
VHF/UHF – An Expanding World

David Smith VK3HZ
Leigh Rainbird VK2KRR

Weak Signal

David Smith - VK3HZ

Most of the good propagation during February has been across the Bight with numerous tropo enhancement openings between VK6 and VK5/VK3/VK2. Unfortunately, for many hours, the VK6 beacons could be heard bleating away at good strength, but not a VK6 station to be heard. If anyone is thinking of retiring to the southern WA coast, then please take your VHF/UHF station with you, as you'll have a busy time during the summer season.

Brian VK5UBC reports: "The last week of February has provided some excellent conditions to West Australia from both VK5 & VK3. I first heard the Albany beacons last Sunday 26/2. They were then audible morning & evening until Wednesday morning 1/3. During this period many contacts were made with Wally VK6WG in Albany on both 2 m and 70 cm. Stations to work Wally included VK3II, 3AXH, 3HZ, 3XPD, 3WN, 5UBC, 5NY, 5ZBK & 5DK. Signals from Wally in VK5 were often S9. Roger VK5NY also worked Wally on 23 cm.

During this period I also worked Frank VK6DM (Albany) simplex on 146.5 fm as well as via the Albany 2 m repeater VK6RAL.

Things were then quiet for a couple of days until Saturday evening when again the Albany 2 m & 70 cm beacon were into VK5 up to S9. First contacts were made on Sunday morning (5/3) when I again worked Frank VK6DM via the Albany repeater and FM simplex 5/7. Bob VK6BE (Albany) was worked on SSB 5/5. Later in the morning Roger VK5NY worked Wally 6WG on 2 m, 70 cm & 23 cm.

Sunday evening again provided strong signals into VK5 from the Albany beacons but unfortunately there were no operators available in the Albany area. The Katanning VK6 repeater was also heard.

On Monday 6/3, things really hotted up. I was able to hear the Mt Saddleback VK6RMS repeater at 6am and was fortunate enough to catch Max VK6ZER passing his radio at 4.30 am WA time. Wally VK6KZ in Perth was sent a text message and he next came up on the repeater. We then tried the Mandurah repeater 6RMW and this was better still. Wally got Don VK6HK out of bed and he came up on the repeaters. Conditions were also exceptional between VK3 & VK5 and, although I had the beam west, I was also accessing the Mt Macedon repeater and had VK3's calling me. Brian VK5UBC found he could hear the Bunbury & Perth 2m beacons but despite several attempts with Don VK6HK, contact wasn't made. Don did hear Roger VK5NY but unfortunately Roger couldn't hear Don due to his noise level. Finally after several hours of calling Cec VK6AO in Perth came back to me on 144.1 SSB. Contact was completed with signals 5/2 over a distance of 2150 kms.

Several other VK6's were worked on the Mt Saddleback VK6RMS repeater. They included VK6IQ, ZER, HRC & TFL.

Conditions to the west finally faded at about 10.30am SA time."

Thanks to Brian for that comprehensive report. As demonstrated, it is often handy to have a good FM setup when the 2 m band opens up. Repeaters can act as useful (triggerable) beacons and are much more widespread than beacons, although the re-use of frequencies in different areas can cause some confusion as to which repeater is being triggered. A vertically-polarised yagi (in addition to the weak-signal

horizontal one) is desirable to both reduce repeater interference and eliminate cross polarisation losses that occur if a horizontally-polarised yagi is used with a vertically-polarised repeater. Although contacts via repeaters do not qualify for distance records, they can, of course, be used to set up direct SSB contacts.

Ian VK3AXH reports that on 28/2, he worked Wally VK6WG on 2 m and 70 cm. Wally was stronger on 70 cm (S9) than 2 m. They attempted a contact on 23 cm but, although Wally reports hearing something, no contact was made. At the time, there was no sign of Wally in Melbourne, only 150km further on. As an indication of how localised conditions can be, Kevin VK3WN, only 4 km from Ian, could barely hear Wally on 70 cm, although he did work Wally later in the day. Colin VK5DK who is virtually under the path between Ian and Wally, reports not hearing much at all. Half an hour later, Wally was worked in Melbourne on 70 cm by VK3XPD and VK3HZ.

Beacons

Ed VK3BG reports that there are two new beacons active in the Cobram area.

VK3RTC on 432.534 MHz is on test, running 12 watts into a vertical omni antenna at 15 m AGL. Keying is a repeated one-minute sequence - carrier for 1 second, CW ID twice at 10 wpm, carrier until 30 seconds then key off until 60 seconds.

The 1296.534 MHz beacon is within 2 khz of nominal freq, but will need trimming until the crystal ages. The keying sequence is the same as the 70 cm beacon. It is running with 5 watts out to an Alford Slot at 7 m AGL.

Reception reports would be appreciated to Ed

TEP Contacts

Finally, a report on contacts using a propagation mode only available to those in the very north of this country – Trans Equatorial Propagation.

On 26/2, Phil FJ5DX on St Barthelemy Island in the French West Indies worked PP5XX, PU5YFT, PY5EW and PY5HOT in southern Brazil on 2 m. The contact with PP5XX was over a distance of more than 5100 km.

The remarkable thing is that the equipment at Phil's end consists of an IC706MKIIG (50 W) into a 5/8 vertical at 3 m above the ground. One can only think that a TEP opening must provide very strong conditions.

The current VK 2 m distance record was set in 1991 with a TEP contact between VK4BFO and JI7DMB over a distance of 6763 km.

Please send any Weak Signal reports to David VK3HZ

Digital DX Modes

Rex Moncur – VK7MO

Congratulations to Guy VK2KU on working the Peter 1 Island DXpedition 3Y0X on two metres with JT65. Rod ZL3NW and Joel F6FHP achieved a new 6 m EME World record on 3rd March 2006 using JT65A over approx 19,440 km path.

Dave VK2AWD and Rex VK7MO have been seeing the video carriers of the Channel 5a TV stations at Mawson WA on 138.250210 MHz and Newcastle NSW on 138.276025 MHz via EME. Signals are best copied when the moon elevation at the

TV station is on the horizon but can be detected up to around 8 degrees. The stations are seen on a waterfall program such as Spectran or Spectrum Lab with a resolution of around 0.1 Hz. It should be possible to see these stations with a single 10 element 2 metre yagi although elevation might be required. The Newcastle station is extremely stable and provides a useful calibration reference if your 2 metre receiver will tune down to 138 MHz. Its frequency has been compared to a GPS locked reference and has been within 10 milli Hz over several weeks with the actual frequency being measured at 138.276025 MHz to an accuracy of better than 0.1 Hz. The signal is almost always available by tropo-scatter in Hobart at a distance of 1162 km by using a very narrow bandwidth of 2 milli-Hz, as is available on Spectrum Lab. It should also be detected via meteors at distances up to 2300 km and by averaging one can establish a frequency comparison via meteors with an accuracy of within a few Hz.

Please send any Digital DX Modes reports to Rex VK7MO

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

After the good openings to VK6 in early February reported in last months notes there has been very few openings reported. Beacons have been heard for short periods occasionally but there have been only a few contacts reported. The only contacts in my log since early February are on the 28th February with Neville VK2YO near the Queensland border and Daryl VK4ADM at Maroochidore.

Norm VK3DUT reports despite hearing the ZL TV on many days in February the only contact was with Bob ZL3NW on 7th Feb. Norm also worked Neville VK2YO, Harvey VK4AHW and VK4YRP on the 2nd March.

John VK4FNQ in Charters Towers reports similar lack of openings only working VK5UBC on the 2nd February and John VK2BHO on the 10th. Gary VK4ABW in Townsville also has reported little activity working only one VK2 in February but reports the MUF is reaching the high 40 MHz region with signals from the North/North West being heard.

Jack VK2XQ advises activity into the Sydney area during February has also been poor with only the odd beacon and ZL TV being heard. Mick VK2BZE did work ZL3NW on 7th February.

Norm VK7AC (ex VK2ZXC) near Launceston worked VK4AHW, ARS & TWR on the 2nd March.

In summary a very quiet February/early March on 6 m.

Bob W6BYA well known Californian 6m op spent some time with Peter VK4APG in early January and had a get together at Scott's VK4CZ QTH with a few of the local 6m operator's who've worked Bob over the years.



Left to right: Tom VK4DDG; Bob W6BYA, Alan VK4WR, Scott VK4CZ and Peter VK4APG.

Please remember to send any 6 m information to Brian VK5UBC at bcleland@picknowl.com.au.

Please remember to send any 6 m information to Brian VK5UBC

2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

Well folks, I think I'll make this my last FM DX column. While it's been fantastic reporting all the rare FM DX openings from around Australia over the past few years, I feel its now time to move on.

While at the time of starting the FM DX segment, the Novice licensees were limited to the use of FM only on the 2 m and 70 cm bands. Now with the licence changes, which have recently been implemented, these Novice operators are now free to use weak signal modes as well.

The purpose of the FM DX column was primarily to help promote VHF DX to those operators, who at the time were not licensed to use SSB, or who only had FM radios. It also served to dispel a few 'myths' about FM that some believed, such as - 'you can't make DX contacts on FM' and 'vertically polarized antennas are no good for DX'. Well, I think I have proved the point, raised awareness and helped create a lot more activity in the process.

If anyone is interested in putting the FM DX column together, please contact David VK3HZ or myself VK2KRR via email.

DX openings during February 2006, were mostly found in southern Australia.

On the 3rd of Feb there was a massive tropo opening in the south east. Mount Gambier repeater was 5/9+40 here at 633 km. Mt Gambier IRLP repeater was 5/9. Most 2 m repeaters in the Adelaide area and surrounds peaked out a full scale. The Port Lincoln repeater was 5/9 at 1019 km.

2 m FM simplex contacts were completed with VK5MM, VK5UBC, VK5PO, VK5HS, VK5ZCB. Signals were that strong on the 144 MHz band, that I was able to copy pictures sent using MMSSTV from Garry VK5ZK 754 km from Goolwa and from Brian VK5UBC 764 km from Gawler.



On the 20th of Feb, another good opening occurred in the south, this time extending into Western Australia, though no FM contacts were made that far.

I had quite a few VK5 repeaters coming in - Crafers, Central North (833 km), Cowell (961 km), Port Lincoln (1019 km), Murray Bridge, Barossa Valley, Houghton, Lobethal and Mt Gambier.

In the evening of the 27th of February, some VK5UBC magic was about. Brian was able to access the Albany repeater VK6RAL at 1900 km on 146.725 MHz. Here, Brian worked Frank VK6DM. The two went to FM simplex on 146.500 MHz and made a weak 4/2 contact at around 1900 km.

Then on Sunday morning the 5th of March, Brian VK5UBC again made the 1900 km trip to the Albany repeater and again worked Frank VK6DM. They then went to 146.500 simplex, where signals were much better at 5/7. In the evening, Brian was able to hear the Katanning VK6RAW repeater at 1950 km.

On the morning of Monday the 6th of March, Brian was easily able to work into the Boddington VK6RMS repeater on 147.250 at 2062 km. Early on, Brian was lucky to catch Max VK6ZER on the repeater. Later, Brian was also able to work VK6HK, VK6KZ, VK6IQ, VK6HRC and VK6TFL. During the same opening, Brian VK5UBC also worked to the Mandurah VK6RMW repeater at 2102 km where he again worked VK6KZ and VK6HK. At the same time Leigh VK2KRR was also able to hear the Boddington repeater at 2817 km up to only 4/1. Signal did not get strong enough to work the repeater, which was quite unfortunate.

Thank you to all of you who have sent in FM DX reports during my stay, and those who have made nice comments in regard to the content of the column. Much appreciated. 73 and good DX.

Leigh Rainbird, VK2KRR.