
VHF/UHF – An Expanding World

David Smith VK3HZ
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Weak Signal

David Smith - VK3HZ

Welcome back from the holiday break. I hope you all enjoyed the festive season and made the most of any time off to enjoy your hobby.

While we have a break from our writing, unfortunately the bands do not. In fact things are probably at their busiest over the period just passed.

Sporadic E openings on 2 m seem to have been plentiful so far. On the afternoon of 20/11 Robbie VK3EK worked VK4ADM. Then on 8/12, Nick ZL1IU reports working VK4AFL, VK4ZDX and VK4LC on 2m. Nothing was heard on 70cm, but CH5A in Newcastle was very strong.

On the evening of 22/11, 2 m opened across the Bight from VK6 to VK5 and VK3 for the only time so far this summer. Wally VK6WG in Albany managed to work VK5AKK, VK5UBC, VK5ZK, VK5DK, VK3ZQB and VK3II. He was also heard by VK3HZ and VK3YB.

I must apologise that the deadline and holidays have beaten me this month, so I will have to defer the full report on the rest of the Weak Signal happenings until next month.

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

Digital Modes

Rex Moncur – VK7MO

Joe Taylor K1JT has provided an update on progress with JT1. As advised earlier, JT1 uses phase modulation and promised about 5 dB improvement over JT65. It was also aimed at contest operation as, with only a few Hz bandwidth, stations could operate within the same SSB pass band and work different stations by clicking on the different signals on a waterfall display. Well all that was based on computer simulations. In the real world of tropo-scatter and EME, things have not proved so easy, as tropo-scatter multi-path and EME libration both produce significant phase modulation which substantially reduces performance. Joe now thinks JT65 might be as good as he can get. He is now looking at a modified JT65 with fewer tones and narrower bandwidth that he hopes might be useful for contest operation.

Adrian VK2FZ and Rex VK7MO completed what is believed to be the first VK 70 cm meteor scatter contact using FSK441A during the Geminids meteor shower on 14 December 2004. Adrian received 3 burns of over a second within an hour of operation while Rex received only pings with the best being 360 ms. The distance of 1072 km is a little short of optimum which is around 1400 km. The tests show that during meteor showers it is well worth trying 70 cm particularly for stations in the range 1200 to 1800 km.

Phil VK4CDI has been seen on FSK441 in Hobart and completed his first EME contact using JT65. Guy VK2KU is operational at his new QTH and rapidly adding to his grid square tally using JT65. At last count he was only one short of the magic 100. Rod VK2TWR is working regularly into Hobart on tropo-scatter using JT65 with

signals averaging -24 dB and peaking to -11 dB when the Sydney to Launceston aircraft provide enhancement.

And finally, congratulations to Bob ZL3TY who has set a new 2 m EME World Record of 19,296 km. On the evening of 14 December 2004, he worked F8FHP using JT65b.

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

2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

In this edition of the 2 & 70 FM DX report we cover the months lost to the Christmas break, which was November and December. Nothing startling to report really but a few interesting openings nonetheless.

Mike VK4MIK reports that on the 3rd of December he was able to work to VK4RMK, Mackay 535 km at 0620 local time - contacts Eric VK4EDN and Wal VK4AIV. Felix mentioned that Hayman Island VK4RDC was there in the Whitsundays (451 km) so he tried it and worked David VK4DJC through there. Hepburn predicted a possible opening to PNG but unable to make a contact.

On the morning of the 5th of December, Karl VK7HDX worked his furthest FM simplex contact on 2 m. This was across the Bass Strait to Chris VK3VSW in Geelong. Karl states "The signal was S2 but the audio was almost noise-free and very light QSB. Chris called "CQ" again on 146.500 so I answered his call, to my surprise he heard me. We had a brief contact then conditions changed". The distance for Karl's contact was 430 km and was Karl's first interstate contact.

From mid to late December in the SE, there were a few openings where 70 cm was running as good as 2 m and sometimes even better.

The 17th of Dec, I had good signals here from most of VK3, except extreme eastern areas. Stand out repeaters on 70 cm were – Grampians S9+40 at 471 km; Ballarat S9+40 at 378 km. On 2 m, Otway Ranges was S9 at 486 km; surprisingly Naracoorte in VK5 was punching through with an S9+60dB signal at 600 km.

Again in the morning of the 22nd of December, 70 cm conditions were most outstanding. The Barossa Valley SA 70cm repeater peaked at 60dB+. Barossa Valley also has a linked repeater on 146.825, this was not heard at all at the time. VK5ZLT came back to me on the Barossa 70cm device for a few overs.

Eventually I was able to work these 70cm repeaters - Barossa (737 km), Crafers (764 km), Summertown (760 km) and South Adelaide (778 km). Just about all these peaked full scale.

The most amazing part of this opening was when calls were placed on 439.000 simplex. Brian VK5UBC was running a yagi on 70cm but is over the hills a bit (764 km), Brian peaked to 5/6 on 439.000, but was mostly a steady 5/4.

Peter VK5ZLX could only run a vertical omni antenna and 25 W and is on the eastern side of the hills (735 km), Peter was constant at 5/9+40dB here on 439.000, brilliant!

We then had a call in on 439.000 from Rob VK5JSR mobile!! near Eudunda (741 km), unreal stuff! and Rob peaked over 5/9 signal here.

On the evening of the 18th December, Mike VK4MIK reports. Felix VK4FUQ alerted me that something was on the "boil" on 2 m. I headed for the shack. Felix said he

was hearing 146.900 VK4RGA Amys Peak, 951 km from my location. I got on frequency and called Neville VK4HNL in Hervey Bay using the Bundaberg repeater, which is on 146.800, and linked to Amys Peak. Neville come back to my call, VK4WS Wayne from Brisbane, Adam VK4KSS south of Brisbane and Ray VK3TPT/4 in Maryborough all came back. Ray, with his VK3 callsign had a couple of us skip a heartbeat until we found out he was in QLD! Felix VK4FUQ managed to get in briefly as well. I also tried into NSW repeaters near the QLD/NSW border and further into NSW to no avail.

All on the contact were "over the moon" and Neville was wrapped. All co-operated to get as many in as possible. Sure made our night in Queensland.

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