

# **RELEASE NOTES**

# 01.03.2024 ADMA PP Version 1.12.0.10

- Improvement: Kalman Filter of ADMA firmware v35.2.0.76
- Improvement: driver update for USB license dongle
- Changed: channel name "KF\_Steady-State" is now "KF\_steady\_state" (output)

## 03.02.2023 ADMA PP Version 1.11.0.3

- Improvement: calculation performance and stability
- Improvement: handling of short data outages
- Feature: option for using a vehicle model to reduce outage errors
- Feature: copy external trigger data from input file to output file
- Feature: support of VRU backpack mode if configured in ADMA with firmware >= 30.10.0.50
- Fix: calculation of offline RTK is now possible for test data >3h
- Fix: SAPOS Rinex header is now supported (offline correction data)
- Fix: support of Dual-Ant modes "initial" and "always" in .ppc file
- Changed: change channel names to "GNSS\_" instead of "GPS\_"

## 29.07.2021 ADMA PP Version 1.10.0.14

- Feature added: automatic workflow / batch processing with editable ppc-file (text file) command line options:
  - -f=CONFIG\_FILE the config file to load at program start (\*.ppc or \*.ppp)
  - o -c keep the console visible
  - o -p start data processing and close ADMA PP without user interaction
  - $\circ \quad$  -n  $\,$  start data processing and close ADMA PP without graphical user interface
- Feature added: automatic creation of a ppc-file during post processing of a project
- Feature added: ignore dual antenna heading if configured offsets do not match with the GNSS measured antenna distance
- Feature added: automatic correction of small (<5°) dual antenna mounting inaccuracies
- Changed: improved handling of missing input data samples
- Changed: copy sensor body data channels without Kalman filter corrections to output file
- Changed: improved standstill detection in RTK mode
- Changed: improved stability of lateral position and velocity in short GNSS outage situations
- Changed: improved INS-velocity for very slow movements in good GNSS environment
- Fixed: offline RTK calculation with very large observation files not possible
- Fixed: wrong rotation of relative coordinate system

# 03.08.2020 ADMA PP Version 1.9.0.1

 New option for RTS-Smoother (beta test version). Activate this option to get additional RTS smoothed output data files.

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- New option to configure data output folder
- New support of ADMA data version v3.3.3
- Changed tilt yaw calculation to be unchanged in stand still condition even if dual antenna heading is available for yaw aiding.
- Remove obsolete barometer calculation
- Fixed calculation of POI-8 data output
- Fixed use of min velocity for gps course from configuration file.
- Fixed use of dual antenna heading if stddev. is 2.55 deg.
- Fixed behaviour of open project dialog when starting ADMA PP via project file.
- Fixed dual antenna setting in configuration wizard not to be saved correctly in project file.
- Minor bugfixes and performance optimizations

## 20.12.2019 ADMA PP Version 1.8.0.2

- New Example Script for data import of PP output data
- Add support of GNSS System Gallileo and Beidou
- Changed required output-channels as default.
- Fixed usage Ext-Vel latency from config file

### 30.08.2019 ADMA PP Version 1.7.0.0

- New option for advanced standstill detection
- New usage of the dual antenna position offset of the rover antenna
- Improve standstill detection
- Changed output of System\_TA in microseconds
- Fixed usage of digital external velocity
- Fixed usage of start position and start course
- Fixed time synchronization when dual antenna is used
- Fixed output of State2 HeadingExecuted

## 11.07.2019 ADMA PP Version 1.6.0.1

- Add new system type ADMA-Slim.
- Improve plausibility checks for GPS standard deviation.
- Changed location of GPS and INS to mounting points in plots
- Fixed usage of external zero velocity signal.
- Fixed velocity plot for combined solution.
- Fixed autozoom function in plots.
- Fixed usage of dual antenna calculation.
- Fixed remove old virtual base station when new project file is created.
- Fixed time axes in combined plots.
- Fixed velocity data output from POI1 to measure center.
- Fixed DIN70000 option of velocity, sideslip angle and inverse radius data output.



## 18.12.2018 ADMA PP Version 1.5.1.0

- Improve Kalman filter performance
- New project independent, global setting in menu File -> User Settings: Option to choose default behavior on whether recalculate DGPS files if already done or reuse existing files if no user input occurred in asking dialog.

## 24.07.2018 ADMA PP Version 1.5.0.12

- Change to new code base with new user interface and increased calculation speed.
- Improve GPS aiding after long outages.
- New option to add date and time to output folder name.
- Use high resolution sensor values when using ethernet binary data as input format.

#### 16.10.2017 ADMA PP Version 1.4.1.2

• Improved offline DGPS-Correction

## 06.04.2017 ADMA PP Version 1.4.0.1

 Fixed issue with INS\_Position\_Stddev behaviour at standstill conditions. With this issue fix the combined process run of the ADMA PP is improved.
 Add plausibility check of gps height data read from input file.

## 30.03.2017 ADMA PP Version 1.4.0.0

- New option to use ADMAs dual antenna heading data for INS\_Tilt\_Yaw aiding, even at low speed when no GPS course over ground is available.
- Improved offline calculation speed when using ADMA Ethernet Logger as data input format.
- Fixed handling of ADMA samples of pre-alignment time at measurement start.
- Fixed plot of needed virtual base stations if using offline DGPS calculation. VBS are now plotted only if
  present data input file was scanned in DGPS dialog of configuration wizard.
  Fixed data output of external velocity and barometer signals (bug since v1.3.0.5)

#### 23.03.2017 ADMA PP Version 1.3.1.0

Improved data handling of GPS samples with DGPS solution in backward solution.

#### 22.02.2017 ADMA PP Version 1.3.0.5

- New ADMA data version v3.3:
- New offline calculation of additional POI8.
- New data output header indicated with '%' and units in separate line.
- Changed output names to ADMA data version v3.3
- New file association of \*.ppp files. ADMA PP project files will be open with installed ADMA PP software.
- New safety question when closing ADMA PP if calculation is in progress.
- Improved offline DGPS correction and add new leap seconds from 2017/1/1.
- Improved offline calculation speed.
- Changed order of GPS solution status bits in process status window



• Fixed plot of combined solution if POIs are not selected for output.

# 14.11.2016 ADMA PP Version 1.2.5.0

- Improved offline DGPS correction.
- 07.11.2016 ADMA PP Version 1.2.4.0
- Fixed set of reference position when using offline DGPS correction.

# 04.11.2016 ADMA PP Version 1.2.3.0

• Fixed calculation of backward and second forward solution if first sample in data file is also a GPS data sample.

# 03.11.2016 ADMA PP Version 1.2.2.0

- Fixed typo with channel names of side slip angle in POI's.
- Fixed read of data files bigger than ~2,1 GByte.
- Fixed combined solution if POI data is activated for output without inertial position and velocity data. Missing inertial position and velocity standard deviations are added as part of POI data.

# 01.09.2016 ADMA PP Version 1.2.1.0

• Changed default of 'DPGS file exists' dialog from recalculate to reuse after timeout of 30 seconds.

## 01.08.2016 ADMA PP Version 1.2.0.0

• Added compatibility checks with user warning on reading older project files, as project file structure has changed.

## 20.07.2016 ADMA PP Version 1.1.6.1

- ADMA PP can handle the new configuration file of the ADMA (\*.gsci) available with ADMA firmware v30.3.1.9
- Added expiration date of ADMA PP dongle to property grid window
- Wizard is now displayed and thus accessible via task bar in windows
- ADMA PP checks for presence of needed .net version at install
- Switched to .net 4.5.2

# 01.07.2016 ADMA PP Version 1.1.6.0

- Fixed Auto-Init Bug with ADMA-Speed devices with RTK precision.
- Added additional plausibility checks to DGPS velocity standard deviations needed with offline DPGS calculation process.
- Fixed error handling if DGPS correction data and GPS raw data files are from the same time of day.

## 23.02.2016 ADMA PP Version 1.1.5.0

• Added offline calculation of POI2-7.



- Added Kalman filter parameter for ADMA-Speed.
- Changed file encoding of needed virtual base stations export file to UTF8 and fix typo.
- 15.02.2016 ADMA PP Version 1.1.4.0
- Improved: Distance travelled calculation performance.
- Improved Kalman filter parameter.
- Fixed: POI transformed acceleration output.

#### 11.09.2015 ADMA PP Version 1.1.3.0

- Use GPS\_Vel\_Latency data to improve navigation solution. Reuse configuration wizard in existing projects to set the new ADMA PP input data channel.
- Fixed initial set of inertial states when using GPS data from ADMA-GPS-Raw-Data logging.

# 17.07.2015 ADMA PP Version 1.1.2.0

• Fixed north-seeking in 64bit version of ADMA PP.

#### 17.07.2015 ADMA PP Version 1.1.1.0

• Fixed ADMA PP crashes after north-seeking is done. north-seeking is only executed if standstill is longer than 300sec at data file beginning or end.

#### 21.07.2015 ADMA PP Version 1.1.0.0

• Fixed and improved offline DGPS calculation under some conditions with GLONAS satellites.

#### 15.07.2015 ADMA PP Version 1.0.0.52

• Fixed offline DGPS calculation time format for raw data from ADMA firmware version 30.x.

#### 19.03.2015 ADMA PP Version 1.0.0.51

• Updated USB drivers for ADMA PP license dongle.

#### 19.01.2015 ADMA PP Version 1.0.0.50

• Improved optimisations for low dynamic applications.

## 29.11.2013 ADMA PP Version 1.0.0.49

- Improved error estimation of external velocity signal.
- Improved stand still detection.
- Fixed read of ADMA bin file format from firmware versions >= 2x.6.2.1.

## 13.09.2013 ADMA PP Version 1.0.0.48

- Improved error estimation.
- Fixed data input. 2nd. forward calculation fails under some conditions.

## 13.05.2013 ADMA PP Version 1.0.0.47

Improved input data handling of ADMA ASCII data files.



- Fixed axis alignment of Rates and Accels in output files when DIN70000 format is used.
- Add GPS trigger information in output channel "Triggers".

## 04.12.2012 ADMA PP Version 1.0.0.46

- If no reference point for relative position is configured, the first GPS position is used. This position is now used without lever arms to ADMA position like in the ADMA firmware.
- Processing log files limited to 100 messages. Log messages removed from status dialog to avoid slow down of data processing with asynchronous input data. (DAQ sampling rate higher than the ADMA sampling rate generates continuous warnings in the log files.)

#### 08.11.2012 ADMA PP Version 1.0.0.45

• Offline DGPS: Delta position of the base station antenna is read from Rinex file.

#### 17.08.2012 ADMA PP Version 1.0.0.44

• Offline DGPS: Scan for needed virtual base stations with improved check for invalid data samples.

#### 16.08.2012 ADMA PP Version 1.0.0.43

- Offline DGPS: Info dialog with needed virtual base stations changed to enable batch processing without user input.
- Fixed stability issues with license dongle.

#### 23.07.2012 ADMA PP Version 1.0.0.42

• New option included to optimize offline data processing for railway applications with low dynamics.

#### 19.07.2012 ADMA PP Version 1.0.0.41

• Bugfix: Backward calculation was not working when using offline DGPS calculation with small GPS raw data files.

# 10.07.2012 ADMA PP Version 1.0.0.40

- Improved window management.
- Bugfix of version 1.0.0.39: time format of offline DGPS files incorrect.

#### 25.06.2012 ADMA PP Version 1.0.0.39

- Improved zero velocity strategy.
- Improved algorithm to find best height of needed virtual reference station for offline dgps calculation.
- Improved performance of offline DGPS calculations.
- Improved input of online precise DGPS position data form ADMA.
- Bugfix: Start position of second forward calculation wasn't set correctly since ADMA-Version 1.0.0.35 when "Using reverence point" was activated.
- Bugfix: Output of Status/Error-Bit: "Range-Max" was incorrect.

## 23.04.2012 ADMA PP Version 1.0.0.38



- Changed default file name in save file dialog of needed virtual base station.
- Bugfix: Offline DGPS calculation fixed for small values of the GPS time (data files recorded on Sundays).
- 21.03.2012 ADMA PP Version 1.0.0.37
- New north seeking function for automatic start course detection.

# 09.03.2012 ADMA PP Version 1.0.0.36

- New Option included to use external stand still condition information while deactivating internal stand still detection.
- New additional output of Height information in KML output files.
- Improved position plot is now showing inertial position without GPS reception. Therefore it has also be cleared ones if first GPS position is available to avoid position jumps that lead to unpractical plot zoom.
- Improved handling of ADMA PP configuration files.

# 22.02.2012 ADMA PP Version 1.0.0.35

- New Option included to use different start positions and course for every data file to process.
- New Option included to use external velocity signal and pitch angle for height velocity aiding.
- DGPS: Scanning of ADMA input data file to calculate optimal position of virtual reference stations now possible even if no GPS raw data file was configured.
- Improved display of present calculation step and data file name.
- Improved Kalman filter parameter.
- Improved detection of corrupted input data
- Improved calculation speed.
- Bugfix: KML output is now working properly.
- Bugfix: Paths to DGPS data files where not working if not located within project file directory.

# 19.08.2011 ADMA PP Version 1.0.0.34

• Calibration of External velocity also possible with negative signals while driving in backward direction.

# 10.06.2011 ADMA PP Version 1.0.0.33

• Possibility to activate the additional output of KML files.

# 10.06.2011 ADMA PP Version 1.0.0.32

- GUI updated.
- Generated log messages shown in GUI.

# 09.06.2011 ADMA PP Version 1.0.0.31

• Bugfix of data processing log file output.

# 06.06.2011 ADMA PP Version 1.0.0.30

• Improved data handling at asynchronous GPS samples in backward solution.



- Initialisation of yaw misalignment was buggy fixed.
- Kalman filter initialisation was buggy, if no GPS was available at the beginning of a data file fixed.
- "UseRefPoint" never was active, even if set to "1" fixed.
- Data input FIFO wasn't empty when end of file was reached, resulting in nonmatching samples count fixed.
- Visualisation problem with data files with missing GPS data at the beginning or end of file fixed.
- Changed output file name extensions to avoid long names.
- Implemented output of data processing log files indicating non consistent input data.
- Additional visualisation of velocity, positions, tilt and time in the process status dialog.

## 06.05.2011 ADMA PP Version 1.0.0.29

• Additional program delay of 10 seconds before combined calculations start, to make sure that output files are written properly before reopen for reading. This is necessary for data files located on a network file system.



# **SUPPORT**

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