
VHF/UHF – An Expanding World

David Smith VK3HZ

Weak Signal

David Smith - VK3HZ

Following the bumper Christmas period, things have quietened down considerably. As expected, the last of the 2 m Es activity occurred in late January and the tropo activity has been nothing remarkable.

On the morning of January 18th, 2 m opened via Es over a relatively short path between VK5/3 and VK1/2. Between 0045Z and 0120Z, Garry VK5ZK in Goolwa worked VK1DJA (5/9), VK1OD (5/9), VK2DJ (5/8), VK2KOL (5/9), VK2DVZ (5/2) VK2ZT (5/2), VK2DJ (5/5) and VK2MJW (5/9). Colin VK5DK in Mt Gambier worked VK2ZT (5/7) and VK2DVZ (5/7). Just across the border in Nhill, Bill VK3LY worked VK2DVZ (5/7) and VK2KOL (5/9).

The following day (January 19th) saw about the last of the 2 m Es openings. At 0235Z, ZL1BT reported hearing the Newcastle Channel 5A sound up to S7. However, conditions were extremely choppy with signal in and out on about a 10 minute cycle. At 0300Z, he worked Steve VK2ZT (5/7). By 0400Z, conditions had picked up with Ch 5A now S9+ and Sydney FM stations covering the dial – still very choppy though. VK2ZT worked ZL1CN (5/3) and ZL1AKW (5/2). VK2KOL worked ZL1BT (5/7). VK2FZ worked ZL1CN (5/3) and ZL1BT with signals peaking to 5/9+20 briefly. By 0430Z, the opening had gone.

The morning of January 27th produced a good tropo opening across the south of the country. At 2100Z, Phil VK5AKK in Adelaide reported hearing the Perth VK6RPH beacons on both 2 m and 70 cm. VK6RST near Albany was also present on 2 m. At 2200Z, VK5AKK worked Don VK6HK on 2 m and 70 cm (5/1). Don reported hearing the Mt Gambier VK5RSE 2 m beacon at 5/3. He then worked Bill VK3LY and Kevin VK3WN in Ballarat (5/2). Kevin also worked Phil VK6ZKO (5/1). VK6JR was hearing both the Adelaide and Mt Gambier 2 m beacons. VK6HK reported hearing VK3HZ in Melbourne, but no contact was made. Ian VK3AXH in Ballarat worked VK6HK (5/3), VK6ZKO (5/3) and VK6JR (5/2). Murphy had inflicted a power outage on Phil VK5AKK. When the power came back on, he was able to call in after the WIA broadcast on the Mandurah repeater. He also reported hearing the Bunbury VK6RBU 2 m beacon (5/2). Peter VK5ZLX reported that, during the morning, he had heard the VK7RAE, VK3RGL, VK5RSE, VK5VF, VK6REP, VK6RST, VK6RBU and VK6REP beacons, all at the same time.

Rover Activity

During the Spring VHF/UHF Field Day, Mike VK3UBM did some roving work, mainly to give other field stations some extra activity. He sent in photos of his vehicle at one of his operating locations – outside the Shelford CFA shed in QF12 (watch that paintwork, Mike!).

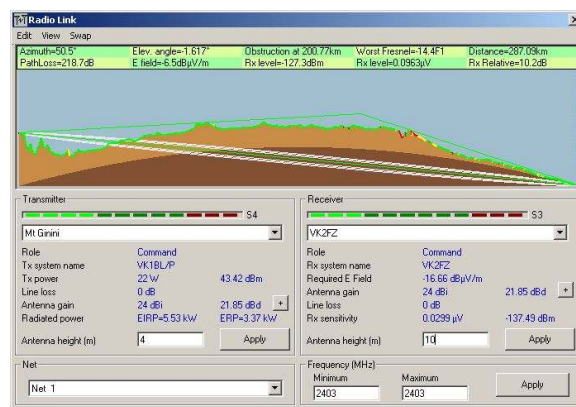
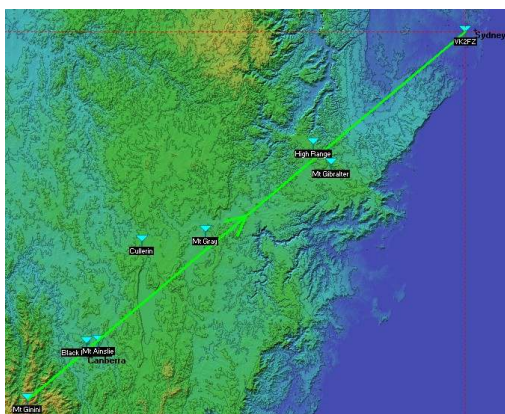


His equipment consists of an FT-817 on 6 m, 2 m, and 70 cm plus Minikits transverters for 23 cm and 13 cm. Of note is his unusual antenna setup (see photo). From the top, he has a 2 m "Squalo", 70 cm Loop, 13 cm Hills commercial "V-Yagi" wifi antenna and 23 cm double-quad antenna.

New VK1 Microwave Record

Recently, there has been a surge of interest in the microwave bands in the Canberra area. Ted VK1BL, ably assisted by Owen VK1OD was keen to see what they could do on 2.4 GHz.

Owen undertook some analysis of the path between Mt Ginini, 43 km southwest of Canberra, and the QTH of Adrian VK2FZ in inner Sydney. Using RadioMobile (an amazingly comprehensive radio-link analysis software package that, even more amazingly, is free), he found that there was a viable path between the two sites, 287 km apart. The path was far from line-of-sight, but well within tropo-scatter range. Signal strength predictions were S3-4.



On the morning of November 25th, Ted and Owen headed up to Mt Ginini, which, at 1760 m ASL, provides a good vantage for a northeast path to Sydney, though growing trees are becoming a problem for microwave operation. The weather was clear and still, in contrast to Canberra which was shrouded in cloud.



Ted VK1BL on Mt Ginini

A voice contact was made with both Adrian and Ted giving 5/1-2 reports - slightly below that predicted by RadioMobile. Signals were affected by a quite rapid and deep fade, and disappeared into the noise at times - characteristic of tropo scatter. Signals received at Mt Ginini often had a burble superimposed, much faster than expected from aircraft or mobile flutter. There was no sign of aircraft enhancement of the path.

The QSO established a new VK1 record distance (286.6 km) for the 13 cm band.

Plans are being developed for attempts over a much longer path into VK3, and the possibility of longer paths to the mid north coast of NSW is also promising. Contacts on higher bands, especially 3.3 GHz and 10 GHz are also being contemplated by an active group of microwave enthusiasts in the region of Canberra.

Please send any Weak Signal reports to David VK3HZ

Digital DX Modes

Rex Moncur – VK7MO

Welcome to Doug VK4ADC, who has been joining in the 2 metre FSK441 Meteor Scatter sessions. While still to complete a QSO he has had copy both ways from VK3 and VK7.

Waldis VK1WJ has been exploring 20 watt meteor scatter on 2 metres while his linear is off for repair. While the rate of contacts is much lower he is still completing

one or two contacts each Saturday and Sunday morning over distances from 900 to 1400 km.

As a result of concerns that pings might be overridden by other transmitting stations in the vicinity a test was conducted to establish how many common pings occur between John VK4JMC and Wayne VK4WS transmitting, and Bill VK2ZZF, Gavin VK3HY and Rex VK7MO receiving. To separate the signals, John transmitted a shorthand 73 tone (2205 Hz) and Wayne an R26 tone (882 Hz). Both stations are at similar distances but are around 70 km apart. It was found that there was no correlation between pings in a half hour test during which over 50 pings were received. The test supports the conclusion of earlier tests where Adrian VK2FZ and Mike VK2FLR, only 1 km or so apart, transmitted and only a small proportion of pings were common. These results suggest that for short pings the meteor footprint on two metres is very small and only a few km across. For long burns, the footprint can be hundreds of km where stations several hundred km apart have reported the same burns. The trick with burns is that while two stations may overlap, one or other will start just prior to or finish just after the other and the interference affect that causes burns to oscillate in signal level will not occur at the same time for both. Thus when you receive a burn it is often useful to manually click across the burn on the spectrum display to see if you can decode more than one station.

Please send any Digital DX Modes reports to Rex VK7MO

The Magic Band – 6 m DX

Brian Cleland – VK5BC

January was a great month on 6 m with very few days when the band wasn't open somewhere in VK/ZL. Many days all states could be worked with the band open all day and into the evening. Early February things started to quieten down but some openings still occurring for those still monitoring the band with the 11th February being another exceptional day. Paul A35RK continued to regularly work into VK/ZL with some other interesting contacts made to Malaysia, Guam, Indonesia and Japan.

John VK4FNQ reports that the band opened most days to Far North Queensland with the 18th, 19th and 20th January being particularly good days when most beacons in VK, ZL and FK8 were heard and most states and ZL worked. Brian VK5BC reports good conditions into VK5 on most days of January with good VK3 openings on the 8th and 16th and the MUF extending to 2 m on many occasions.

Paul A35RK was again very active during January and it was surprising how often he could be heard in VK. He was able to work into VK/ZL on 15 days during December and 16 days during January during which time he completed many CW and SSB contacts working a total of 56 stations on CW and 150 on SSB. During January Paul was able to work his 2nd VK6, Wayne VK6JR on CW. The table below summarises Paul's December / January contacts up to and including the 31st January. Paul certainly added a new dimension to the summer season and a big thanks from all VK/ZL 6 m operators for regularly monitoring the band and being available for contacts.

AREA	CONTACTS	CALLSIGNS	CONTACTS	CALLSIGNS	
	CW	CW	SSB	SSB	
VK1			3	2	
VK2	33	13	85	48	
VK3	13	9	37	24	
VK4	25	15	48	35	

VK5	12	3	26	13	
VK6	2	2			VK6JJ, VK6JR
VK7	3	3	3	3	
VK8			2	1	VK8MS
VK9	1	1	2	2	VK9NS CW&SSB VK9ZLH SSB
VK	89	46	206	128	
ZL1	1	1	4	4	
ZL2	2	2	8	4	
ZL3	15	5	15	10	
ZL4	1	1	4	2	
ZL	19	9	31	20	
FK8			1	1	FK1TK
3D2	1	1	2	1	2D2AG/P

A good opening from the Perth area occurred on 16th Jan to Indonesia. Peter VK6KXW reports, *"Tonight was interesting (16/1/08), I had VK8RAS 5x5, VK6RSX 5x5 to 9 at 1214z with TV videos being heard from north on 48.240 MHz, multiple carriers mainly Sempah which was the strongest at S3/5 but no 9M2 audio on 53.740 MHz, 55.250 MHz multiple carriers at -24 dBm. At no time did I hear or see on the waterfall 49.750 video carriers. VK2/SWL was at the time on the logger and in phone contact with Tony Mann, both tracking the MUF up, they were looking for 88.9 Singapore FM. While calling north, Wayne VK6JR came back to me on 50.110 (he's 200 km south of me). Not sure whether it was backscatter or direct, I belted outside to Armstrong the 3-el around. He came back to me again and some one else QRZed me. Fell off the chair as it was YB1EHR in Bogor Java. So, armstrong the flaming aerial again back up north and worked Chris, me 5x3 him 4x3. Equipment this end modest, 3-el yagi, ts-2000 100W. Signals were USB on 50.110, 2x Es, 1,800 miles, no distortion / Doppler, and slow QSB. YB1EHR was also worked by several Perth stations including VK6RO, VK6IQ, VK6ZKO, VK6HK and VK6JR near Bunbury.*

On the 20th January, Mike VK2BZE heard the Guam AH2G beacon and was able to contact Joel KG6DX via Skype. Joel immediately came on air and completed a contact with Gerry VK2APG, but unfortunately Mike missed out. The Guam beacon was also heard on the 4th February by Russell VK4BEG, John VK4FNQ and Glenn VK7AB.

After several days where indicators from the north suggest that JA contacts may be possible, finally Steve VK3SIX worked JR6EXN on the 31st Jan who was also heard in Adelaide by Dave VK5/SWL. Garry VK5ZK reported hearing the JR6YAG beacon around the same time.

On the 2nd February some interesting propagation occurred to Malaysia with John 9M6XMO in Kota Kinabalu being worked by Russell VK4BEG, Kevin VK4BKP Dale VK4SIX and John VK4FNQ all in far north Queensland and Steve VK3OT in western Victoria. On the same day Steve heard 9M2IDJ who was worked by Mark VK8MS in Darwin. 9M6XRO was again worked by John VK4TL on the 4th February

The V73SIX beacon was reported as being heard John VK4FNQ on 28th January and by Kevin VK4BKP on 4th February. Paul A35RK also reported the beacon on the 3rd February.

Jim VK9NS on Norfolk Island was also active in late January and worked many VK2, 3 and 4's and ZL's. Jim also worked Paul A35RK.

The FK8SIX beacon continued to heard in most states throughout January but the only active station heard or worked was Michele FK8GX who was worked by Wayne

VK4WS, Gary VK4ABW, Joe VK4TU and Steve VK3SIX. He was also heard by Brian VK5BC.

Meanwhile Joe VK7JG has had success working EME into Europe. Joe reports as follows:

Worked Mick W1JJ on 27 November then Lance W7GJ requested a sked. We completed before the moon cleared the horizon on 29th November 2007. Since then on 1st December worked MM0AMW at -27. Then on the 26 Dec special event station FP0FRG at -30, the actual station was Gerard PE1BTX. I can work Gerard whenever he is active; he often gives me a SWL report when I am working other stations. Have a look at his WEB site you will be amazed at his equipment. On 26th Jan worked Ken, G4IGO using my AX prefix for Australia Day. Also worked for the second time GM4WJA. John runs 600 W to a 6-el yagi with no elevation. I also tried with EA3AKY (Josep), I decoded him several times however due to his local noise we did not complete the contact. Well done Joe.

Conditions have quietened a little in early February but good openings have occurred on the 9th and 11th. On 11th February the band was open most of the day to all areas of VK and ZL with excellent conditions between VK5 to ZL and VK6. Conditions also extended from ZL to VK6 with John VK6JJ, Graham VK6RO, working ZL2TPY, ZL3JT, and ZL3NW and ZL3ADT.

Please send any 6 m information to Brian VK5BC