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# VHF/UHF – An Expanding World

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David Smith VK3HZ  
Leigh Rainbird VK2KRR

## Weak Signal

David Smith - VK3HZ

Solar flare activity in mid August produced some auroral enhancement on the evening of 24 August.

Ian VK3AXH reports: "I first noticed Joe VK7JG mention aurora on the VK/ZL logger. I then worked him on both 6 m and 2 m at 5x5 SSB. From then on, there were many stations worked on 2 m including VK2KRR, VK5NY, VK3ZQB on SSB and on CW VK3UM and VK3AFW. From my place this activity lasted from around 8:15 to 11:30pm EST."

Ron VK3AFW reports: "I heard on the local AM radio that a listener in Ouyen could see the aurora. I went outside and could see cloudbank to the south and lots of scattered light, but no aurora visible here in the city. Checked the VK/ZL logger and saw a report of Ian VK3AXH having worked VK5NY with big signals via the aurora. Heard a strong signal from a VK5 - call not copied. Put on RIT set to -500 Hz and called CQ. Worked Colin, VK5DK, just before 1300 hrs UTC. Doug, VK3UM, worked Ian VK3AXH on CW. Some aurora effect on Doug's signal. I worked Ian on CW. Gavin VK3HY calling on CW, too close for any aurora effect."

Doug VK3UM reports: "I went outside at about 2230 EST and thought Moon was rising (in the south?) It was a spectacular Auroral visual display from the SE to SW and up to 60 degrees El. In almost 10 years at this QTH (with no lights) it was the first visually observed. Typical 'wedding cake verticals' ranging from blood red through pink white to green. Quite spectacular and bright enough to read a newspaper. Different to the bursts of 'light areas' that I have seen in northern SM. Unfortunately it did not last long and disappeared at about 2250 EST. Radio wise, quite disappointing. Massive noise bursts were recorded on 70 cm and 23 cm the previous day."

For those interested in portable operation and aircraft enhancement, Barry VK3BJM has created a web site detailing his exploits in these areas over the years. Steer your browser to [www.users.bigpond.com/vk3bjm/](http://www.users.bigpond.com/vk3bjm/)

## EME

From mid August until late September, Rex VK7MO was operational on EME from the islands off the west coast of Australia. Operation was restricted to only digital mode using WSJT JT65 and only a single long yagi was used. Initially, Rex was operating as VK9CMO from the Cocos Keeling Islands where he managed 67 contacts on 2 m and 3 contacts on 70 cm. In early September, Rex moved to Christmas Island under the callsign VK9XMO. As this report is being written, he now has over 100 contacts and still over a week of operating to go. Expect a full report on the trip once Rex returns. In the meantime, some photos of his setup are included here. Note his Az/El control system – a string from the rear of the yagi wound around a section of palm frond held down by a lump of coral. For El control, wind the string on or off the palm frond, and for Az control, move the frond and coral!



## Spring VHF-UHF Field Day 2005

A note from John Martin VK3KWA, contest manager, advises that the dates for the Spring VHF-UHF Field Day are Saturday and Sunday November 12 and 13. Duration in all call areas other than VK6: 0100 UTC Saturday to 0100 UTC Sunday. Duration in VK6 only: 0400 UTC Saturday to 0400 UTC Sunday. For further details, contact John.

### Beacons

A recent VK2 broadcast carried the news that the VK2RSY 70 cm beacon has failed and is now QRT permanently. A new beacon is under consideration.

Colin VK5DK reports that work has been carried out on the VK5RSE beacons on 70 cm and 23 cm. Hopefully there is a big improvement in stability and keying note. Colin welcomes any reports to him at [vk5dk@internode.on.net](mailto:vk5dk@internode.on.net)

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

## Digital DX Modes

Rex Moncur – VK7MO

Joe Taylor W1JT has announced a beta release of WSJT version 5.8.1. This is a major revision of WSJT, with many new features, rebuilt almost from the ground up.

New capabilities include:

- Built-in real-time waterfall display, usable in all WSJT modes
- DF of signal selectable directly from the waterfall display
- Selectable sound card
- Improved control of T/R timing
- Immediate decoding available after meteor "pings" in FSK441 mode or signal enhancements in JT6M mode
- No need to re-enter station parameters after a version upgrade
- 16-bit audio for better dynamic range
- Transmitted as well as received information saved
- Optional logging of QSOs (for contests, etc.) in file WSJT.LOG

- Continuously updated solar and lunar coordinates and Doppler information provided in a file usable by other programs

Many other program enhancements are still to come:

- Correction for inaccurate sound-card sample rates
- Improvements to decoders for all WSJT modes
- Non-saturating measurements of signal level in JT65 mode
- Open source policy for nearly all program code
- Relatively easy to port program to Linux or Macintosh

Version 5.8.1 is stable and very usable. A few familiar features present in version 4.x have not yet been implemented (for example, CWID and EME Echo mode). With many thousand lines of new code, it is likely that there are some new bugs.

Go to the WSJT Home page, <http://pulsar.princeton.edu/~joe/K1JT/>, to download the new program.

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

## The Magic Band – 6 m DX

Brian Cleland – VK5UBC

August has been a very quiet month on 6m. There have been very few reports of band openings from anywhere in Australia. Only Norm VK3DUT who has continued to get openings across the Tasman working Murray ZL3MH and Mike ZL3MF on 14 August and John ZL3AAU, Duncan ZL3JT & Keith ZL3RW on 15 August. Good work Norm. Norm also heard the VK7RST/b on AU on morning of 25 August.

SWL Dave from Adelaide reports hearing the Hunter Valley VK2RHV/b on 50.288 from 0756-0807z on August 11 and the Alice Springs VK8RAS/b on 50.046 from 0717-0744z on August 25.

The only other news of interest is from Wayne VK4WS who has been able to hear W1JJ via moon bounce and reports that Gary VK4ABW in Townsville has worked several stations via the Moon in August. Wayne says he can hear Gary on a half-wave vertical via Meteor Scatter when Gary's beaming at the Moon.

I've received requests for information of where to listen to assist newcomers to 6m. Below is a list of Australian 6m beacon that are presently operational.

50.046	VK8RAS	Alice Springs	CW
50.058	VK4RGG	Gold Coast	CW
50.066	VK6RPH	Perth	CW
50.087	VK4RTL	Townsville	CW
50.288	VK2RHV	Hunter Valley	CW
50.289	VK2RSY	Sydney	CW
50.293	VK3RMV	Wannon	CW
50.297	VK7RST	Hobart	FSK
50.306	VK6RBU	Bunbury	CW
50.345	VK4ABP	Longreach	CW
52.450	VK5VF	Adelaide	CW

There are other beacons either planned or not operating at present and I will advise of any updates. It is also useful to listen for Channel 0 TV, in particular, Toowoomba sound on 51.672 and Wagga sound on 51.740. The international call frequency is 50.110 with most SSB operation taking place between 50.110 and 50.200. For more information check the Australian Amateur Callbook.

10m activity is starting to improve so hopefully 6m will start coming to life during September.

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

## 2 m & 70 cm FM DX

Leigh Rainbird - VK2KRR

While conditions were quiet during the first half of August, a few surprises were thrown in by mother nature for the latter part of the month for southern Australian operators. With 6 days of good conditions in a row, thanks to a slow and stable high pressure system with a good centre pressure; many now have their fingers crossed that it was a sign of what may be coming for us this summer! While it may have only been a freak of nature, we can still live in hope.

First up for the month was some activity for northern VK4 operators when in the evening of 15/08 the tropo picked up as reported here by Mike VK4MIK at Butchers Creek. "I went on air at 7.53 pm to contact Dennis VK4JDJ at Herberton and Gary VK4ABW at Blue Water, north of Townsville, both with good signal reports on 146.500 simplex. Russell VK4BEG at Lake Eacham then joined in, I also called in Ross VK4AQ, Innisfail. Felix VK4FUQ at Ingham was also readable off the back of his beam. John VK4FNQ at Charters Towers (305 km) also came in, as did Bill VK4WL at Mareeba who could not hear the others. It was passed around to get as many contacts with Gary as possible and later John. Ross had trouble hearing other stations but made contact with Gary, as did Dennis, Russell and myself. Signal strengths from Gary were at S6 - S9+. The maximum distance worked was between John VK4FNQ and Russell VK4BEG at 311 km".

Heading down south, from Monday evening 22/08 tropo picked up. Conditions built up each evening thereafter and peaked around Friday and Saturday evenings.

On the Monday evening 22/08, after 10.30 pm, I was very happy to have made it to the legendary VK5RMB Murray Bridge repeater again (733 km) after such a long wait after the repeater was damaged by a lightning strike. Being a little worried about how the repeater would perform after the repairs, I soon had no fear about its ability when I realized this was the only repeater in VK5 that I was able to access. Amazing. Later on I was also able to access Crafers at 764 km, Barossa Valley at 741 km and Lobethal at 747 km, signals mostly weak.

On 23/08 signals were again present from some VK5 repeaters, similar to the conditions from the previous evening. On 24/08 again same repeaters just in from VK5, but this time a contact on 146.500 with Gary VK3KYF from Mildura was available at 466 km, Gary was 5/7. Damien VK3HGY at Mirboo Nth made it to the Mt Gambier VK5RMG repeater at 474 km. While Damien could not raise any VK5's for a contact he did manage to raise Max VK7KY from the Tasmanian north coast.

A similar report again for the 25/08, but there was one BIG exception. At around 4 pm, Michael VK3KVW at Ballarat reports working John VK6ZN stationary mobile near Eucla in Western Australia via the 146.900 repeater at Mt Gambier, which is 1282 km for John across the Bight. The two then also made the contact on 146.500 simplex over the 1515 km path. Well done.

On the 26/08 a Friday night special saw some pretty big signals floating about which was great to see. At 6 pm the Geelong repeater was 5/9+50 at 383 km, Otway Ranges was also 5/9+50 at 486 km. After 8 pm, VK5 signals started coming in again, the Renmark TV beacon on 143.760 FM was over 5/9+60 at 600 km.

After 9 pm signals started coming in from Broken Hill. Close to 10 pm the Broken Hill repeater on 147.000 was 5/7 signal at 638 km. I was able to catch up with Paul VK2YVG and Brian VK2DPG both from Broken Hill on their repeater. While I could not hear Paul on simplex, Brian was throwing in a good signal on 146.500 up to 5/7. The repeater peaked at 5/9+20.

The last good day was Saturday 27/08. Another big surprise were contacts made by Hayden VK7HAY portable at Mt Blackwood in northern VK7. At 2.26 pm and with a simple set up, Hayden was able to work the VK2RFS Mt Mumbulla repeater on 146.750 at a big 641 km, Hayden spoke to David VK2DE. Hayden also worked to the Bairnsdale repeater at 470 km, where he spoke to Ben VK3CBE and also to Mt Baw Baw at 445 km. Well done Hayden.

After 6 pm, I had repeater signals such as the following – Ararat 5/9+60 @ 410 km, Grampians 5/9+40 @ 471 km, Mt Macedon 5/9+60 @ 324 km, Mildura 5/9+20 @ 466 km. Able to access these (except Mildura) with only 2 watts from the rig. At 9.50 pm was able to work Les VK3TJ at Mildura on simplex, 5/5 at 466 km.

As a nice finishing touch, at 11 pm the Warrnambool 147.050 repeater was coming in at 5/9+20dB at 512 km, where I was able to work Micheal VK3KVV and Ian VK3IDL from Ballarat and also Russell VK3ZQB at Port Fairy. Michael VK3KVV was also worked on 146.500 with a nice 5/9+40 signal. Russell and Ian were heard on reverse.

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