



Leap Second Insertion on December 31st 2008

Summary:

A positive leap second will be added on December 31st 2008.

Product Affected:

All OEMV® Receivers

Region Affected:

Worldwide

Details:

On December 31st 2008, at 23h59m59s, a positive leap second will be inserted into the UTC time. The UTC leap second value will be increased from 14 seconds to 15 seconds.

This event will cause two observable issues on the OEMV family of receivers loaded with firmware version 3.500:

1) At the time of the leap second insertion, the UTC date as output by an OEMV receiver (with an almanac already downloaded) will be invalid for 1 second:

23h59m59s – December 31st 2008
23h59m60s – **January 1st 2009**
00h00m00s – January 1st 2009

2) For receivers loaded with 3.500 powered on with a cold start after the leap second transition occurs, the OEMV receivers UTC time tag will be offset by 1 second from the updated UTC leap second until a full valid almanac is downloaded (approximately 12.5 minutes). As shown in Figure 1, the UTC Status as shown in the TIME log will display “Warning”. This indicates that the receiver is using the leap second value of 14 seconds. Once the receiver has completely downloaded a valid almanac, the UTC Status will become “Valid”, indicating that the receiver is using the updated UTC leap second value.

```
[COM1] log time
<OK
[COM1]
<TIME COM1 0 72.0 FINESTEERING 1510 258669.000 00040040 9924 3642
< VALID -6.239614977e-09 0.000000106 -14.0000000000 2008 12 16 23 50 55000 WARNING
[COM1]
[COM1] log time
<OK
[COM1]
<TIME COM1 0 64.5 FINESTEERING 1510 258691.000 00000040 9924 3642
< VALID -6.584949388e-09 0.000000105 -14.0000000007 2008 12 16 23 51 17000 VALID
[COM1]
```

Figure 1. UTC Time Status Indicator

For more information, please visit <http://tf.nist.gov/pubs/bulletin/leapsecond.htm>



Solution:

Both of these issues will be corrected in the 3.620 firmware version scheduled for release at the end of February 2009.

The validity of the UTC time can be verified by logging the TIME log. Details are available in the OEMV Firmware Manual <http://www.novatel.com/Documents/Manuals/om-20000094.pdf>

Application Notes:

None available at this time

Download Updates:

None available at this time

For more information please contact support@novatel.com