Waypoint Software Products

GrafNav/GrafNet Version History

What's new in Version 10.00.2409?

Available: April 2025

GUI
- Added support for finding an epoch on the Satellite Map window via a plot's context menu
- Added ability to measure distance and azimuth between two points in the Satellite Map window
- Added a scale bar to the Satellite Map window
- HTML report now supports the inclusion of Satellite Map window
- Favourites Manager now supports HxGN SmartNet stations (subscription required)

Command Line Interface (CLI)
- HxGN SmartNet station coordinates can now be retrieved through Favourites (subscription required)
- Improved sanity checking of downloaded base station data to avoid processing failures

Utilities
- Improved performance of the Download GNSS Service Data utility for HxGN SmartNet subscribers (subscription required)

Decoders
- NovAtel OEM/SPAN decoder now supports RANGECMP5B logs
- Added support for Galileo E6 observations to Leica MDB decoder
- Fixed issue in RINEX decoder where QZSS health flags were incorrectly handled

Bug Fixes
- Resolved issue where HTML report would occasionally include unrelated clipboard content
- Resolved issue where antenna information was not being properly retrieved from Favourites

What's new in Version 10.00?

Available: December 2024

GUI
- Introduced a new map window featuring satellite imagery and road layers which provides real-world context for all projects
- New user notifications will appear whenever any active term license is expiring within 30 days

Processing
- Raised maximum number of base stations to 100 for better support of VRS use cases
- ARTK now makes use of up to 4 signals per constellation to provide the best chance of achieving fixed solutions

Command Line Interface (CLI)
- Introduced CLI support for Linux (WPGCMD and WPGCMDIMU)
- Added new command to control the number of base stations that will be automatically downloaded for a project
- Broadcast ephemeris and precise orbit/clock data now automatically downloaded for all projects to ensure optimal results
- HxGN SmartNet base stations can now be included in the download search (subscription required)
- Up to 8 output files can now be specified during the export stage
- New warning message will be output whenever any active term license is expiring within 30 days

Utilities
- Added new option in the *Download GNSS Service Data* utility to save message log to disk

Decoders
- NovAtel OEM/SPAN decoder now supports RANGECMP2_1 and RANGECMP4_1 logs for dual antenna systems
- Fixed issue with RINEX decoder where irregular time intervals would cause conversion to fail
- Removed support for NovAtel OEM3 receivers

GrafNet
- Fixed issue in GrafNet where the license auto-activate/return feature did not work

What's new in Version 9.00.2207?

Available: February 2024

Processing
- Support for BeiDou B2b has been added to all processing engines
- PPP-AR engine has been upgraded for full-frequency support, allowing for convergence in as fast as 3 minutes
- Introduced new option that can reduce multi-base differential processing times by up to 90% by limiting the number of baselines used concurrently in the filter. The option is available under the *Measurement* tab of the Differential GNSS Settings.
- Memory usage when processing with ARTK has been reduced by up to 85%
- Fixed issues with pre-processing for use-cases where base stations did not fully overlap with the remote

Utilities
- New option for HxGN SmartNet subscribers that allows them to reduce their quota consumption by requesting RINEX data at a lower rate and allowing the software to handle the interpolation. The option is available under the *Services* tab of the Preferences dialog.
- Support for single-parallel Lambert Conformal projections has been added

Decoders
- Added support for the following RINEX 4.00 navigation message types: LNAV (GPS & QZSS), FDMA (GLONASS), D1/D2 (BeiDou), INAV/FNAV (Galileo)

What's new in Version 9.00?

Available: August 2023

GUI
- New streamlined user interface makes Waypoint software more intuitive and easier to navigate
- New icons and branding for the Waypoint software suite

Processing
- Support for BeiDou BDS-3 signals (B1C & B2a) has been added to all processing engines

Utilities
- The *Download Service Data* utility now supports the FTPS protocol, which restores access to the CDDIS service
- Added support for cases where the same RINEX base station files are being downloaded simultaneously by multiple instances of the software
- Resolved issue where the software update tool would occasionally fail to detect or download new versions of the software

Decoders
- Added capability for decoding BeiDou BDS-3 signals to the NovAtel OEM/SPAN, Leica MDB and RINEX decoders

Security
- Software installation files are now digitally signed to assure users of their authenticity
- Several key security improvements that further enhance software robustness

Command Line Interface (CLI)
- Users can now export KMZ files

What's new in Version 8.90.8520?

Available: May 2023

Processing
- Resolved issue with PPP processing of recently collected datasets

What's new in Version 8.90.8304?

Available: May 2023

Processing
- Added support for TerraStar-NRT precise files referenced to ITRF2020
- Added support for precise orbit files (SP3) referenced to ITRF2020
- Added support for Version 3.04 of the precise clock (CLK) file format
- Fixed issue where geostationary BeiDou satellites were being mishandled

Decoders
- Fixed issue with Javad decoder affecting ephemerides for Galileo satellites with a PRN above 30

Utilities
- Fixed issue where *Download Service Data* utility would falsely report an error when downloading same-day TerraStar-NRT data

What's new in Version 8.90.6611?

Available: June 2022

Utilities
- Waypoint software now connects to NovAtel's file servers using SFTP protocol instead of FTP protocol. This impacts downloading manufacturer files, TerraStar-NRT files, and software updates. The existing FTP servers will be decommissioned later this year. Click here for more details.

Processing
- Fixed issue where BeiDou satellites greater than 37 could not be omitted
- Fixed issue where antennas with very large entries in the ATX file would not be loaded

Decoders
- Fixed issue where RINEX decoder could crash on datasets with a very large number of satellites and/or measurements
- Fixed issue with RTCMV3 decoder when handling MSM messages that contained unrecognized signals

What's new in Version 8.90.5126?

Available: December 2021

Processing
- Made adjustments to PPP-AR engine in preparation of the upcoming changes to the TerraStar-NRT service
- Made general improvements to PPP-AR performance

Download Utility
- Fixed issue where RINEX decoder would fail to load if current directory was too long
- Added support for use-case where the same TerraStar-NRT files are being downloaded simultaneously by multiple instances of the software
- Fixed issue where HTTPS connection to public servers could fail depending on user's firewall configuration

- Fixed issue where utility did not always download enough base station data to fully overlap the requested time range

Command Line
- Fixed issue where *-procint* command would fail under certain use-cases

What's new in Version 8.90.4806?

Available: August 2021

Download Utility
- Added support for connecting to HTTP and HTTPS servers

What's new in Version 8.90.4416?

Available: April 2021

NovAtel's Waypoint post-processing software now includes built-in support for HxGN SmartNet, the world's largest GNSS reference station network. Users with a valid HxGN SmartNet subscription can enter their login credentials through the *Preferences* menu. By doing so, the *Download Service Data* utility will seamlessly integrate the service and its stations into its search routines to facilitate the download of nearby RINEX data.

Processing
- Improved GLONASS fixed integer performance with ARTK for users working with Leica receivers

Decoders
- Improved station-decoding support in Leica MDB decoder and expanded the list of recognized models
- Improved L2C support for Septentrio receivers
- Added support for the [SX] message (Extended Satellite Indices) to the Javad decoder

Command Line
- Improved support for users automating differential processing of short surveys when PPP is required to determine base station coordinates

Download Utility
- HxGN SmartNet base station network is now supported (subscription required)
- Fixed an issue affecting successful download of RINEX V3 stations
- Added multiple RINEX V3 sources from existing services, providing the option to download multi-constellation base station data.
- Added GNSS stations from the Texas Department of Transportation (TxDOT). This service includes 222 new stations, 153 of which are already supported on other networks and 69 new stations.

GUI
- Addressed a licensing conflict that caused slow start-up times for users who previously had Version 8.70 or older installed on their machine

Licensing

- Users requiring offline activation can now complete the process through the *Local License Manager* interface instead of using the command-line

What's new in Version 8.90.2428?

Available: April 2020

Processing
- Improved PPP-AR performance
- Fixed an issue impacting Galileo-only processing

GUI
- Users can now specify their Activation ID(s) for automatic license activation (upon opening the software) and return (upon closing the software). This helps to avoid lost licenses among groups of users who are sharing Activation IDs by ensuring the license is returned when not in use. It also helps minimize the possibility of losing a license in the event of a hard drive failure.
- *Export Wizard* now includes a profile for GPS Exchange Format (GPX)

Decoders
- Added support for MSM4 and MSM6 messages to RTCM decoder
- Septentrio decoder now supports message block #5902 (ReceiverSetup) for easy extraction of antenna information (to STA file) and product name (to GPB file)
- Javad decoder now supports GPS L5 and GLONASS L3 observations, as well as Galileo ephemerides

Command Line
- WPGCMD now supports base station resampling via new *-procint* command. See help file for details.

Manufacturer Files
- Added Favourites groups to store published positions of Ordnance Survey (OS), EPN, TrigNet, UNAVCO, and IGN (ITRF2014) services
- Added RENEP (Portugal) and SONEL (global) RINEX services to the Download Utility

What's new in Version 8.90?

Available: January 2020

Processing
- Users working with NovAtel receivers and subscribed to the TerraStar-NRT service can now process their data using the new PPP-AR engine, which is based on the same technology that powers NovAtel's TerraStar-C PRO service. The new functionality works in both the forward and reverse directions.

Bug Fixes
- Fixed issue where OEM4 decoder would sometimes falsely report 0% idle time warnings
- Fixed issue where RINEX decoder would fail to decode observations if no navigation file was available

Note
- Version 8.90 will be the final version that offers a 32-bit variant (available upon request). All subsequent releases will only be available as 64-bit versions.

What's new in Version 8.80.2720?

Available: July 2019

Processing Engines
- Third frequency band (includes GPS L5/BeiDou B3/Galileo E5a/QZSS L5) can now be used as replacement for GPS L2/BeiDou B2/Galileo E5b/QZSS L2C during PPP processing

GUI/Tools
- The ability to apply a 3D offset when exporting features for GNSS-only trajectories has been brought back to the Export Wizard
- Fixed a localization issue with the *Local License Manager* that would cause a crash for certain users depending on their Region settings in Windows
- The *Plot Raw GNSS Data* feature now allows for C/N0 plotting of GPS L5/BeiDou B3/Galileo E5a/QZSS L5 measurements

What's new in Version 8.80.2503?

Available: May 2019

Bug Fixes
- Fixed issue where plotting tool would not remember the HMS/SOW display preference
- Fixed issue where European TerraStar-NRT server would fail to connect
- Fixed issue where *Add Precise Files* would display an error message when downloading less than 24 hours of data over a day cross-over
- Fixed issue in *Profile Manager* where constellations were not always available for selection

Decoders
- NovAtel OEM/SPAN decoder now supports GALINAVEPHEMERISB and GALFNAVEPHEMERISB records

What's new in Version 8.80?

Available: March 2019

Processing
- ARTK has been updated to OM7Mx0400RN to ensure users benefit from all improvements implemented in the real time RTK engine
- Third frequency band (includes GPS L5/BeiDou B3/Galileo E5a/QZSS L5) can now be used as replacement for GPS L2/BeiDou B2/Galileo E5b/QZSS L2C during differential processing
- 64-bit architecture allows for faster processing times
- Number of satellites supported for differential processing has been raised to 40
- When setting base station positions using the "Compute from PPP" button, some quality metrics are now displayed

GUI/Tools
- Local License Manager now stores 5 most recent Activation IDs for easy recall
- When setting base station positions using Favourites, the user can now specify the epoch they want to move the coordinates to

- Sky Plot now handles up to 100 satellites

Decoders
- Added support for the RANGECMP_1B measurement log to the NovAtel SPAN/OEM converter
- Added support for PDPPOS and PPPPOS position logs to NovAtel SPAN/OEM converter
- Added support for Galileo E6 and GLONASS L3 decoding to the NovAtel SPAN/OEM and RINEX converters
- Added support for u-blox F9P receivers
- Added support for BeiDou and Galileo ephemerides to Septentrio converter