

# VHF/UHF – An Expanding World

David Smith VK3HZ

## Digital DX Modes

Rex Moncur – VK7MO

### WSJT8

A new version of WSJT called WSJT8 is about to become available for testing and evaluation. It will have new modes for meteor scatter, ionscatter on six metres, EME and HF QRP and promises improved performance in all of these areas. Both the EME mode and the HF QRP mode should have potential for weak signal VHF/UHF tropo-scatter.

### 10 GHz Rain Scatter using JT4F

Colin VK5DK and Russel VK3ZQB have been successful in working from their home stations over a 140 km path using JT65c on tropo-scatter and have also noted strong signals due to rain scatter. The rain scatter signals are typically spread over almost 100 Hz and are too wide for JT65C. To overcome the spreading they have conducted tests with JT4F and been successful in decoding signals as shown in Figure 1.

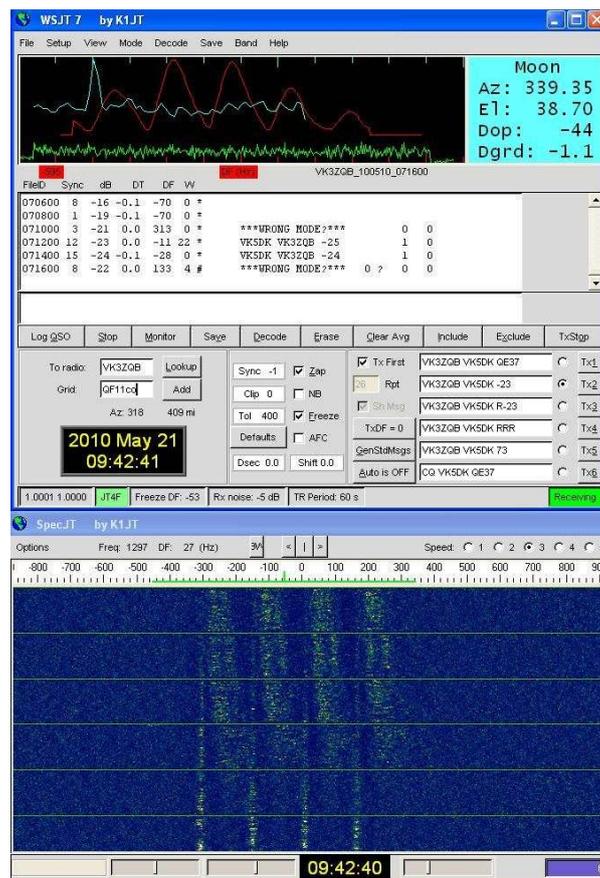


Figure 1 - Waterfall shows rain scatter

JT4F uses four tones spaced 160 Hz apart. At the bottom of the waterfall display in Figure 1 one can see the four tones via tropo-scatter and as one moves up the waterfall one can see the tones at a higher frequency which are spread due to

Doppler on the signal scattered from the rain. As the rain scatter signal builds up and drops in frequency the tropo-scatter signal fades presumably because it cannot get through the rain. In this case only two decodes were successful but Colin advises they have had generally good results on rain scatter with JT4F.

### **10 GHZ Aircraft Scatter using JT65C**

Rex VK7MO and Dave VK3HZ have now completed a 624 km QSO between Mt Wellington near Hobart and Sunbury north of Melbourne using JT65c and aircraft scatter. Best signals were -16 dB on the WSJT scale and signals were decoded for around 14 minutes on each aircraft pass. A detailed report of the results on this work is at: [http://www.vk3hz.net/aep/AEP\\_on\\_10GHz\\_part\\_2.pdf](http://www.vk3hz.net/aep/AEP_on_10GHz_part_2.pdf)

Please send any Digital DX Modes reports to Rex VK7MO

## **The Magic Band – 6 m DX**

Brian Cleland – VK5BC

Very little to report for the month for the month of May with the only significant openings being E's on the 24/25th. Other than these openings there were only a few short E openings with one or two quick contacts completed mainly from VK4. Meteor contacts continued to be completed most mornings with the Eta Aquarids meteor showers producing some good burns in early May.

Brad VK2QO who coordinates the meteor scatter contacts each morning reports the following:

*Didn't the Eta Aquarids produce same good burns at the beginning of May. Also good to see so many take part in that shower.*

*Contacts were completed with the following on the mornings of:*

*2nd: 2142z Brian VK4EK 5/7, 2226z Joe VK7JG 5/7.*

*3rd: 2208z Joe VK7JG 5/9, 2228z Brian VK5BC 5/5, 2228z Garry VK5ZK 5/5.*

*4th: 2203z Brian VK5BC 5/7, 2208z Brian VK5BC 5/5.*

*5th: 2153z Norm VK3DUT 5/5.*

*6th: 2053z Scott VK4CZ 5/7, 2100z Scott VK4CZ 5/9, 2124z Glenn VK7AB 5/7, 2126z Norm VK3DUT 5/7, 2128z Glenn VK7AB 5/9+, 2145z David VK3AUU 5/7 and at 2146z Peter VK5PJ 5/3.*

*7th: 2123z Scott VK4CZ 5/7, 2250z Brian VK5BC 5/7.*

*28th: 2128z Frank VK7DX 5/1.*

*29th: 2203z Glenn VK7AB 5/19.*

*17 contacts were made in that class 1 shower and 2 with random meteors at the end of May.*

*The next class 1 shower is the Southern Delta Aquarids from July 21 to the 23rd of August with the peak around the 30th of July.*

*And don't forget there are still many random meteors falling every day.*

Good 'E' opening on the 24th May between ZL and VK with Bob ZL1RS working several VK2, 3 and 4's as well as hearing the VK5RBV beacon.

Further E's on the 25th with Kerry ZL2TPY and Rod ZL3NW working several VK2, 3 & 4's. Band also opened from VK4 to VK3 & 7 with Brian VK4QB and Brian VK4EK

working several stations.

I apologise for the lack of information and content in this month's notes but I was fortunate enough to be on holidays in Hawaii during 2 weeks of May. Whilst there I went to breakfast one morning with a group of KH6 hams. Unfortunately couldn't get much interest in 6 m from them, but thanks to Bill KH6OO I was able to visit the Battleship Missouri in Pearl Harbor and operate KH6BB from the Battleship. Unfortunately conditions weren't prevailing to VK but I was able to work several mainland USA stations on 20 m. I was however able to work some VK5's via IRLP from the Battleship.



Yours truly operating KH6BB on 20m with Ned KH7JJ doing the logging in the foreground.



Breakfast with KH6CO club group; spot the Aussie with the white cap.

I made a few contacts on various Hawaiian repeaters with my handheld. Of interest is that you find the repeaters aren't every 25 KHz but will be on 146.880 or 146.760 etc. It was a challenge to get my handheld to tune in 5 KHz steps without the manual.

I also visited Bill KH6OO QTH, Bill & his wife live in a one bedroom Condo about 20 floors up overlooking Honolulu and has his rig (IC7800) setup in the bedroom. Of interest is his antenna, a magnetic loop made out of 2-inch diameter copper pipe mounted on a basketball hoop support base on the balcony. I had worked Bill on 10m a few weeks before visiting Hawaii and was very surprised to see the antenna Bill was using. Bill uses it on several HF bands and claims great success and I can certainly vouch for his signal on 10m.



Bill's bedroom shack.

Please send any 6 m information to Brian VK5BC