
VHF/UHF – An Expanding World

David Smith VK3HZ

Weak Signal

David Smith - VK3HZ

Spring has arrived and has brought some more interesting weather patterns. Across the south of the country, there have been several high-pressure cells that have produced some lift in propagation. Unfortunately, there have only been a few contacts - perhaps people are not on the lookout yet.

The evening of August 26th did produce some good contacts on 2 m from the Adelaide area across to the NSW coast. At 1020Z, Phil VK5AKK reported hearing the Newcastle Ch 5A TV vision carrier (we will miss that when it shuts down on November 27th). At 1115Z, he worked Steve VK2ZT near Newcastle with 4x1/5x1 reports – a path of 1244 km. At 1130Z, Bill VK5ACY and Peter VK5PJ also worked Steve with 5x1 reports. Nothing on any higher bands.

50 Records and Counting

Congratulations to fellow columnist and microwave rover Rex VK7MO for achieving his 50th Australian VHF-UHF distance record

His first record was set in January 1964 when, as VK3OB, Rex set the first ever National distance record of 156.6 km on the then-newly-created 70 cm band.

In June 2012, his 50th record is for 24 GHz Digital Modes over a distance of 461.7 km – in 48 years, three times the distance at 56 times the frequency!

I'm sure there'll be a few more yet.

Please send any Weak Signal reports to David VK3HZ

Digital DX Modes

Rex Moncur – VK7MO

FSK441

Welcome to Mick VK4NE who has joined in the weekend activity sessions and completed his first meteor scatter with Arie VK3AMZ.

A few years ago Meteor Scatter was predominantly centred on VK3 but over the last 6 months VK4 has come to dominate the scene as a result of efforts by Kevin VK4UH to encourage activity – well done Kevin.

10 GHz Home station VK3BQJ

Rod VK3BQJ has been experimenting with aircraft scatter from his home station down to Rex VK7MO over a 567 km path using JT65c. The only useful aircraft are three flights that leave Launceston for Sydney/Brisbane each day. Alignment is a major issue with Rod's 850 mm dish above his roof on a HF type rotator – but he is making progress by incrementing azimuth in small amounts and seeing when an aircraft produces a signal – rather painful with only 3 aircraft a day. Once azimuth is optimised Rod will look at elevation which at present is controlled by wedges in the clamp that holds the dish. To date Rod has received only 2 decodes and nothing the other way but hopefully once alignment is optimised a QSO can be completed.

My steady adventure into 2m digital EME

Ross VK2DVZ sent in the following item:

Back in time in the mid 1980's I built a bay of 4 x10 element DL6WU design yagis (see below) and installed them onto a then new 13.7m Nally tower that I had purchased. I later added a 2 m PA that used a pair of 4cx250B tubes. The performance of that set-up soon became apparent with many enjoyable SSB contact being made on the 2 m band, using various means of propagation which included tropospheric ducting across to New Zealand, aircraft enhanced signals to the north to Maleny and beyond and to the south to the ACT and beyond. Throw in many 'local' contacts and some inland ducts and some aurora into the mix and a curiosity with 2 m EME followed on.



VK2DVZ 2m EME Array

I had heard/copied other's signals off the moon. I would try to hear my own 2 m CW signals on moonrise, sometimes successfully sometimes not.

It wasn't long before David VK3AUU, who at that time was running a big 2 m station found out that I was hearing a few stations off the moon, arranged a multi-station schedule with Dave W5UN, each to try and work him on 2 m CW on a pre-arranged date and time. If my memory is working, there was a ZL, a Fijian station, myself, a VK4, I think Ed VK1VP and David VK3AUU – there may have been others, but as best I can recall all stations worked W5UN on CW, as arranged.

On that contact I recall being able to hear then read W5UN signal before I had moon rise and before it was my turn to try to work Dave. What a thrill it was to succeed and to see an S5-6 signal on the meter - off the moon!

Back then there was no Internet logger to check into to see who was on air or 'on the moon' at a given time. All contacts were either pre-arranged or made by chance. I used a Commodore 64 or a very early version of a pocket computer to track the moon, both used a 'type-it-in-yourself' simple tracking program to determine the moon position. Not having any elevation capability at that time, only the rise and set times of the moon were needed.

I did not pursue 2 m CW EME any further after I had worked about 6 stations scattered in the US or Europe.

Fast forward to 2010 and after a change of QTH some 10 years earlier and still using

the same tower, antennas and PA and having better computers, digital programs, loggers and the like, it was time to try 2 m EME again using a much easier means of communication via the moon – namely JT65B, one of the WSJT suite of digital modes, rather than CW. So still without any elevation I started to listen to and decode digital signals off the moon at moon-rise and moon-set.

In November 2010 I worked my first 2 m station, namely I2FAK. Over the next few months I managed to work about 2 dozen stations. One early morning I announced on the N0UK 2 m logger that I was going to Tx as a test running 50 watts only. Back came RT4I off the moon whom I worked and on the logger he asked was my PA broken. That was a real QRP thrill for me. Quite a number of stations have now been worked off the moon.

An elevation actuator and 2 m mast mounted pre-amplifier were subsequently added to the station, giving greater flexibility to operating times and performance improvement. Many EME stations have now been worked around the world, with more to come.

Meteor scatter contacts using FSK441 mode are regularly made with Bob ZL3TY in Greymouth at a distance of 2026 km and with a number of VK stations also, mainly on weekends – it is good fun.

Come and join me some time on 2 m EME or meteor scatter, you too may get to real digital buzz!

Please send any Digital DX Modes reports to Rex VK7MO

The Magic Band – 6 m DX

Brian Cleland – VK5BC

August produced very little in the southern areas of VK but in the north several good TEP openings occurred to the north, Japan China etc with contacts also being made into the Middle East by Gary VK8AW in Darwin.

Gary VK8AW is now well and truly settled into Darwin and has a great 6 m station setup running an Icom IC7700 into a 9 element M2 yagi 50' above ground level and is now reaping the rewards of the propagation that can be experienced from Darwin. Gary reports:

4 Aug – Chinese TV arrived around 0700z and then the A6 TV from Qatar on 48.250 appeared around 1227z but was not very strong. The band opened with JI1CUL, JA3MDG and JF2WXS all worked on SSB at 1115z from central Japan. Then BV3CE from Taiwan was worked at 1150z and it was over to China with BA4SI who was S9. Many beacons were heard with JA6YBR, JA2IGY, JR6YAG, DU1EV and BV2YA all between S2 – S9. Conditions flittered around with 9W6RT (Roger) and DU1GM (George) both worked around 1300z.

On the 10 Aug the band opened a little later at 1204z with BV3CE and JM1XRL (Taka) both worked at S9. The Chinese TV was it's usual +20db and faded out around 1300z, but returned at 1400z a lot weaker and 'hollow' sounding. The Middle East TV (48.250) pegged 20db over at 1115z but nothing was heard from that direction.

The 17 Aug was a quiet one with BG6CJR being worked on CW at 1140z and a few weak JA's heard but not worked.

On the 19 Aug many weak JA's were heard on 50.055 CW around 1156z in what appeared to be a contest of some sort and I tried to work JM2CAN but no response was received. I then worked JR3UPT (Jack) at 1212z who was S9 with the usual

JA2IGY, JA6YBR, JR6YAG and BV2YA beacons all between S1 – S5.

On the 26 Aug I copied VK4TVL on 50.293 (WSPR) at 0741z. Lloyd's 5 watts to a vertical came stomping thru with the digital signal very 'crisp/clear' on Spectrum Lab for a good hour. Then 9V1TT (Andrew) from Singapore came in at 1240z and we chatted on SSB for about 30 minutes on 50.130. BV3CE from Taiwan appeared at 1315z and then DU7/PA0HIP (Willem) made the log at 1330z. Then BX4AG was worked at 1345z and I was surprised when A45XR (Chris) from Oman turned up at 1355z who was quickly worked on CW. 9M6YBG from East Malaysia came in at 1415z on CW for the last contact of the evening. The BV2YA beacon was logged at 1323z but no JA beacons were heard that night.

The 29 Aug was a quiet one with 9W6RT (Roger) appearing at 1345z and was worked on SSB. The Chinese TV made its usual appearance but there was no sign of Middle East TV on 48 MHz.

The month was nicely rounded out on the 31st with A92IO (Dave) from Bahrain appearing and being worked at 1320z on SSB. Then conditions went short with BV2DQ from Taiwan at 1328z and then 9W6RT (Roger) at 1345z and YB0CBI at 1400z. Conditions shifted and JM1SZY made the log at 1417z and then 9M2/JG3TTO appeared at 1440z for a very late contact. The BV2YA, DU1EV and JA6YBR beacons were all S5 – S7. 9M2/JG3TTO is running a beacon on 50.025 CW and is heard most evenings around 1300z. The highlight of the month was hearing the Middle East beacon A47RB on 50.004 around 1400z. Middle East TV has been getting stronger and often peaks 20db over several times during the evenings. This is getting louder as the weeks pass and September is looking very promising with the A47RB beacon already logged.

Pictured below is Gary's yagi and shack.





Meanwhile news from Rod VK6KP/VK3TG in Karratha North West WA:

The band was very quiet over the winter months but things are improving rapidly on 6 m. The band is now open most afternoons around the normal 2 pm local time, if only the TV from BA, It tends to disappear and then reappear around 5pm local (0900z). Band is open most evenings to JA/BA and BV. I have not heard anything from Oman or Dubai on 48 MHz yet but most evenings I have to give it away around 9pm local (1300z). Work commitments have limited my time on 6 m but looking back in the log for August the following was logged:

1st Aug 0930UTC BA TV full scale inband with a number of JA beacons. 0935 UTC worked JA1RJU on 110 at 5/9,

No activity from here (due work) until 21st August when I caught up with LI BA4SI at 1139z on 110 at 55 both ways,

22nd Aug - JH4GJR 0841UTC 50.120 59+ plus many other JA's operating all the way up to 50.250,

23rd Aug 0930UTC BA TV inband and a number of JA beacons,

Next chance was on the 29th August 1136UTC BX2ACM 50.110 at 53 both ways.

1139 50.110 BM2KUR at 53 both ways,

30th Aug 1231UTC JE6AZU 50.110 at 599 both ways. Many other JA's calling

31st Aug 1200z BV/B many JA/B up to S7 plus inband BA TV,

1st Sept 0800z Wide opening to JA cw/phone up to 50.240 S9+.

As I said conditions improving daily and I hope maybe something from ME or EU in the next two months??!!

Now the bad news ... after over two years here in the Pilbara I will be leaving mid October (Needed back on the other side - so much for retirement!!).

Six metres has been great. Running just a three element yagi at 15 feet then a four element yagi at 18 feet, it has been amazing what can be worked. You just need some basic understanding about how the band works and anything is possible.

I have had great assistance from locals, Michael VK6BHY and Steve VK6HV.

T6MO would have to have been the most interesting contact from Afghanistan, along with A92IO and A65BP. Europe so far no luck! Wide space yagi with some height

might have helped! Probably open the day after we leave!!

My wife and I have joined the "grey nomads" and will be mobile heading north via Broome Darwin, then south via probably Mount Isa, Longreach and down the coast back to VK3. Will have 6 m and HF.

There has also been some TEP activity from northern Queensland with beacons and TV reported from Japan and China and on the 31st Aug it extended down as far Ray VK4BLK in Yeppoon and Brian VK4EK in Sapphire who both reported hearing JA beacons and Ray working JR6EXN 559 CW and 5/9 SSB.

In some good news, Craig VK6JJJ advises he will be travelling to the Australian Antarctic Station "Mawson" by the ice breaker Aurora Australis mid January 2013 as an expeditioner on the 2013/14 Australian National Antarctic Research Expedition and will be wintering at Mawson Station for approximately twelve months, then returning to Australia around January 2014. Whilst there Craig plans to be operational as VK0JJJ on bands 160 m to 6 m with some of priority given to 6 m operation where he is planning to run 400 w into a 5-el yagi. Craig also hopes to have a 6 m beacon operational on 50.300MHz, callsign to be advised. Keep a watch on VK0JJJ in QRZ for updates.

Please send any 6 m information to Brian VK5BC