



POS AV AP / V6 Release Notes

Document # PUBS-CINS-004268

Revision: 19

Date: March 7, 2017

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1. Introduction

This document describes software release notes for POS AV AP / V6 product.

1. POS Software 9.1 (*Firmware 9.13 and POSView 9.10*)

Release date March 2017

- **Decoding of QZSS and Galileo constellations**

QZSS and Galileo constellations are now decoded. POSView now shows the number of tracked QZSS and Galileo satellites.

- **Release of IMU 80 for AV 500 level series**

IMU 80 is being released for AV for model 510 and 520. Please refer to product specific datasheet for performance specifications.

2. POS Software 9.0 (*Firmware 9.05 and POSView 9.02*)

Release date December 2016

- **Perpetual Firmware License**

A new POS software option has been implemented that when enabled allows all future firmware upgrades to be installed without an authorization code. The option can be ordered with a new system from the factory, or it can be enabled on existing systems in the field via POS Config with an appropriate authorization code. To use this feature you need to have POS firmware 9.0, POS Loader 3.0 and POS Config 2.7, or higher.

- **UDP Unicast for Real-Time Output**

The capability of the Ethernet Real-Time Output has been enhanced by providing a choice of 3 internet protocols; TCP, UDP and UDP Unicast.

The Real-Time Output is designed to provide data with minimal latency. UDP is good for this as it has low overhead, but it can flood a network with packets. POS previously implemented TCP to create a point to point connection but at the expense of additional overhead impacting latency. With the addition of UDP Unicast it is possible to configure a point to point data connection with minimal overhead. With these choices POS can be configured to use the protocol that best suits a particular installation.

- **Aux GNSS**

Aux GNSS processing has been corrected. In previous releases there were instances where Aux GNSS input was not being used although the input data stream was correct.

- **Faster CMR RTK Fix**

CMR 94 is required for “RTK Fixed” but the base station information is spread over several sub messages transmitted once each epoch. Intelligent selection of the required information results in a much faster RTK Fix.

- **Event Based Navigation Output**

The event based navigation output has been corrected to allow the full 50Hz rate.

- **Parameter Setting in Standby**

GAMS installation parameters (message 21) will now be accepted in Standby mode. This means the system does not need to be initialized with GNSS before this input will be accepted.

- **Better Base GNSS Diagnostics**

The Base GNSS diagnostics window is more informative as to what data is received and processed.

- **Manual Updates**

The User Manual and ICD have received a number of minor updates. For users that write their own POS interface software it is important to review the changes in the ICD.

3. POS Software 8.5 (*Firmware 8.53 and POSView 8.51*)

Release date April 2016

- **Data Port Improvement**

Implemented significant reduction in jitter on the real-time Ethernet Data Port output.

- **Beidou Satellite Display**

Restored the display of Beidou satellites with GNSS receiver firmware 5.03. That version of GNSS firmware incorporated the latest satellite enumerations which were incompatible with POSView.

- **Correct SV Decoding**

Expanded the internal capability to handle GPS, GLONASS, Beidou, QZSS and SBAS. Previously GNSS data decoding could fail if a large variety of satellites were being tracked.

- **Regional Setting on PC**

Corrected handling of “.” versus “,” in POSView. This problem arose in POSView version 8.45 because it was reading an internal string with a decimal point and the PC regional setting was affecting the conversion.

4. POS Software 8.4 (*Firmware 8.46 and POSView 8.45*)

Release date December 2015

- **GNSS Heading**

Utilize the dual antenna heading output of the GNSS receiver to improve GAMS performance. This required a change to ICD message 21.

- **GGA for VRS**

Introduce low output rates for GGA to be compatible with VRS position input requirements.

- **Added support for GPS L5 frequency**

Enable L5 tracking on GNSS receiver.

- **Modified Group 99**

ICD group 99 was expanded to add a new Options field at the end of the group. The options string which was previously contained in the System Version field and was sometimes truncated has been moved to this dedicated new field.

- **NMEA for Events 3 to 6**

NMEA output formats have been added to support events 3 to 6.

- **Correct ZDA week bug**

Corrected the case where NMEA ZDA.week number could be ahead by one week during GNSS outages.

- **AIMU-M5 latency**

Changes made to ensure run to run IMU latency is consistent and to eliminate data gaps with AIMU-M5.

- **New IMU types**

Support for IMU types 44 and 64 was added.

- **Minor enhancements**

Some additional minor bug fixes and cleanup for POS firmware and POSView.

5. POS Software 8.3 (*Firmware 8.32 and POSView 8.32*)

Release date June 2015

- **Satellite tracking improvement**

GNSS receiver configuration changed to track L2C if possible but fall back to L2E if L2C is not available. This ensures the best possible L2 signal from all satellites.

6. POS Software 8.2 (*Firmware 8.22 & POSView 8.22*)

Release date April 2015

Description of Major Changes:

- Support for GSM4000 mount.
- Eliminated possibility of data gaps when high rate events are input.
- Corrected the sometimes inconsistent IMU latency compensation for IMU types 55, 56 and 57.
- Support for new IMU type 69.
- Corrected NMEA \$PASHR heading accuracy field.

7. POS Software 8.1 (*Firmware 8.15 & POSView 8.15*)

Release date December 2014

Description of Major Changes:

- Enhancements to Input/Output Ports Set-up
- SBAS Settings changed to allow for independent selection of RTx and WAAS/EGNOS/MSAS
- Rollover handling of logging extension

8. POS Software 8.01 (*Firmware 8.01 & POSView 8.01*)

Release date August 2014

- Resolved the occasional issue when number of satellites tracked is large especially with multiple BeiDou-2 satellites

9. POS Software 8.0 (*Firmware 8.0 & POSView 8.0*)

Release date July 2014

Description of Major Changes:

- Enhancement of precision timing for IMU55/56/57
- Minor bug fixes

10. POS Software 7.9 (*Firmware 7.92 & POSView 7.92*)

Release date April 17, 2014

Description of Major Changes:

- Added antenna type selection.
- Added Secondary GNSS lever arms implementation.
- Added RTX subscription date.
- Minor bug fixes

11. POS Software 7.8 (*Firmware 7.82 & POSView 7.82*)

Release date Dec 12, 2013

Description of Major Changes:

- Added IMU type 57 to AV610 & AV620.
- Added BeiDou (COMPASS) LC support.
- Added Omnistar G2 & RTX mode.
- Added msg226 & grp226 for Flight Plan information.
- Added time limited license.
- Added Model AV010 with IMU type 55 and type 56.
- Fixed TCP packet dropping on FMS real time data port.

12. POS Software 7.6 (*Firmware 7.62 & POSView 7.60*)

Release date June 20, 2013

Description of Major Changes:

- Added message 220 Generic Camera Ethernet Interface
- Target Reference Position Output implementation
- Addition of AV Dual Antenna Configurations
- Fix FMS task single trigger by Ethernet grp215
- Fix group 3 & 11 duplicate records bug
- Navigation output as soon as Coarse Leveling is done
- Navigation GPS only mode

13. POS Software 7.4 (*Firmware 7.43 & POSView 7.40*)

Release date April 15, 2013

Description of Major Changes:

- Support for IMU 52
- Gimbal over Ethernet support

- Support for GSM3000 mount on COM3/4/5

14. POS Software 7.2 (*Firmware 7.21 & POSView 7.22*)

Release date August 2012

Description of Major Changes:

- Fix for random Ethernet lockup during Ethernet logging
- Updated max allowed age of corrections for SBAS (WAAS / EGNOS / MSAS) aiding
- Corrections to fields in ICD Groups 11, 12,13, and 20015
- Addition of IMU fault information in POSView
- Ability to enter long filenames for USB/Primary Internal Logging
- Addition of Free Inertial functionality
- Support for COM5 in AV V6
- Full support of DIFF port on AV V6
- Support new IMU type 46

15. POS Software 7.0 (*Firmware 7.01 and POSView 7.02*)

Release date March 2012

Description of Major Changes:

- Integration of IMU Type 42
- Added Event-based navigation output
- Added new NMEA and Binary output messages
- Minor corrections to Gimbal messages and groups
- Addition of 2nd RT port
- Enhanced file handling on uSD
- Addition of group215 – option for FMS trigger on Ethernet

16. Firmware 1.9 POSView 1.9

Release date January 2012

16.1. Description of Firmware Notes

Description
Integration of IMU Type 40 (410 model)
Added group 215 (Ethernet Trigger)
Fixed solution status bit in GGK and GGA2 message
Fixed the time tag in ASCII PPS message to indicate UTC time
Azimuth Mount Support
Improved procedure for firmware installation
Added mechanism to delete the internally logged files files.

16.2. Description of the Controller Changes

Description
Added group 215 in output group selection for (Ethernet/logging)
Fixed the logging rate display in logging window
Added new Tools menu item to delete logged files.
Update logging bar to display proper disk space available as logging storage at the start up
Fixed wrong talker ID for COM port NMEA message selection

17. Firmware 1.24 POSView 1.7

Release date October 2011

17.1. Description of Firmware Notes

Description
Added support for Sensor Frame output (group223 and group 225)
Added message 219 to Sensor Frame orientation and position (Lever Arms/Mounting Angles) with respect to Reference Frame
Fixed the display of serial number in statistics window for receiver type 17.
Added message 210 to NVM by default
Receiver Type 16 reverted back to serial communication.

17.2. Description of the Controller Notes

Description
Support for Sensor Frame

18. Firmware 1.21 POSView 1.6

Release date July 2011

18.1. Description of Firmware Notes

Description
Gimbal support: TAS,Z/I, PAV30/80,GIM01,GIM02
External Lidar support
Receiver Type 17 (BD982) integration
Fixed serial messages for PPS Time Recovery.
Added Ethernet to serial convertor
AP 60 product with high end IMU (IMU Type 21)

18.2. Description of the Controller Notes

Description
Receiver Type 17 support
Added lidar frame to manually command lidar logging on/off
Added selection of new gimbal mounts
Support for new messages on RT output (PAV30, PAST1)

19. Firmware 1.14 POSView 1.4

Release date: March 2011

19.1. Description of Firmware Notes

Description
POSTrack Integration (Software Option 20)
GSM 3000 Gimbal Mount support
Yaw Drift correction (Software Option 4)
Improved the latency on Real Time data Port (5602)
Fixed the problem of changing IP address on the fly, without rebooting the PCS.
Fixed PASHR format output

19.2. Description of the Controller Notes

Description
Z/I mount roll and pitch filter settings
Added selection for new NMEA message (\$GPRMC) output on COM1

20. Firmware 1.11 Controller 1.3

Release date: November 2010

20.1. Description of the Firmware Notes

Description
Initial Firmware

20.2. Description of the Controller Notes

Description
Initial POS AV View Controller