
VHF/UHF – An Expanding World

David Smith VK3HZ

Weak Signal

David Smith - VK3HZ

The annual Gippstech conference was well attended by amateurs from around the country. Peter VK3KAI and his band of helpers once again organised a very slickly-run weekend with all events running to plan and suitable diversions organised for the many “other halves” who attended. The conference presenters covered a wide range of subjects – both theoretical and practical – in the areas of propagation, construction and operation for the VHF/UHF/Microwave bands. By Sunday afternoon, I was exhausted from the effort of absorbing the sheer volume of information presented. The Friday and Saturday night dinners provided good opportunities to meet people and discuss current topics of interest. It's always interesting to meet someone who you'd only ever previously spoken to – the shattering of the mental image you had formed of the person is almost audible! So, congratulations to all concerned for another great weekend. To those who have not yet attended a Gippstech conference, I would highly recommend that you make the effort. Get in early with the XYL and reserve that second weekend in July 2007 now.

EME

Congratulations to Doug VK3UM who has used his new dual band (70 cm / 23 cm) feed to reset the VK 23 cm EME distance record. On June 10th, Doug worked Michael CT3/DL1YMK on the island of Madeira - a terrestrial distance of 18,354 km. Of course, the actual radio path is via the moon and the path length does not change much for different stations, so one might ask what is the relevance of the terrestrial distance? To work a station on the other side of the earth via the moon, the antennas at both ends have to be very low to the horizon, and ground noise pickup then causes significant degradation to the signal. Also, apart from some areas of Europe and the USA, EME-capable stations are few and far between and it is hard to find a station at maximum terrestrial distance (particularly for southern VK where the opposite side of the earth is the mid-Atlantic Ocean – not many EME stations there!). Fortunately, Michael DL1YMK had organised an EME DXPedition to Madeira. Michael's equipment consisted of an Icom IC-910H with 500 watt PA's on 70 cm and 23 cm feeding a 4.1 m fold-up preloaded/stressed dish. After several attempts, Doug and Michael successfully worked on 70 cm where the small dish size was definitely marginal. Then, again after several attempts, they succeeded on 23 cm with surprisingly good signal strength (O/549).



CT3/DL1YMK EME DXpedition 4.1 m Dish

Please send any Weak Signal reports to David VK3HZ

Digital DX Modes

Rex Moncur – VK7MO

Allan VK4EME at QG63kq , 135 km North of Brisbane is a new and active participant in the 144 MHz meteor scatter activity sessions. Allan uses a TS2000 transceiver running 80 watts to a 10 element DL6WU Yagi. Since May, he has worked VK2ZZF, VK2EAH, VK2AWD, VK2FZ, VK3HZ, VK3HY, VK3VHF, VK3II and VK7MO. On his better mornings, he has been completing four QSOs with stations down south in the one hour session.

Nick, ZL1IU, is now operational on Digital Modes and has been attempting to work across to VK on meteor scatter. The distances are generally over 2000 km and thus one needs a very good take-off. Tests to date with VK4AFL, VK2FZ and VK4EME have resulted in one or two decodable pings an hour, well short of completing a QSO. It seems that it will require someone with a very good take-off and lots of patience to complete a QSO in normal conditions. Nick does, however, provide an excellent opportunity to test out ideas on tropo-ducting extensions of meteor scatter as were discovered last summer with ZL3TY. It is suggested the stations in VK2 and VK4 monitor the Hepburn charts and whenever these indicate “yellow” for a few hundred km at either end of the path try some tests with Nick and see if we can improve our understanding of this dual mode of propagation.

Peter VK5ZPG reports on how meteor scatter can allow stations who are remote from concentrations of VHF activity to participate in VHF DX and then as a result of this activity are available for SSB contacts when the bands are open. Peter moved to Quorn near Port Augusta in 2002 after operating VHF/UHF from Willunga close to Adelaide. Following the move, contacts on VHF/UHF were nil except for a few sporadic E contacts on six meters around Christmas each year. He almost gave up on VHF/UHF until he noticed reports of meteor scatter in this column. Over the last

10 months, Peter has been an active participant in the weekend meteor scatter activity sessions and has completed 78 contacts on 2 metres using FSK441. As a result of this activity, he has maintained an active VHF station and completed 32 SSB contacts in the same period, as well as contacts on JT65. Peter says "I'd recommend MS to others in my position, located away from Adelaide (or any capital city) and normally missing out on VHF/UHF activity". Peter's experience is in line with my own where from Hobart, SSB openings to the mainland are so rare that there was almost no activity and stations dropped out of VHF DX. Through the use of Digital Modes, I can regularly work into VK3 on JT65 and to VK1/2/4/5 via meteor scatter on FSK441. As a result of being active, I am then aware of the rare DX openings that allow SSB contacts, enhancing this mode of activity as well. The message is that stations who are remote for the concentration of VHF activity on the East Coast of Australia but within meteor scatter range (1800 km) should consider this mode as an opportunity to participate in VHF DX in all its forms.

Please send any Digital DX Modes reports to Rex VK7MO

The Magic Band – 6 m DX

Brian Cleland – VK5UBC

June continued to produce some good sporadic E openings particularly in VK2, 3 & 5. Interstate beacons and/or TV signals were recorded on many days in these states but unfortunately not always accompanied by contacts.

A good opening occurred between VK1/2 and VK5 on the afternoon of the 11th June. Keith VK5AKM and Brian VK5UBC portable at Corny Point (PF85mc) worked several stations including VK2ZZY, VK1ZQR, VK2KRR, VK2PDW and VK2TG.

On the 29th June, Norm VK3DUT worked ZL3AAU and VK4FLR. Norm seems to have a permanent path to New Zealand. The same day Joe VK7JG reported the band open to VK4 but could not raise a station and Allan VK2ADB in the Snowy Mountains reported hearing the Townsville beacon.

With very little to report in mid-winter, I thought it would be interesting to look at the background and achievements of one of Australia's keen 6m DXers, John VK4FNQ.



John VK4FNQ

John was 1st licensed in 1979 and as operated with the following callsigns:-

11/08/1979 - 28/01/1982 VK8NGM Darwin

28/01/1982 - 06/04/1982 VK4NIE Muttaborra

22/09/1983 - 06/03/1984 VK4YLG Muttaborra

06/03/1984 - Today VK4FNQ Charters Towers

John says:-

My first activity was on HF from Darwin, which was an excellent location for DX where I also used a Lafayette valve receiver on six on which I heard many JA's.

In mid 1979, I purchased a Kenwood TS520-S as a novice and around the same time Kenwood advertised their complete station so I purchased the AT200, DG5, EXT VFO, SP520 and the TV506 transverter.

I put up a dipole to listen on 6m in August 1983 and heard nothing for weeks. I remember one day hearing a lot of noise (I now know it was BYTV) and suspected the TV506 had failed. A few days later (31/10/83) I heard JA stations calling so I worked several. The first VK was Paul VK2YVG in Sydney on 01/11/83. The interest intensified from there and I built a 4-element yagi and logged many QSO's in VK and JA.

I travelled around from 1984 to 1988 until settling in Townsville. I operated portable from many locations. I carried the 4ele around and operated portable from Wonga Beach north of Cairns to Cloncurry and all points in between. I remember one night going to activate the Croydon shire on 80 mtrs and working a heap of JA's from the mobile on 6m. (north of Richmond)

After settling down near Townsville I built the 6-element yagi from the ARRL antenna handbook and still use the design as my backup antenna. I have experimented with this antenna with good results and a 3 element quad which is tuned for 52 MHz repeater work. After moving to Charters Towers I built a 9-element yagi on a 10

meter boom (VK4ABW design) which is up 19 meters. When mobile, I mostly use a ¼-wave whip.

Over the years I have used several Rigs including:-

Kenwood TS520-S + TV-506 Transverter

ICOM IC 505 + HL66-V amp

Kenwood TS 680-S + HL66-V amp

Yaesu FT847

For logging I used a paper log until 2000 in conjunction with a database so I could cross reference to the log books, and I am now using MixW and have transferred the database entries into MixW.

I have worked 138 countries on 6m. One of the more memorable portable QSO's was VK0SJ on Macquarie Island (12 May 1986). I was located at Trinity Beach - a northern suburb of Cairns. Another was YC0UVO (19 Mar 1989) from the mobile near Hughenden. My most memorable European opening was on 29 October 2000 which lasted from 0641z to 1011z (operating time) in which I worked 90 stations including 4N, 9A, EH, EH8, I (55 worked), IG9, LZ, S5, UY, YO, YU and S3.

My log database has over 14000 entries on 6m. Japan is by far the easiest worked with over 3300 QSO's in the log. I have around 400 JCC's and 200 JCG's confirmed from Japan on 6m. The log also includes around 500 QSO's into Italy.

I considered the best years were 1989 - 1992 with 1320 QSO's logged (including approx 534 JA and 213 VK) and 1999 - 2002 with 4823 QSO'S logged (including approx 1400 JA and 900 VK).

My advice to newcomers to 6m is to program beacons and some out-of-band indicators into a scanner to give an idea when the band is open. Although the band will appear to be dead it will produce propagation at surprising times. I use an Icom IC505 with a 6 element yagi in scan mode 24 hours / 7 days a week and when in the depths of winter will produce some QSO's.

John is meticulous in his logging and logs all contacts plus beacons and stations heard. Although he has had many international 6m contacts and worked many countries, John still enjoys a chat during the Australian sporadic E openings and when the band is open to Northern Queensland can normally be found on 50.190 MHz.

Please remember to send any 6 m information to Brian VK5UBC