



Support Note

GEOSPATIAL DIVISION
DECEMBER 2016

TRIMBLE SURVEY GNSS FIRMWARE

Special note on 31 December 2016 leap second

Trimble has made every effort to ensure our receivers will work seamlessly through the addition of one leap second on 31 December 2016. Our current firmware fully supports the introduction of a leap second on 31 December 2016.

In simple terms, the introduction will occur at the UTC cross over between 31 December 2016 and 1 January 2017. GNSS users must determine the time difference from their location to Greenwich Mean Time (GMT) to determine exactly when they should monitor their GNSS receiver.

GLONASS uses UTC in its time system and will introduce a leap second. GLONASS leap second will be introduced at 23:59:60 UTC on 31 December 2016. Any potential issues with tracking of GLONASS will be realized at 00:00:00 UTC on 1 January 2017.

To be vigilant with any continuously operating receivers for monitoring, real time networks, etc., we suggest monitoring all receivers during this period. In the event of any tracking issues during the leap second introduction (23:59:60 UTC on 31 December 2016), a simple power cycle of the receiver will fix the problem. Below is a summary of how all Trimble GPS/GNSS receiver firmware will behave with the introduction of the leap second.

GPS and GNSS Firmware Version	Behavior
V4.81 and greater	Receiver should have no issues at leap second introduction
v4.40 to v4.80	Receiver will lose lock on all GLONASS satellite at leap second introduction until your receiver is reset (power cycle) or each GLONASS satellite currently tracked falls below the elevation mask and is reacquired later by the receiver. Your survey (RTK or post processed data collection) will continue using the other constellations available until new GLONASS satellites are introduced or the receiver is reset.
v3.00 to v4.3x	Receiver could exhibit satellite tracking issues at leap second introduction until your receiver is reset (power cycle) or each satellite currently tracked falls below the elevation mask and is reacquired later by the receiver. Any receiver using this range of firmware and tracking during the leap second introduction may need resetting to continue tracking after the leap second introduction.

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Prior to and including v2.3x	GPS was the only constellation supported with these versions. The introduction of the leap second should have no effect.
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Current receiver firmware version

The table below shows the current firmware versions for all Trimble receivers (Year 2000 and beyond). Receiver firmware maintenance plans are available for upgrading your receiver to the current firmware version, if required. See your local distributor for information on maintenance plans.

GPS and GNSS Hardware	Version
Trimble 5700	2.32
Trimble 5700II	4.64
Trimble 5800	2.32
Trimble R2	5.15
Trimble R4 (Model 2 and Model 3)	5.15
Trimble R4 (Model 1)	4.64
Trimble R5	5.00
Trimble R6 (Model 3 and Model 4)	5.15
Trimble R6 (Model 1 and Model 2)	4.64
Trimble R7 (Model 2)	5.01
Trimble R8 (Model 3 and Model 4)	5.15
Trimble R8 (Model 2)	4.64
Trimble R8 (Model 1)	2.32
Trimble R8s	5.15
Trimble R9s	5.15
Trimble R10 + Trimble R10 LT	5.15
Trimble NetR9 Geospatial	5.15

For more information

For more information contact your local Trimble Distribution Partner.