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# VHF/UHF – An Expanding World

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David Smith VK3HZ

## Weak Signal

David Smith - VK3HZ

### Reunion to South Africa Contact

Many people have speculated about the possibility of a 2 m contact between VK6 and the islands in the Indian Ocean, far to the west. While it's a large distance to cross, the Hepburn Tropo Propagation Forecast page for that area often shows large areas of significant enhancement during the summer months.

Recently, a milestone contact was achieved across that part of the Indian Ocean, in our direction from Africa. On August 14<sup>th</sup>, FR5DN (Reunion) successfully worked ZS2GK (South Africa) on 2m SSB. This was the first FR-ZS 2 m QSO, and possibly the longest 2 m tropo QSO for either country. Full details may be found at:

[http://www.astrorun.com/~fr5dn/radio/tropo/14aout2008/zs2gk\\_14august2008.html](http://www.astrorun.com/~fr5dn/radio/tropo/14aout2008/zs2gk_14august2008.html)

A critical factor in the success was Phil FR5DN's use of his home station as a beacon, pointing towards South Africa. His station consists of a Kenwood TR-9000 and 160 watt amplifier into a 17-el long yagi.

Early on August 14<sup>th</sup>, Glenn ZS2GK reported hearing the FR5DN beacon from Reunion Island. At 0339 SAST, he established a two-way contact with Phil FR5DN on 144.2 MHz SSB and also on 144.4 MHz FM. Reports were S5/6 with no QSB over the VHF path of 2875 km. ZS2GK was running 400W into 4 x 9el yagis.

This contact has stirred interest in the area, with other stations planning to establish informal beacons. Unfortunately, most of the population of Reunion is on the west coast, with mountains to the east, so an FR-VK contact may be very unlikely.

### 144.150 Net Revival

The popular VK3 "150" Net has been running for a number of years. Recently Robbie VK3EK, who has been Net controller for all that time, has been tied down with other commitments. So, Mike VK3AAK and Rob VK3ESE have stepped forward with an offer to take over the Net as joint controllers.

On their first night of operation – September 10<sup>th</sup> – they report having 20 stations from all over the state, and interstate, call in including VK3FELA (Doncaster), VK3NJP (Geelong), VK5LA (Berri SA), VK3AXH (Ballarat), VK3KQB (Wendoree), VK3NPA (Geelong), VK3IDL (Ballarat), VK3LM (Koorumburra), VK3HV (Morwell), VK3DMW (Yarrum), VK3ACC (Cobram), VK5DK (Mt Gambier), VK3FMCQ (Morwell), VK3GND (Dereel), VK3MCW (Colac), VK3NCR (Somerville), VK3ART (Heathmont), VK3TPR (Glen Waverley), VK3ESE (Mt Dandenong) and VK3AAK (Mt Eliza).

Their second night also yielded 20 stations, including VK2KRR (The Rock) and VK2YB.

So, if you're looking for some activity on a Wednesday night in the south-east of the country, tune to 144.150 at 8:30pm EST.

### Don VK2RS SK

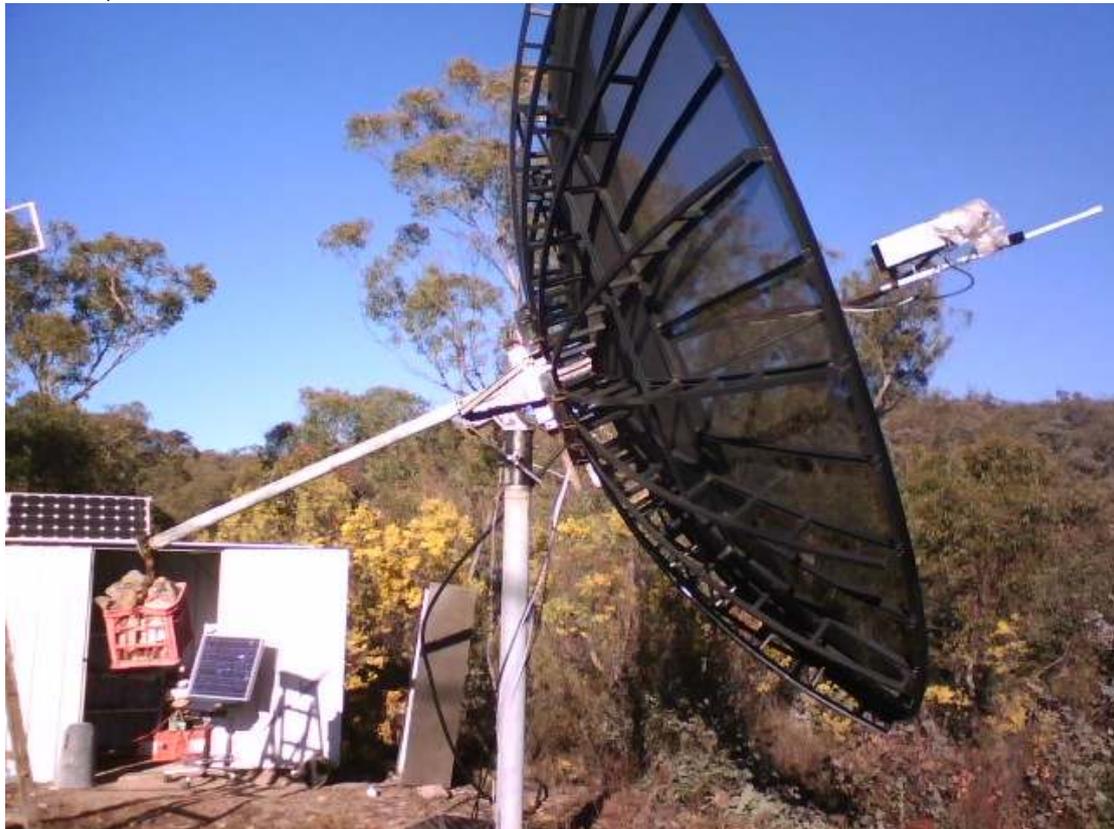
There was sad news recently of the sudden passing of one of the veterans of VHF – Don VK2RS in Corryong. Don was one of the true gentlemen of the air and was a regular on the morning 2 m SSB Aircraft-Enhancement net. He had a long-term project investigating AE propagation and was constantly trying different antennas. He had meticulously recorded several thousand contacts via AE on VHF and UHF and was continuing to refine his analysis. His presentation at GippsTech several years ago showed the depth to which he had gone with his investigations. His cheery voice will be missed on the air.

Please send any Weak Signal reports to David VK3HZ

## Digital DX Modes

Rex Moncur – VK7MO

Dave VK2JDS has a solar powered EME station operational on 1296 MHz. He has been operational since March and has been reporting his trials and tribulations and receiving advice on the forums of the VK logger. He says “this is a great resource”. Dave tells of his proudest moment: my wife Phillipa VK2XPH came out to the radio hut and I explained the latest improvements to the system , I said "press the morse key for 3 seconds" , she did and we clearly saw the return ping from the moon on Spectran and could just hear it audibly. Dave runs a 4.6 metre TVRO dish with an IC-910-H to 65 watt amplifier from Alan VK3XPD. He balances his dish with a milk crate filled rocks (see photo). Dave has worked G4CCH, HB9Q, SM5LE (2.2 metre dish), RD2DA, and DJ9YW all on JT65c.



**VK2JDS's Solar Powered EME Station with Solar Panels in the background and Milk crate balance mechanism**

On 8 September Rex VK7MO and Justin VK7TW achieved one way optical communication using JT65a on a 118 km non-line of sight cloud bounce path. This almost doubled their previous best distance of 66 km. Rex trekked to Coles Bay on Tasmania's East Coast and set up his Avalanche Diode receiver and Justin operated the transmitters from Rex's QTH in Hobart. Initially, to check for propagation Justin sent a tone using a 60 x LED Luxeon array. Almost straight away it was received at 40 dB above the noise in 20 MHz bandwidth. Rex and Justin then swapped to WSJT using the JT65A mode and sent callsigns one way at a consistent signal level of -9 to -10 dB (which means there was about 18 dB to spare). They then swapped to a small transmitter using four x red and four x blue Luxeons with tones spaced around 6 Hz apart so that the red and blue signals could be compared. The red signal peaked at 20 dB above the noise but the signal was hardly evident on the blue. This result confirms theory that red light is much better than blue for optical through-the-air communications. The reason is that blue light is more readily scattered and thus lost as it propagates through the air (physicists call this extinction). This preferential scattering of blue is also the reason why the sky is blue.

Please send any Digital DX Modes reports to Rex VK7MO

## The Magic Band – 6 m DX

Brian Cleland – VK5BC

Firstly I apologise for the lack of notes in the last 3 months but I was travelling in northern Western Australia, in particular the Kimberleys, Pilbara and Gold Mining areas. From the little information I received as well as watching the logger there seems to have been very little 6m activity during this period with only a few minor openings from northern Queensland to VK2 and 3.

In summary our WA trip included the Kununarra/ Wyndham areas, Kimberleys via the Gibb River road, Mitchell Plateau (magnificent waterfalls), Derby, Broome, Pilbara area including Karratha, Dampier, Millstream & Karijini national parks and finally through the gold mining areas of Meekathara, Sandstone, Leanora & Kalgoorlie. After Kalgoorlie it was the long drive home across the Nullarbor where we stopped off to see the whales at the head of the Bight. In total we covered about 12,000 km and used about 2,500 litres of petrol which averaged \$1.73/litre, the most we paid being \$2.29/litre at Mt Barnett in the Kimberleys.

Whilst travelling WA I could operate all bands from 80 m to 70 cm and I did monitor 6 m from time to time as well as keeping an ear on 10 m for any activity which may have indicated some 6 m openings but only once heard anything on 6 m whilst on Cable Beach in Broome. This was on the 26th July when I heard the Alice Springs VK8RAS and Darwin VK8VF beacons both up to S9, but despite several calls no contacts were made or stations heard.

I did find operating on the HF bands somewhat different from down south, could hear very few VK signals but signals from Asia/Malaysia were very strong, particularly on 80 m, 40 m & 20 m and I did manage a few contacts into the 9W Malaysian areas on 10 m. For skeds back to VK5 I found 30 m good in the morning and 20 m in the afternoons. I only had one VHF contact on 2 m whilst travelling WA which was via the VK6RWR Wickham repeater which unfortunately was the only active repeater I could access throughout the trip - even the Kalgoorlie 2 m repeater is not operational.

I happened to be in Kalgoorlie during the RD contest weekend and whilst listening on 20 m on the Sunday morning heard a regular Kalgoorlie 6 m operator in Noel VK6ZAK. Gave Noel a call and he came and met me at the Kalgoorlie Gold

“Superpit” and then spent the remainder of the day showing us the sites of Kalgoorlie. Noel has lived in the area for over 40 years and still works at one of the Gold mines in the area.

Having looked at the sites of Kalgoorlie, Noel took us to his home and showed me his station which consists of a Yaesu FT1000 Mk 5 with a Quadra VL1000 amp, 6 m transverter Yaesu FTV-1000 and an Icom IC7000 (which Noel mainly uses to monitor 6 m) His antennas are a 4-element KLM KT34 Tri-bander, G5RV and a 6 m & 2 m 2-element quad. Noel’s favourite band is 6 m and he also enjoys 20 m. Picture below shows Noel in his shack.



Hopefully we will start seeing a little more activity on the band in September/October but with the sunspot cycle still appearing to be bottoming out it will probably be the summer E's that will be the main activity.

Please send any 6 m information to Brian VK5BC