

## OCXO & Rubidium

# Oscillator Module Firmware Release Notes

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**Known Issue:** For TCG -G series clocks running GNSS receiver firmware version d1.07 or d1.08 and configured to use GLONASS as the only constellation for synchronization, the time reported on the front panel, Configuration Tool and outputs will be ahead of UTC by 3 hours. Note that the pulse and frequency outputs are not affected by this anomaly. It is recommended that TCG products running these firmware versions are not configured with GLONASS as the only constellation. TCG products configured with "GPS + GLONASS" or "GPS" only are not affected by this issue.

### VERSION 2.04j (February 2022)

#### Bug Fix:

Fixed a bug where TCG 02-G and NTS 03-G clocks fitted with the OCXO or Rubidium oscillator option would not apply the configured Minimum SN Value setting, instead continuing to use the default setting. This could cause the clock to synchronize to satellites with a signal to noise ratio below the configured Minimum SN Value setting.

### VERSION 2.04i (February 2019)

#### Bug Fix:

In TCG 02-G clocks fitted with the OCXO or Rubidium oscillator option, the mask angle may unexpectedly change from the configured mask angle, to 60 degrees. The effect of the mask angle change is that it reduces the number of satellites that can be used in time and position calculations, causing loss of sync, and does not recover without external intervention. The issue arose because the internal time reference module was inadvertently reading messaging intended for another subsystem on the bus. One of the timestamp messages that should have been ignored, contained data in the same format as an instruction which configures the GNSS receiver to change the mask angle. The message handling has been changed so that the issue will no longer occur.

### VERSION 2.04h (February 2018)

#### Improvement:

An issue where a properly functioning clock would suddenly lose all satellites and stop functioning until manually restarted. This has been fixed in this firmware update by issuing an internal soft reset.

#### Change:

Upgrade of GPS on an Axiom required the clock to be power cycled for the Axiom to return to normal operation. This change allows for Axioms to be upgraded without having to power cycle the clock following the upgrade.

**Change:**

Support for Trimble RES SMT 360 has been added.

- **Bug Fix:**

An issue where, when a GPS reset occurred and the GPS did not restart successfully then the clock would continue to report a Sync state while the oscillator continued to free run. The fix resets the timeout to clear the flag that prevented standard reporting.

- **Bug Fix:**

The reported antenna current would be erroneously low when actual current value was high. The current firmware fixes this issue.

**VERSION F2.04g (October 2017)****Improvement:**

Added the ability to apply firmware upgrades to the GNSS receiver module of TCG 02-G clocks fitted with OCXO or Rubidium oscillators. This change allows for future field upgrades to be applied to the GNSS receiver module to add features or resolve issues.

**VERSION 2.04f (August 2016)****Bug Fix:**

Fixed a bug that could cause the "No Antenna" alarm to clear intermittently on OCXO and Rubidium TCG 02-G clocks when the antenna is not connected.