POSTrack

GNSS-INERTIAL DIRECT GEOREFERENCING WITH INTEGRATED FLIGHT MANAGEMENT FOR AIRBORNE MAPPING. AVAILABLE AS COMPLETE SOLUTION OR BOARD SET FORM.

POSTrack tightly integrates the POS AV GNSS-Inertial direct georeferencing technology from Applanix with Flight Management System (FMS) software from Track'Air, in one compact ruggedized system. Engineered as a single system, it is compact, convenient and easily installed in all types of aircraft.

POSTrack is readily available in board set form (see image below) for Original Manufacturers (OEM) and systems integrators.

Flight Management features include: mission planning with full DEM support; pilot guidance; automatic stabilized mount control and automatic camera triggering at pre planned intervals. POS AV features include in-air initialization, levelling of stabilized mounts, automatic drift correction, GNSS position translation using encoder data from stabilized mounts, and generation of exterior orientation of each image for the mapping process. These features significantly reduce the cost of airborne mapping by improving the efficiency of data collection and the map production process.

In addition, Applanix as a Trimble Company (NASDAQ: TRMB) allows POS AV to be uniquely placed in the market with its ability to receive the Trimble CenterPoint RTX Correction Service. Using RTX, POS AV delivers higher accuracy and speed, lowercost, more uptime and greater reliability.

POSTrack puts you in control by providing various performance features, price points and export control options, which allow you to build the right solution for your application and for your budget. And all POSTrack solutions utilize the highly productive POSPac Mobile Mapping Suite (MMS) software, featuring the Applanix IN-Fusion™ technology and SmartBase™ module. POSPac MMS enables airborne missions to be flown with higher reliability and in less time, saving fuel costs and reducing environmental impact.

Key Features

- ▶ Powerful yet easy to use mission planning software with digitization support using imagery from multiple sources
- ▶ Daylight readable Smart Pilot touch display complete with yoke mount
- ▶ Ruggedized, compact, low power hardware
- ▶ Worldwide DEM coverage for mission planning
- ▶ Integrated power and network switch with direct connect for up to two smart displays
- ▶ Automatic leveling of stabilized mounts and yaw drift correction to maintain parallel and level images
- ▶ Compact design and simplified cockpit configuration
- ▶ Real-time sensor control with precise camera triggering and forward motion compensation using DEM information IMU boresight calibration and quality control
- ▶ Automated on/off stabilization control

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POSTrack OEM

POSTrack

SYSTEM SPECIFICATIONS[1]
Computer System

Component	Dimensions (L x W x H) mm	Weight kg	Power (incl IMU and Pilot Display)	Temperature c	Altitude[2] m
POSTrack V6	179x323x68	4.0	18-34 Vdc, 110 W Max	-20 to +55	0 to 7,820
Pilot Tablet	40x159x258	1.2			
POSTrack V6 OEM	130x100x39	0.28	10-28 Vdc, 110 W Max		

[1]Accuracy specification is subject to accuracy of POS AV or AP system coupled with POSTrack FMS
[2]Unpressurized operation

I/O
Ethernet (100 base-T)
Parameters — Time tag, status, position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data (at IMU rate), raw GNSS data
Display Port — Low rate (1 Hz) UDP protocol output
Control Port — TCP/IP input for system commands
Primary Port — Real-time (up to 200 Hz) TCP/IP protocol output
Secondary Port — Buffered TCP/IP protocol output for data logging to external device
Logging
Parameters — Time tag, status, position, attitude, velocity, track and speed, dynamics, performance metrics, raw IMU data (at IMU rate), raw GNSS data
Media — External: Removable 4 Gbyte Flash Disk (2 supplied)
Internal: Embedded 4 Gbyte Flash Disk for redundant logging
RS232 NMEA ASCII Output
Parameter — Position ($INGGA), Heading ($INHDT), Track and Speed ($INVTG), Statistics ($INGST)
Rate — Up to 50 Hz (user selectable)
RS232 High Rate Binary Output
Parameter — Gimbal encoder input, AUX GPS Input(RTK, NavCom Starfire, OmniStar HP), RTCM104, DGPS Corrections Input
Rate — 1 to 200Hz

Other I/O
1PPS — 1 pulse-per-second Time Sync output, normally high, active low pulse
Event — Input (6) Six time mark of external events. TTL pulses >1 msec width, max rate 100 Hz
SENSOR INTERFACES
3-axis Mount
Drift Correction — T-AS (digital interface); PAV30 (RS232) (Requires POSOP); PAV80 (RS232) (Requires COMOP and IMUOP); GSM3000 (RS232); DSS Azimuth Mount (RS232); Z/I Mount (RS232)
Levelling Control — PAV30 (RS232); PAV80 (RS232); GSM3000 (RS232); Z/I Mount (RS232)
Gimbal Encoder — PAV30 (RS232); PAV80 (RS232); GSM3000 (RS232); DSS Azimuth Mount (RS232); TAS (digital interface); Z/I Mount (RS232)
Stab. Control — GSM3000 (RS232); PAV30 (RS232); PAV80 (RS232); T-AS (digital interface; Z/I Mount (RS232
LiDAR
Logging On/Off — ALS40/50; Riegl Q240/560/680
FRAME CAMERA
Triggering/MEP — RC20/30; TOP RMK; LMK 1000; Vexcel UCD/UCX/UCL; Generic; DiMAC
Data Interface — RC20/30 (RC20 w/o data annotation, RC30 requires extended EDI interface); TOP RMK (requires TCU digital interface); LMK 1000; Vexcel UCD/UCX/UCL; Generic; DiMAC

MISSION PLANNING AND REPORTING SOFTWARE
snapView: On screen digitizing
- Import raster data from various sources and formats, including Google Earth
- Simple, intuitive and efficient digitizing of project areas
snapView: On screen digitizing
- Accepts all geographic or grid coordinates formats without conversion or calculation
- Includes a graphic viewer to visually check the correctness of the text input
- Import drawings prepared by other programs in DXF format
- Generate geophysics survey flight plans based on swath width and altitude
snapPLAN: Flight planning c/w DEM support
- Planning module used to add photo lines to digitized drawings or defined geographic areas
- Worldwide DEM support via ASTER DEM product
- Automatic stereoscopic coverage of blocks
- Prepare flight plans with hundreds of runs and thousands of photos in one single mouse click
- Interactive drawing of single strips, easily move strips and arrange until the best flight plan is achieved
- Automatically prepare pinpoint flight plans where each photo position has to conform to a given grid (geographical or map)
- Full support for line-scanner and LiDAR flight plans based on swath width and altitude
- Export flight plans via KML
snapBASE: Project management database
- Track and update the status and progress of projects
- Check the data generated during the flight and log accepted or rejected photos
- Maintain an accurate and up to date photo index of the project
- Generate film reports, progress reports, etc.
- Export areas flown via KML
snapPLOT: Printing and plotting
- Printing and plotting module used to quickly and easily prepare scaled photo indices
- Plot a professional A0 photo-index in less than 2 minutes
USER SUPPLIED EQUIPMENT
PC for Mission Planning and optional POSPac Post-processing
- Atom 1.6 GHz or equivalent (minimum)
- Intel Graphics media accelerator 500 or equivalent (minimum)
- 2 GB RAM, 32 GB HDD (minimum)
- Ethernet adapter (RJ45 100 base T), USB Port
- Windows 7
PC for Mission Planning and optional POSPac Post-processing
- Pentium 4 (32 bits) at 2 GHz or equivalent (recommended minimum)
- 1 GB RAM, 100 GB Free disk space (recommended minimum)
- 2 X USB 2.0 ports for security keys
- Internet Access (for installation, DEM download, optional SmartBase processing)
- Windows 7

Specifications subject to change without notice.

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A TRIMBLE COMPANY