



## GRAFNAV/GRAFNET™ VERSION HISTORY

### What is new with Version 8.40.2827?

*Available: August 2012 [update]*

#### **Processing:**

- Fixed issue with satellite rejection when using precise ephemerides

#### **Bug Fixes:**

- Trace value now computed correctly for *Estimated Position Accuracy* plot
- Improved undulation computation for points near geoid boundaries
- Fixed plotting issue when comparing trajectories with two different data rates
- Improved GUI in *Favourites Manager* to accommodate longer group/datum names

### What was new with Version 8.40.2523?

*Available: May 2012 [update]*

#### **Utilities:**

- Added support for TrigNet service (South Africa) in the *Download Service Data* utility

#### **Bug Fixes:**

- Improved support for compressed RINEX data

### What was new with Version 8.40.2504?

*Available: May 2012 [update]*

#### **Bug Fixes:**

- Fixed bug where only features would be printed when attempting to print *Map Window*
- Fixed issue where new projects created via *Project Wizard* would copy some settings from previous project
- Added support for auto-selection of "Features" as output source in *Export Wizard*
- Fixed bug where downloading SP3/CLK files in GrafNet would fail

#### **Utilities:**

- Fixed bug in OEM42GPB.DLL where some GLONASS ephemeris records would be ignored if GLOCKB was not logged
- Improved handling of RINEX 3.00 navigation files in RIN2GPB.DLL

### What was new with Version 8.40.1522?

*Available: March 2012 [update]*

#### **Processing:**

- Fixed issue during reverse PPP processing where a crash would occur if insufficient satellites were present at the end of the file
- Improved error message when adding an empty GPB file to a project

**Export Wizard:**

- Improved auto-selection of output source (epochs/features/static sessions) in *Export Wizard*
- Fixed “sequence number” output in *Export Wizard*
- Fixed issue where features would sometimes be extrapolated instead of interpolated

**Utilities:**

- Added a tool tip to auto-update tool in order to more clearly display changes in new builds
- Improved handling of D-files in HOSE2GPB.DLL

## What was new with Version 8.40.1408?

*Available: February 2012 [update]*

**Bug Fixes:**

- Fixed issue during forward PPP processing where a crash would occur if insufficient satellites were present at the beginning of the GPB file
- Improved week number support for camera marks

## What was new with Version 8.40.1214?

*Available: January 2012 [update]*

**Bug Fixes:**

- Fixed issue in GrafNet where printing was disabled
- Improved PPP performance in challenging conditions
- *Master Coordinates* window now displays average values when coordinates in STA file are zero
- Improved profile-detection in pre-processing checks
- Fixed issue in RINEX decoder concerning Version 3.00 navigation files

## What was new with Version 8.40.1108?

*Available: November 2011 [release]*

**New Features:**

- *Waypoint Updates* feature will notify customers of new software updates and patches and will download them
- *Waypoint News* feature will keep customers up-to-date regarding Waypoint software releases, training seminars, and other important announcements
- GLONASS data is now supported in the Precise Point Positioning (PPP) module
- GLONASS base station data can now be resampled
- GLONASS data can now be used in the ARTK engine to improve single frequency performance
- ARTK reliability has been improved in challenging conditions by implementing a stricter acceptance criteria
- New profile selection feature will attempt to automatically determine your application in order to select the most appropriate processing profile
- Improved ARTK performance for multi-base projects that have different start or end times for each base station
- Added option to limit the distance at which dual frequency ARTK will engage
- *Export Wizard* can now filter output based on Quality Number and/or standard deviations
- New “Combined Separation with Fixed Ambiguity” plot shows forward/reverse separations only where both solutions are fixed. This helps identify problem areas/incorrect ambiguity resolution.
- Precise ephemeris and clock files are now automatically downloaded when clicking the “Process” button for Precise Point Processing (PPP). It is no longer necessary to download the files as a separate step prior to processing.
- Added option to only accept ARTK fixes from closest baseline (for multi-base projects)

- Cache memory setting has been implemented for more efficient handling of very long and/or high rate projects
- Issue where datum conversions were not always reversible has been fixed
- ECEF coordinates can now be used when entering base station coordinates
- Units can now be changed on many plots
- Orthometric heights are now computed using a Lagrange interpolation instead of a nine-point polynomial
- The “User” and “Description” fields in the processing dialogs can be modified and will be saved to the *Processing History*
- Improved message filtering ensures only the most important error and warning messages are output to the processing window
- HTML reports output by software now work in Google Chrome

**GrafMov:**

- Support for ARTK has been added to provide ambiguity resolution that is faster and more accurate than KAR, while also working more reliably on longer baselines
- Users are no longer prompted for precise coordinates when adding a base station

**GrafNet:**

- Default processing interval has been changed to 30 seconds to help avoid processing static data at a high rate, which can produce overly optimistic standard deviations
- When using the *Export Wizard* after performing a network adjustment, “Network” will be automatically selected as the “Source”

**Raw GNSS Data Converter:**

- Pre-processing checks are now performed during data decoding to automatically solve common conversion issues and set the static/kinematic flag
- RINEX Version 3.0 is now supported
- NovAtel decoder now supports SITEDEFB logs. This ensures your static sessions are preserved and that an event is written to the STA file.
- Leica System 1200 decoder now supports the Antenna Record (ID #108)
- Javad decoder now supports L2C records
- Trimble Real-Time decoder now supports dual frequency measurements for the expanded logs
- Bug where Septentrio decoder was flagging GLONASS observations as containing L2C measurements has been fixed. Multi-antenna decoding has also been improved.
- Default L2C offset for RINEX decoder has been set to zero in order to accommodate downloaded data from Trimble base stations, which commonly have the offset removed

**Download Service Data Utility:**

- Users can now download broadcast GPS and GLONASS orbits in EPP format. This is useful for projects with missing or incomplete ephemeris data.
- New option added to download precise GLONASS orbits and clock products for PPP
- Added support for rapid precise clock and orbit service (SGU). This service typically has products available at a latency of 4 to 6 hours.
- The maximum number of days for which data can be downloaded been increased to seven
- Support has been added for the ERGNSS, ITACyL, CATNET and BARD reference networks

## What was new with Version 8.30.2105?

*Available: January 2011 [update]*

**New Feature:**

- Manufacturer file has been updated with new GPS almanac source for Mission Planner. Previous source is no longer available.

**Bug Fixes:**

- Fixed issue with RIN2GPB where data collected in 2011 would not convert

## What was new with Version 8.30.1123?

*Available: November 2010 [update]*

**New Feature:**

- GrafNav Lite now supports single frequency GLONASS data

**Bug Fixes:**

- Automated detection of Doppler units in SYS12002GPB
- Improved support for L2C measurements in Download.exe and Gpbcats.exe
- RIN2GPB now computes valid Doppler measurements for RINEX files where D1 data is zeroed
- Improved ability to modify one/multiple/all features in *Feature Editor*
- Improved handling of antenna heights in GrafMov

## What was new with Version 8.30.1007?

*Available: October 2010 [update]*

**Bug Fixes:**

- Improved data handling within ARTK when used in multi-base mode with invalid baselines
- Code-only single point processor now works without precise orbit files
- RIN2GPB now handles epochs containing more than two lines of PRNs
- Fixed bug in JPS2GPB where GLONASS satellites were being assigned wrong PRN in the absence of ephemeris data. Also, decoder now handles ephemeris records of multiple sizes.
- Fixed bug in static processor where covariance matrix would become contaminated during satellite outlier detection
- Improved handling of epochs without valid ephemeris data in fixed static processor

## What was new with Version 8.30.0623?

*Available: June 2010 [update]*

**Bug Fixes:**

- Fixed bug where GrafMov would use ARTK instead of KAR when loading a processing profile
- Fixed bug in GrafMov where ionospheric corrections were always being applied
- *Copy User Files* has been updated to properly transfer user files from previous installations
- RIN2GPB now supports RINEX data with epochs containing more than 24 satellites

## What was new with Version 8.30.0331?

*Available: April 2010 [release]*

**New Features:**

- Processing settings have been simplified and the GUI has been made more intuitive
- New version of AdVance™ RTK (ARTK) offers improved carrier phase ambiguity resolution, particularly for single frequency data
- Fixed static processor now supports L2C measurements
- Precise point positioning (PPP) filter has been improved
- Improved support for GLONASS processing when mixing receiver types
- Processing profiles have been improved
- Ionospheric corrections automatically enabled/disabled depending on baseline distance
- Software will warn users who attempt to proceed with averaged coordinates at base station(s)

**Bug Fixes:**

- Fixed bug in RIN2GPB converter where GLONASS phase measurements would occasionally be flagged as L2C
- Fixed bug in “Move-to-Static” option where features would be deleted
- ARTK fixes now displayed properly on *Map Window* when forward solutions is loaded
- ECEF covariance information for PPP positions now available through *Export Wizard*
- Fixed bug where antenna heights were being rounded to nearest centimeter
- Fixed bug in *Signal Strength* plot when re-scaling Y-axis

## What was new with Version 8.20.0522?

*Available: May 2009 [update]*

**Bug Fixes:**

- RIN2GPB.DLL was not loading on some computers, leading to problems with the *Raw GNSS to GPB* and *Download Service Data* utilities. This issue has been resolved.
- Problem where *Export Wizard* would not output in any grid except UTM is now resolved
- Support for compressed RINEX format has been updated to incorporate newest changes to format
- Fixed issues surrounding the launching of baselines from GrafNet or GrafNav Batch into GrafNav

## What was new with Version 8.20.0427?

*Available: April 2009 [release]*

**New Features:**

- The new *Project Wizard* allows users to easily step through the process of creating a new project.
- The *Wizard* automatically detects the user’s raw data types, converts them to GPB and, if requested, downloads nearby service station data.
- EGM2008 geoid now available in WPG format
- New *Trajectory Status* plot is available for NovAtel users logging position records

**Improvements:**

- Handling of manufacturer/user files has been modified to better support Windows VISTA users
- *Download Service Utility* now loads much quicker than previously
- Improved satellite rejection and base satellite selection in differential processor
- Improved handling of satellite antenna offset in PPP processor
- Users can now easily add their static PPP solution to *Favourites*
- The *Map Window* and all data plots use new drawing method that provides much better support for high-rate and/or long data sets

**Decoders:**

- NovAtel OEMV users can create GrafNav-readable trajectory files from 7 different position records
- NovAtel OEM4/OEMV decoder now supports MARK $n$ TIMEB and MARK $n$ PVAB records
- For Leica 1200 receivers, support has been added for the new measurement record (#119)
- Support for the RTCMV3 raw data format has been added
- Improved handling of GLONASS data in GPB2RIN.DLL
- RIN2GPB.DLL now handles L2C data properly

**Bug Fixes:**

- Fixed bug where *Select From Favorites* would not work if master GPB file did not contain position