

# Deep Space Exploration Society

## Radio Jove Observation Results July 2016

**Astronomer and Analyst:** Dr. Richard Russel, [drichrussel@netscape.net](mailto:drichrussel@netscape.net)

### **Antenna Setup:**

The antenna was updated this month. The configuration is:

- Dual dipole East-West oriented
- 135 degree phased on the south dipole
- Cable upgraded from RG-6 to RG-8 (100 ft.) (note the velocity factor is different for RG-8 and the lengths were adjusted appropriately)

### **Observation Methodology:**

The observations were conducted at the Plishner Radio Astronomy and Science Center near Haswell, Colorado. This is a radio quiet zone, however, here was much activity on Saturdays at the site with work parties, therefore readings during these days should be discounted.

The results will consider times that Jupiter is above the horizon also eliminate times when the Sun was also above the horizon.

Radio Jupiter Pro is used as the prediction tool for the analysis. A good detection will be defined when there is a signal that correlates with the Radio Jupiter Pro prediction and is not during a time when the Sun is up. Detections that happen that are not predicted by Radio Jupiter Pro will be flagged.

**Summary:**

There was a significant improvement to the detection of Jupiter signals and their correlation to the Radio Jupiter Pro probabilities. This correlates with the new antenna system that was installed.

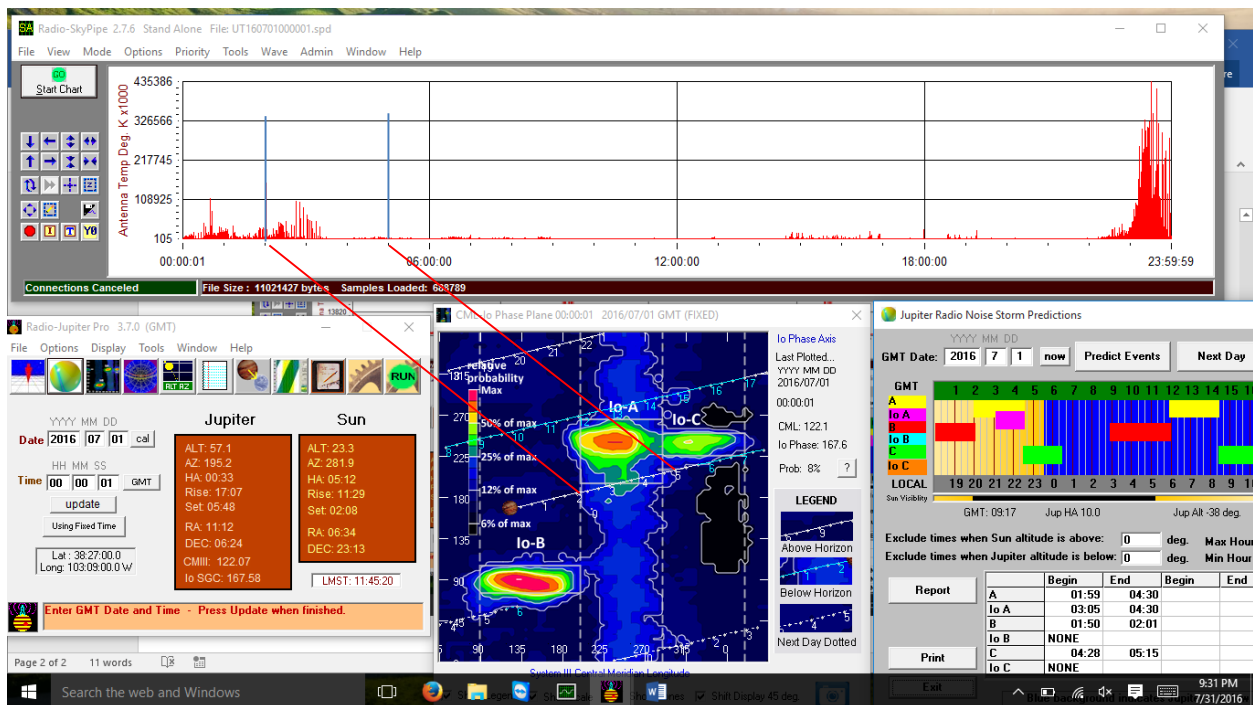
Next improvements include:

- Calibration of system
- Replacement of PVC antenna poles with steel poles
- Communication van cooling. The van ranges between 80°F and 130°F during the recording periods.

## Observations:

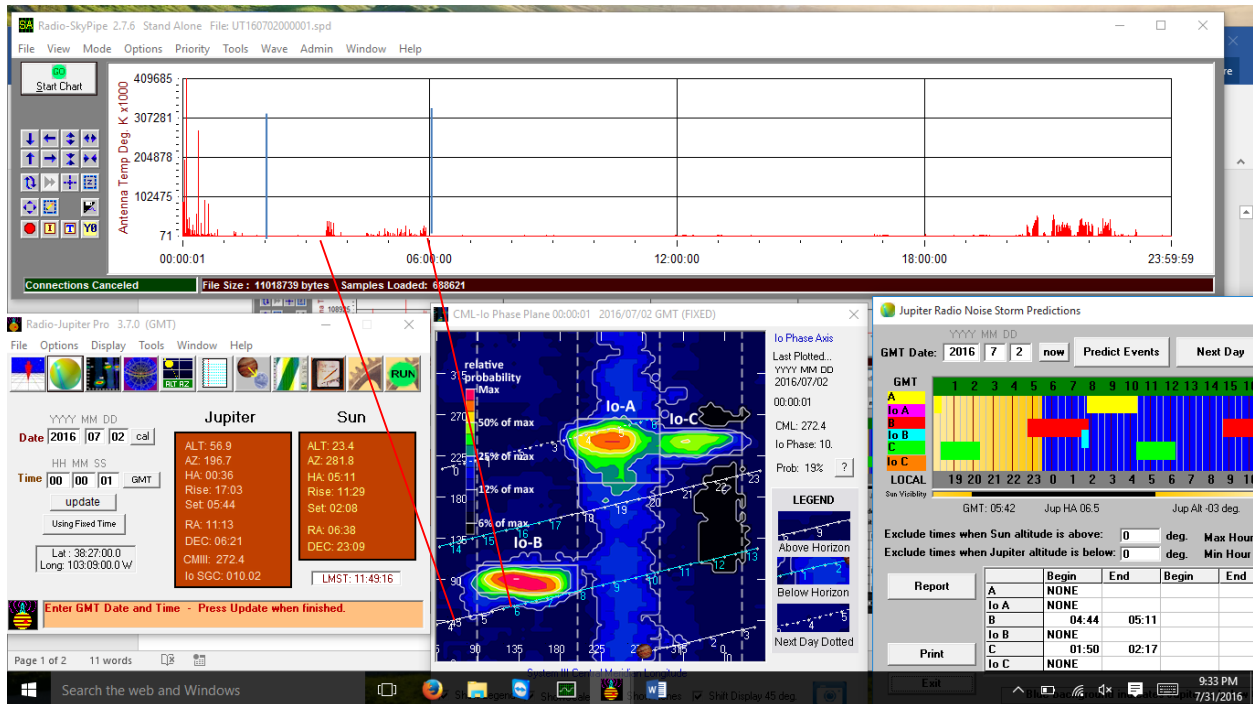
July 1, 2016

**Results:** Possible signal between 0200 - 0330 which correlates well with the RJP with the non-IO A high probability area.



July 2, 2016

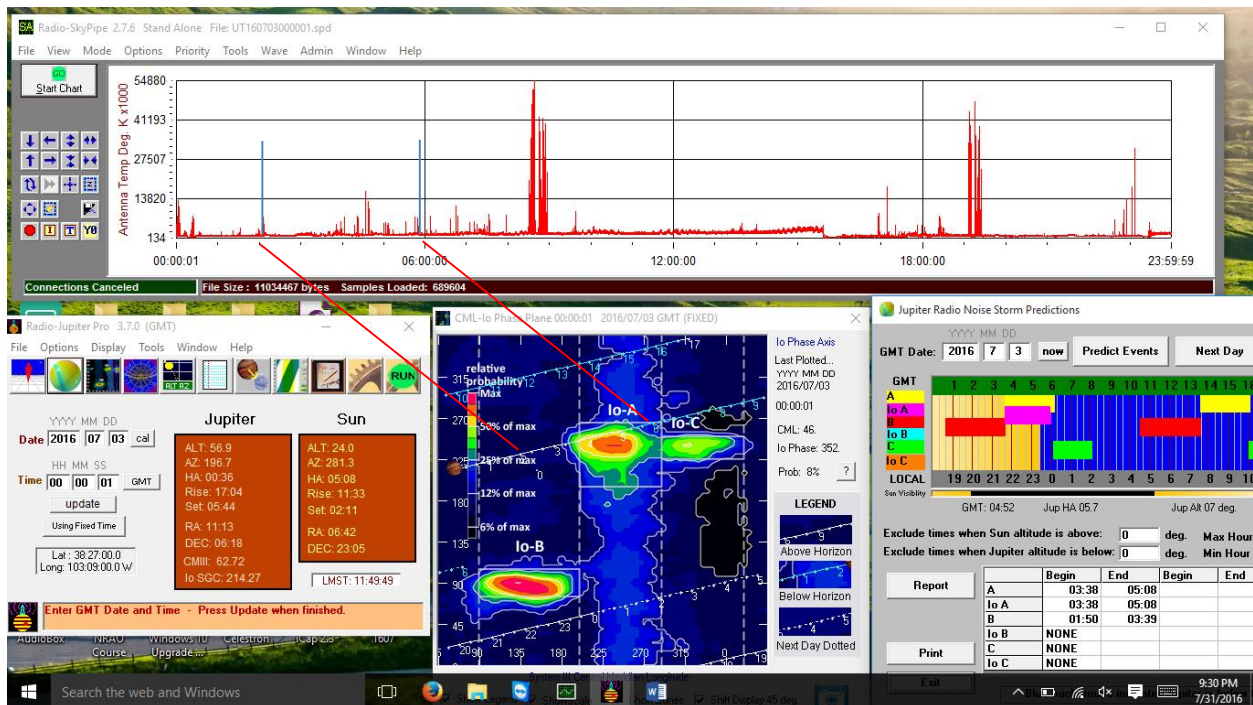
**Results:** Possible signal between 0330 - 0530 which correlates well with the RJP with the IO B high probability area.



July 3, 2016

**Results:** Possible signal between 0200 - 06000 which correlates well with the RJP with the IO-A, Non-IO A, and non-IO B high probability areas.

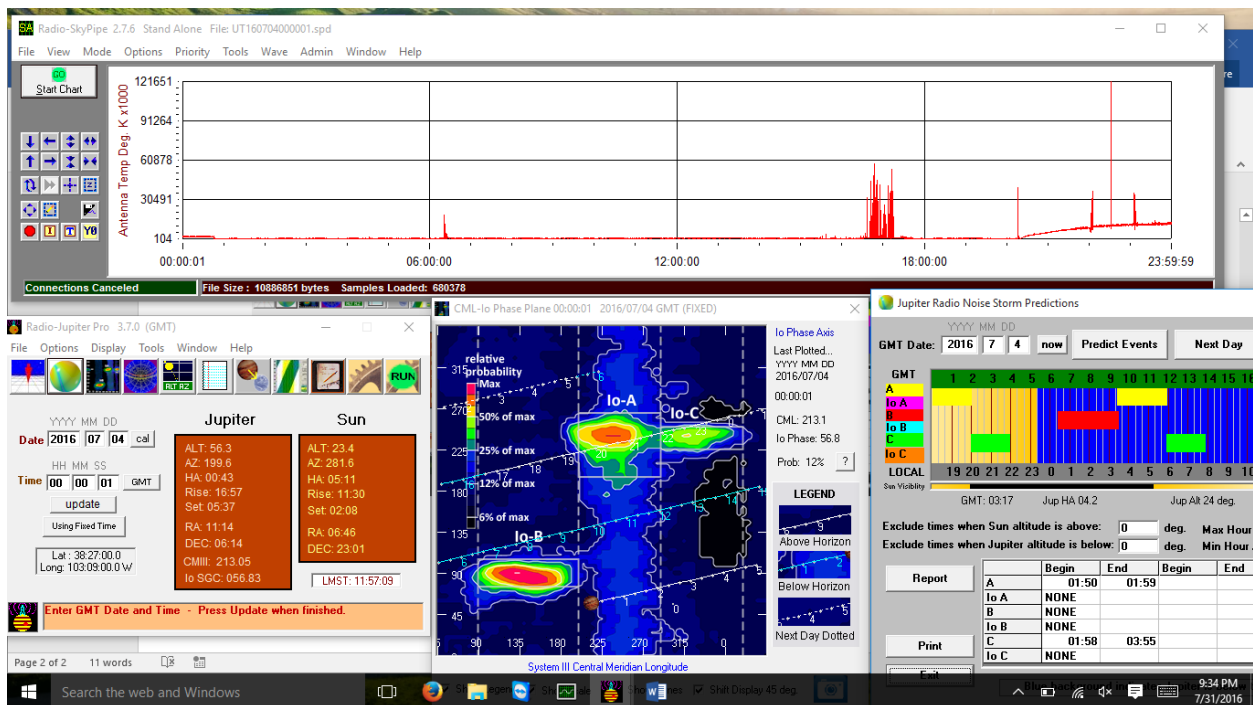
Note: there is significant bursts during 0800z and 1900Z which are during daytime that may be solar activity.



July 4, 2016

**Results:** No Jupiter activity noted today

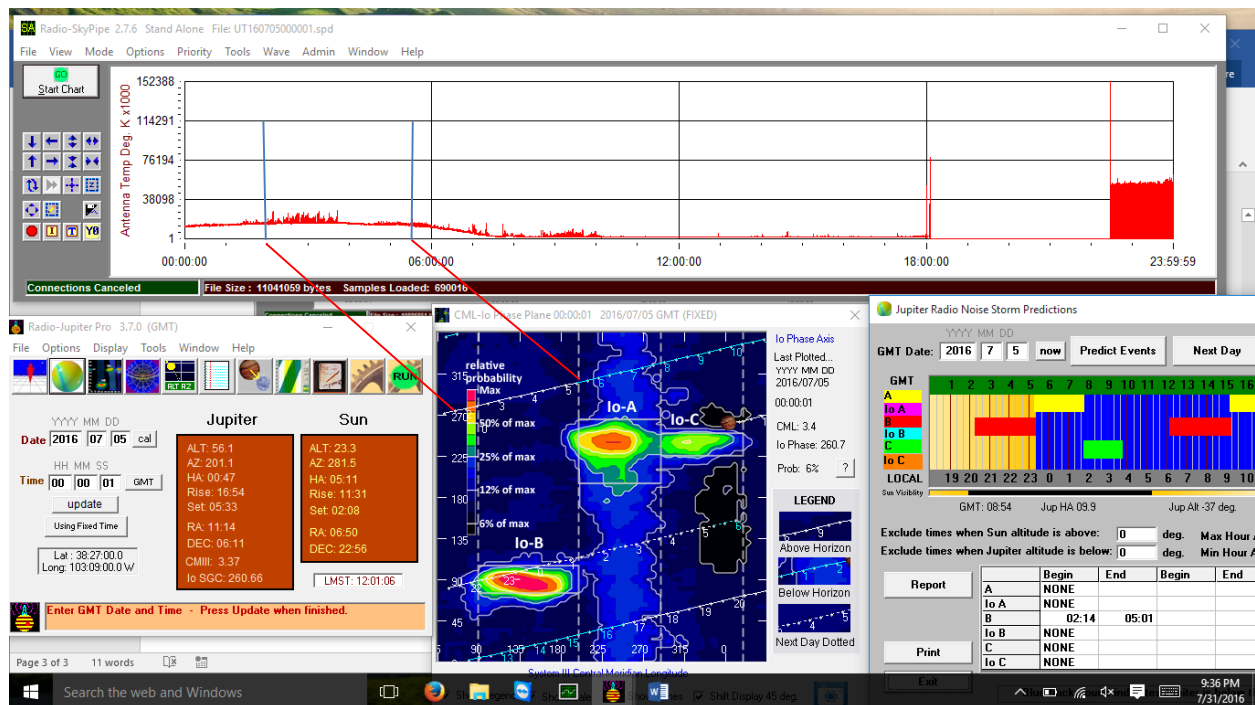
Note: There is a significant burst during the day at 1700z and an interesting noise level increase starting at 2000z and continuing until 0800z on July 5.



July 5, 2016

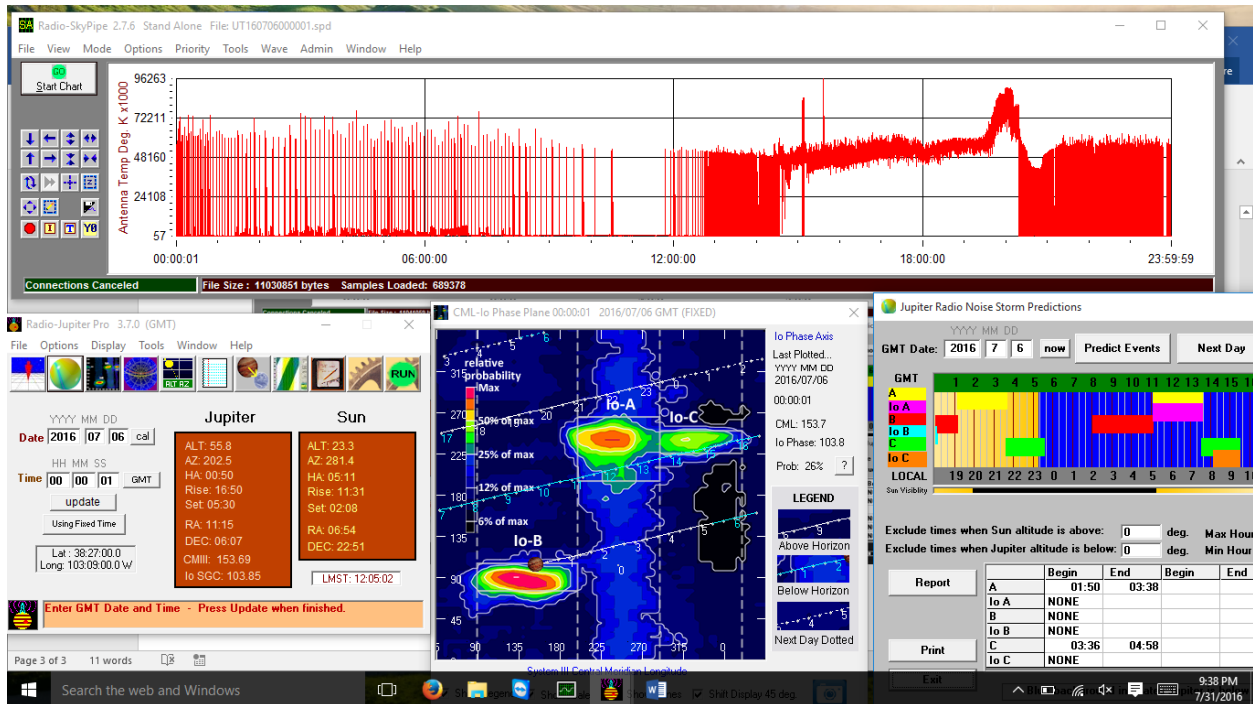
**Results:** Possible IO-B activity superimposed on the unknown noise level.

Note: Starting at 2230z there appears to be a significant amount of noise of unknown origin that continuous throughout the next day.



July 6, 2016

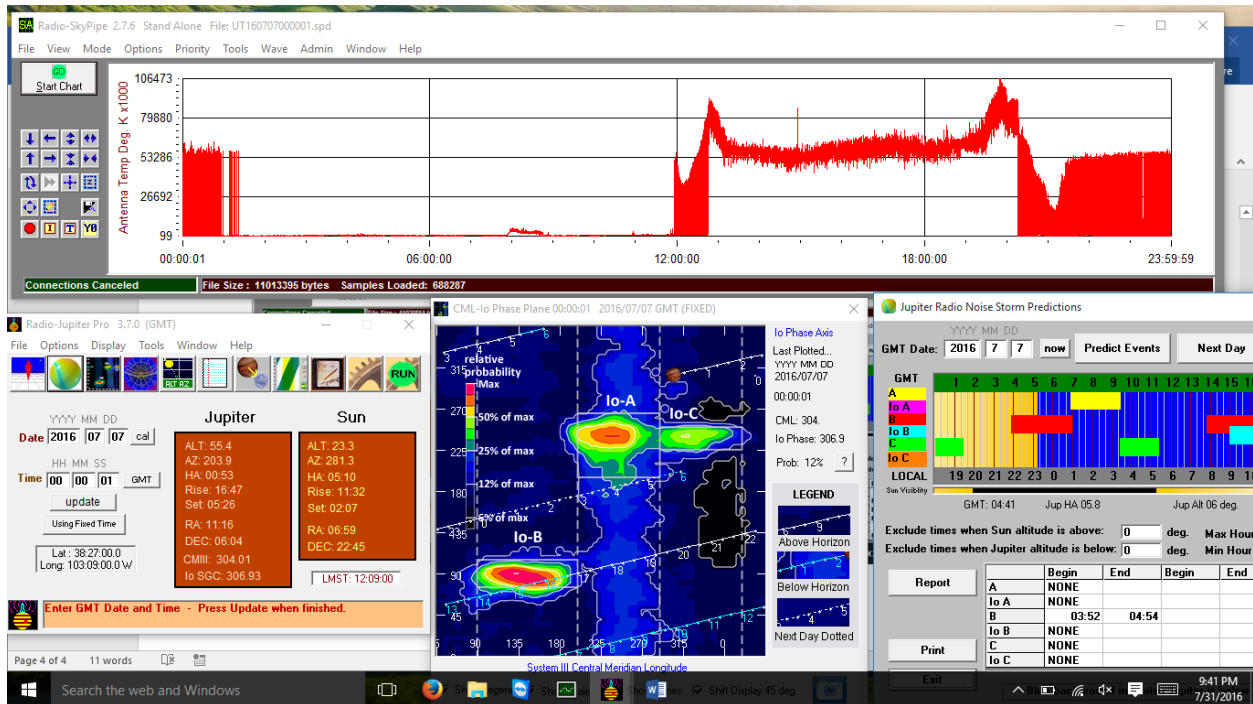
**Results:** Unknown noise throughout day – no Jupiter observations noted





July 7, 2016

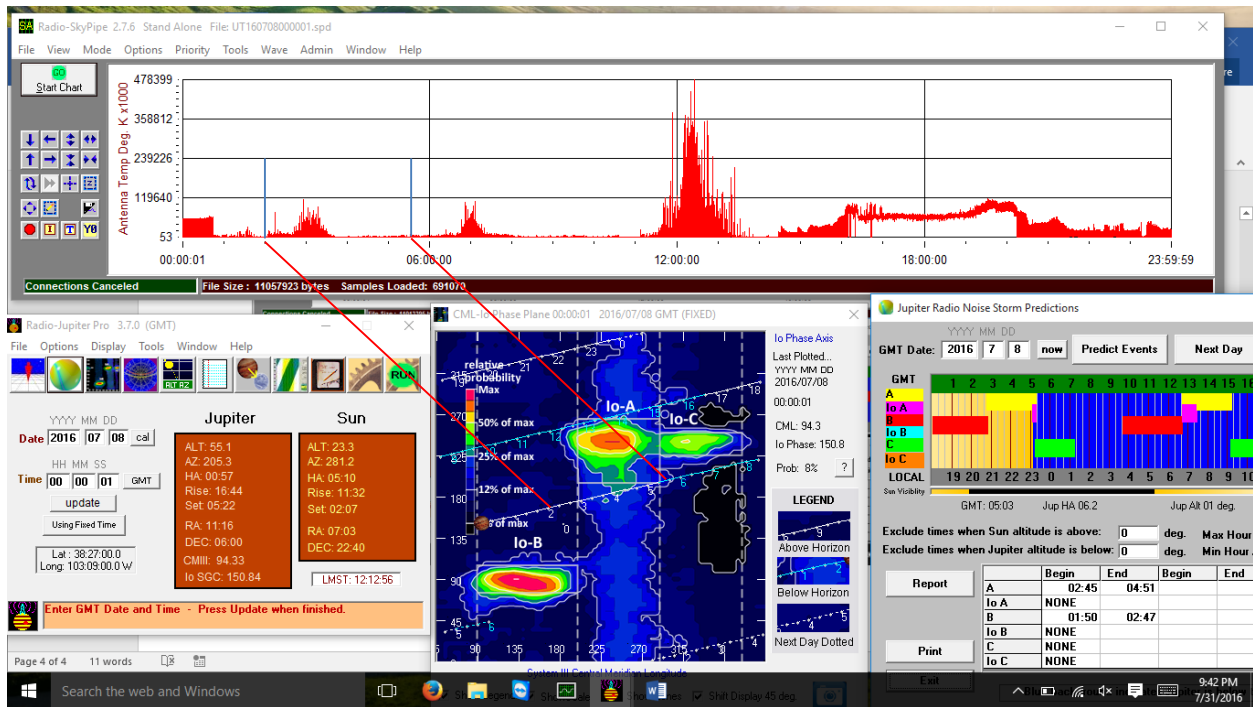
**Results:** Unknown noise throughout day – no Jupiter observations noted



July 8, 2016

**Results:** Possible non IO-A and non IO B activity between 0200 and 0400z.

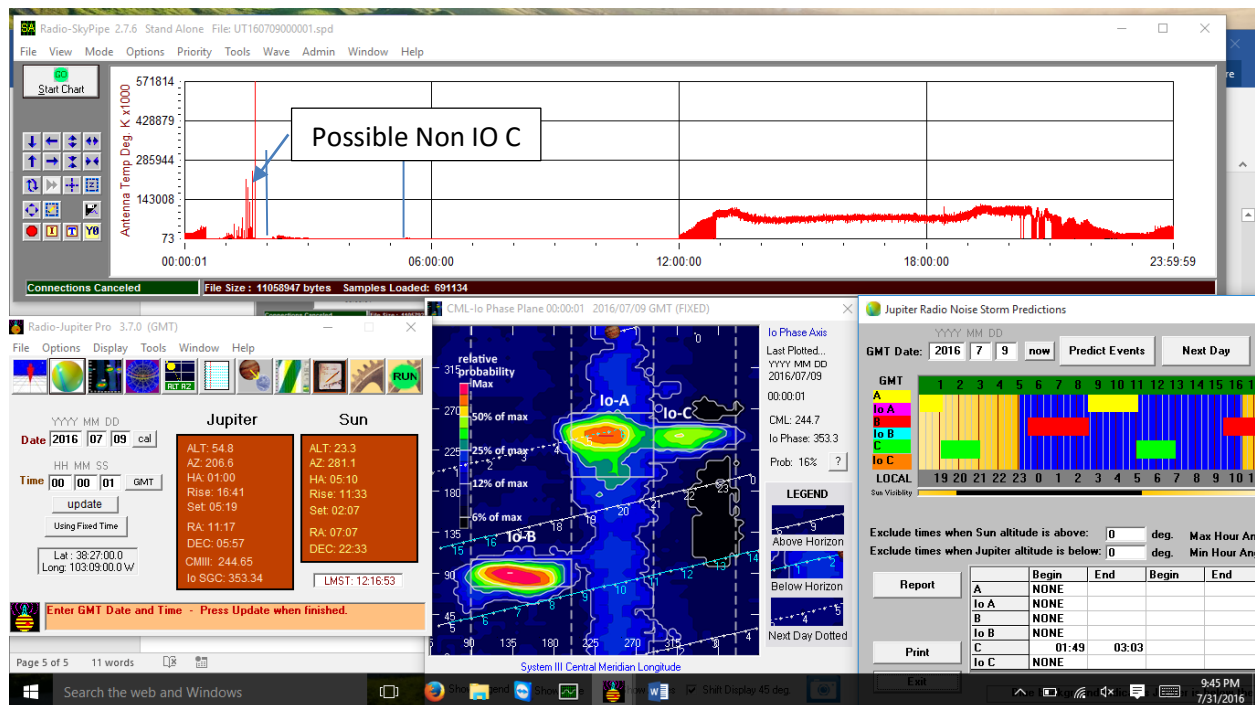
Note: Continue to get unknown noise throughout the time period.



July 9, 2016

**Results:** Possible non IO-C burst between 0100z and 0200z however the Sun was still above the horizon so this would have a lower probability of an actual detection.

Note: Continue to get unknown noise throughout the time period.

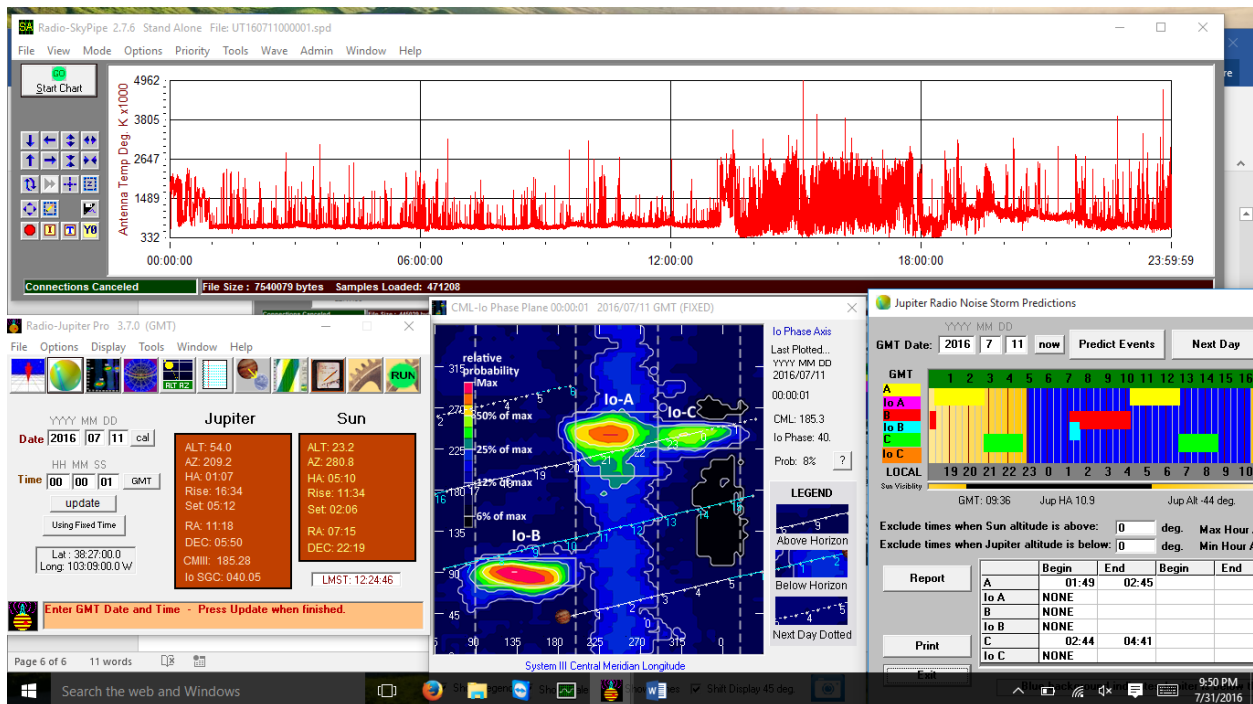


July 10, 2016

Results: System offline today

July 11, 2016

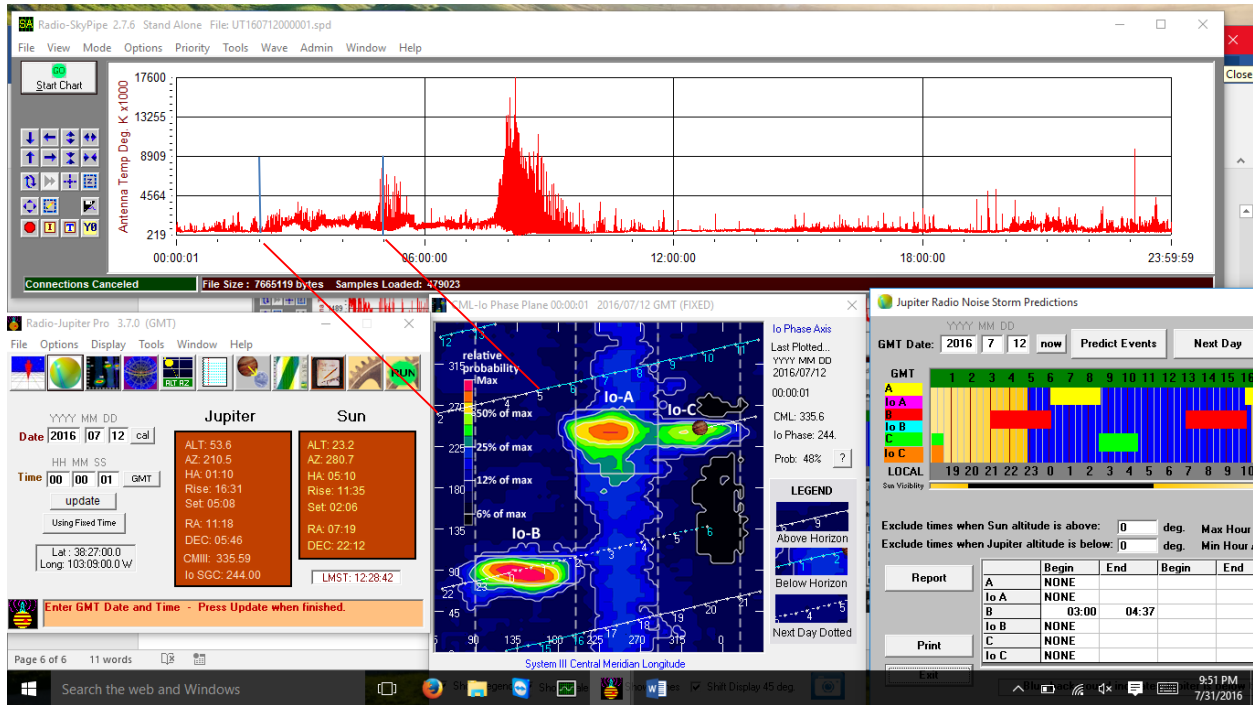
Results: Significant unknown noise during entire period. No Jupiter observations noted.



July 12, 2016

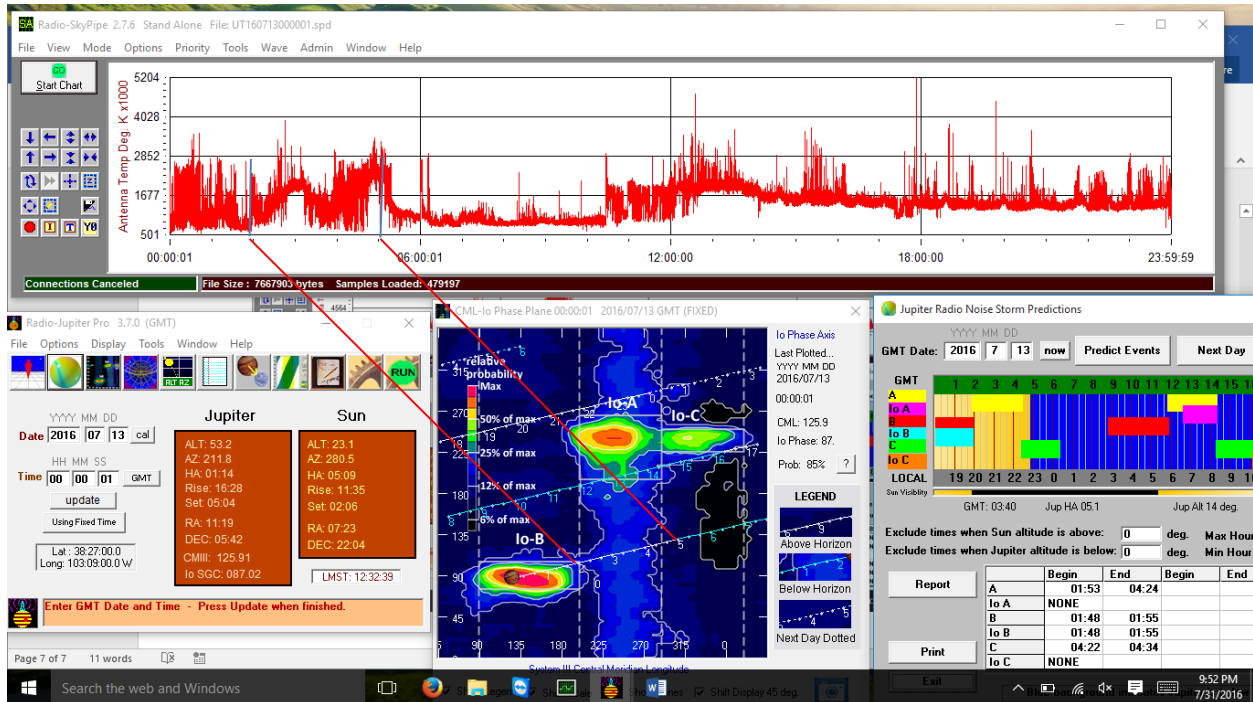
**Results:** Possible non IO B activity between 0200z and 0500z.

Note: Significant noise throughout the day.



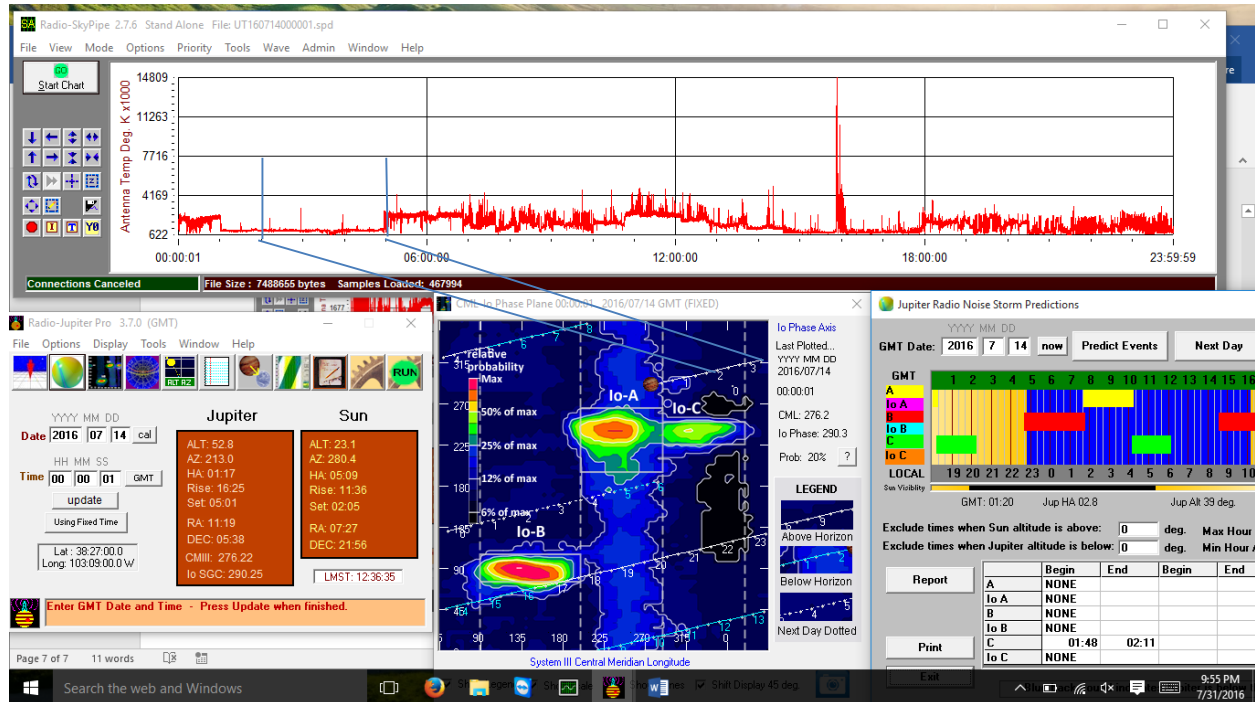
July 13, 2016

**Results:** Possible non IO B, IO A activity between 0200z and 0500z. There is possible IO B high probability activity between 0001z and 0200z however the Sun was above the horizon.



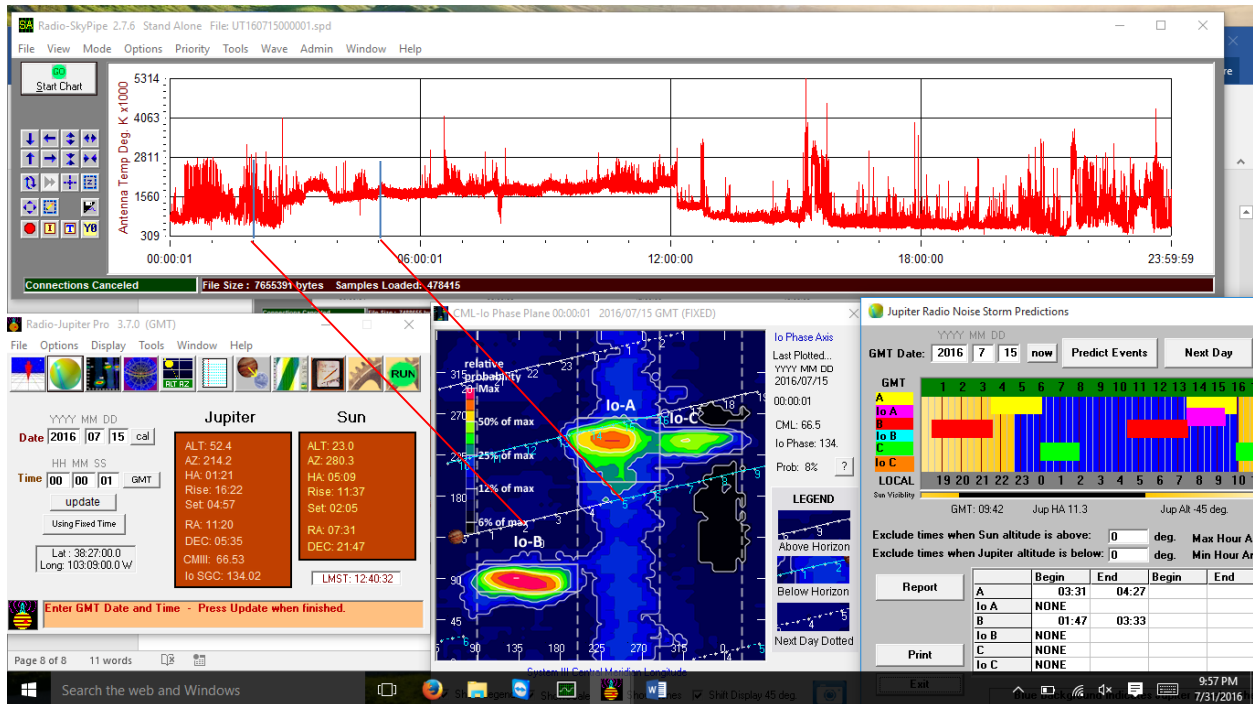
July 14, 2016

Results: No Jupiter results noted



July 15, 2016

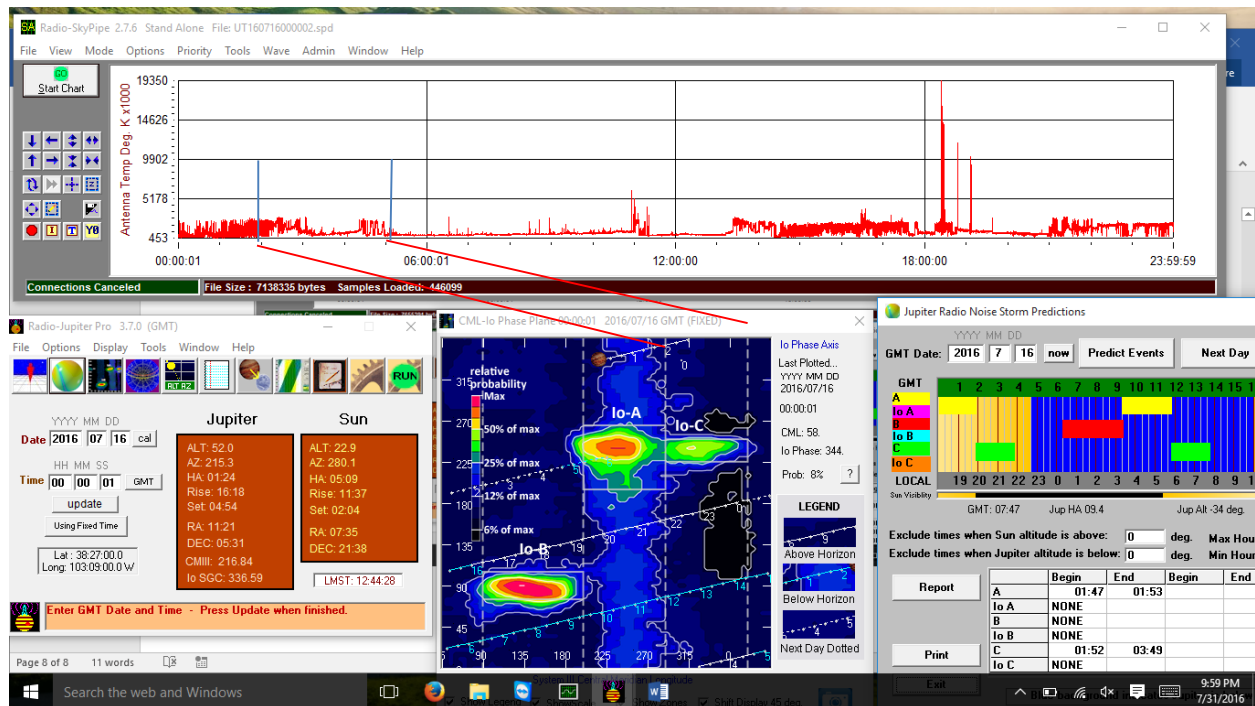
**Results:** Too much noise during this period. No Jupiter observations noted.





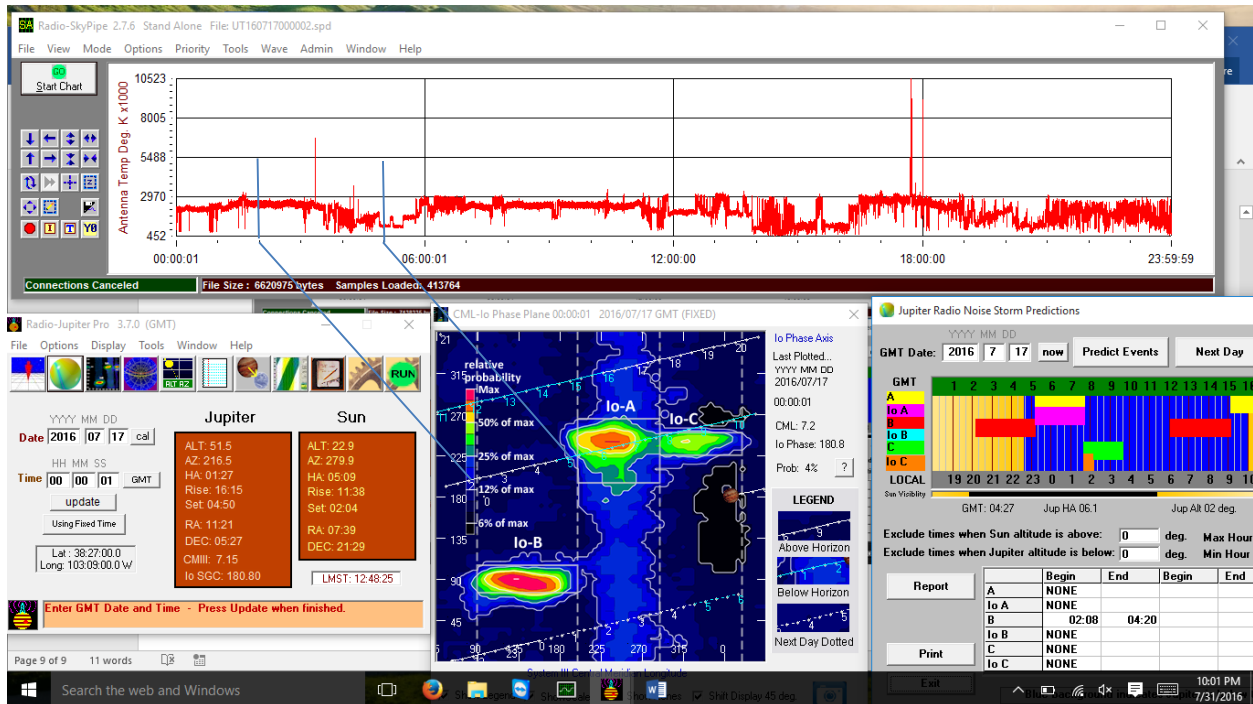
July 16, 2016

**Results:** No significant detections during this period.



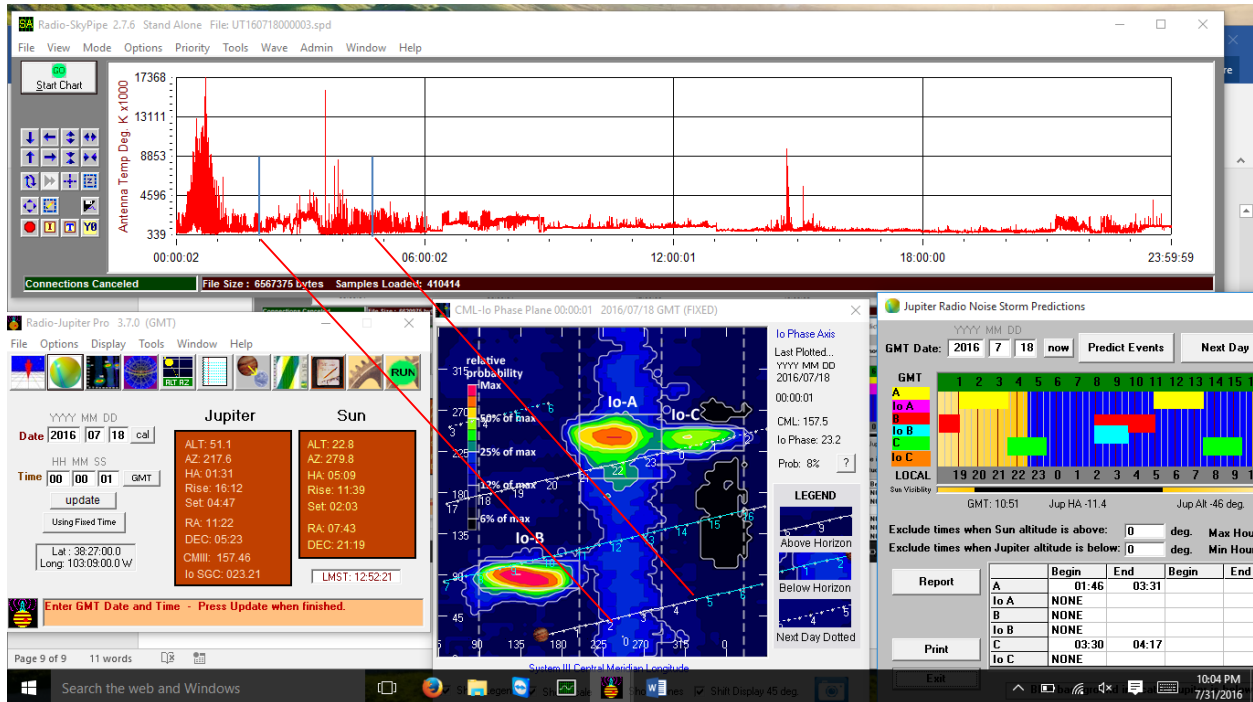
July 17, 2016

**Results:** A burst at 0315z which would correspond to Non IO B.



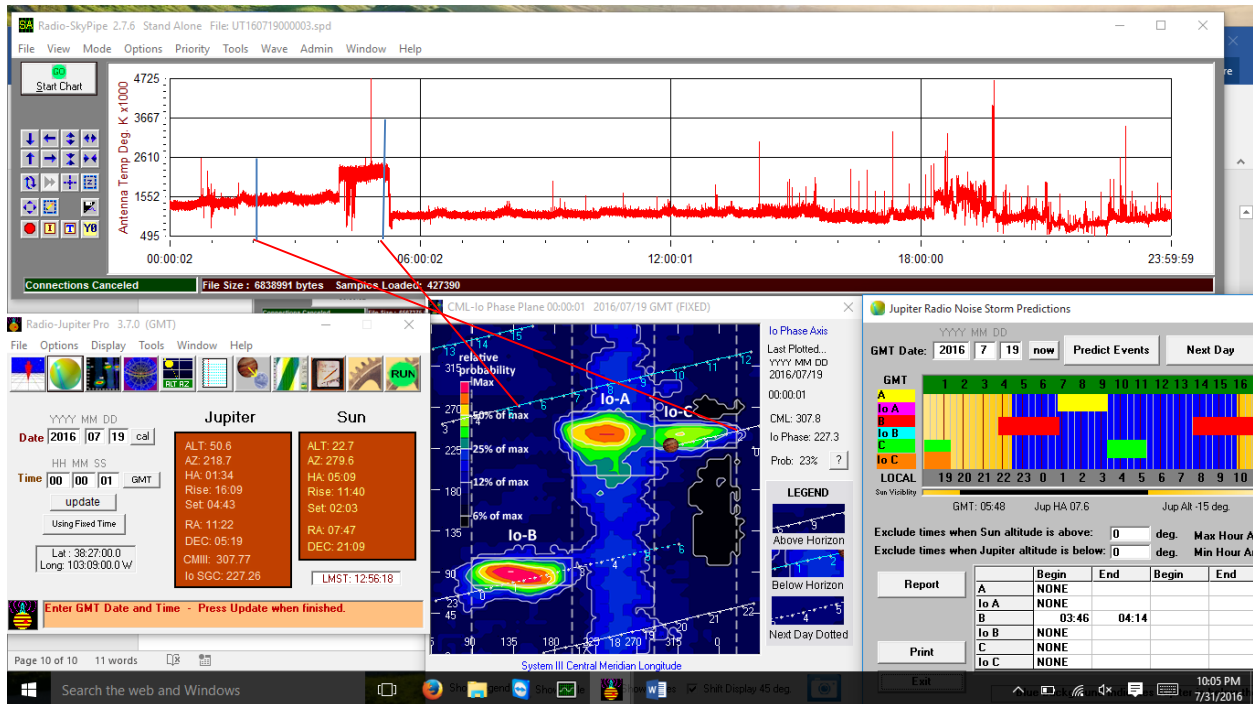
July 18, 2016

**Results:** A burst at 0345z which would correspond to Non IO C. There was a large burst between 0001z to 0100z however it was while the Sun was above the horizon, so it may also have been Sun related.



July 19, 2016

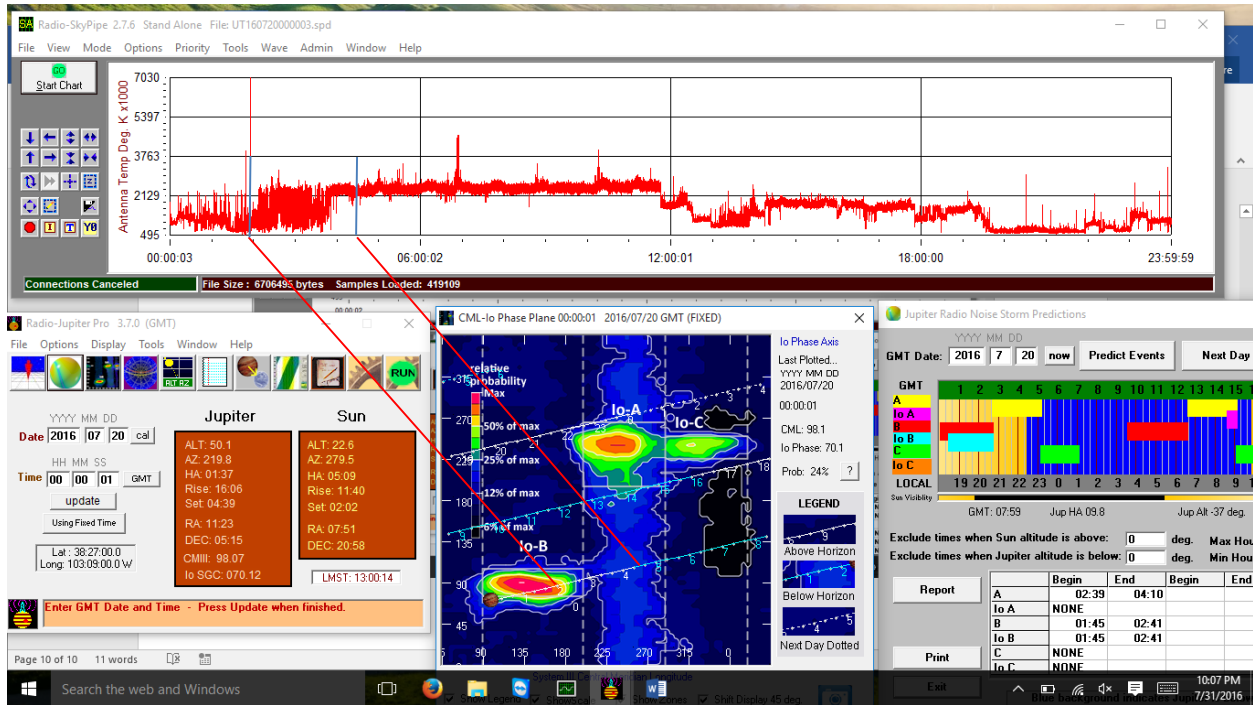
**Results:** A burst between 0400z to 0500z that appears to be non IO B. Note that the drop off occurs close to the Jupiter set time.



July 20, 2016

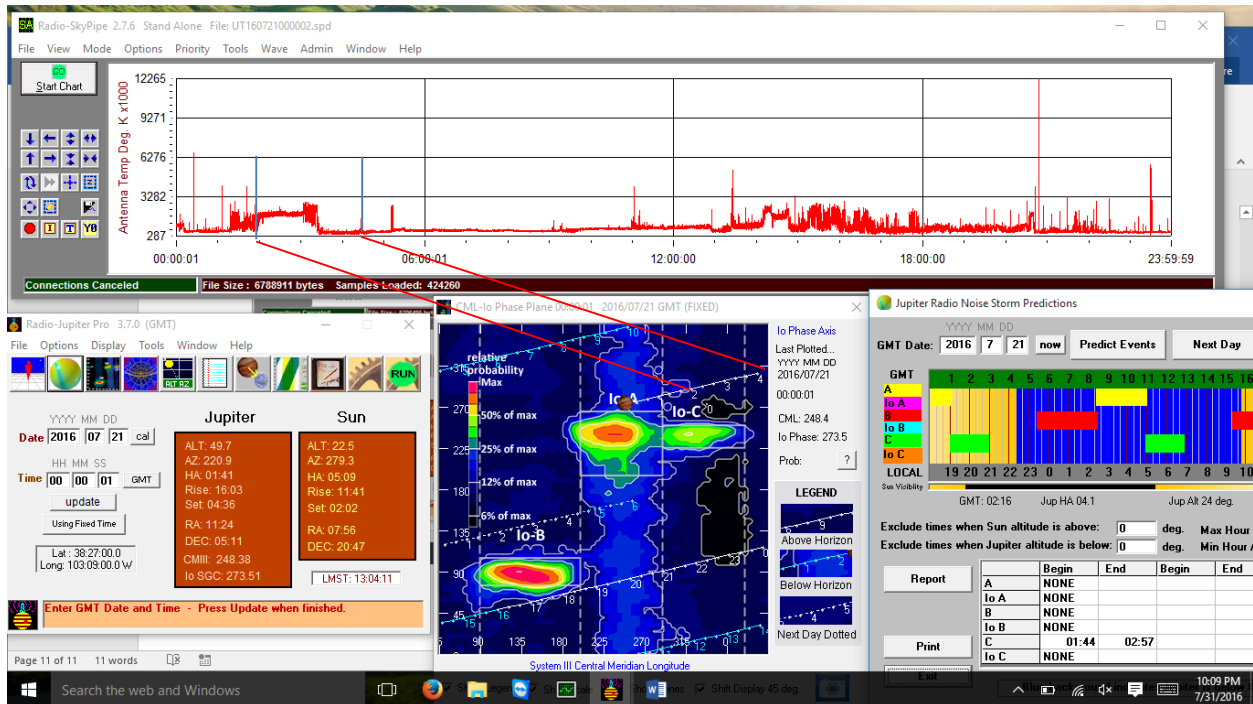
**Results:** Burst at 0200z. Also lots of activity between 0001z and 0400z.

Note: Overall noise level is up until 1200z, then drops down – source unknown.



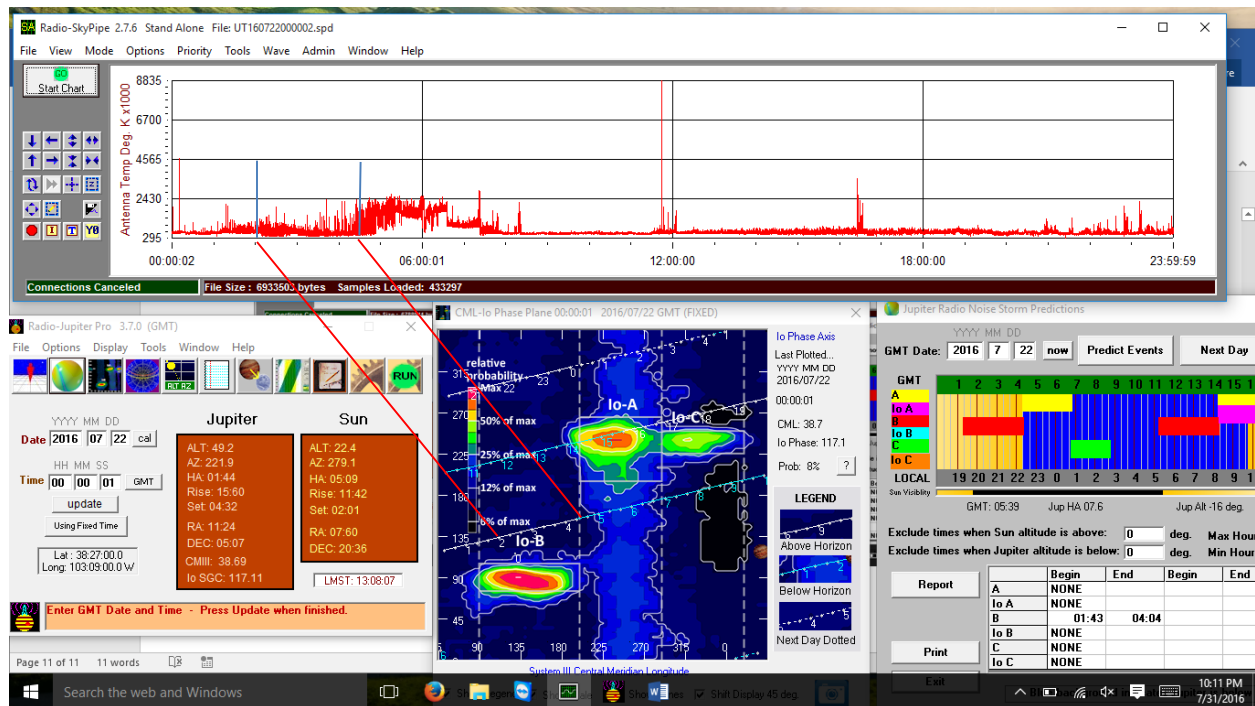
July 21, 2016

**Results:** Possible burst between 0130z and 0230z. This corresponds to the non IO-C prediction times.



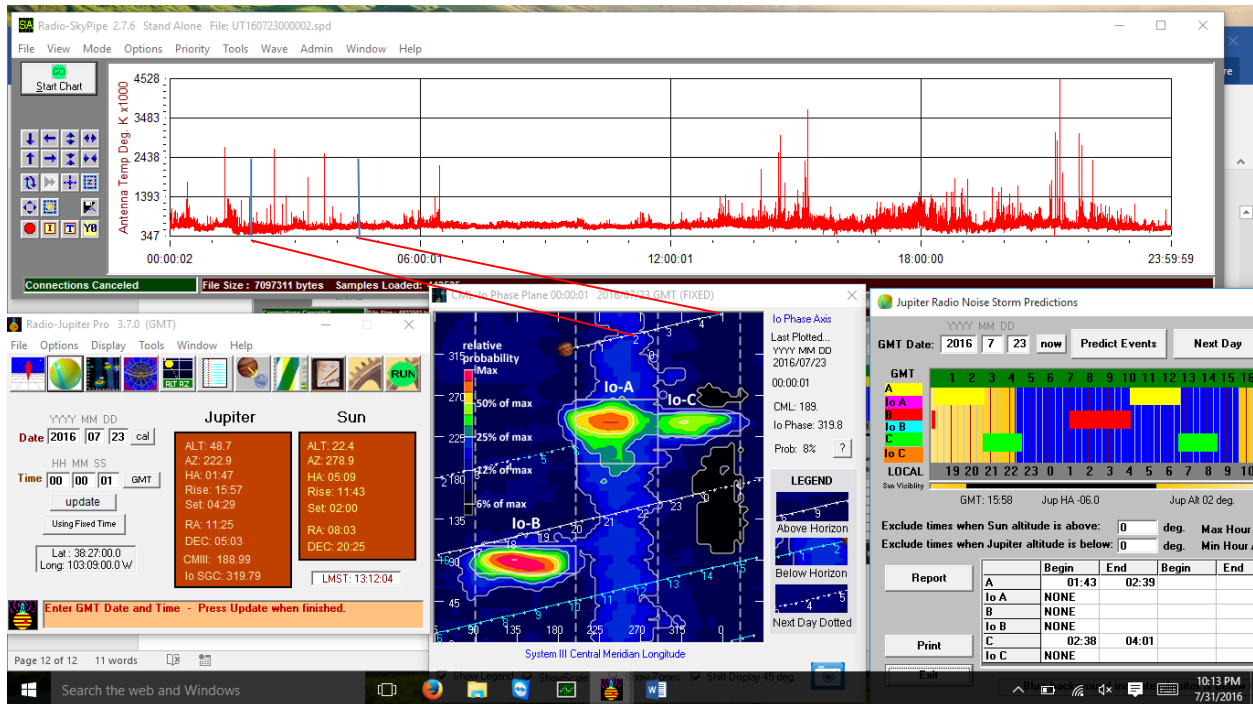
July 22, 2016

**Results:** Activity between 0001z and 0430z however the level is maintained after Jupiter sets. Therefore, it is unclear if the signals are Jupiter related.



July 23, 2016

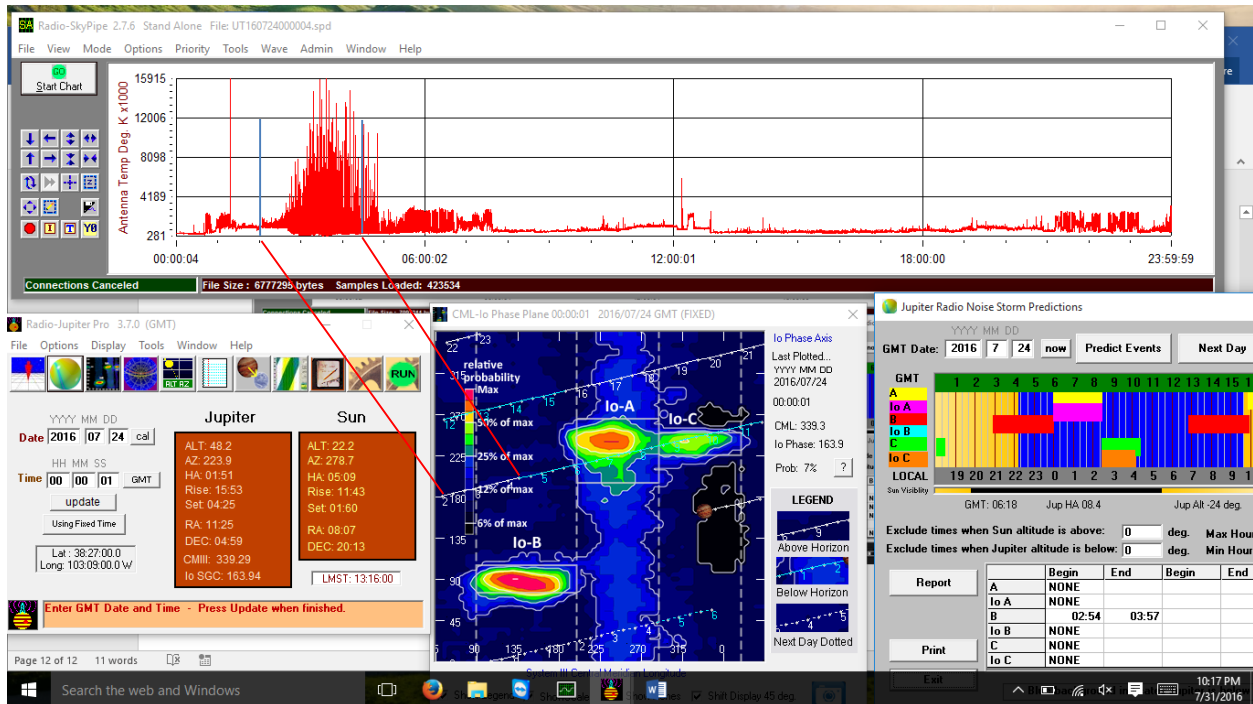
**Results:** Activity between 0001z and 0430z which correspond to non IO A and non IO C predictions.





July 24, 2016

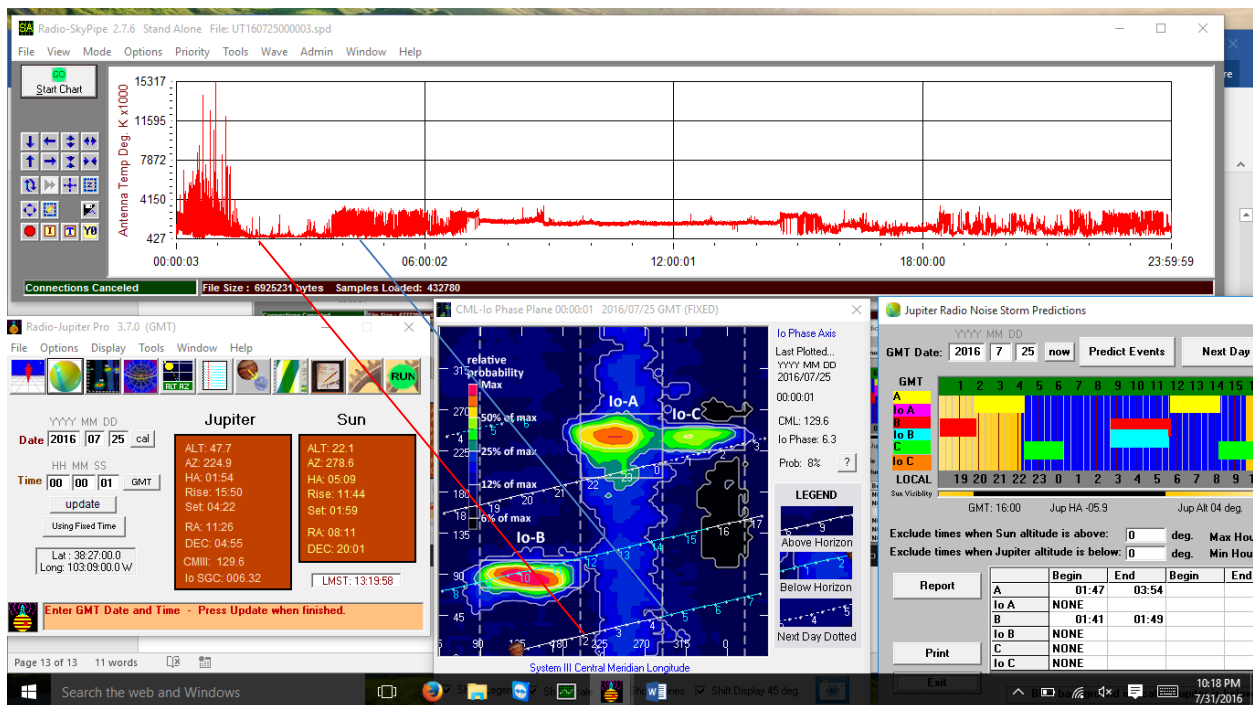
**Results:** Significant activity between 0300z and 0500z correlating with possible non IO B activity.



July 25, 2016

**Results:** No Jupiter activity noted.

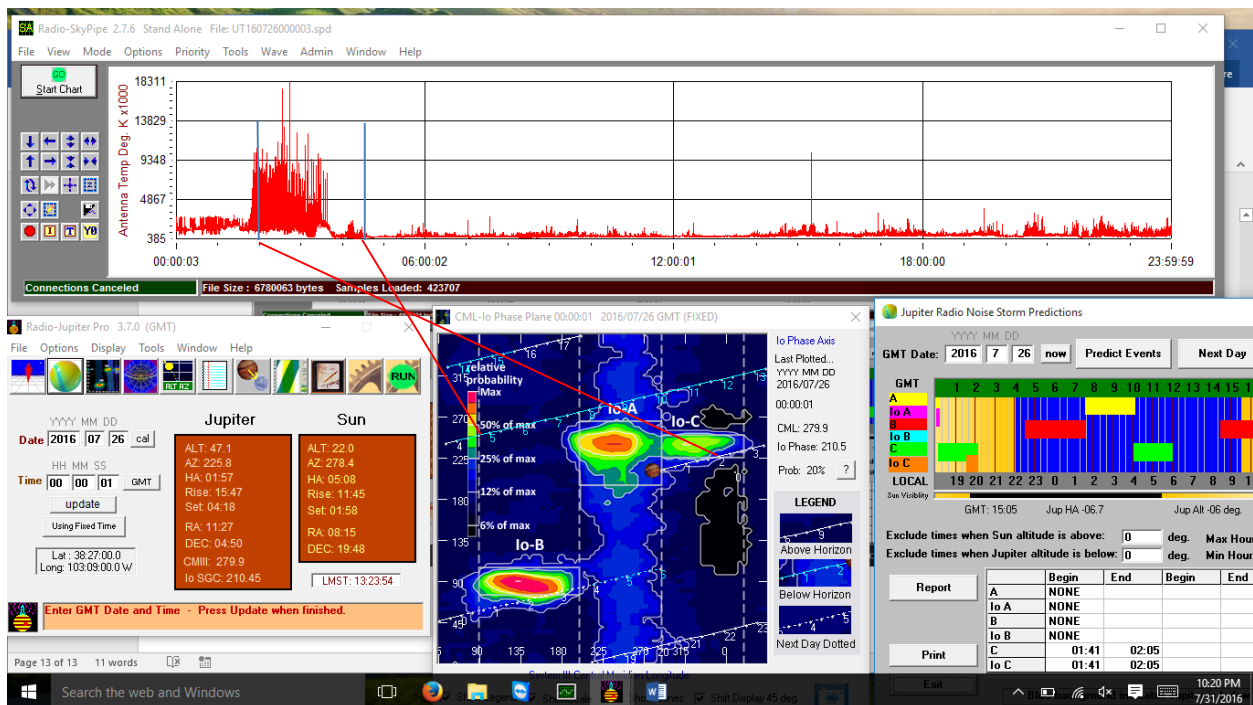
Note: There appears to be a burst between 0001z and 0200z, however this could be Solar activity.



July 26, 2016

**Results:** No Jupiter activity noted.

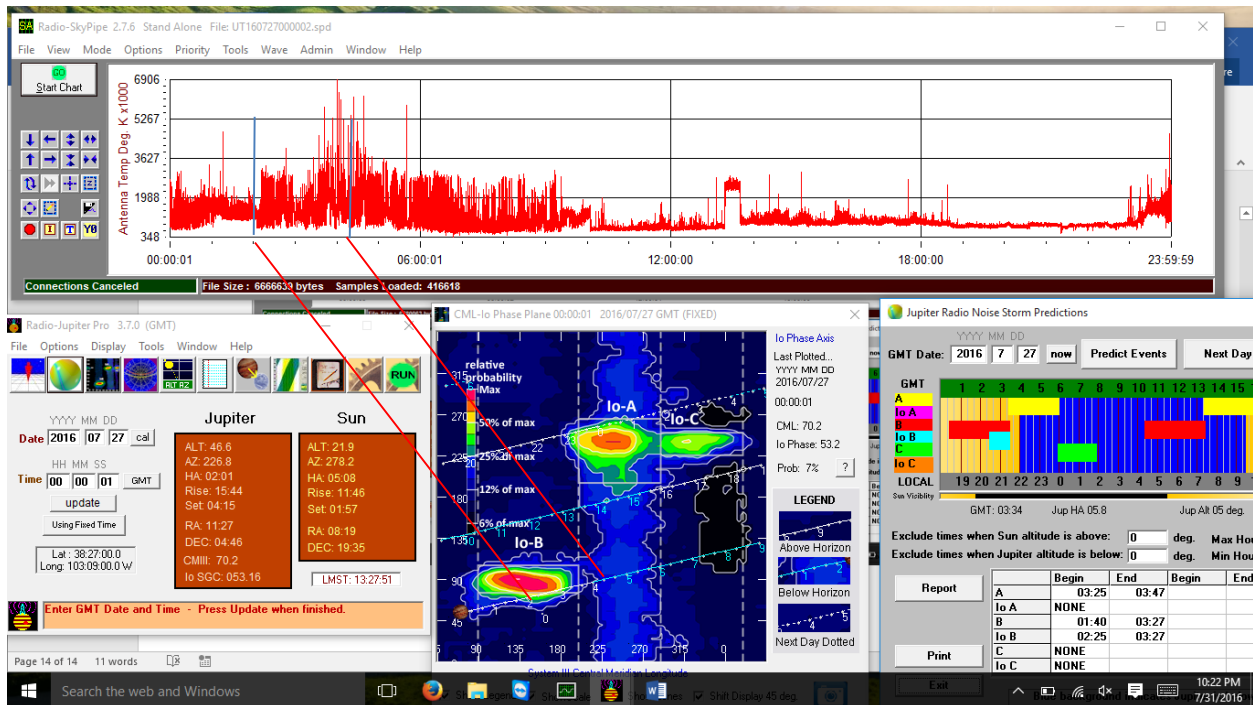
Note: There appears to be a burst between 0200z and 0400z. This is a possible IO-C burst.



July 27, 2016

**Results:** Large burst at which corresponds to IO B high probability area.

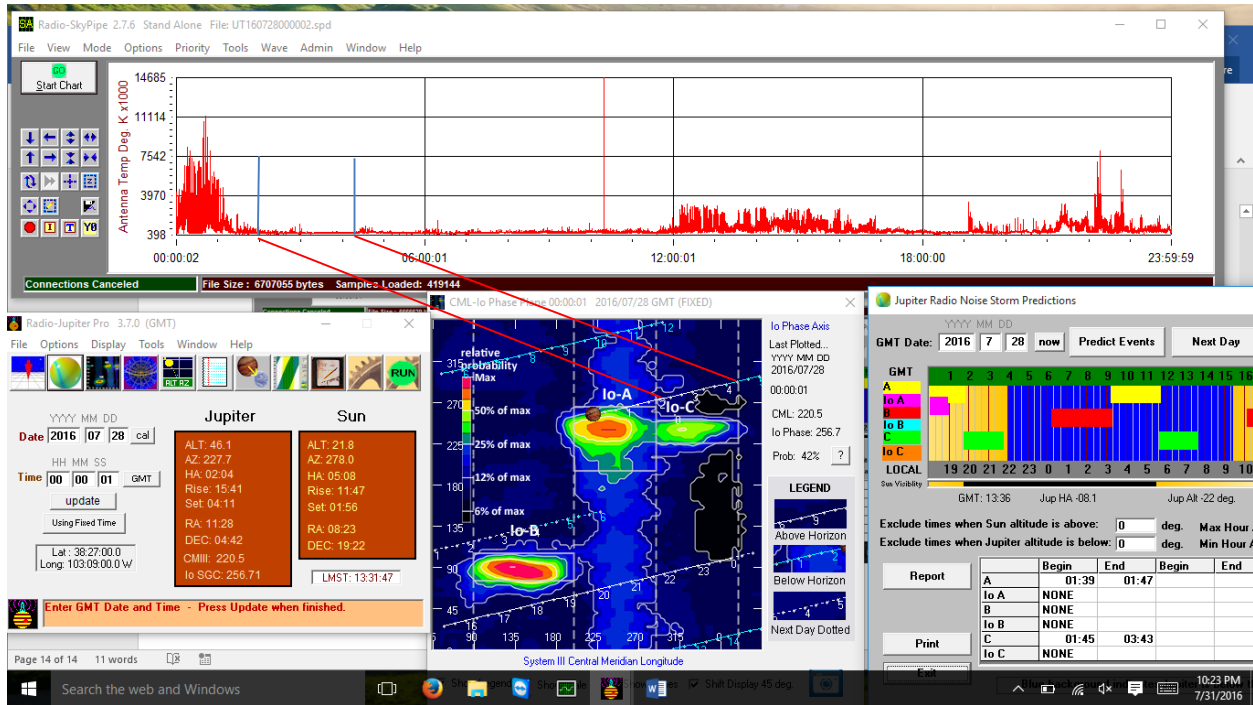
Note: It is unknown why the level is higher after Jupiter set time.



July 28, 2016

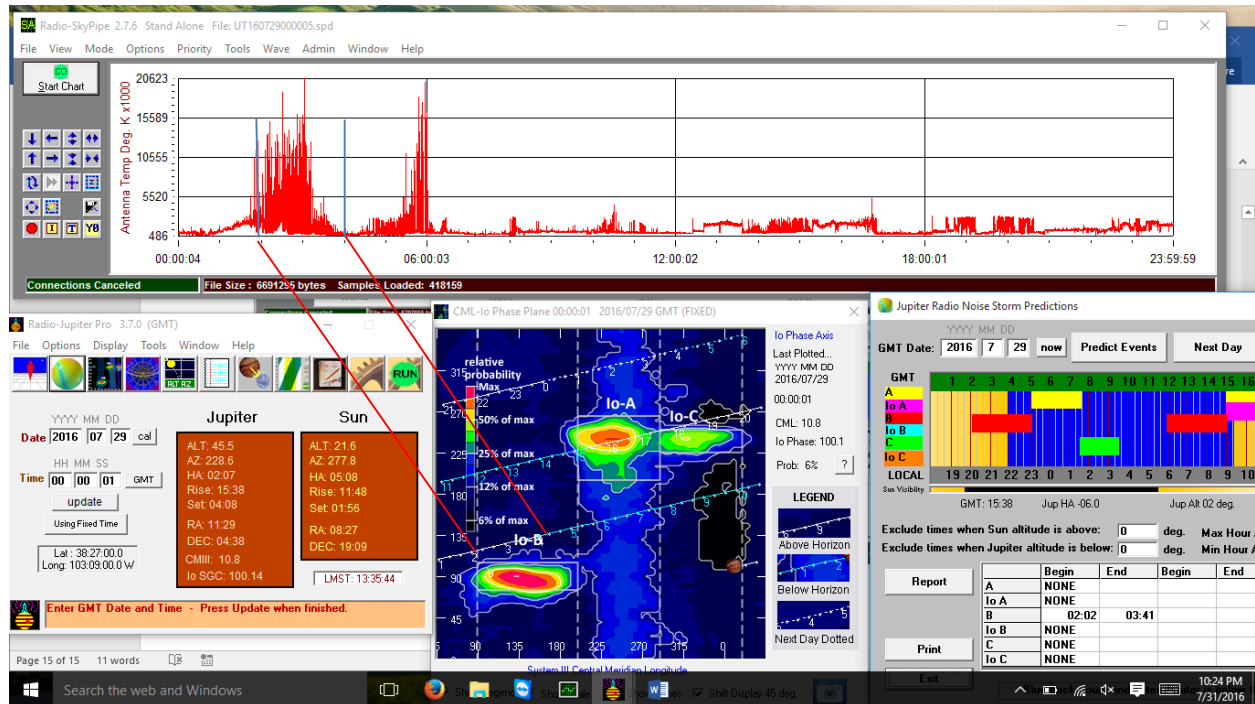
**Results:** No Jupiter detections noted.

Note: The burst between 0001z and 0100z could be Solar related.



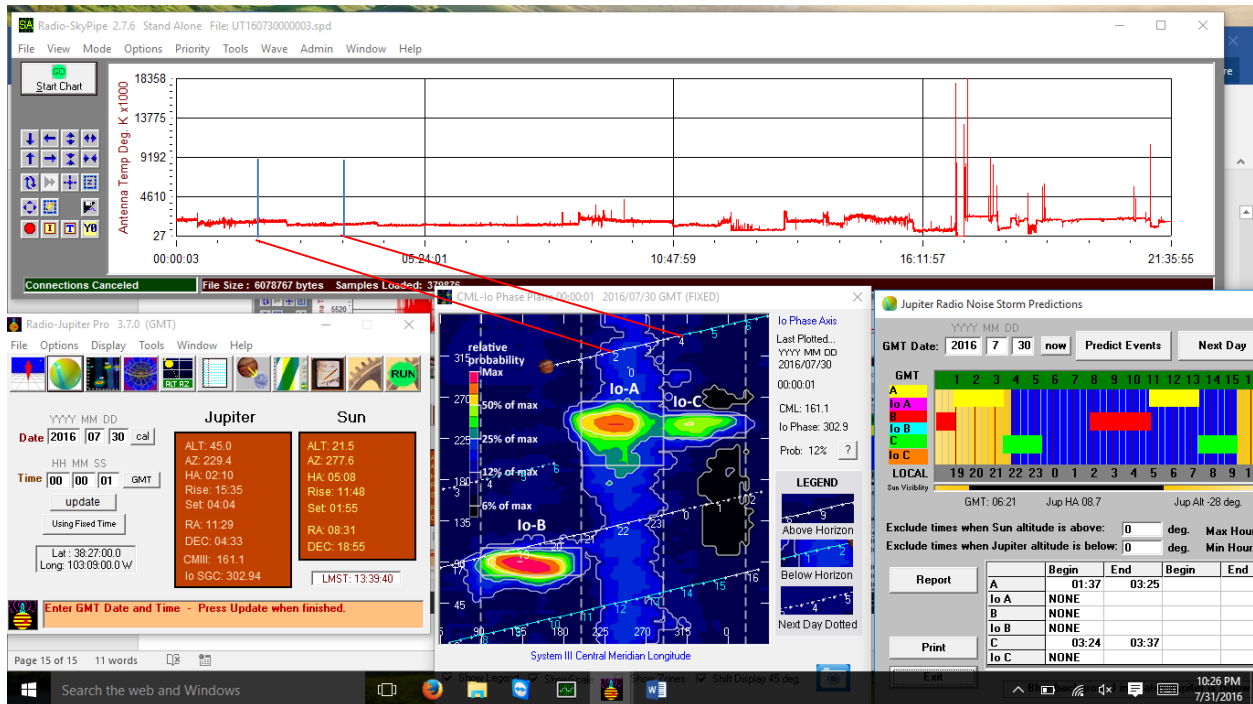
July 29, 2016

**Results:** The burst between 0200z and 0400z corresponds to the non IO B prediction.



July 30, 2016

Results: No Jupiter activity noted



July 31, 2016

Results: No Jupiter activity noted

