

## FIELD SERVICE BULLETIN

**FSB #: 098-50620-020 Rev B**

**DATE: August 20, 2009**

**System:** XLi Time and Frequency System

**Issue:** Incorrect Date When Operating in GPS Mode

**Product Code:**

**Description**

1510-602

XLi Time and Frequency System with GPS Option 86-8013

1510-652

XLi Time and Frequency System with GPS Option 86-8013

**CLEI Code:** N/A

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**NOTE:** Find a copy of this FSB in the Support section:

<http://www.symmetricom.com/support/online-support/ttm-product-support/field-service-bulletins/>

**General Behavior:**

Some XLi Time and Frequency Systems with GPS Option module 86-8013 generate an incorrect date (year, month, day-of-month, day-of-year) on and after June 23, 2009 when operating in GPS mode. The error manifests in a negative 19.7 year offset to the XLi clock. (e.g. In July 2009 the clock reports a date in Nov 1989). Although other product functions not related to year and day of year, have continued to operate normally (e.g. hour, minute, second, 1 PPS, frequency, etc) future performance cannot be predicted.

XLi units utilizing the current GPS Option module 87-8028-2 do not exhibit this issue. The 86-8013 was replaced by the 87-8028-2 in 2004.

**Cause:**

An improper calculation of the GPS week rollover epoch on some 86-8013 modules results in a negative 1024 week (approximately 19.7 year) offset to the XLi clock. The GPS navigation message provides time in weeks and seconds. Since the week count rolls over to 0 every 1024 weeks, GPS receivers must determine the current GPS epoch and extend the week count accordingly. 86-8013 modules exhibiting this error identified the current epoch as the previous GPS epoch.

**Immediate Solution:**

Software update: download and install XLi software update (Project 2-3.1).

<http://www.symmetricom.com/support/online-support/ttm-product-support/software-downloads/>

The software update provides a workaround to the GPS week rollover calculation and extends functionality to the end of the current GPS epoch (April 6, 2019).

**Long Term Solution:** To insure performance beyond April 6, 2019, replacement of the 86-8013 with the current XLi GPS option module 87-8028-2 is required.

**Contact Information:**

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