

# **June 4, 2012 US 5760 MHz and 10368 MHz DX Record**

## **Microwave Update 2013**

**By  
Al Ward W5LUA  
Chuck Hoover K0VXM**

On the morning of June 4<sup>th</sup>, I was listening to 144.2 MHz hearing stations down in Miami about 57. At 1129Z, I turned up the volume on the 432 MHz receiver and much to my surprise was Chuck K0VXM calling CQ. Chuck was 59. I immediately called him with my 100 watt driver and we moved off frequency for coordination. High power was certainly not required. Chuck was about as strong on 432 MHz as I had ever heard him in recent times. Chuck and I have worked many a Texas to Florida opening over the years and we had previously worked through 3456 MHz.

This day was going to be a bit different. As opposed to firing up my 2304 MHz Klystron for antenna aiming purposes, we went straight to 10 GHz. I use an M2 rotator with a Green Heron control box and I can usually point to within a degree or so. When we first tried 10 GHz, we had no success, so I decided to send dashes to Chuck on 5760 MHz. Within seconds, Chuck replied back on 432 MHz that he was hearing me. Chuck then sent some dashes to me and we were both peaked and the QSO began. We completed at 1139Z, only 13 minutes after we started on 432 MHz. We then immediately went back to 10368 MHz and I again sent dashes and it took little longer but Chuck began to hear me and then I was able to find Chuck and once we were re-peaked we made contact at 1152Z. We did not sequence but for the most part, I could always see Chuck on both the waterfall on my Flex-5000 and especially on Spectran. Spectran is a powerful tool that offers several dB improvement in the ability to see very weak signals on the waterfall.



Figure 1. Receiving K0VXM on 10 GHz on Flex-5000 at W5LUA

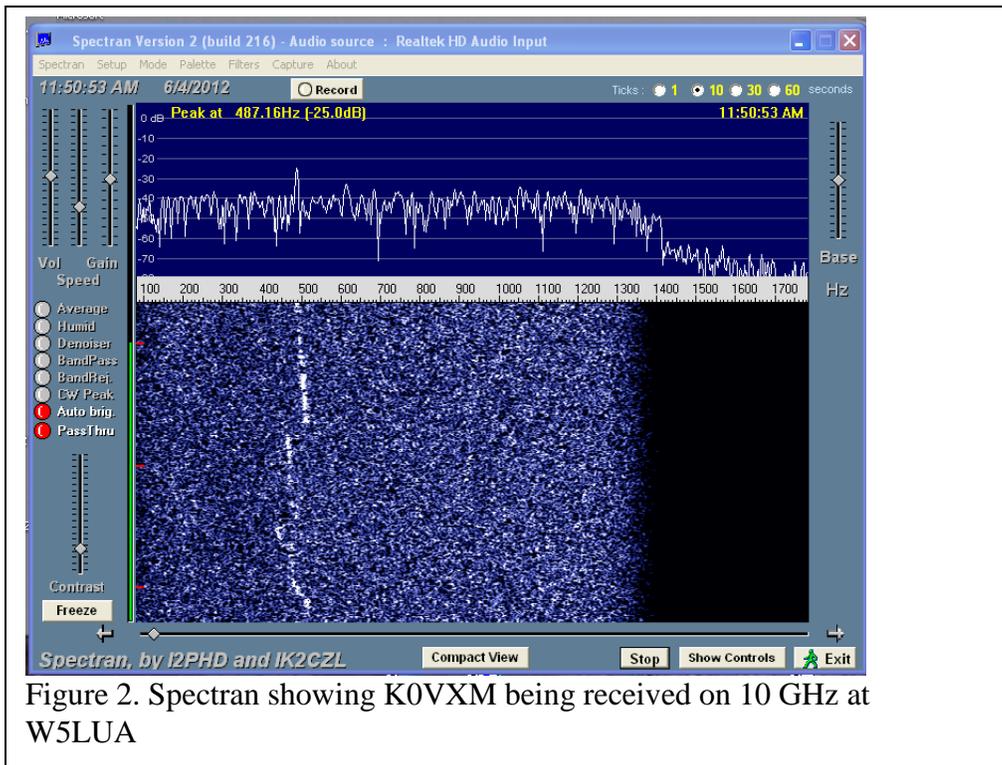


Figure 2. Spectran showing K0VXM being received on 10 GHz at W5LUA

The equipment on 5760 MHz at K0VXM was all antenna mounted. Chuck runs 7 watts to a DSS dish at 28 ft. The station at W5LUA consisted of a 5 ft mesh dish at 70 ft on a side mount. EW-53 waveguide is used to feed the antenna. Downstairs, I used a 150 watt SSPA.

The equipment on 10368 MHz at K0VXM is also all antenna mounted. Chuck runs 7W to a 3 ft dish at 30ft. At W5LUA, I used a 2 ft dish at 75 ft, fed by the same EW-53 waveguide. I was not able to use my antenna mounted LNA as it inhaled some water, so all my equipment was again located down in the shack. On 10368 MHz, I use a VTU-6191 TWT producing 100 watts.



Figure 3. K0VXM Antennas



Figure 4. W5LUA Antennas (winter of 2010)

I attribute our success to a number of things. First off, we were right on frequency. Both of our stations use GPS locked LOs which made it easy for me to find Chuck on Spectran. Second, we were able to aim our antennas fairly close as we began to look for each other. Also, with the slow fading that we experienced, it was necessary to just stick with and ride the QSB but we did it.

The distance based on the 6 digit grid squares of EM13qc and EL98pj calculates to be 999.7 miles or 1608.9 km. Using our exact latitude and longitude shows the actual distance to be 1001.7 miles or 1612 km. Plotting out the path on Google Earth shows that most of the path was over land but it was definitely a Gulf weather pattern that attributed to the conditions.

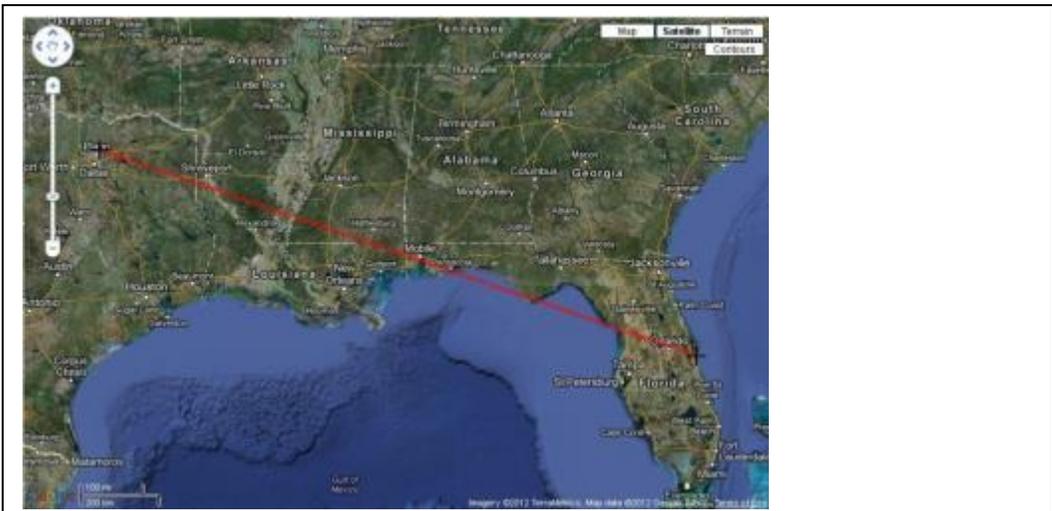


Figure 5. Google Map showing the path between K0VXM and W5LUA

The Hepburn forecast for that morning certainly showed enhanced conditions but both Chuck and I were definitely on the edge.

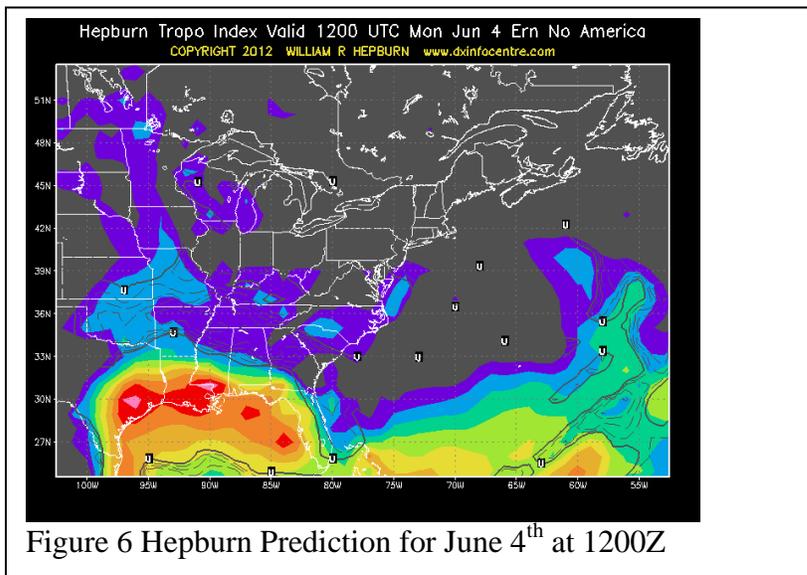


Figure 6 Hepburn Prediction for June 4<sup>th</sup> at 1200Z

We tried 24 GHz but by the time I hooked everything up, the band had folded for us. But needless to say, I will be ready next time the band opens up.

73 de W5LUA and K0VXM  
June 12, 2012