
VHF/UHF – An Expanding World

David Smith VK3HZ
Leigh Rainbird VK2KRR

Weak Signal

David Smith - VK3HZ

After the bumper start to the year, the weather in the south of the country turned cold and band conditions went with it.

Several openings have occurred across the Bight from VK6 to VK5, but none have progressed as far as VK3. On the evening of 11/1, Bill VK5ACY and Colin VK5DK worked Wally VK6WG on 2 m at S9+. At the time, Colin was hearing the 70 cm beacon near Albany at S9.

There have also been a few of VK2 to ZL openings. Gordon VK2ZAB reports that on the afternoon of 25/1, he worked into ZL via what may have been a sporadic E opening. He and Guy VK2KU worked Nick ZL1IU on 2 m at S9+, but nothing was heard on 70 cm. Adrian VK2FZ and Dave VK2AWD also managed to work Nick but signal strengths were up and down quite wildly. The opening lasted for only about 30 minutes.

Then on 6/2, this time in a tropo opening, Gordon again worked Nick but this time on 2 m (S9), 70 cm (S5) and whistles heard on 23 cm. On 2 m, he also worked ZL3TY, ZL3TJZ and ZL2TAL. Then later that day and next morning, Ross VK2DVZ reports working ZL1IU, ZL3TJZ, ZL3TY, ZL2TAL, ZL2IP, ZL1TPH, ZL1BT and ZL1AOX on 2m; ZL3TY, ZL2TAL, ZL1TPH, ZL1BT, ZL1IU, ZL1AOX, ZL1TBG and ZL2IP on 70 cm; and ZL1IU, ZL1TPH and ZL1AOX on 23 cm.

VHF/UHF Summer Field Day

The VHF/UHF Summer Field Day on 17/1 & 18/1 saw a larger number of participants, in VK3 at least. The weather was a little better than during the Spring Field Day (no snow at least ...) but still fairly cold and rainy. Operating techniques seemed to be much improved also. Most stations used xxx.150 or xxx.200 as call frequencies and QSY'ed away to have a contact. At times, I was having difficulty finding a slot to have a contact. I operated from home and worked VK1, 2, 3, 5 & 7 on 2 m and VK1, 2, 3 & 5 on 70 cm. I counted 7 stations active on 23 cm too.

However, from reports received, it appears that activity in other states was fairly low. A number of stations report going portable and hearing not much activity at all, even from home stations. Barry VK3BJM battled bad weather and equipment problems but, nonetheless, reports having a great time. He provides these words of wisdom: "If you are in VK2 or 4, and are thinking it's not worth the effort - don't be discouraged. You're in the vanguard of operators who, with persistence, could reignite portable activity in your region - and portable activity isn't just for Field Day contests. If things didn't go well for you in the Field Day, look at what exactly didn't work well. Then identify why those things didn't go well, and from there address how to change that in the future. Was your operating site not optimal? Was propagation lousy? Could your operating window be better? Could more home stations have been encouraged to be on air? Could more stations have been encouraged to get out on a hill somewhere in your region - regardless of how good or bad their field station may be. Some things can be worked upon and improved - some cannot. Propagation (or perceived lack of it) will always be a challenging part of amateur radio, and a lack of troppo is simply a cue to start looking seriously at the other propagation modes available, and figuring out ways to exploit them." So keep up the

portable activity or, if operating from home, please give the portable stations plenty of contacts for their efforts.

Beacons

There's been lots of activity with beacons this month.

Chas VK3BRZ reports that he and David VK3XLD have installed the new VK3RGL 70 cm beacon on Mt Anakie near Geelong. It is running on 432.530 MHz using FSK ident at +700 Hz. Power is 20W to each of two 5-element yagis, one pointing west and one to the north-east. The beacon switches transmission between the two antennas at 15 second intervals, adding either "W" or "NE" to the end of the ident depending on the active antenna. Thanks also to Lee VK3PK who wrote the ident controller program. Chas is looking for signal reports, which can be sent to him by email at CGNACCAR@gordontafe.edu.au.

Wally VK6KZ reports that the VK6RST Mt Barker beacon on 144.564 MHz has been installed, thanks to the assistance of Brian VK6YAU and Wally VK6WG. It uses FSK identification and 15 Watts of power into an omni-directional antenna. Thanks to Cec VK6AO for the antenna and Don VK6HK for the transmitter, on behalf of the WA VHF Group (Inc). Mt Barker is about 50 Km north of Albany. Wally welcomes reports to him by email at wjhowse@bigpond.com.

Wally also advises easterners to listen for VK6RSW Augusta on 144.562, 432.562 and 1296.562 MHz and for VK6RST from Mt Barker on 432.564 MHz and 10368.564 MHz, both with antennas favouring VK3/5. Don't overlook Perth 144.460, 432.460 and 1296.460 MHz and Bunbury 144.560 MHz. 5 and 10 GHz beacons are also on air from Perth but are unlikely to be heard in eastern Australia.

Rod VK2TWR reports that the VK2RSF Beacon on 144.414 MHz (FSK) is back on air. It is located on a very exposed site at Hudsons Peak, south east of Cooma, and the pair of big wheels on the mast have had a beating of late. Reports are welcome to Rod by email at marestails@bigpond.com

Jeff VK8GF has advised that the VK8RAS beacons at Alice Springs are working fine. The 2 m beacon on 144.485 MHz is about 300hz low and the 6m beacon on 50.046 MHz is also low. Both run Philips FM828s at 20w into vertical whips.

Incidentally, Jeff also mentions that his 2 m station is still working, although he hasn't had any contacts now for several years - the last one was into Sydney. He has worked all states on E's except VK1, plus worked into Japan on evening TEP. He runs an Icom IC275 to a pair of 4CX250B's and 16 el ATN long yagi. He monitors 144.1 when in the shack.

In recent VK2 news, it was mentioned that the 6 m and 2 m VK2RSY beacons at Dural have both been put out of action by a lightning strike. Apparently the 2 m beacon equipment is so old that it would be more feasible to build a new beacon than to repair the old one. The antennas are also rather sad. Therefore, the Dural Technical Committee is looking for volunteers to build a new beacon (and how about a 70 cm beacon while we're there).

Finally, there should shortly be a new beacon on 2.4 GHz in the Melbourne area. Alan VK3XPD has been rummaging in his extensive junk box and has put together a setup that should deliver 5 to 10 watts to an Alford slot at his QTH (also the site of the VK3RXX 23 cm beacon).

GippsTech 2004

From Peter VK3KAI, a note about an event not to be missed by the serious VHF/UHF weak signal operator:

The seventh annual Gippsland Technical Conference - GippsTech2004 - will be held on July 3 & 4, 2004, at the Gippsland Campus of Monash University, located at Churchill, Victoria.

Further details available from <http://www.qsl.net/vk3bez/>

Digital Modes

Rex Moncur – VK7MO

Congratulations to Charlie VK3FMD on completing the first VK EME digital contact on 432 MHz with AI, K2UYH. After much testing and many tries, Charlie found that JT44 worked much better than JT65b on 432 MHz EME. Following Chas, VK3BRZ, working HB9Q on CW, tests were run with HB9Q in February on JT65b and JT44. Rex VK7MO, (single 17 element yagi and 120 watts) and David VK3HZ (random) completed on JT44 with signal levels as good as -8 dB in an SSB passband. Again JT65b gave very poor performance with only one decode in 10 minutes where-as JT44 gave almost perfect decodes for over half an hour. HB9Q runs a 15 metre dish and high power and these results show he can be worked by single-yagi, 50 to 100 watt stations thus opening 432 MHz EME opportunities to many in VK.

Welcome, Ron, VK4KDD and Andy, VK2EAH to the 2 metre FSK441 activity sessions. Weekend activity sessions are held on 144.230 from 0700 to 0800 Vic/NSW time each Saturday and Sunday morning. New stations are encouraged to join in with VK7/3/5 transmitting first 30 seconds of each minute to the North and VK1/2/4 transmitting second and to the South. Typically one or two 2 metre contacts can be made over the range 800 to 1800 kms during each session. After the session, come on 40 metres, 7085 kHz or nearby, and share your results.

During January, Bob ZL3TY and Rex VK7MO have been testing FSK441 meteor scatter on 2 metres to look at the best hot spots. The hot spots are 10 to 15 degrees either side of the direct path. It was found that by focussing on the same hot spot with Bob's high gain 4 yagi array, VK-ZL 2 meter contacts can be regularly completed in 5 to 10 minutes. Over 100 single tone pings were recorded in 30 minutes on this 1941 km path. Interestingly the Southerly hot spot gave better results by a factor of around 2 to 1, which is the opposite of the advice provided by WSJT. Further tests will be carried out later in the year to see if the Southerly hot spot is consistently the best on this path.

2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

After the fantastic openings of December in the south, January has been a big disappointment and far from what was anticipated for the FM DX scene. While the first half on January had some interesting occurrences, the second half of January was pretty well terrible in most areas of Australia.

The first half on January saw typical summer weather in the south, being very hot and at times over 40 deg C. But we are not really getting good high-pressure systems into the Great Australian Bight, they are all being mostly distorted and broken by cold weather fronts. The pressure maps were shocking in the second half of January with small highs and lows all over the place. Good for rainfall, not good for DX. There has also been a low-pressure trough down the eastern side of NSW and the west of W.A. This has been causing unsettled weather, storms, rain and wind, not good for ducting. If you had looked at a lightning tracker map during the second half

of January you would have noticed lightning strikes covering a great deal of area especially in the eastern half of Australia.

To get the ball rolling, on New Years Day there was an opening in the south east of the country. I don't have too many notes written for this one, but conditions were open from here to the Adelaide area. Adrian VK5ZSN was worked on Summertown 438.125. Had an interesting chat via the Barossa Valley 438.425 with some new comers to AR, mainly Josh VK5HKS second operator and Sam, the owner of the callsign. Lets hope that Josh passes his next exam attempt and we will have another new callsign to try and work.

On the 2nd there were two separate openings, one in the south east and the other from New Zealand across to the Sydney area. From here conditions were not all that good, but a number of repeaters were worked from VK5. Ray VK2ZOR at Tocumwal was able to work 5RAD Crafers 2m repeater @ 628 km.

Brian VK5UBC submitted the following great report:

This morning 2/1/04 conditions on 2m were excellent from my portable QTH at Corny Point, southern Yorke Peninsula SA (PF85MC). I turned on at 7.30 am SA time and all the SE repeaters were S9 so I tried the Tasmanian repeaters. I could immediately hear Mt Barrow 7RAA and Mt Duncan 7RMD. 7RAA was noise free so I put out a call and VK7KY, 5km east of Burnie answered. I then worked VK7LCW who was also readable 5 on reverse but Peter did not have time to make the simplex contact. Following these contacts VK7JG mobile in Launceston called and was worked.

At about 8.30am the repeaters faded but Tower Hill repeater VK7RNE was audible with VK7's talking on it. I could not break in but could hear them talking on the repeater for about 1/2 hour.

All the above Tasmanian repeaters are over 1000 Km from my location.

Also worked VK5WCC at Millicent, VK3LY at Nhill & VK5ZAI via the Mt Gambier repeater (approx 500 Km).

Various Victorian repeaters have been workable from here in the last couple of days and did work Leigh VK2KRR yesterday via several different repeaters.

I have 2 x 5 element yagis at 25 feet and running 20 watts.

Also on the 2nd we had a number of reports of FM contacts from the VK2 coast to New Zealand.

Brian VK2UBF in the Bulli area around Wollongong made it to the Greymouth 146.950 repeater in NZ. Brian's distance worked is around 1978 Km. Brian was also heard unknowingly making it to the Canberra repeater on the same frequency at times. Bob ZL3ADH in Greymouth NZ, was heard working repeaters in the Wollongong area on 2 m. He had also made it to the Batemans Bay repeater on 146.675, around 1950 Km. Later in the evening Bob was heard trying to call into one of the Sydney repeaters, which was connected to the IRLP Virtual Pub. A few overs were heard from Bob, but he was not able to hold in there, but it did impress the listeners of the Virtual Pub group all the same. Not sure if Brian and Bob linked up for a simplex contact, but seems it would have been possible.

Vic VK2UVP, north of Newcastle also reported good conditions today along the coast. While Vic was unable to work across to NZ on his handheld, he did hear ZL3ADH on the Maddens Plains repeater near Wollongong. Vic was easily able to get to the Wollongong repeater from his 2 watt handheld and reported a 5/9 signal back from the repeater over the 250 Km path.

Again on the 2nd, Steve VK2KFJ noted ZL1DK working VK2RHR 146.825 near Mittagong from 3 pm to 4.45 pm, ZL1DK was also on other Sydney 2m repeaters after this.

On the 3rd, Steve also reports - approx 10 pm, coastal ducting between Sydney to far south coast VK2 and also inland to Goulburn, worked 438.325 at Goulburn using my h/held inside the house at S7. Also found 146.750 Ulladulla S1. Noted 146.650, VK2RDX, Mt Bindo, normally about S1 was way up to S9+20.

In addition to Steve's report, from here at The Rock I also noted a number of Sydney stations reaching the Canberra 146.950 device quite easily at around the same time.

On the 14th of January there was an opening in the south east of Australia. Wayne VK2PDW who was mobile in Wagga Wagga, decided to go to the top of Willans Hill, in the center of town. From there Wayne was able to work as far as the Port Augusta repeater VK5RAE, at 929 Km distant.

From The Rock I was able to get as far as Port Lincoln on 2 & 70 @ 1026 Km. Port Augusta was very easy to work with only 2.5 watts @ 913 Km.

Found on 146.500 and worked on simplex from here, were VK2FW, Ray from Orange, he was S9+30dB. And Brian VK5UBC at Gawler SA was a weak 4/4 signal @ 764 km.

Chris VK3VSW from Geelong went portable in the Grampians area during the mornings of the 17th and 18th of January, the Summer VHF Field Day weekend. Unfortunately for Chris conditions were terrible. Chris was running a handheld with 5 watts and small yagi's on both 2 & 70. Chris made a number of shorter distance contacts and the furthest being to VK2KRR @ 456 km on both bands.

In the morning of the 25th January, Colin VK3LO in Melbourne was worked by VK2KRR on 146.500 simplex. Also a good jump by Graham VK3JGL in Bendigo into Canberra's 146.950 repeater where Graham worked VK2JSK in Orange. Distance for Graham was 425 Km, while for VK2JSK it was quite a bit shorter.