
VHF/UHF – An Expanding World

David Smith VK3HZ
Leigh Rainbird VK2KRR

Weak Signal

David Smith - VK3HZ

There have been a few good openings during the month, but things are starting to drop off now. It might soon be time to pull down the antennas for a bit of a brush-up, to be ready for next season.

In the south of the country, there have been some great openings on 144 MHz and above between Adelaide and Albany. During the week of 19-26 March, several stations including VK5's USB, RO, ZBK, UBC and worked Wally VK6WG on 2 m and 70 cm. VK5's AKK and ZLX worked him on 2 m only. Steve VK5ZBK also worked Wally on 23 cm. Wally was hearing the Adelaide 23 cm beacon at the time. Brian VK5UBC also worked Frank VK6DM and Bob VK6BE, both on 2 m. On the evening of 22/3, the opening extended to Mt Gambier with Wally working Colin VK5DK on both 2 m and 70 cm.

On the morning of 1/4, the bands opened between Melbourne and Adelaide. The 2 m, 70 cm and 23 cm beacons on Mt Lofty were audible in Melbourne well into the morning. VK3's HZ and AFW were at the Melbourne end and worked VK5's UBC, USB, JL, ZK, ATW and VK3LY on 2m. VK3HZ also worked VK5UBC on 70cm.

On the evening of 2/4, Ross VK2DVZ reports working Nick ZL1IU on 2m. It was a difficult QSO with heavy QSB and very late in the season for such an opening.

VK0MT Macquarie Island Activity

Further to last month's report, and as reported below in the Digital DX Modes section, Dave VK0MT on Macquarie Island also managed to work three VK3 stations on 2 m FSK441 Meteor Scatter. The last time VK0 was worked from VK3 on 2 m was in late 1986 during a Sporadic E opening. Using digital modes, it is now possible, from VK3 at least, to work all VK call areas on 2 m at any time, provided that someone is active at the other end, of course! The VK3 stations that worked VK0MT all completed the requirements for the WAVKCA award. Thanks must go to Rex VK7MO who ably assisted in this by activating VK9 and being instrumental in the activation of VK0.

VK/ZL Propagation Logger

Adam VK4CP reports that the VK/ZL Logger has a new (permanent) home at: www.vklogger.com. Hopefully this URL will be very easy to remember. The logger is being hosted on a new server that should be much more reliable than in the past.

Unfortunately, following a crash on the old server, all of the Operator Info and Grid Squares tally data was lost. If you were registered there before, or if you're an active VHF/UHF operator, please enter your information on the new site for the benefit of others.

A new feature with this reincarnation is the Discussion Forums: www.vklogger.com/forum/ where ongoing discussions can take place in an organised manner. A number of forums and sub-categories have been set up to begin with, but Adam would welcome any suggestions on how these could be renamed or organised to best suit you. Adam can be contacted at ham@vk4cp.com.

EME

Congratulations to Alan VK3XPD who recently achieved his first 10 GHz EME contact during the DUBUS EME contest, working Jim WA7CJO on 10.368.1 MHz CW. An attempt to make contact using SSB was thwarted by the moon descending behind the trees at Jim's end.

Alan is located in suburban Melbourne and is running 75 Watts into a 3 m dish, with frequency locked to GPS. He has made significant improvements to the system recently and now has 12.5 dB of Sun Noise and circa 0.9 dB of Moon noise - close to the optimum, although still slightly down on Sun Noise. Alan reports that the major shortcoming now is his CW ability (or lack thereof).

Going even higher in frequency, on 16/4, the first EME contact on 47 GHz was achieved by the team of AD6FP, W5LUA and VE4MA at one end and RW3BP at the other.

RW3BP is running 100+ watts to a 2.4 m dish, while the others are running 30 watt TWTs to 1.8 and 2.4 m dishes. The RW3BP setup equates to a staggering 77+ megawatts EIRP. Noise figures of all stations are in the 3.5 to 4.7 dB range.

Since the Doppler shift can be as much as 100 kHz at 47 GHz, one must continuously adjust the receive frequency to keep the station centred in the passband. Precision frequency control was obtained by using GPS controlled, Rubidium locked, or TV sync controlled phase locked local oscillators.

Beacons

The VK5RSE 144.550 MHz beacon on Mt Graham, 40 km NW of Mt Gambier, has had some much-needed refurbishment work carried out by the South East Radio Group over the last month, after it was found to be only putting out 1.5 watts into antennas that were looking rather second hand. It is now running 25 watts into 4 new DL6WU-style 5-element yagis, pointing east, west, northeast and northwest. Signal reports are requested to Colin VK5DK at vk5dk@internode.on.net.

Please send any Weak Signal reports to David VK3HZ at ...

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

Summary of the Australian DX season

Another 6 m DX summer season has come and gone. In VK5 the band started to come to life in early November with the first opening occurring on the 8th November 2004 into the Brisbane area of VK4, with Jeff VK8GF at Alice Springs also worked. From this point on the band was open to some part of Australia from VK5 with either stations worked or beacons heard on most days until late February 2005. It is noticeable though that once the Christmas holiday period was over the number of active stations decreased, but openings were still prevalent with the band being open from VK5 to VK4 for long periods on many days in February. Wayne VK4WS became a regular in February with S9+ signals on many days.

As an indicator of activity, below is a summary table of interstate stations worked at my home QTH of Gawler (PF95jj):

Call Signs Contacts

	Worked		
VK1	1	2	
VK2	37	90	
VK3	5	11	
VK4	39	113	
VK6	13	35	
VK7	10	19	
VK8	1	3	(VK8GF)
VK9	1	3	(VK9NS 18/12/04)
TOTAL	107	276	

It should be noted I had several other contacts (approx 100) from at my portable QTH Corny Point (PF85mc) but that log is not computerised and has not been included in the above table.

I think the table above indicates that VK6 activity is poor and on many occasions the Perth beacon was S9 but there were no stations to work. VK3 activity may seem low but it must be realized that it is short skip from this QTH and there are not a lot of openings. I also think that there were very few regularly active stations from VK5.

On many days all states were worked and Christmas and Boxing days were exceptional if you could drag yourself away from the turkey & pudding.

International DX

From an international point of view, I can only report on what I heard or worked. In summary I managed to work 2 x KH6 stations on the 9 Nov 2004. JA's were also worked on the 21st Nov 04, 11th Feb & 7th March 05 with the best opening being the 11th Feb when 11 x JA stations in 5 call areas were worked. Frustratingly the FK8 beacon could be heard on many occasions but only twice were stations available to be contacted. On the 30th Nov FK8GX was worked and on Xmas morning FK8HA was into SA and Queensland causing a large pile up. New Zealand stations were worked on many occasions with very strong signals (up to S9+20). In total 15 different stations were contacted with a total of 32 contacts on 10 different occasions.

Peter VK6KXW reports: "I can ruefully say "What DX?" It's been shocking on 6 m into Perth. Even Graham V6RO has been conspicuous by his absence. So looking at my log book:

31/10/04 - JA5CMO 5/7

8/11/04 - VK6JR (Wayne - Margaret river) heard me 4x2 backscatter on AU he was also hearing VK6RPH/b with a lot of buzz on signal.

Christmas period Nov/Dec - VK's 2,3,4,5,7,8 worked with a lot of effort!

24/12/04 - ZL2AAA Morie 4x3 was the high light of the season.

7/2/05 - VK4AFL 4x1, VK4WS 4x2 was the last DX contact I had.

This March/April TEP has seen the usual 48/49 video coming in along with Skymet genesis software meteor radar at Learmouth solar observatory – 1050 km north of Perth, 6kw pep, 1 or 2 el yagis illuminate the sky centred on 35.250 MHz wideband.

This info is via Dr Tony Mann to whom I give credit and the very excellent professional email newsletter of the ICDX Yahoo group at <http://groups.yahoo.com/group/icdx/>.

Joe VK7JG reports: "Sorry there have been no 6 m happenings in VK7 for the past two months. I monitor 50.11 whenever I am in the workshop. January had some good openings to VK4 but that is too far back. On the 21st Jan I worked you and VK6ZKO.

9th Feb worked VK4WS and YRS, 15th worked VK4WS again Sporadic E.

23rd Feb Tropo opening VK3YDK.

24th Feb. VK4TWR, I was his first VK7 on 6m and VK4JOO . That was the last time 6m was open into VK7.

Wayne VK4WS (Brisbane) reports a very different story. On 7/2, VK6KXW and VK6JR. On 25/2 DS4EOI. On 10/3 6K2DHP (Korea). And between mid February and mid March, a total of 238 JA contacts.

Thanks Wayne – oh to live a little further north. Wayne's report did not include his usual interstate openings (VK2, 3 & 5). I'm also aware that there have been many good international openings to Japan, China, and Korea etc, from FNQ. I hope to be able to get more info for future notes.

Another good opening from JA to VK4 (Brisbane) on the 13 April. Wayne VK4WS reports working 13 JA's in 6 call areas with the JA beacons being audible for hours.

Richard VK5USB worked VK4WS, AFL & YRS on 29th March.

At my QTH the Alice Springs beacon was up to S9 on the morning of the 15 April.

Please remember to send any 6 m DX information to Brian VK5UBC at ... I can only report what I know.

Digital DX Modes

Rex Moncur – VK7MO

Dave, VK0MT, has completed his period at Macquarie Island with 2 metre, JT65b, EME contacts to W5UN, KB8RQ, DF7KF, RN6BN, HB9Q, KJ9I, N5BLZ and VK7MO using his small 2.3 WL yagi and 100 watts. On 2 metres meteor scatter using FSK441a, he completed with VK7MO, VK7JG, VK3KAI, VK3HZ and VK3FMD. Each of the VK3s who worked him went portable to gain the extra elevation to achieve these contacts at around 2000 km - well done to Peter, Dave and Charlie. The longest distance was to Charlie, VK3FMD, at 2122 km. Dave also worked Bob ZL3TY on meteor scatter for what is thought to be the first ZL to VK0 contact on 2 m.

Welcome to Trevor, VK4AFL, and Wayne, VK4WS, in Brisbane and also Bill, VK4KHZ, at Glenden, west of Mackay, who are now operational on 2 metres FSK441. Trevor has worked into Hobart and Wayne has copied VK3s and VK7 and been copied by Peter, VK3KAI.

Tests have been conducted to compare FSK441a and FSK441b. The basis of the tests is that it is possible to construct a message "## " that when transmitted in FSK441b will also decode in FSK441a as "#SX ". Pings can then be recorded and played back in both modes and the numbers of correct characters counted to compare the modes. The results indicate that on 2 metres there is very little between the two modes although FSK441a appears to have an advantage below 1000 kms and FSK441b is marginally in front for distances above 1000 km. Given that there is little difference between the modes it has been decided to continue present arrangement for activity sessions with FSK441a on Saturdays and FSK441b on Sundays.

Please send any Digital DX Modes reports to Rex VK7MO at ...

2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

A mixed bag of conditions for March, good in some areas but remaining poor for most others.

In a continuation of the good conditions experienced during the end of February, the first few days of March were quite good in the south east.

The 2nd of March saw a few FM DX signals about. Brian VK5UBC at Gawler had a good run working VK2KRR 5/5 and Ray VK3RW 5/7. Ray was using a Diamond vertical for the 710 km contact. Brian was able to get to a large number of interstate 2 m repeaters, which included Geelong, Mt Baw Baw, Yarrawonga, Wagga and a big trip to the Canberra Mt Ginini repeater at 920 km.

Following on the next morning 03/03, John VK5PO at Eden Valley was working the Canberra repeater at 884 km.

14/03 John VK3HJW reports working VK5UBC at Corny Point via the Otway Ranges repeater 147.275. John also notes that Brian later worked the Mt Barrow, Tasmania repeater 147.000 which would be over 1000 km for Brian, probably 400 km or so for John.

Beginning on 20/03 and ending around 22/03 and opening occurred to the VK6 south coast from the Adelaide area. Frank VK6DM at Albany worked VK5UBC at Gawler with rather weak signals 146.500 at 1919 km. Frank also managed to work some Adelaide area repeaters such as Houghton 146.850 and also Crafers 147.000 in the 1900 km area. Brian then worked Frank and also Bob VK6BE via the Albany repeater 146.725.

Up in north Queensland, Mike VK4MIK reports the bands have been rather quiet. Only occasional openings into the Townsville repeater being heard from up near Cairns. On 22/03 Mike worked to the Mackay repeater at S6 signal strength, were he worked Felix VK4FUQ from Ingham, 525 km to the repeater for Mike. Mike worked as far as the Hodgson Range repeater 146.925 in the central highlands at 640 km to his south. Also to the Hayman Island repeater at 451 km. Mike was unable to raise anyone for a QSO on the latter two.

29/03, Hayden VK7HAY went on a trip to Mt Barrow from Hobart. Being a keen new operator, it was pleasing to see that Hayden took along his handheld rig and worked some DX right across the waters of Bass Strait to Victoria's Mt Baw Baw repeater on 147.225. This is around 400 km for Hayden and he was able to peak the signal up to 5/6. Luckily, Adrian VK3HEQ was out mobile and was able to respond to Hayden's calls via the repeater.

Please remember to send through any 2 & 70 FM DX reports to Leigh VK2KRR at ...