

Reason RT Clocks Product Notification - GPS Week Number Rollover and Leap Second Handling

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Background

The GPS system was designed in a way that only allows 10 bits for the week number, meaning that every 1024 weeks (a bit less than 20 years) the GPS week number value rolls over back to zero. This happened once back in 1999, and will happen again on April 6th of 2019, when the GPS satellite system will perform a week number rollover.

The Leap second correction is a one-second adjustment applied to UTC (Coordinated Universal Time) that must be handled by GPS receivers since it is not supported by the GPS system. Events may occur on either June 30th or December 31st each year, with an announcement made only a couple of months prior to the event. As of today, no future leap second events are scheduled.

Affected Products

All GE Reason RT43X clocks (GPS or GNSS) and the previous Reason RT420 clocks use GPS receivers that allow 16 bits for week number. As a result, they are immune to the week number rollover happening on April 6th of 2019, and they will simply increase a week number in the counter. Similarly, previous firmware versions should not be impacted by this GPS rollover.

Leap second handling has been improved in RT43X firmware update 08A02, affecting mainly the following part numbers (GE RT43X clocks - GPS only):

RT430XXXXXXXXA(XXX)

RT434XXXXXXXXA(XXX)

RT431XXXXXA(XXX)

RT431XXXXXB(XXX)

Reason RT420 clocks do not support leap second handling.

Older clock models (Reason RT2000 and RT1XXX) reached the end of design life support in 2015.

Recommendations

Although the week rollover event in April 6th of 2019 does not require any actions, GE Grid Solutions is committed to customer care and the support of our products. As part of this commitment, GE strives to design high quality products, provide knowledge support teams, and to communicate the availability of new features and releases.

As a preventive action for a future leap second events, we highly recommend the RT43X part numbers listed above upgrade to firmware 08A02.

Visit our website for the latest updates:

http://www.gegridsolutions.com/measurement_recording_timesync/catalog/rt430.htm

Contact

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