The Trimble AP+ Land GNSS-inertial OEM system is comprised of next-generation compact, low-power hardware, with dual embedded survey-grade GNSS chipsets, an onboard inertial measurement unit (IMU), and the all-new Applanix IN-Fusion+™ GNSS-aided inertial firmware featuring Trimble ProPoint™ GNSS Technology.

INTEGRATE ONCE, USE MANY

The “Integrate once, use many” concept means a single hardware platform can be used to build a complete range of mapping systems. This consistency saves costs associated with design and integration.

THE BEST SOLUTION JUST GOT BETTER

The Trimble AP+ Land OEM solution is fully supported by the industry-leading Applanix POSPac® MMS post-processing software, featuring Post-processed Trimble CenterPoint® RTX™ for centimeter position accuracy without base stations, making it the ultimate solution for integrators wishing to produce a highly efficient mobile mapping system.

For LiDAR integrators, the Trimble AP+ Land OEM is fully compatible with the POSPac MMS LiDAR QC Tools, which performs LiDAR to IMU boresighting and trajectory adjustment using the LiDAR point cloud.

Key Features

- “Integrate once, use many” concept means a single platform can be used to build a complete range of mapping systems, using the same design, which saves costs
- Reduced SWaP
  - 54% smaller footprint
  - 64% lighter
  - 75% less power
- Next generation, survey-grade GNSS receiver
- Two antenna heading support
- Next generation Applanix In-Fusion+™ GNSS-aided inertial firmware featuring Trimble ProPoint™ GNSS Technology
- Completely configurable
TECHNICAL SPECIFICATIONS

System Summary
- Applanix IN-Fusion™ GNSS-inertial integration firmware featuring Trimble ProPoint™ GNSS Technology
- Onboard IMU with solid-state MEMS inertial sensors and Applanix SmartCal™ compensation technology
- Advanced Trimble Maxwell™ Custom GNSS survey technology with 2 x 336 tracking channels
- Dual Antenna, GAMS (GNSS Azimuth Measurement System) included

Primary Antenna
- GPS: L1 C/A, L2C, L2E, L5
- GLONASS: L1 C/A, L2 C/A, L3
- Galileo: E1, E5a, E5b, E6
- EGNOS, E5b
- IRNSS: L5
- QZS: L1 C/A, L1 SAIF, L1C, L2C, L5, LEX
- SBAS: L1 C/A, L5
- M-Link-Band: Omnistar, Trimble RTX

High-precision multiple correlator for GNSS pseudorange measurements
- Unfiltered, unsmoothed pseudorange measurements data with low noise, low multipath error, low time domain and high dynamic response
- Very low noise GNSS carrier phase measurements with <1 mm precision in a 1 Hz bandwidth
- Proven Trimble low elevation tracking technology
- Real-time GNSS L1, SBAS positioning mode
- Real-time 100 Hz position, attitude output, dual IMU 200 Hz data rate logging
- Navigation output format: ASCII (NMEA-0183), binary (Trimble GSOF)
- RTK license support for Reference Inputs CMR, CMR+, sCMR, RTCM 2.1, 2.2, 2.3, 3.1, 3.2, sold separately
- Supported by POSPac MMS (sold separately)
- No export permit required
- Support for optional Distance Measurement Indicator (DMI) input (sold separately)
- Support for optional GNSS Azimuth Measurement System (GAMS™)

LAN INPUT/OUTPUT

All Ethernet functions are supported through dedicated IP address (static or DNS) simultaneously including web-based control GUI access and real-time data streaming

TCP/IP and UDP
- Position, attitude, velocity, track and speed, dynamics, performance metrics, GNSS data, configuration messages
- HTTP
- Web-based control software (GUI) for easy system configuration and low rate display. Support for all common browsers (IE, Safari, Mozilla, Google Chrome, Firefox)

SERIAL INPUT/OUTPUT

RS232 ports
- USB 2.0 Device Configuration
- Absolute Accuracy Specifications1 (RMS)
  - AP+ Land
  - RTK
  - Post-Processed6

ORTHOGONAL ACCURACY SPECIFICATIONS


table

<table>
<thead>
<tr>
<th>Position (m)</th>
<th>With GNSS</th>
<th>GNSS Outage, 60 seconds or 3km</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.02 H</td>
<td>0.02 H</td>
</tr>
<tr>
<td></td>
<td>0.03 V</td>
<td>0.03 V</td>
</tr>
<tr>
<td></td>
<td>2.0 H</td>
<td>0.8 H</td>
</tr>
<tr>
<td></td>
<td>1.0 V</td>
<td>0.2 V</td>
</tr>
</tbody>
</table>

ROLL & Pitch (deg)
- 0.03
- 0.025
- 0.30
- 0.20

TRUE Heading (deg)
- 0.09
- 0.06
- 0.30
- 0.20

ENVIRONMENTAL CHARACTERISTICS

Temperature
- -40°C to +75°C (Operational)
- -55°C to +85°C (Storage)
GNSS Operating Limit
- 515 m/sec, 18,000 m

ADDITIONAL ACCESSORIES

Evaluation Kit
- Includes development board, power supply, and short antenna cables (sold separately)

DMI
- External wheel-mounted DMI and cable

GNSS Antennas
- Survey-grade GNSS antennas and cables

INERTIAL MEASUREMENT UNITS (IMUS)

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
<th>Temp. (°C)</th>
<th>Power</th>
<th>Size (L x W x H) mm</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Oboard IMU-79</td>
<td>+/-6 g²</td>
<td>-40 to +75</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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