
VHF/UHF – An Expanding World

David Smith VK3HZ
Leigh Rainbird VK2KRR

Weak Signal

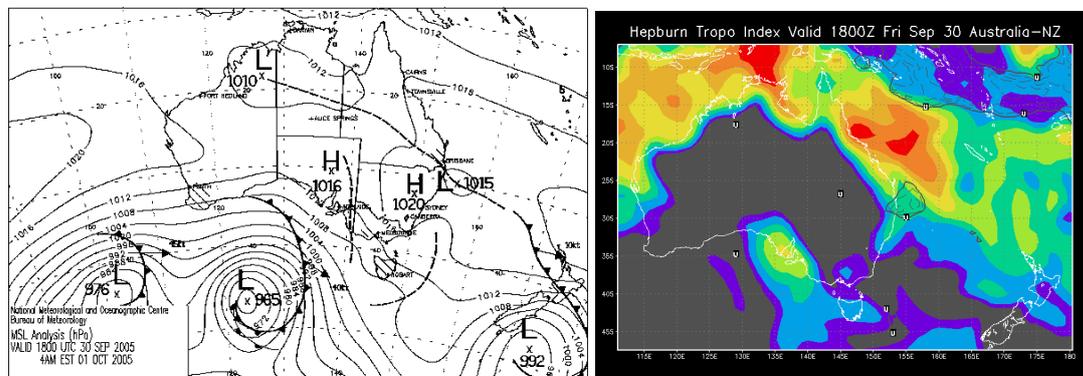
David Smith - VK3HZ

The auroral activity reported in last month's column continued in early September. Jim VK3II at Coronet Bay reports: "There were some very strong auroral signals on 2 m last Sunday 11 September from approx. 1615 - 1745 hrs local time. Quite a few Melbourne stations around and some were aurora-affected at this QTH. Stations heard & worked here on SSB included VK1ZQR, VK2GKA, VK2KRR, VK3ZQB, VK3DUT, VK5DK, VK5ZLX and VK7JG. Approximately 500 Hz positive offset was noticed on aurora-affected stations. TV channel 5A audio on 143.776 MHz from Newcastle was coming in around S5 during most of this. No stations north of VK2GKA were heard at this QTH. The 144.1 MHz calling freq. was very busy, most contacts taking place on the calling freq."

VK4 Activity

There have been some unusual propagation conditions along the Queensland coast generating quite a bit of activity. Doug VK4OE provided the following extensive report: "From what I have been able to determine, awareness of this opening commenced on the morning of 16 September when VK4KK in Emu Park just South of Yeppoon worked VK4FNQ in Charters Towers on 2m SSB. For the next two weeks and more, the two had regular QSO's, always in the morning in the 6 a.m. to 7 a.m. time slot. John VK4FNQ was, of course, alert to the possibility of working stations further south and on 28th September he completed QSO's with several Brisbane stations including VK4AFL, VK4ZQ, VK4AML and VK4OE. It was most interesting to observe that propagation favoured different Brisbane stations at different times. These distances are around 570 km and the path is entirely over land.

This propagation was due to a ridge of high pressure that, with a bit of waxing and waning, had stabilised itself along the Queensland coastline. Various BOM charts illustrate this and the Hepburn prediction charts clearly indicate that excellent conditions were present.



Through all this, John VK4FNQ was having frequent 2 m contacts with Russell VK4BEG and Keith VK4BKS in Malanda on the Atherton Tableland (inland from

Cairns, altitude 750 metres). South Queensland stations became aware that there was a real possibility of also working them and this first occurred to VK4KK early on 20th September, a distance of close to 840 km.

Other stations involved were VK4TWR and VK4JOO in Gladstone, VK4AJS in Rockhampton, VK4BLK in Yeppoon and VK4TZL in Hervey Bay and they continue to be active in the weak signal arena.

The ridge of high pressure stayed in place for many days and every morning was a voyage of discovery as to which stations may be able to be worked. On 1st October the propagation between Central and North Queensland extended itself enough to include Brisbane. VK4AFL and VK4AML successfully completed contacts around 2030Z with VK4BEG on 2 metres, a distance of 1384 km to VK4AFL.

From Hervey Bay, Glenn VK4TZL's experience was that propagation really picked up to the north over the days 5th to 9th October. Frequent QSO's took place with the northern stations and there were times when stations 240 km away in Gladstone were swapping "30 dB over" reports with him, and this was off the back of each other's beams! The "contact of the month" for him was with VK4BEG on 70 cm at 2039Z on 7th October, a distance of 1160 km.

Also on 5th October, VK4ZQ (Brisbane) successfully contacted VK4BKS (Malanda) and with VK4WDM in Townsville on the 7th.

The ridge of high pressure eventually moved east and, as often happens with extensive inversions that don't dissipate quickly, it began affecting other propagation paths. Central Queensland stations became able to trigger an FM repeater ("triggerable beacon!") in New Caledonia with Brisbane stations Wayne VK4WS and Roy VK4ZQ reporting working Patrice FK8HA on 7th October through it.

Through all this excitement, propagation from Brisbane to the south remained poor, again as was being predicted by the Hepburn charts.

It must be said that things like this have happened before, even on FM from Brisbane to Cairns but they have not been so dramatic or for such a long length of time. Col VK4ACG is able to describe several times during his years of living at Thursday Island (right at the tip of Cape York) that repeaters and stations not far short of Brisbane could be heard. He believes that extension even to ZL from there has occurred!

It has been the presence of active VHF/UHF operators in various places along the Queensland coast that has led to us knowing that it was actually happening. Let's all keep our awareness of potential long distance propagation alive by being active, calling instead of just listening, optimising station performance, and keeping in touch with each other. It takes two stations to make a contact!"

Mobile – with a difference

Chris VK2DO has recently been experimenting with mobile operations and aircraft-enhanced propagation on 2 m. From his home station, Chris is normally an S9+ signal into Melbourne when the aircraft are in the right place. However, he normally needs to be well on the way to work by the time the path peaks – usually around 0845 local time. So, he has mounted a trusty IC706 in his car and has been experimenting with various antennae. Initial tests with a vertical whip were disappointing and a horizontal halo, although the right polarisation, was also unimpressive due to its pickup of surrounding noise. So Chris now has a 4-element NBS yagi mounted to the fibreglass roof of his twin-cab ute. The yagi is permanently pointed "left" in the direction of Melbourne for his northwesterly run into work. Using

this setup, Chris has worked many distant stations including VK3's II, DUT, KEG, BJM, HZ and AFW. Even off the back of the beam, he has worked VK2's TG, GKA, APP and EMA. All this goes to show that you don't need 4 yagis and 400 watts to work long distances. If you pick your times, a modest setup can give quite impressive results.

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

Digital DX Modes

Rex Moncur – VK7MO

I have been somewhat out of the local scene while undertaking a one-man digital EME DXpedition to the Cocos-Keeling Islands, VK9C, and Christmas Island, VK9X, in the Indian Ocean. For me this was a most memorable experience with 155 EME contacts on two meters and eight on 70 cm. All from a small portable station that was carried as personal luggage on aircraft. The smallest station worked on 2 meters was Joe, VK7JG, who uses a single 3 wl yagi without elevation. The 70 cm operation was a bonus using only a IC-910-H barefoot with 65 watts to an antenna. The 432 MHz antenna was an ad-hoc construction using insulation tape to stick elements to a squid pole left at Cocos-Keeling Islands by, Bernd, VK2IA, and to an element of a 20 meter beam left by David, VK2CZ at Christmas Island. One tropo contact was made from Christmas Island to Ron, VK6KDD, in Port Hedland over 1767 km using JT65.

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

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

September has again been very quiet month on 6 m with very few reports of contacts.

Wayne VK4WS Brisbane worked Patrice FK8HA on the 9th September and Gary VK4ABW Townsville reports an opening to the JA1 area on the 25th September.

John VK4FNQ Charters Tower forwarded the following from his log:

30 Aug 2005	0448	50.110	VK5UBC	Heard	41
	0504	50.110	VK4BLK	Heard	519
	0516	50.110	VK5ZSA	Heard	41
3 Sep 2005	0456	50.079.00	FK8SIX	Beacon	529
4 Sep 2005	1045	50.046.30	VK8RAS	Beacon	529
7 Sep 2005	0225	50.046.30	VK8RAS	Beacon	559
	0300	50.046.30	VK8RAS	Beacon	519
		50.287.70	VK2RHV	Beacon	529
13 Sep 2005	0150	50.287.70	VK2RHV	Beacon	519
	0215	50.287.70	VK2RHV	Beacon	519
	0300	50.079.00	FK8SIX	Beacon	519
14 Sep 2005	0935	50.287.70	VK2RHV	Beacon	419
15 Sep 2005	2038	50.110	SOLAR BURST		
21 Sep 2005	0020	50.287.70	VK2RHV	Beacon	41

Have a look at this site - <http://www.hb9six.org/> - to view the highest 6m beacon in the world, which was recently heard in Canada.

Hopefully conditions will improve in October and early signs are good with openings already occurring on the 3rd & 4th of October from VK5 to VK1, 2, 4 & 6. More details next month.

Please remember to send any 6 m information to Brian VK5UBC at ...

2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

Conditions were fairly ordinary during September for Australian operators, though toward the end of the month, conditions did pick up in VK4.

Tropo duct openings reported for September occurred in VK4 on – 5th, 14th, 15th, 21st, 28th, 29th & 30th, and in the south east of VK on – 5th, 6th, 7th & 20th.

Mike VK4MIK worked to VK4RDC Hayman Is, 451 km; VK4RHR Hodgson Range, 640 km. Felix VK4FUQ made trips also to those repeaters and Mackay.

John VK5PO worked Leigh VK2KRR on simplex, 738 km. Brian VK5UBC portable southern Yorke Peninsula worked to Mt Macedon, Ararat, Warrnambool, Ballarat, Grampians, Bordertown, Naracoorte and Mt Gambier.

Start of October has seen some nice long contacts in Queensland, but more on this next month.

Long Distance Competition

The 05/06 Long Distance Competition has been running for 3 months now and there has been some interesting action for those following the progress.

It was suggested that a 50 MHz category be included, this has now been implemented, though no contacts submitted at this stage.

In the 144 MHz category, most contacts logged at this stage are for inland tropo between VK2 and VK5. Furthest distance being a contact between VK5UBC and VK2KRR at 914 km between Corny Point and The Rock. Some tussles in the EME area between VK4CDI and VK2KRR.

On a state level, the VK5 area should see some interesting loggings in the next few months with VK5UBC and VK5PO trading places a number of times already.

432 MHz and 1296 MHz are the only other bands with contacts submitted. The higher up frequencies have been quiet at this stage.

Only VK5UBC and VK2KRR submitting logs for 432 MHz. Again inland tropo being the category. A good bout of 70cm conditions will see some good movement here.

Onto the FM DX categories, and we're seeing some great action on a national level but fairly one sided on a state by state basis.

On the 146 MHz FM national level, distance records originally held by VK5PO and VK2KRR for FM simplex (FMS) and FM repeater (FMR) contacts has recently been smashed by contacts logged by Mike VK4MIK and Mike VK4JOO. The two Mike's currently are joint holders of FMS#1 of 923 km and VK4MIK holds FMR#1 of 951 km. This tops the previous records by around 200 km.

On a state level, we see a great effort by Hayden VK7HAY, who's portable efforts have netted him top 3 spots in the VK7 division and just missed out on a national listing.

Low activity levels prevail in the 438 MHz FM section with only 2 FMR contacts logged. FMR#1 is VK5UBC with 308 km and FMR#2 is VK4MIK with 244 km.

Good luck to all.

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