SUPPORT NOTE

March 6, 2019

Spectra Geospatial GNSS Receivers and GPS Week Number Rollover – April 2019

GPS provides a current date and time, represented as a week number. The week number parameter is generated via a 10-bit binary number. The valid range for the week number parameter is 0 to 1,023, for a total of 1,024 weeks. After that time, the week number rolls over to 0. The first week number period started when GPS was launched in January 1980, and the last GPS WNRO was 19.7 years ago, on Aug. 21, 1999. The next WNRO occurs on April 6, 2019, when the week number will again reach the maximum value of 1,023 and roll over to 0. Any GNSS receiver that does not account for this rollover will report an erroneous date. **This is an urgent required action and receivers will not function correctly without the correct firmware.**

Preparing Your Spectra Geospatial GNSS Receiver

Spectra Geospatial has tested the firmware in the table below using a GNSS simulator to verify that the receiver firmware correctly handles the week rollover in different scenarios, including real-time kinematic and static surveys with various input and output messages using a variety of file formats.

To prepare for the week number rollover event, it is recommended to install, at minimum, the version number corresponding to each receiver in the table on the following page before the rollover event occurs on April 6, 2019. All receivers with the firmware listed will continue to operate normally following the rollover.

If a receiver does not have, at minimum, the version listed in the table below, the receiver will output incorrect GPS week number, UTC time, and incorrect date in the output messages, data files, and in the WebUI (if applicable).

Availability and reliability of GNSS positioning will be significantly degraded in real-time mode as well as in post-processing.

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Firmware by Receiver Type

Receiver	Minimum firmware version and comments
SP90m	V3.68
SP80	V3.38
SP60	V3.81
SP60	V3.38 (for expired SP60 firmware maintenance – SP Loader V8.7)
SP20	V3.67
MM50	Not impacted by GPS Week Number Rollover
ProMark 800	V1.9.S815Kn27
ProFlex 800	V2.06.S850Kn27
ProMark 700	V4.91 or later
ProMark 100/200	V2.5.aW215Hm27
ProMark 120/220	V2.5.aW215Hm27
MobileMapper 100/120	V2.5.aW215Hm27
MobileMapper 300	V4.91 or later
EPOCH 50	V4.00 or later
EPOCH 35	V3.62 or later
EPOCH 25	V2.32 or later
EPOCH 10	V1.00 or later
ProMark 500	V6.8.S814G126
ProFlex 500	V4.5.S767G224

Users who are using any of the receivers in this table must ensure that they have upgraded to the minimum firmware for each receiver prior to the rollover event on April 6/7 2019. **This is an urgent required action and receivers will not function correctly without the correct firmware.**

For SP60 and SP80 firmware V3.38, Spectra Precision Loader V8.7 or later is required.

For SP90m firmware V3.68, Spectra Precision Loader V7.1.0 or later is required.

For post-processing of raw data recorded after April 6, 2019 in Survey Office, Patch 3 is required to be downloaded in Survey Office (available from Software Updates in Survey Office).

For further information, please contact your Spectra Geospatial representative.