening, 15 m has been opening to Europe on the short path.

Activations of interest have been the six island Panamanian IOTA expedition, Rodrigues Island, Nauru, and Sable Island. Myanmar was on air again with Zorro JH1AJT and two other operators giving us another chance to work this country, which has seen no activity for years.

Bob VP8LP in the Falkland Islands has been looking for VK contacts again. He should be workable over the next four months, on 40 m up to 10 m. Look for Bob our evenings, usually on 20 m short path, which is over the South Pole.

An interesting activation was the autonomous territory of Transnistria, which is part of Moldova between the Dniester River and Ukraine border. Transnistria has its own government, currency and postal service. Vladimir UA4WHX operated as T10VB for a couple of weeks around the beginning of September. Whilst not recognised as a DXCC entity, such activations give us an opportunity to learn about the history and politics of otherwise unheard of parts of the world. For more information see: *http://en.wikipedia.org/wiki/Transnistria*

Some Upcoming DX Operations

The following table summarises some of the DX activations that may be of interest to VK operators.

Date	Call	QSL via	Information
30 Oct – 6 Nov	TX5RV	Lotw	Austral I, Raivavae (OC-114). K3EL and VE7DS, 80 – 10 m, mainly CW, some SSB and RTTY.
1 – 7 Nov	XR0YY	EB7DX	Easter I, Hanga Roa. 11 ops Uruguay DX Group, 160 – 6 m, CW, SSB, Digital.
1 - 10 Nov	HK0	OQRS	San Andres I (NA-033). 12 ops, 160 – 10 m, CW, SSB, RTTY.
1 – 11 Nov	YJ0Zs	JA2ZS	Vanuatu, Port Vila (OC-035). 4 ops, 160 – 6 m, CW, SSB, RTTY.
4 – 11 Nov	FH/DK9PY	DK9PY	Mayotte (AF-027). DK9PY, 40 – 10 m, CW. Maybe also 160, 80 m.
5 – 18 Nov	T33A	OQRS	Banaba I (OC-018). 19 ops, 160 – 10 m, CW, SSB, RTTY.
7 – 17 Nov	PJ6	LotW	Saba I (NA-145). N7QT and W4VAB, 80 – 10 m, CW, SSB, Digital.
8 – 20 Nov	XR0ZR	LotW	Juan Fernandez, Robinson Crusoe I (SA-005). 8 ops. 160 – 6 m, CW, SSB, RTTY.
11 – 22 Nov	FR/DK9PY	DK9PY	Reunion (AF-016). DK9PY, 40 – 10 m, CW. Maybe 160, 80 m.
12 – 23 Nov	S79WDX	LotW	Seychelles, La Digue I (AF-024). I0WDX, 160 – 6 m.
12 – 24 Nov	W8A	LotW	American Samoa, Tutuila I (OC-045). 160 – 10 m, mainly CW.
17 – 24 Nov	PJ7	LotW	Sint Maarten (NA-105). N7QT and W4VAB, 80 – 10 m, CW, SSB, Digital.
17 – 29 Nov	J88HL	OQRS	St Vincent (NA-109). 7 ops, 160 – 6 m, CW, SSB, RTTY.
18 – 27	3DA0ET	LotW	Swaziland. 12 ops, 160 – 6 m, CW, SSB, RTTY.
19 – 21	ZD8W	W6NV	Ascension I (AF-003). W6NV + 2 other ops, HF + 6 m, QRV for CQ WW DX CW.
17 – 26	S2	OQRS	Bangladesh. 20 + international team. 160 – 6 m, CW, SSB, RTTY.
19 – 29	9X0NH	LotW	Rwanda, nr Kigali. G3RWF, QRV for CQ WW DX CW.
21 Nov – 1 Dec	V25A	KG2A direct	Antigua, (NA-100). JJ1RJR, 160 – 10 m, CW, SSB.
27 Nov – 2 Dec	5W8A	LotW	Samoa. 160 – 10 m, mainly CW.
28 Nov – 4 Dec	T30		West Kiribati. JF1CCH and JA1FUF, 40 – 10 m, CW, SSB, RTTY.

This is just some of the DX on offer for November. Propagation should be quite good at this time, so make the most of it!

TX5RV, **Austral I.** Dave K3EL and Don VE7DS will be operating from Raivavae. Dave and Don will be on holidays with their XYLs, so won't be constantly on air, but expect to be spending a significant amount of time on air. They will have two medium power stations with verticals on the beach. QSL via OQRS, but also ok via M0URX. More info see: *k3el.wordpress.com/dx/raivavae-austral-islands/*

XR0YY, **Easter I.** A team of eleven will be operating from Hanga Roa. The expect to have three stations running constantly. QSL via OQRS and LotW. For more info see: *http://easterisland2013.com/*

HK0, **San Andres & Providencia.** A team of twelve operators will be on air from San Andres I in the Caribbean Sea. They plan to have at least four stations running. QSL via OQRS, or EA5RM. For more info see: *http://www.dxfriends.com/SanAndres2013/*

YJ0ZS, **Vanuatu.** Four operators, including JA2ZS will be on air from Iririki Island. QSL via JA2ZS bureau or direct.

FH/DK9PY, **Mayotte.** Armin DK9PY will be operating on 40 – 10 m CW, 12 kHz from the bottom of each band. If conditions permit, he will also try 160 and 80 m. QSL via DK9PY.

T33A, **Banaba I.** A large team will be activating Banaba I in the western Pacific. This entity hasn't seen a lot of activity, and is now number 24 Most Wanted according to Club Log. This one should be relatively easy to work. QSL via OQRS, or W2IJ. For more info see: *http://www.t33a.com/*

PJ6, **Saba I.** Robert N7QT and Hugh W4VAB will be in Saba I, operating as PJ6/N7QT and PJ6/W4VAB. QSL via LotW, bureau or direct, or eQSL.

XR0ZR, **Juan Fernandez I.** A team of eight operators will be on air from Robinson Crusoe I, with 4 stations. QSL via OQRS. For more info see: *http://www.juanfernandez2013.com/*

FR/DK9PY, **Reunion.** After his visit to Mayotte, Armin DK9PY will be on air from Reunion. Look for him on CW around 12 kHz up from the bottom of 40 – 10 m bands. If conditions permit, he will also try 160 and 80 m. QSL via DK9PY.

S79WDX, **Seychelles.** Cesare I0WDX will be on air from La Digue. QSL via I0WDX direct or LotW.

W8A, **American Samoa.** A group of several operators will be on air from Tutuila I, all bands, with a significant effort on 160 m. They will be operating mainly on CW. During the CQWW DX CW contest, they will use the callsign N8A. For more info see: *http://www.n8a.eu/*

PJ7, **Sint Maarten.** After their visit to Saba, Robert N7QT and Hugh W4VAB will be in Sint Maarten as PJ7/N7QT and PJ7/W4VAB. QSL via LotW, bureau or direct, or eQSL.

J88HL, **Saint Vincent.** A team of eight Polish operators will be on air with at least three stations continuously. They will be making a serious low bands effort. For more info see: *http://j88hl.dxing.pl/*

3DA0ET, **Swaziland.** A team of fourteen operators will be running four stations, including a dedicated RTTY position. They will also be QRV for the CQWW DX CW contest. For more info see: *http://swazidx.org/*

ZD8W, **Ascension I.** Oliver W6NV and two other operators will be QRV for the CQWW DX CW contest. Whilst not particularly rare, the CQWW contests are probably the best opportunity for us to work this one. QSL via W6NV.

S21ZBC, S21ZBB, **Bangladesh.** A large team of at least twenty operators will be active from this semi-rare entity. Whilst there are a few resident operators on HF, this DXpedition will be a great opportunity to bag this one on a number of bands. The callsign S21ZBC will be used from the start of the operation, and S21ZBB will be used from 23 November for the CQWW DX CW contest, until the end of the activation. For more info see: *http://www.mdxc.org/bangladesh2013/*

9X0NH, **Rwanda.** Nick G3RWF will be active from near Kigali for the CQWW DX CW contest. QSL via LotW, and ClubLog OQRS.

V25A, **Antigua.** Kei JJ1RJR/KG2A will be on air from Antigua. For more info see: *http://www.qrz.com/db/V25A*

5W8A, **Samoa.** After their activation of American Samoa as W8A/N8A, the team will be on air from Samoa. For more info see: *http://www.n8a.eu/*

T30, **West Kiribati.** Tatsu JF1CCH and Kazuo JA1FUF will be on air from West Kiribati as TBD. This will be a simple expedition using 100 watts and a dipole.

The CQ Worldwide CW Contest will be 23 – 24 November. The CQ WW Contests are great hunting grounds for some choice DX. As usual, look out for contest stations before and after the contest also.

Special thanks to the authors of The Daily DX, 425 DX News, DX World, NG3K's Announced DX Operations, and QRZ.DX for information appearing in this month's column. Interested readers can obtain a free two week trial of The Daily DX from *www.dailydx.com/trial.htm*

Where are the VK DXers – and what does this mean?

Let us begin by clearly stating that there is more to our great hobby than HF DXing. We won't even try to list all the facets and options that make amateur radio such a fascinating and often addictive hobby. This short article is intended to provide a brief insight into how many of us are "active" on the HF Bands chasing DX. It's up to all of us to decide if we want to do anything about the (somewhat loose) findings.

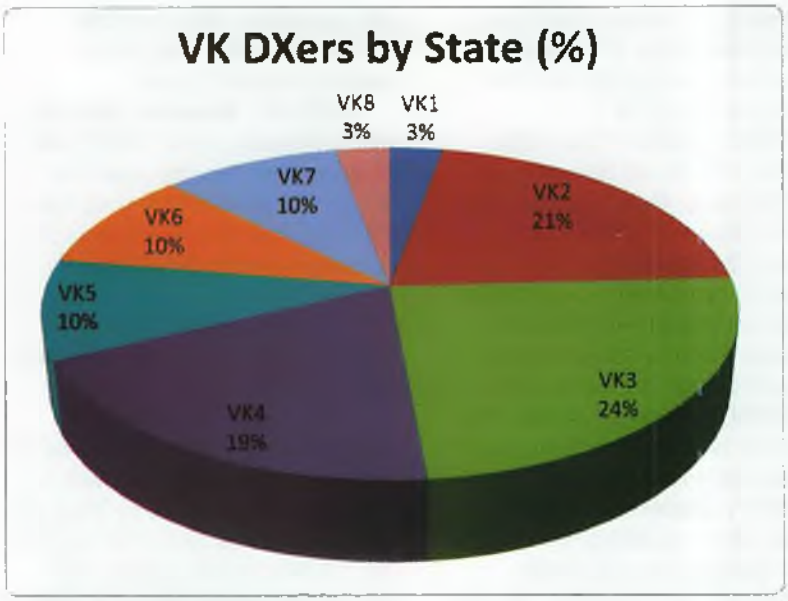
There are over 14,000 amateur licences issued – the actual number is probably closer 19,000 according to various internet

sources, but many of these will be repeaters, beacons and special event callsigns. In any event, one would think that with this many licenced operators and many having access to good HF stations that VK would be well represented on the HF bands. Some people have asked "how many active HF DXers are there in VK?" This is a difficult question to answer? Is it:

- The number of people who apply for HF DX Awards?
- The number of people who have had an HF QSO?
- The number of people who participate in HF Contests?
- The number of people actively chasing DX on the HF Bands?

Why is it then, that when calling DX on just about any HF band, many VK operators suddenly find themselves being the sought-after DX? A friend recently trawled some of the better known online databases (LoTW, Clublog, DX-Summit) to extract some numbers.

During the six months from May to September 2013, 911 unique VK callsigns (excluding repeaters, beacons and dupes resulting from QRP or portable operations) were reported as having at least one QSO on the HF bands. We should probably remove the prefixes VK0 (4 callsigns) and VK9 (25 callsigns) as for the most part these are generally regarded as being "DXpedition operations" rather than every-day VK operators. *(There are many assumptions in the following discourse: it all depends upon the definition of "serious DXer" or even "DXer". Even I occasionally try to chase some DX, when the urge expresses itself. But I have not yet bothered with the above "sources" – which means that the following discussion can at best be considered to be indicative of the number of VK operators chasing DX. Ed.)*



Unique VK callsigns by call area.

That leaves us with 882 reported HF VK operators during this 6 month period – this data observation is probably representative of the general VK population. This is somewhere between 6-8% of the licensed population.

There is not a great deal more we can derive from this statistical analysis. How many of these 882 are actively involved in chasing DX, as opposed to enjoying local rag-chews with other VK operators?

Anecdotal evidence gleaned from general discussion with a few fellow HF enthusiasts suggests the real number of VK HF DXers is probably somewhere between 100-200 operators. The general accepted definition is regarded as being an operator whose primary purpose in operating the HF bands is to seek out wanted or rare DX entities with the purpose of 'adding a new one' to their log, or specifically chasing DX stations outside of our immediate region; such people are probably listening a lot and active (that is, transmitting) at least once a month. Most people who frequent the HF bands will attest to the fact that it's often easy to find yourself at the pointy end of a pile-up.

What can we extract from this rather broad-brush analysis? The obvious conclusion is that there is a **GREAT** opportunity for anyone who has not tried HF DXing to give it a go. With a little bit of planning, some readily available equipment and a decent antenna, you can very easily find yourself working the world and having multiple stations responding to your CQ calls. There simply are *not that many active VK HF DXers on the bands* – this means that for many operators around the world, hearing and working a VK operator is exactly what they want. If you have not yet tried your hand at HF DXing, give it a go! It is definitely a facet of the hobby that can drag you into a whole new world.

SOTA News

Bernard Petherbridge VK3AMB Allen Harvie VK3HRA

It has been a wet and windy couple of weeks in VK3 and whilst there have been quite a few drenched activations recently, there has been no sign of activity slow down. Activity is increasing due to the commencement of SOTA in initial areas of VK2 and VK4. Some of those who had been waiting for the launch day even ventured out in advance to scope out summit access and test their gear (as well as chase a few Summits themselves). Once official, the VK2 Activators were joined in numbers by their interstate cousins with 46 summits activated in the first month alone.

The first anniversary of SOTA in VK5 brought out Activators in all regions with lots of contacts to be made; though many were hard work due to the propagation conditions. Especially prevalent were the Summit-to-Summit contacts. The SOTA rules allow for additional Activator points to be attained by way of a Seasonal Bonus period each year (in VK3 for example, this is from mid-June to mid-October) reflecting the increased degree of difficulty in activating summits due to weather and accessibility. Many Activators are trying to maximise their points during the Bonus period and the Chasers are entirely pleased with this situation.

VK3 held its second SOTA dinner recently with around 20 attendees. Plans were planned, equipment was prodded and its weight considered, and faces were put to call signs. I think that it is fair to say that everyone had a good night. It just goes to prove that "show and tell" does not end when you grow up.

The impact of SOTA and operating QRP in particular has spread to a much wider audience. Many will have heard the line "Life's too short for QRP" but SOTA has brought a new focus to QRP operations. It is common to hear non-SOTA operators testing QRP power levels to see how they are being heard. There has also been discussion on the Yahoo group about QRP rigs including the latest Chinese models.

SOTA has provided many with an opportunity to pick up points towards the National Parks awards in VK3 (KRMNPA) and VK5 (SANPCPA), as well as the international Worldwide Flora & Fauna in amateur radio award (WWFF). Many SOTA summits are in defined parks though it has to be verified by the operator whether the SOTA activation zone falls within the gazetted park boundaries.

Awards and achievements

Of course we participate in SOTA for fun, achieving the 1000 points for *"Mountain Goat"* or "Shack Sloth" status requires considerable dedication and effort. Whilst we are still waiting for our first Mountain Goat congratulations go out to the newest Shack Sloths including Rick VK3KAN who accumulated over 1000 chaser points either mobile, pedestrian mobile or ski-mobile thus proving that to be a sloth, one must not necessarily be slothful. New recent traditional sloths include:

VK1MA Matt
VK2UH Andrew
VK2JI Ed
VK3CAT Tony
VK3TCX Ian
VK3GHZ Rhett
VK3FPSR Peter
VK5LA Andy
VK3MRG Marshall

Wayne VK3WAM is only two well-chosen activations short of Mountain Goat status at the time of writing this report and may have qualified before this issue reaches the readers. Other milestones include 500 Activator points for Peter VK3PF and Allen VK3HRA, and 250 Activator points for Peter VK3ZPF, Brian VK3MCD, Kevin VK3KAB, Mitch VK3FMDV, Rik VK3KAN and Glenn VK3YY.

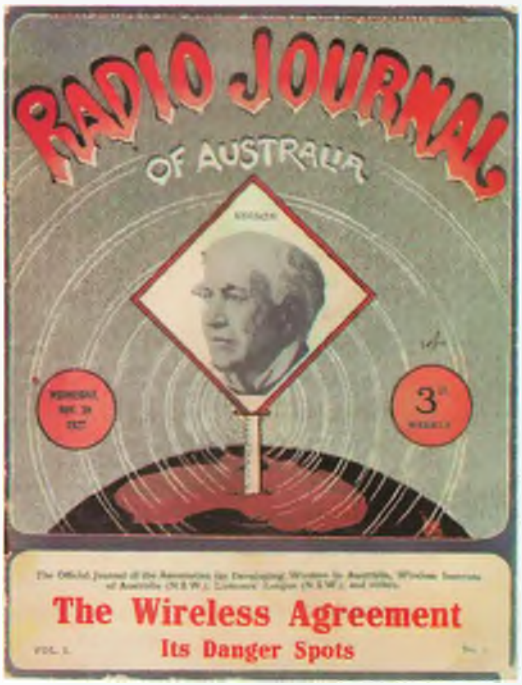
Finally, a big thank you goes out to those individuals who have invested considerable time and effort into bringing the new regions on line. Your efforts are very much appreciated.

So as the available regions and experience increases, combined with improving weather, expect more activity.

73 for now,

Bernard VK3AMB & Allen VK3HRA

Hamads



It is of interest to note that the magazine's Editor was George A. Taylor, the person responsible for calling the first meeting of Sydney wireless experimenters in March 1910 from which the WIA grew. Taylor was never known to be a member of the WIA, rather he returned to his interests in aviation and defence. Later he went on to form the Association for Developing Wireless in Australia, an organisation predominately representing those involved in commercial broadcasting.

There is little doubt that Australia had a colourful and heady start to those early days of radio communication and broadcasting - in all of its forms and magazines such as this provide a glimpse of that exciting pioneering time past!

Please contact WIA Historian, Peter VK3RV via email *vk3rv@wia.org.au* or c/o the National Office in Bayswater if you can help us locate copies of this magazine.

WANTED – NATIONAL

Copies of Radio Journal of Australia magazine

The WIA Archive is seeking copies of the Radio Journal of Australia for copying and/or adding to the WIA Archive's shelves.

Little is known about this magazine. The WIA holds one copy only. Volume 1, Number 2 published on 30th November 1927 which contains 64 pages. The magazine claims to be the Official Organ of the Association for Developing Wireless in Australia. the Listeners' League (N.S.W.) and of importance to us, the Wireless Institute of Australia (N.S.W.).

The magazine contains articles of general radio interest, a comprehensive weekly radio guide for stations in N.S.W., S.A. Qld. and Vic. and some notes from the WIA, NSW Division. It was published in Sydney, presumably commencing on 23rd November 1927.

FOR SALE – VIC

Diamond X200 two metre/70 cm ground plane antenna, as new, been in storage for last three years, $150.

HyGain 80 metre resonator, cheap way to get on 80, $40.

Rak two metre 5/8 mobile whip, $20.

Inversion health table for back strengthening, brand new, never used, 150kg rating, $70.

Contact Stan Korczynski VK3BNJ 03 9743 6708 anytime.

Magnum 1012 five watt 12/10 m AM/SSB/FM HH transceiver, with repeater offset capability. Includes 10 x 1700 mAh NiMH batteries, hardly used. $150.00.

Wouxun KGUVDIP top of the range 2 m/70 cm five watt transceiver, $95.00.

GME TX670 40 channel UHF 477 MHz transceiver, last year's Xmas present but never used. Two watt output. $80.00.

Contact Stan VK3BNJ, on 03 9743 6708.

Three mast sections, each being three metres in length. These are commercially made, hot dipped galvanised. They are of triangular (300 mm) construction that includes steps and brackets for attaching guy wires, as well as three sets of HTS guy wires.

A bottom hinged base that can be used for lowering the mast using a gin pole. Note that this base is not galvanised. $300 the lot, and buyer collects.

Contact Eric Christer VK3EAC on echrister@bigpond.com or text 04 2474 4563.

WANTED – VIC

Relay for Alinco two metre linear amplifier, model ELH-230E.

Batery valve type 3A5 twin triode.

True carbon resistors, 470 Ω and 1000 Ω.

Any information, including a circuit diagram, for a Ramsey electronic frequency counter, model CT-50.

Word processor, Citizen model CMB-10WP, working or not, but with the LCD screen complete and undamaged.

Phone Brewster QTHR on 03 9527 2661 after 6 pm – if no answer please leave a message and return phone number.

FOR SALE – SA

The VK5JST Aerial Analyser (AR May 2006). Over 10,000 built, and still available from the Adelaide Hills Amateur Radio Society. For full details see *www.ahars.com.au*

WANTED – SA

An R-25/ARC-5 or CBY-46104 'Command' series receiver covering 1.5 MHz (Mc/s) to 3 MHz (Mc/s) or parts such as the RF coil pack,705 kHz IF transformers, BFO coil, calibrated dial etc to suit this model, please.
Contact Andy VK5AAQ QTHR or email *vk5aaq@wia.org.au*

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Your contribution and feedback is welcomed.

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Email the Editor:
editor@wia.org.au

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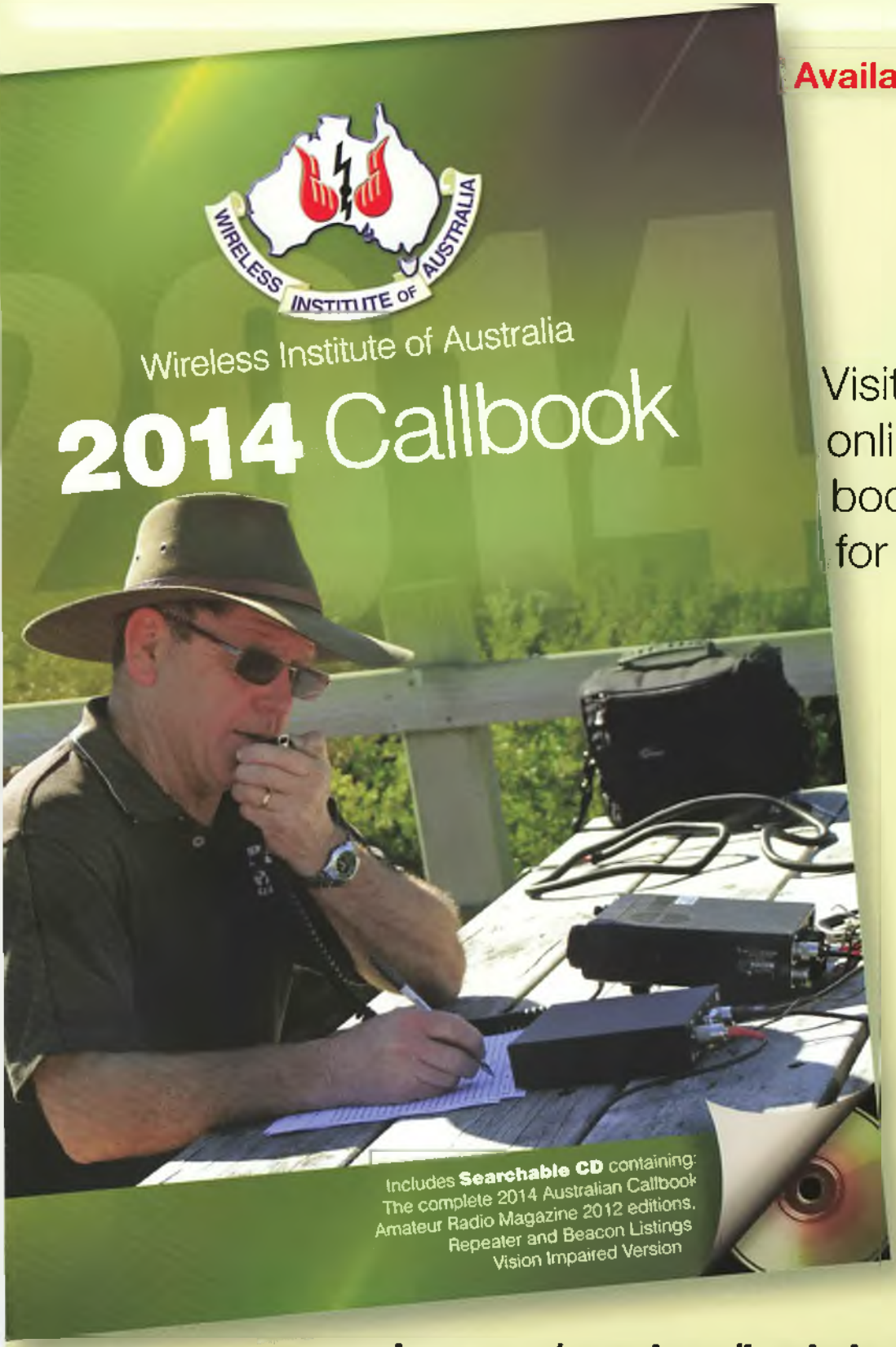

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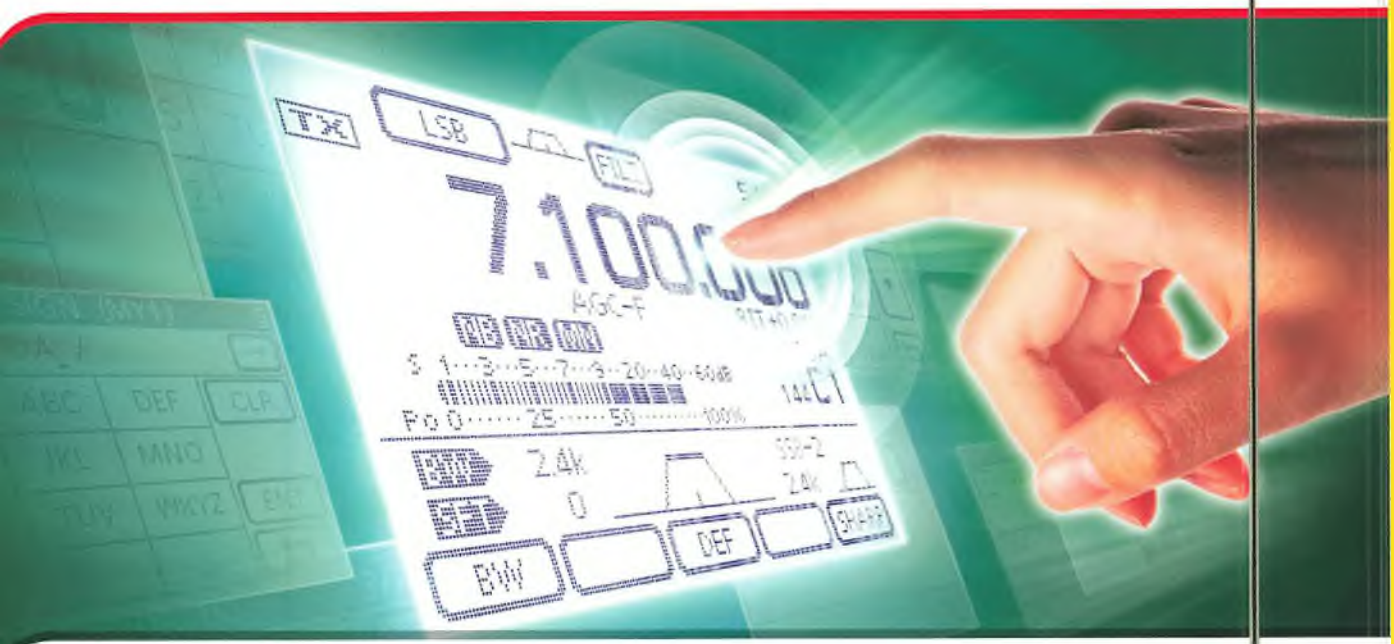

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