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March 21, 2009

**Subject: 1PPS Signal Generation on the Navigation Laboratories, Inc. GPS Simulator**

The Navigation Laboratories, Inc. GPS simulator has a 1PPS signal output on the front panel made available for test purposes. The block diagram below shows a test setup used to measure the accuracy of that signal. The 1PPS signal generated by the GPS simulator was compared to the 1PPS output of the internal GPS receiver using a HP-5370B Time Interval Counter and the results logged on a companion PC.

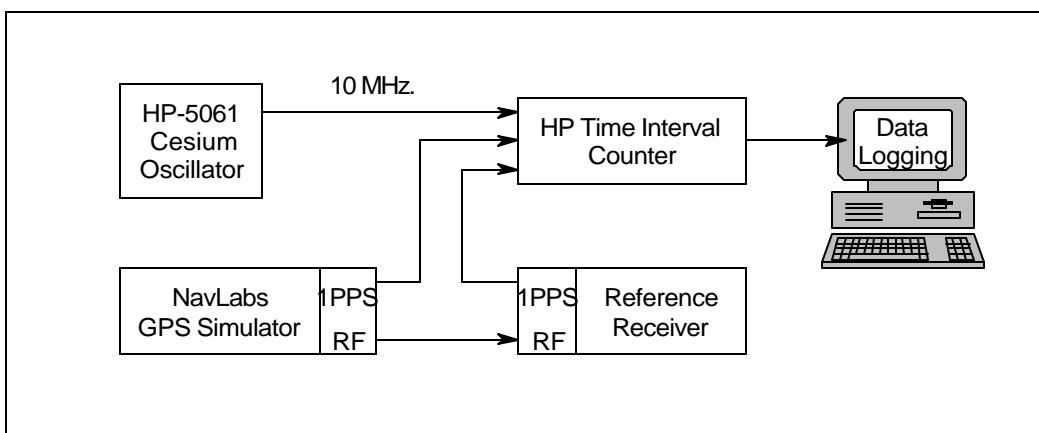


Figure 1 – 1PPS Signal Test Configuration

Figure 2 on the following page shows the results of a four-hour data collection period. Samples were taken every two seconds and logged during this period. Only satellites that would remain in view for the entire test period were used in the simulation. The test results are as follows:

```
*****  
Test started on: 03/21/09 at: 14:26:52  
Sample time: 2 second intervals  
Test completed on 03/21/09 at: 18:30:00  
  
1PPS OFFSET = 0 us  
Average 1PPS= 50 ns  
*****
```

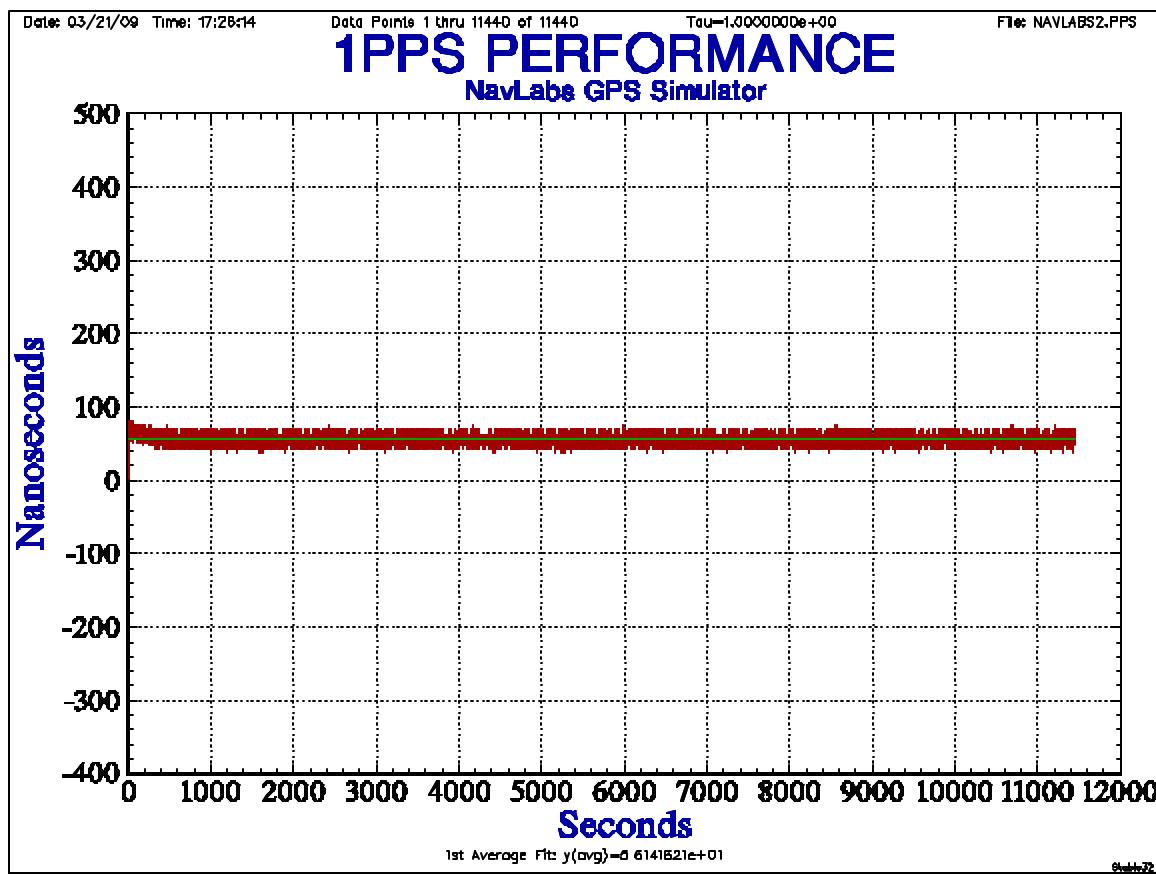


Figure 2 – Simulator 1PPS Performance

**Results:** This measurement shows the 1PPS output on the Navigation Laboratories, Inc. GPS simulator is extremely stable over time, within 50 nanoseconds of zero.