

**Subject:** Re: lo-B Dongle Report - 2/28/2015

**From:** Jim Sky <radiosky@radiosky.com>

**Date:** 02/28/2015 22:13

**To:** JB <starmanjb@comcast.net>, Dick Flagg <rf@hawaii.rr.com>, Dave Typinski <davetyp@typnet.net>, Wes Greenman <jupgazer@windstream.net>, Jim Thieman <jt1203@aol.com>, Chuck Higgins <chiggins@mtsu.edu>

Hello All,

This really turned out better than I expected. Thank you Jim Brown for working so hard on this. I never pushed it above 2.4 MSPS. I suspect you must have it on a pretty fast PC. Monitoring remotely it seemed like I was only getting 2 or 3 scans/sec. I saved a file so I should check. You would probably increase the scan speed a bit by lowering the number of FFTs averaged.

I just uploaded new installs (not new versions) of RSS. with the new drivers that are supposed let you tune RTLs down 10 - 14 MHz or so. On my PC I can take a dongle (no downconverter) down to 15 MHz but I can't really tell how well it is performing.

Even if you have run it before, run the update below and you should get the latest RTL Bridge and the drivers for lower F.

[http://radiosky.com/spec/Spectrograph\\_Update\\_2\\_4\\_21.exe](http://radiosky.com/spec/Spectrograph_Update_2_4_21.exe)

Then you try the dongle without the downconverter.. I suspect the amp and filter would still be very useful but it would be interesting to try it both ways.

Jim S

On 2/28/2015 6:08 PM, JB wrote:

lo-B with Dongle images.

Jim Sky made a modification to the RTL\_Bridge interface software which helped the Color Offset.

Both S-bursts and L-bursts were seen with the Dongle. I centered it on 20.1 MHz and did not change it through the storm. Faraday lanes were quite visible. Modulation lanes were there as well. A nice series of S-bursts can be seen in the strip at 0400:43 UT. The storm was visible to the Dongle and JOVE Dipoles from 0316 UT through 0417 UT (see time issue below).

Time Issue. I can't be sure that the time stamps are correct. For some reason, RSS did not save the file properly and I had to do a file recovery process on it. So the times are suspect. For that reason I can't do a side by side Spectrograph comparison. For right now, it's the data that's important since these are feasibility tests. The strongest burst below shows a time stamp of 0340:43. I think that's the same burst I saw on the FSX-6 at 0351:17 UT.

Observation. The Dongle does not seem to be as susceptible to line noise as the FSX or FSX-6 Spectrographs. Rather than seeing the buzz lines (for lack of a better description), the Dongle seems to show brighter and darker strips during line noise bouts, which you can see below. The line

noise was completely gone by the end of the storm.

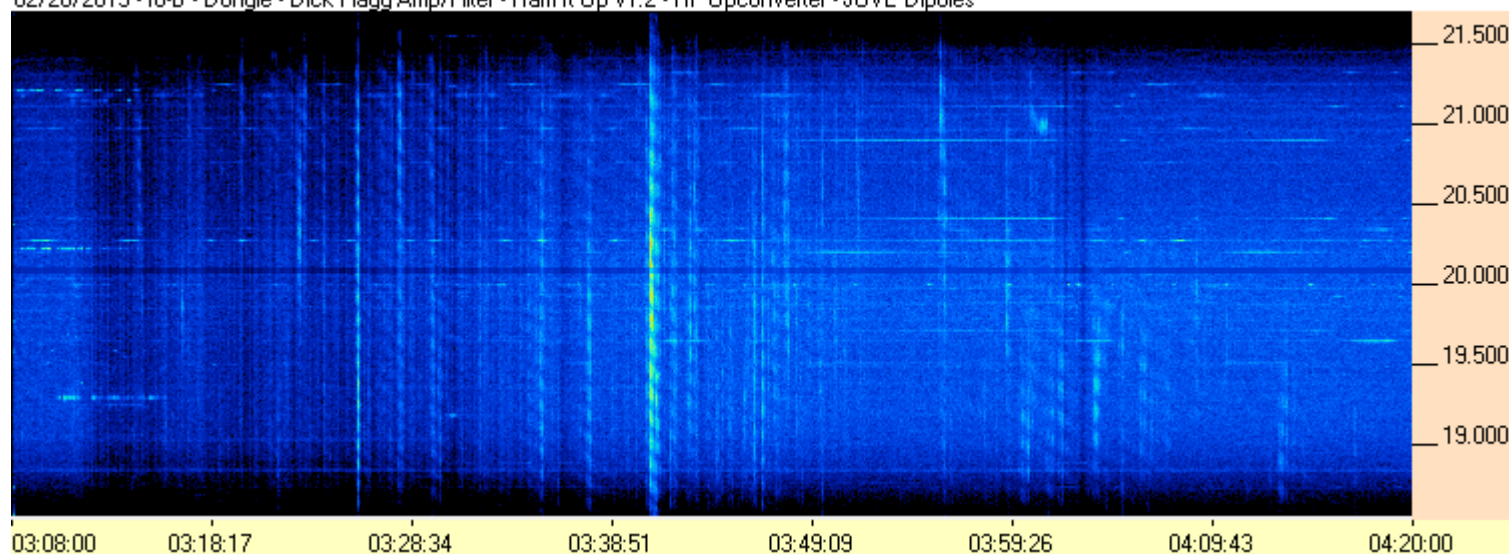
Having gotten used to the FSX type spectrograph with it's broader frequency spread, it's a little harder to get used to seeing a narrower view. I tried widening the Dongle out to it's maximum frequency spread but that produced the mirroring (or aliasing) problem. No amount of fiddling with the gain, FFT averaging or other software adjustments eliminated the problem. The only way I could remove it was to bring the Dongle down to it's 2.8 MSPS range in the RTL-Bridge interface.

RTL\_Bridge Settings for this storm:

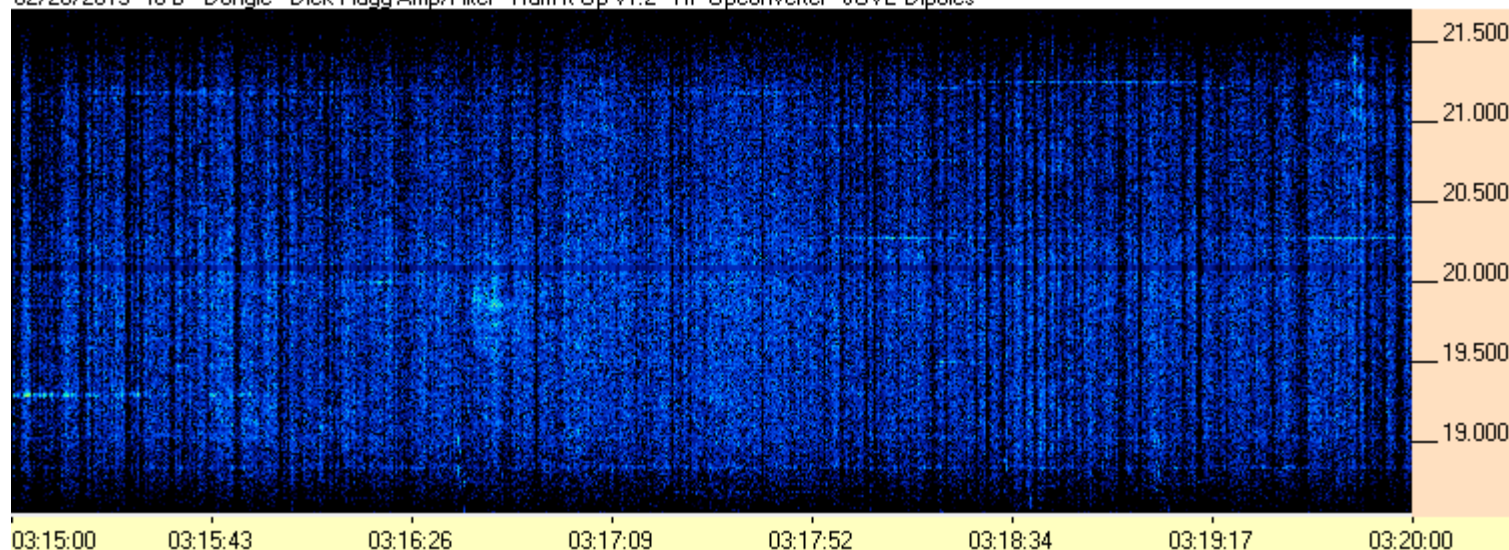
FFT Averaged 50, FFT Size 256, Sample Rate 2.8 MSPS, Gain 49.6, RTL AGC not checked, Tuner AGC not checked. Center Frequency 20.1 MHz, Data Scale Factor 2 (RTL\_Bridge current version 01.01.003 addition), Draw not checked, and the Upconverter Offset (MHz) was 125.

Faithfully submitted.... JB

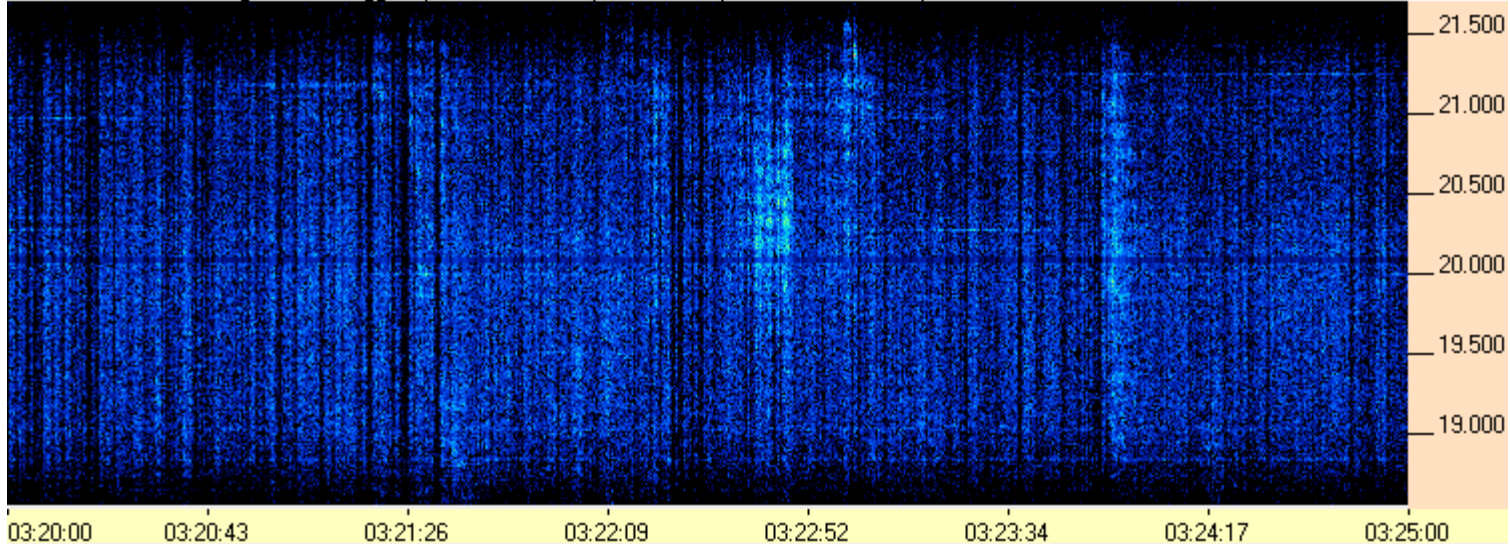
02/28/2015 - Io-B - Dongle - Dick Flagg Amp/Filter - Ham It Up v1.2 - RF Upconverter - JOVE Dipoles



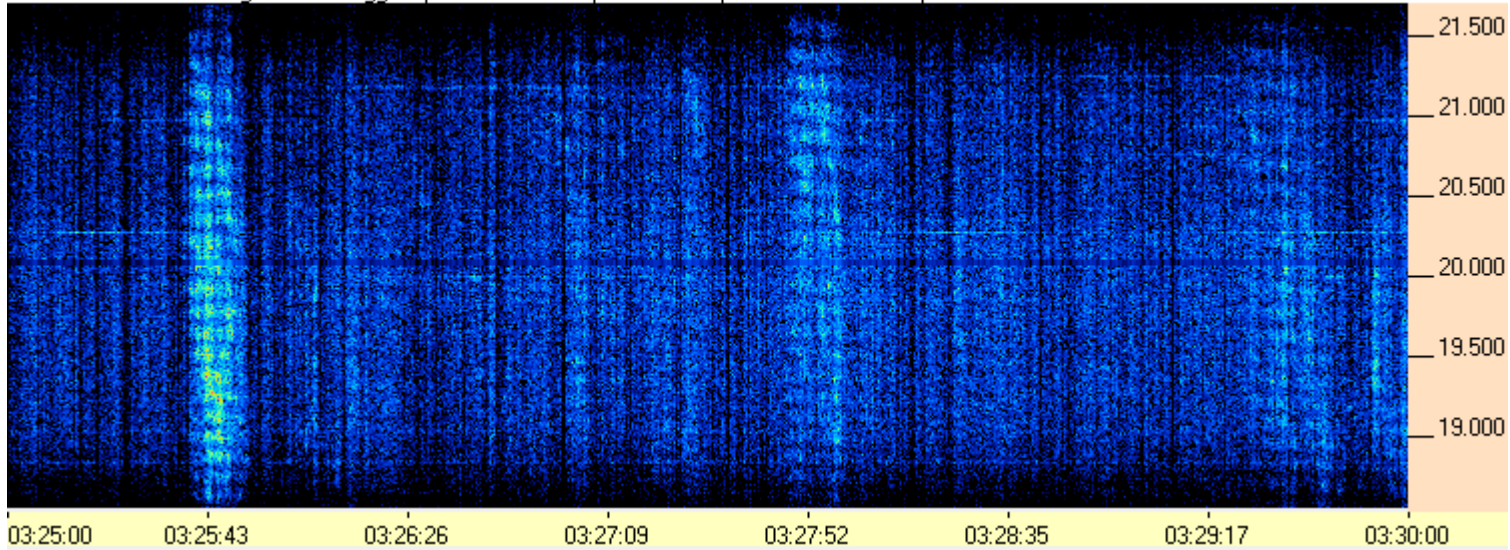
02/28/2015 - Io-B - Dongle - Dick Flagg Amp/Filter - Ham It Up v1.2 - RF Upconverter - JOVE Dipoles



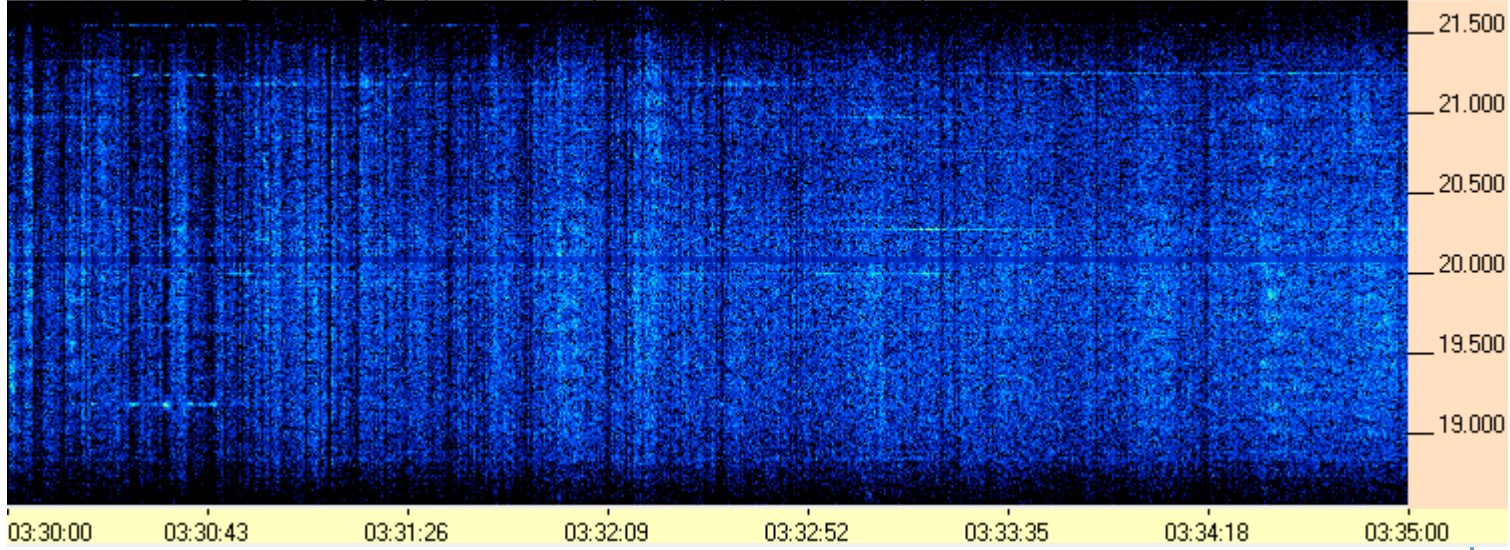
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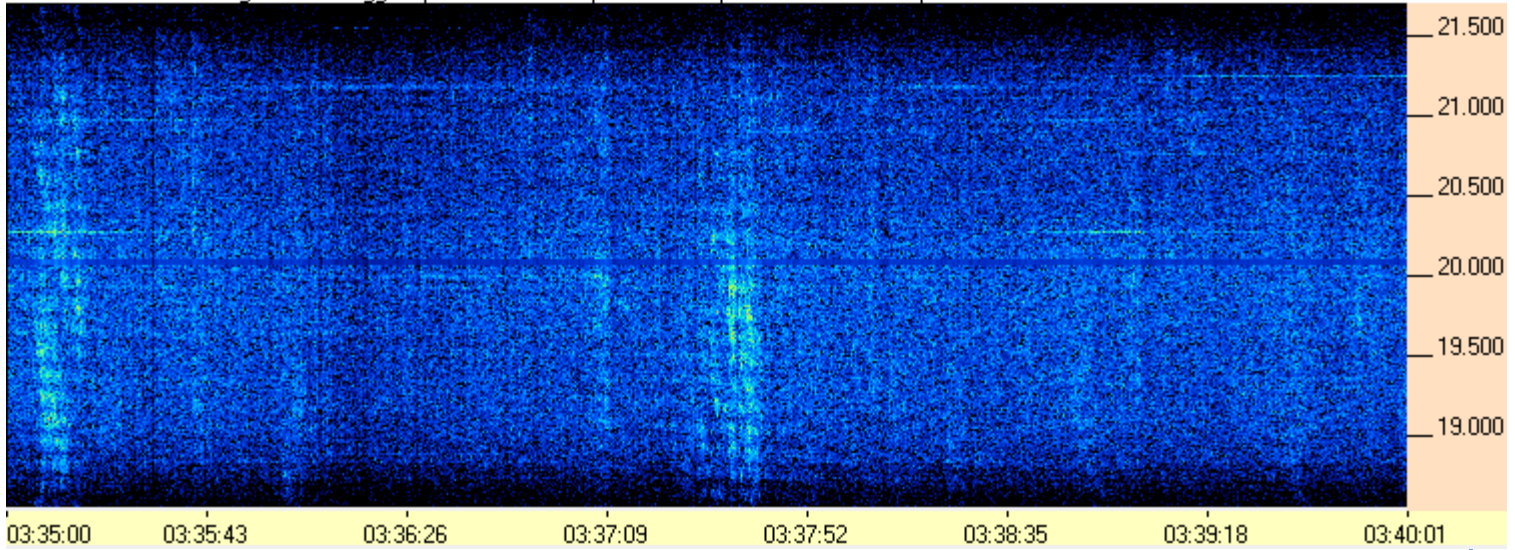
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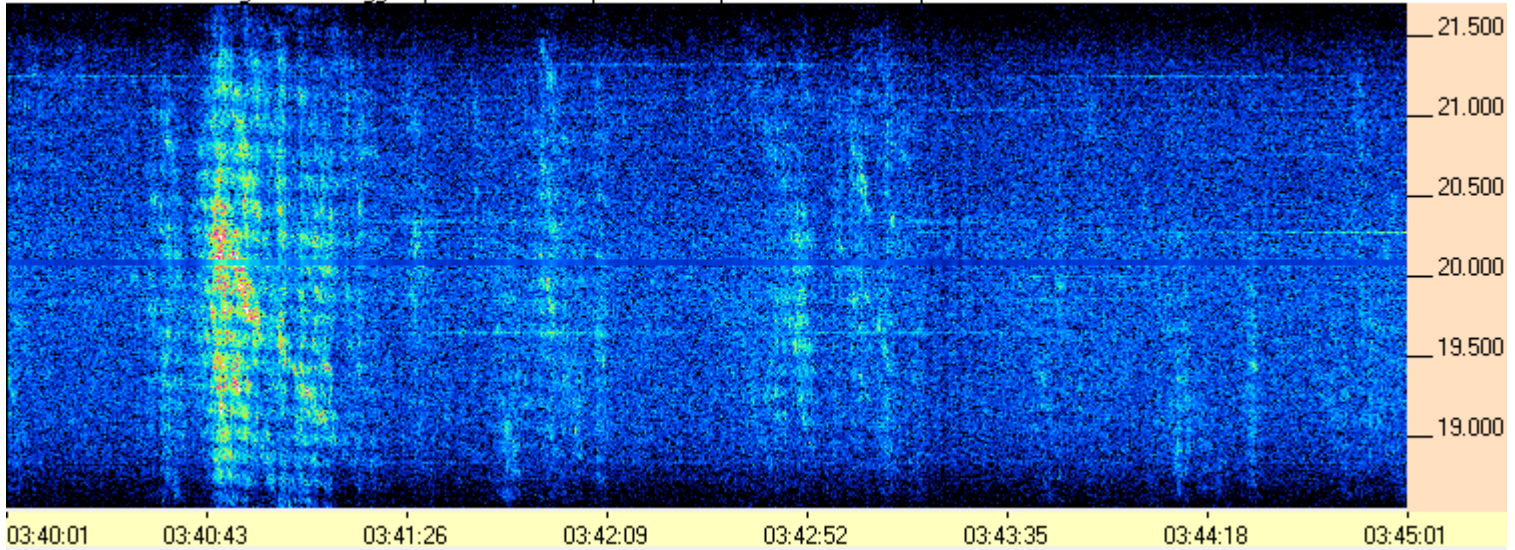
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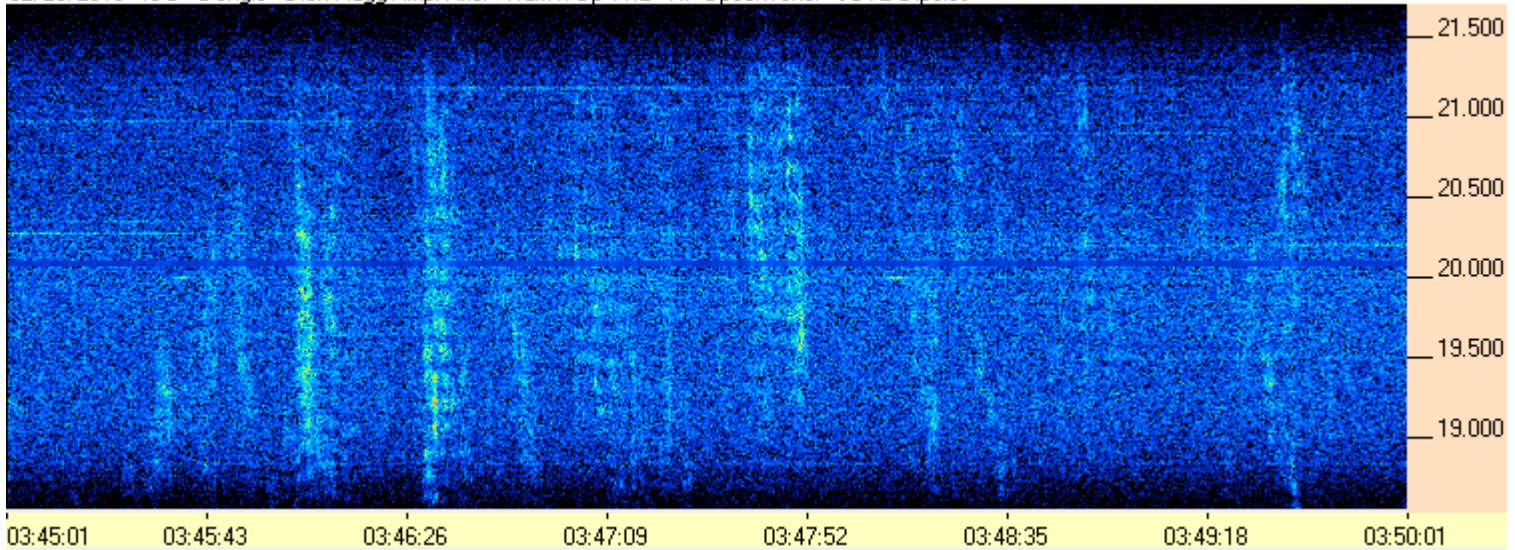
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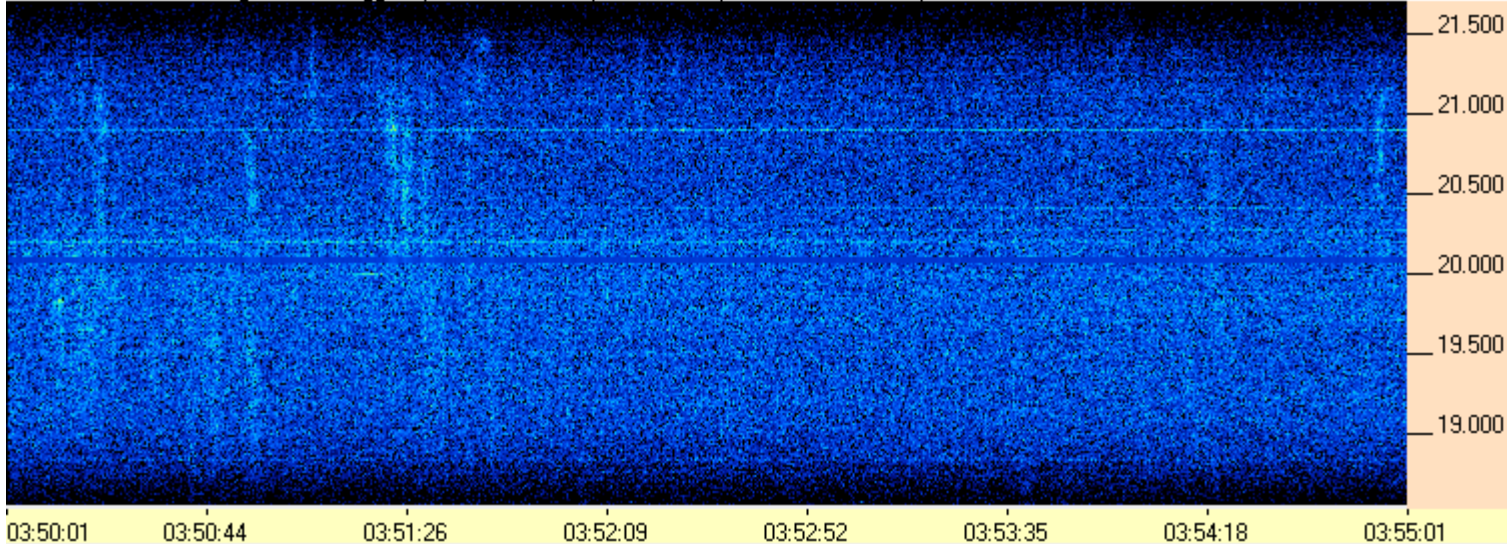
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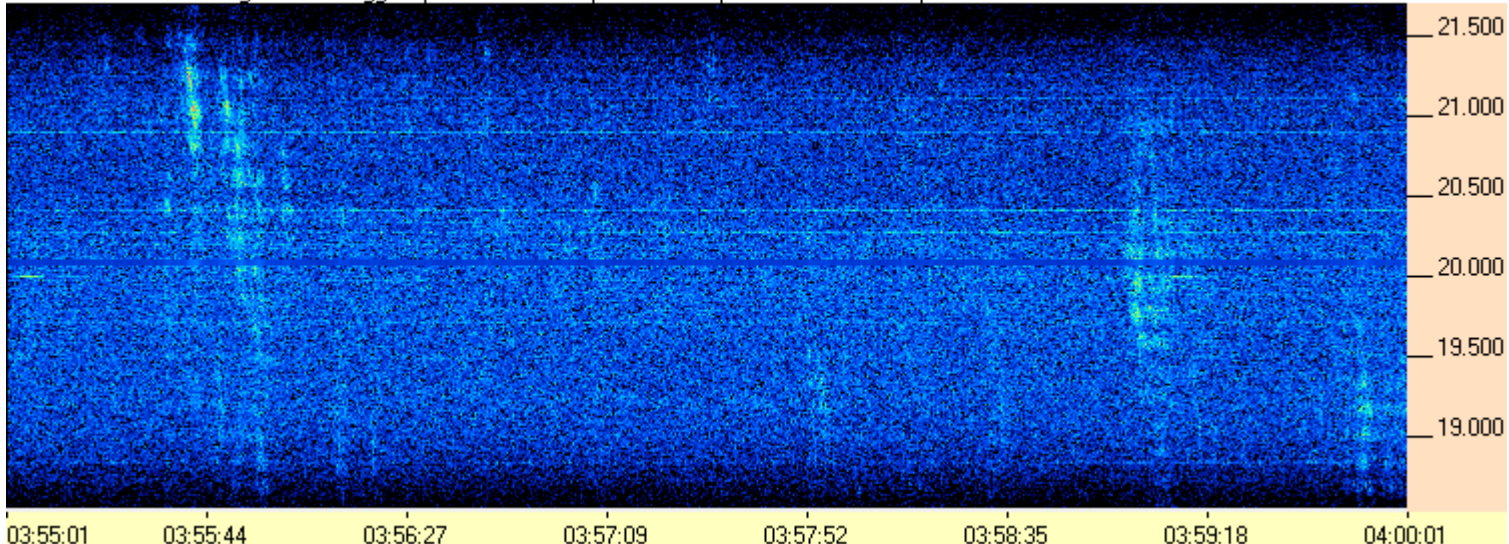
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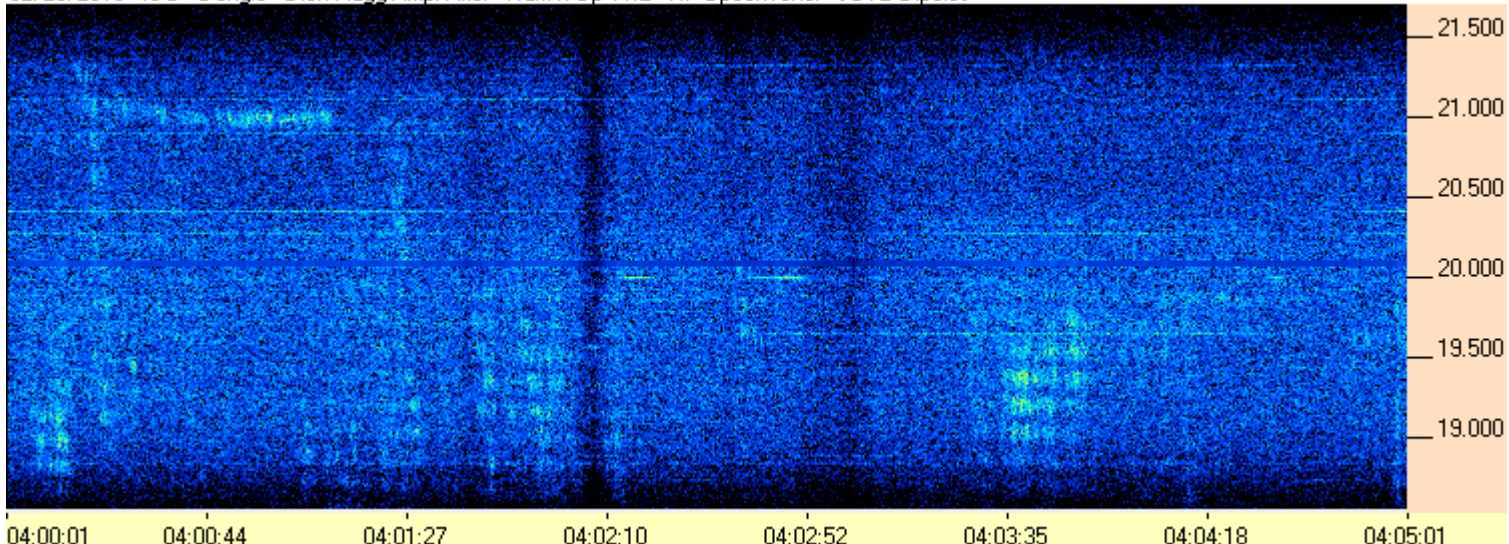
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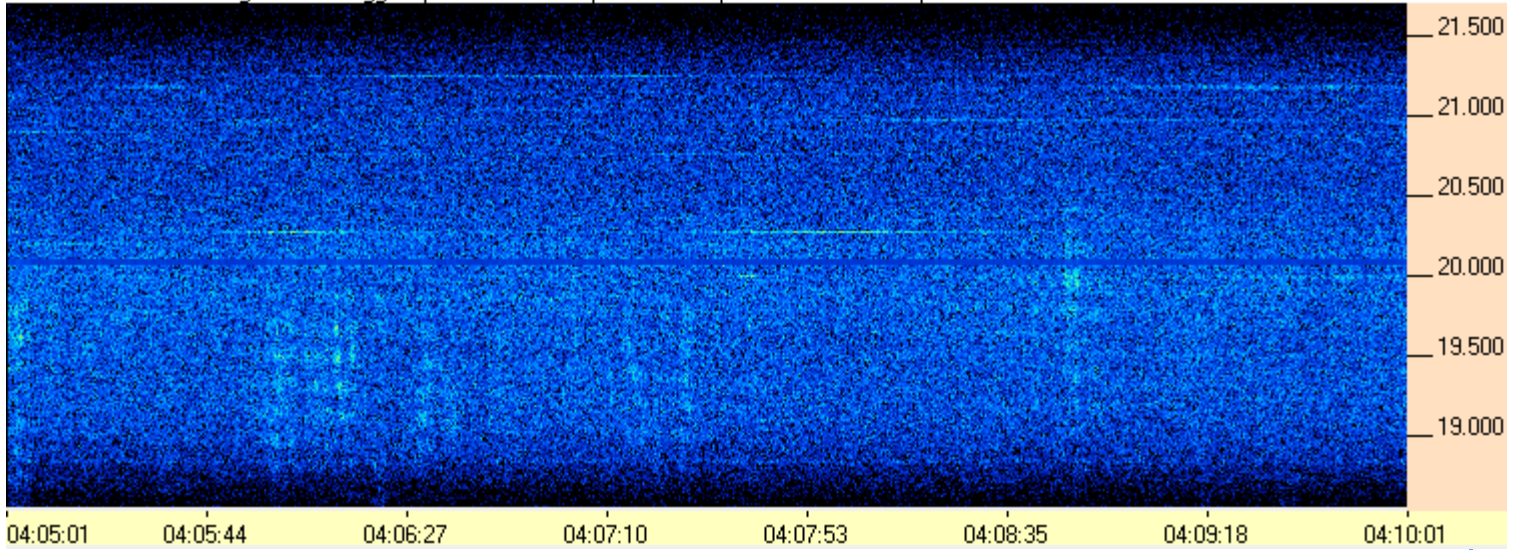
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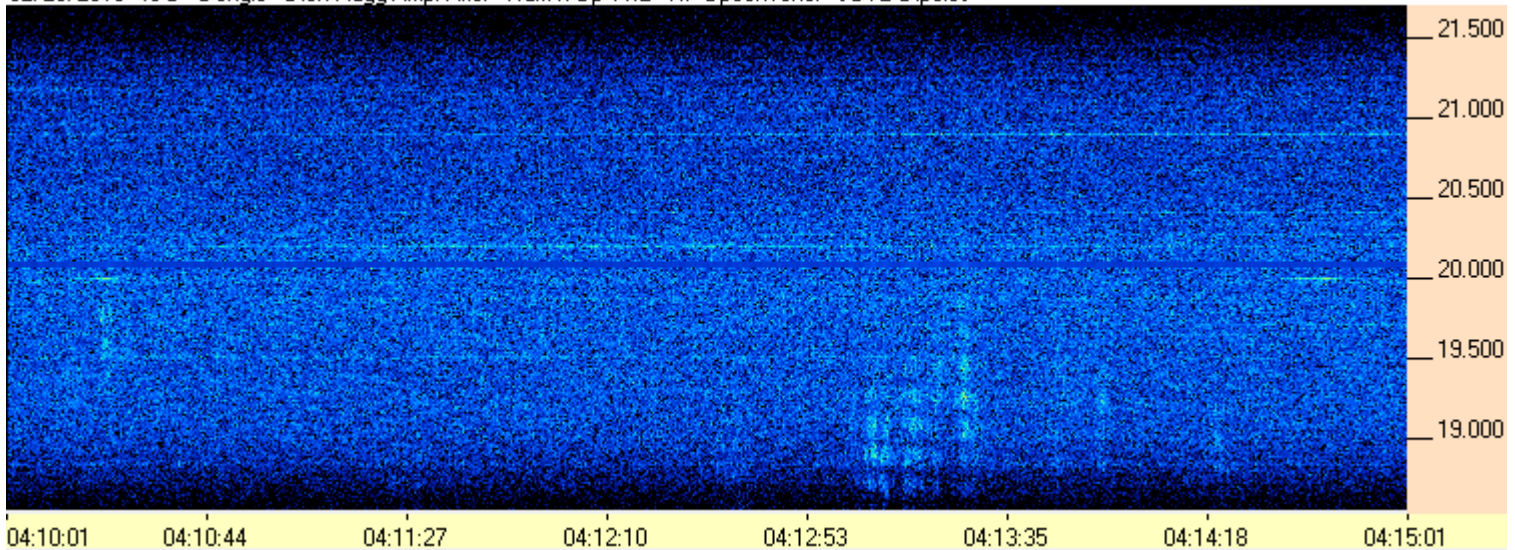
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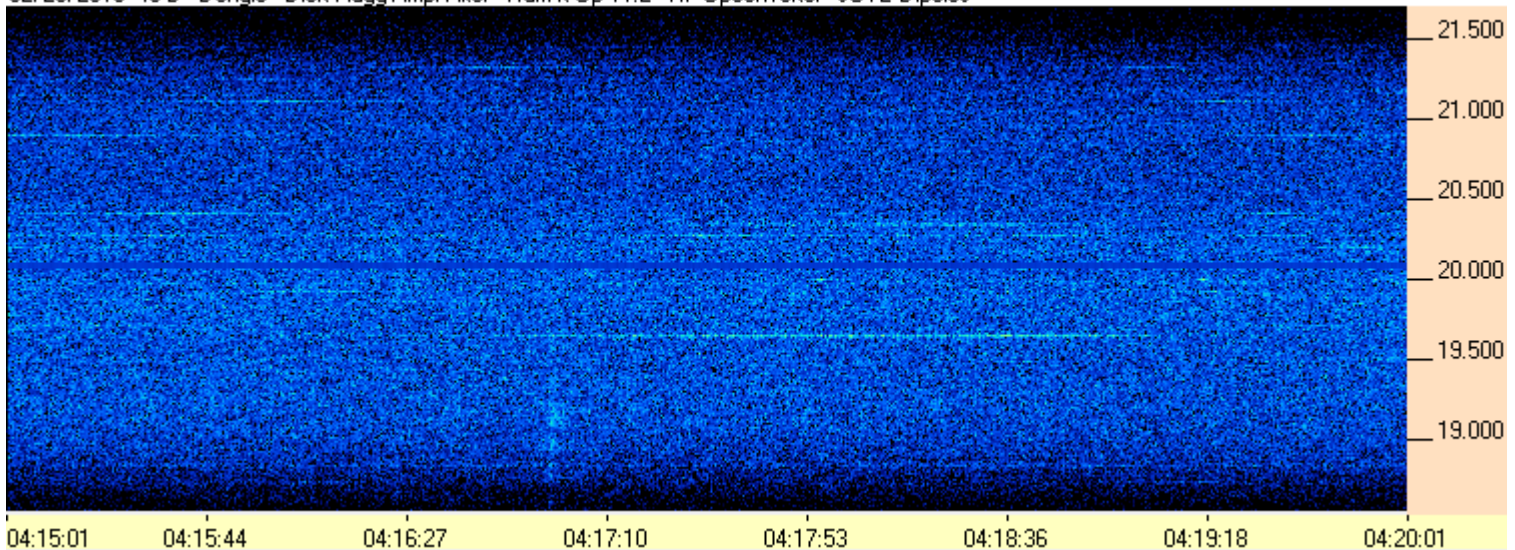
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