

# GPS failures as a result of the GPS Rollover Event

It has come to our attention that the 360-15-00 and 360-15-01 GPS option cards are showing incorrect date codes after the recent GPS Rollover event that occurred worldwide on April 6<sup>th</sup> 2019.

The failure mode is that the option board will report as seeing satellites and tracking them, though may not achieve full lock. The time reported should be correct, but the date will likely be XX/XX/1980 or XX/XX/1999, which are the previous EPOCH years.

The boards in question use a Navsync GPS receiver module to provide the timing information. These devices went EOL a long time ago and there is no support for them. This led us to develop the more recent 360-15-10/11/12 boards using a Trimble receiver device.

Trimble have assured us that none of the devices we use on these products should be affected by the Rollover event. This appears to be true, with no reported issues relating to boards using the Trimble devices.

At this point in time, the only fix for this problem is to fit new GPS cards (360-15-12) and to upgrade the Mentor XL firmware. This process can be done by customers, though care needs to be taken with the firmware upgrade, especially if moving from a very old version (ie. V3).

We have PDF guides both for fitting the GPS option card and upgrading the firmware, which if followed strictly, should allow customers or distributors to carry this work out themselves. We can also offer to do the work in the factory for peace of mind, though customers will likely require support units while the work is carried out.

# Workaround

For customers experiencing this issue, until the new board is fitted, it is recommended that they disable the GPS card and have the unit free-run.

The process to do this is to firstly disable the GPS card by setting the 1PPS Lock option within the GPS menus to 'off'. This can be done via the front panel or the browser pages.

They then need to manually set the Real Time Clock to the correct date & time. This is done via the front panel, from the setup-more-RTC setup-set date & time menu.

The final step is then to JAM the timecode outputs to this newly set RTC. This is performed from the setup-timecode-all frequencies-JAM menu. They should also ensure that the JAM source is set to RTC from the same menu section.