
VHF/UHF – An Expanding World

David Smith VK3HZ

Weak Signal

David Smith - VK3HZ

We're now well into autumn and, as could be expected, good propagation conditions are few and far between. However, that's not to say there are no periods of enhancement – they're just a little more difficult to find. So, it's probably a good time to go through a list of web resources that are a good source of information about band conditions. Note that this discussion applies mostly to the bands from 2 m upwards.

For general real-time information, the VK/ZL VHF-UHF Propagation Logger is proving to be very valuable - www.vklogger.com When the bands are jumping, many people report their success (or otherwise) and many more monitor this page. At times, the list of callsigns viewing the page becomes quite long – like a flock of hungry seagulls perched on the powerlines waiting to pounce on the DX.

For those who can't continually monitor the VK/ZL Logger, then the VK-VHF mail list often has news of good band conditions - mail.une.edu.au/lists/cgi-bin/listinfo/vk-vhf. Just don't mention trees.

For tropospheric enhancement, the number one site would be William Hepburn's VHF/UHF Tropospheric Ducting Forecast – home.cogeco.ca/~dxinfo/tropo_au.html Originally developed for DX TV enthusiasts, it is quite a reliable indicator of good tropo conditions.

To verify that Hepburn's is giving the right information, the Bureau of Meteorology weather radars sometimes show evidence of tropo propagation enhancement - www.bom.gov.au/weather/radar/. Look for indications of rain at long range where no clouds are shown on the satellite images. These phantom indications are often caused by reflections from mountains way beyond the normal range of the radar – received because of enhanced propagation conditions.

Even though we're near the sunspot activity minimum, there are still solar outbursts causing enhanced auroral propagation conditions. The Costello Geomagnetic Activity Index - www.sec.noaa.gov/rpc/costello/ - provides a short-term prediction of auroral activity. Another NOAA page - www.sec.noaa.gov/pmap/pmapS.html - shows the current extent and position of the auroral oval in the southern hemisphere from satellite measurements.

So, bookmark these site addresses in your web browser and start looking for good conditions. They're still happening!

UIOLI

No that's not a new digital mode, but stands for "Use It Or Lose It". Ever so slowly, our band allocations are being nibbled away and we need to be more vigilant and reactive to prevent further losses. Several recent events have affected some of our VHF/UHF/Microwave bands.

The new European competitor to the US GPS system has commenced launching satellites. Galileo will eventually have 30 satellites operational using a wide range of frequencies, including a chunk in the 23 cm band (1260 MHz to 1300 MHz). Signals from the satellites will be quite weak and spread over a wide band, so interference to amateur stations is unlikely to be significant, except perhaps for large EME setups.

However, it is thought that amateurs could interfere significantly with Galileo users and considering that the 23 cm band carries the Commercial and Public Regulated services (both subscription services), then there could be some issues. More information about Galileo can be found at www.southgatearc.org/articles/galileo.htm.

Working up the bands, the ACMA has recently issued a proposal to vary the LIPD Class Licence to allow RLAN (radio local area network) access in the 5 GHz band. The variation allows RLAN operation at a maximum level of 1 watt in the frequency band from 5.650 – 5.725 GHz. During a recent outing to a hilltop with Alan VK3XPD, we noticed digital-type interference on 5.7601 GHz that had not been heard before. Looks like the WiFi scourge is also going to make weak signal operation on 5.7 GHz difficult, as it has for 2.4 GHz.

The ACMA proposal for varying the LIPD Class Licence also will authorise the operation of ultra-wideband short-range vehicle radar in the frequency band 22 - 26.5 GHz – right over the top of our exclusive allocation at 24 - 24.05 GHz. It is unlikely that 24 GHz operators will suffer much interference, due to the extremely low power level and wide bandwidth being used. However, I hope the opposite is also true. These vehicle radars are used for intelligent cruise control, keeping vehicles a set distance apart at varying speeds. A failure caused by interference could have dire consequences.

Finally, the ACMA has called for comments on a draft proposal to amend the Radiocommunications Act to allow the authorisation of devices under class licences in spectrum designated for spectrum licensing. They claim that this is needed due to the emergence of new technologies, which have low interference potential but use a wide band of frequencies, and the consequent need for these devices to be licensed across whole radiofrequency bands. This, of course, has the potential to impact all of our amateur bands and weak signal devotees will be hit hardest. Understandably, there has been a significant negative response from the telecommunications business community. Many of these companies have paid many millions of dollars for licences for their chunks of spectrum, and would be very unhappy for their frequencies to be degraded with wideband noise.

So, it pays to keep an eye on the ACMA web site – www.acma.gov.au - for any changes that may affect the amateur service. We should be vocal in opposing all changes that may adversely impact our hobby.

And above all, UIOLI.

Please send any Weak Signal reports to David VK3HZ

Digital DX Modes

Rex Moncur – VK7MO

The group involved in the weekend FSK441 Activity Sessions on 144.230 MHz has decided to adopt a slightly different format for the time being to accommodate interest in VK4 and VK5. The format with times in NSW/Vic local time is as follows:

Saturdays

0600 to 0700 VK1/2/3/4/7 TX first period to VK5 second period

0700 to 0800 VK3/5/7 TX first period to VK1/2/4 second period

Sundays

0600 to 0700 VK1/2/3/4/7 TX first period to VK5 second period

0700 to 0800 VK1/2/3/5/7 TX first period to VK4 second period

VK4 is currently represented by VK4WS, VK4CDI and VK4EME and VK5ZGP is representing VK5. All activity is on FSK441a now that FSK441b and FSK441c have been dropped from the latest versions of WSJT. New stations are always welcome to join the group on 144.230 and the 40 metre callback on 7085, or nearby, after each activity session.

Congratulations to Ian, VK3AXH, on getting his four x 5 wl yagi 2 meter array operational. He is making many EME contacts on JT65, including one with a single yagi station in the UK.

Please send any Digital DX Modes reports to Rex VK7MO

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

The bottom of the sunspot cycle certainly appears to have taken its toll on the 6 m band with there being very few TEP openings to the north. Looking at the 6 m loggers, there have only been a few reports of beacons heard or stations worked, only the occasional logging from JA stations reporting VK4 TV and the northern beacons VK4RTL (Townsville), VK6RSX (Dampier) and occasionally VK8RAS (Alice Springs). Also there were only a couple of sporadic E openings in March.

On the 22nd March Trevor VK3VG Kyabram worked John VK4FNQ Charters Towers and early morning on the 23rd March there was an opening from VK5 to the Brisbane area of VK4. Wayne VK4WS worked VK5's UBC, ZK, NY & DX with Brian VK5UBC also working Allan VK4ID. Later in the morning the Townsville beacon was up to S9 in VK5. The evening of the 23rd March Joe VK7JG Launceston also worked VK4ID.

Received a note from Colin VK3BE who reports that this was his 1st year on 6 m after 27 years and he managed to work VK1, 2, 3, 4 and ZL4LV on the 16/3/06. In Colin's words "I had a ball". Well done Colin, I hope to hear you shortly.

From the 6 m loggers, on the 5th April, JA1VOK reports hearing the northern beacons and working John VK4FNQ. On the same day there was reported JA activity into Darwin and Alice Springs. Then on the 10th April, Hiro JG3LEB reports working Gary VK4ABW and Ray VK4BLK.

Noticed on the VHF-UHF propagation logger that there was mention of the Darwin 6 m beacon being reactivated shortly. This would certainly be welcome and if you have any information in regard to this please forward it to me.

With very few openings at this time of the year it is very difficult to produce 6 m notes so if you have any 6 m items of interest please remember to send them to Brian VK5UBC