GNSS Firmware v5.4

Release Notes

July 2021

Table of Contents

Supported Products

Systems

- Topcon NET-G5, HiPer HR, HiPer VR, MR-2, GR-5[1]
- Sokkia GNR5, GRX3, GCX3

OEM

- Topcon B111, B111A, B125, B210

Accompanying Topcon Software and Firmware

- To access all new features and improved functionality available in GNSS Firmware 5.4 the following Topcon software versions (or later) are recommended:
    - TRU v3.6
    - MAGNET v7.0
- BLE Firmware v1.8 (HiPer VR, GRX3)

Features and Changes

- Introduction of StarPoint Services
    - StarPoint and StarPoint Pro Lband and NTRIP PPP service
    - SkyBridge service with base estimation
- New GNSS signal support; includes tracking, positioning[2], and support in correction and data messages
    - GPS L1C
    - NavIC[3] L5
    - BDS-3 B2a and B1C
    - QZSS L6(D+E), MADOCA (PPP), CLAS (PPP)
    - GLONASS L3
- Advanced Tracking Features
    - Accelerated acquisition of Galileo, BeiDou and SBAS satellites
    - Improve satellite tracking in difficult conditions and in presence of moderate interference/jamming (manual calibration required)
    - Ability to limit maximum of tracked satellites for secondary antenna (B210 only)
    - Ability to manage Galileo tracking for secondary antenna (B210 only)
- Improvements to RTK, DION and SBAS DGNSS positioning including:
    - Better RTK accuracy for medium and long baselines
    - Noticeable increase in RTK availability in challenging conditions
    - 100 Hz positioning operations improved
    - New manual and automatic modes to reset base data
    - Support for Galileo, BeiDou, and IMU data in DION positioning
    - New mode to improve pass to pass performance for DION positioning

[1] GR-5 with Vanguard Technology.

[2] Positioning availability and modes supported is dependent on signal type

[3] NavIC previously known as IRNSS

    - DION smoothing now enabled by default for additional solution types
    - New code-with-carrier smoothing methods
    - Better performance in SBAS DGNSS mode
- New Advanced Positioning Features
    - RTK Advanced Multi-engine Platform (AMP)
    - Short-Term-Base functionality for construction and AG applications; based on existing auto-seed functions.
- Ability to adjust PPS pulse width and limit output of PPS until after positioning solution obtained
- Support of RTCM3 1029 message output for base receivers
- Addition of NMEA-0183 v4.11 support
- New mode to support automatic detection of incoming correction format
- Updated default state for *notvis* command and behavior with SBAS satellites.
- QLL improvements for receiver operation at higher vibration levels
- Improvements for file logging to SD cards with ability to use up to 32 GB capacity cards (OEM boards, GR-5, MR-2)
- Default state for automatic power on of receiver when power supply connected now disabled (HiPer VR, GRX3)
- File system improvements (HiPer VR, GRX3, HiPer HR, Net-G5, GNR5)
    - Updated web interface
    - File logging folders and quotas support with
    - FTP multi-push functionality
    - Added media file system checks
    - Enhanced multiple media support
    - Write access to SD and Internal storage media via USB Mass Storage (via command)
    - New checks during GNSS FW TFI file installation to confirm if microprogram updates required
- Defect fixes and stability improvements