Qinertia

THE NEXT GENERATION
INS/GNSS POST-PROCESSING
SOFTWARE

For all mobile surveying applications

Survey Efficiently, Survey Anywhere, Survey Serenely. QINERTIA has been designed to help surveyors get the most of their surveys with simplicity.

SBG SYSTEMS
Qinertia is the SBG Systems in-house post-processing software. Full-featured, Qinertia enhances SBG inertial navigation systems performance by post processing inertial data with raw GNSS observables.

TWO MODES

INS/GNSS Tight Coupling Post Processing

INS/GNSS real-time acquisition reprocessing

KEY FEATURES

» Tightly coupled solution for unmatched accuracy and reliability
» Centimetric position using offline RTK corrections or Precise Point Positioning*
» Seamless Integration of Odometer and Dual Antenna GNSS Receiver
» Multi-Constellation Support (GPS, GLONASS, GALILEO, BEIDOU)
» Open to all Industry Standards

* Precise Point Positioning will be available in the next major update for users under valid maintenance plan

The Best Achievable Orientation and Position Accuracy

<table>
<thead>
<tr>
<th>Qinertia</th>
<th>Roll, Pitch</th>
<th>Heading</th>
<th>Position (+1ppm)</th>
<th>Outage 10 seconds</th>
<th>Heave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellipse Series</td>
<td>RTK: 0.1°, PPK: 0.05°</td>
<td>RTK: 0.2°, PPK: 0.1°</td>
<td>RTK: 2 cm, PPK: 1 cm</td>
<td>RTK: 1 m, PPK: 10 cm</td>
<td>RTK: 5 cm, PPK: 5 cm</td>
</tr>
<tr>
<td>Ekinox Series</td>
<td>RTK: 0.02°, PPK: 0.015°</td>
<td>RTK: 0.05°, PPK: 0.03°</td>
<td>RTK: 2 cm, PPK: 1 cm</td>
<td>RTK: 30 cm, PPK: 5 cm</td>
<td>RTK: 5 cm, PPK: 2 cm</td>
</tr>
<tr>
<td>Apogee Series</td>
<td>RTK: 0.008°, PPK: 0.005°</td>
<td>RTK: 0.025°, PPK: 0.02°</td>
<td>RTK: 1 cm, PPK: 1 cm</td>
<td>RTK: 17 cm, PPK: 3 cm</td>
<td>RTK: 5 cm, PPK: 2 cm</td>
</tr>
</tbody>
</table>

RTK = Real-time Kinematic  PPK = Post Processing Kinematic  Heading with a 4-meter baseline

RMS values for typical survey trajectories. Preliminary version. All specifications subject to change without notice.
Powerful Base Station Management

» 2 modes available:
  • Single Base Station
  • Virtual Base Station*

» Drag & drop user’s base station (binary or RINEX format)
» Preview trajectory and base stations on a map

» Virtual Base Station computation using both permanent and user’s base stations
» Visualization of expected accuracy and quality
» Base station position review with PPP computation

Intuitive Base Station Explorer

» Access to more than 7,000 base stations over 164 countries
» Always up-to-date database
» Automatic download and quality check
» Web-based pre-mission visualization

* Will be available in the next major update for users under valid maintenance plan

Fast and Simple Workflow

IMPORT

Easily import SBG inertial data
Compatible with industry standard
GNSS receivers (RINEX) O₁
Native support of Septentrio, Novatel & Trimble

1. Download or import Base stations
2. Review mechanical installation
3. Launch Processing
**Processing Made Easy**

- Motion Profiles selection to tune sensor behavior to the application dynamics
- Seamless Integration of aiding equipment with specific error models
- Advanced multipath and rejection filters
- Automatic Lever arm and alignment estimation

**Fast & Modern Technology**

- Less than 3 minutes for a 6-hour log thanks to Forward and Backward computation at the same time
- Handle very large logs thanks to modern 64-bits design
- Cross-platform support:
  - Windows
  - Mac OS X*
  - Linux*
- Personalized themes and layouts*

**Extensive Quality Indicators**

- Interactive quality indicators assessment
- Display of advanced parameters (separation, standard deviation, bias, scale factor, lever arm)
- Statistics report generation (RMS, min/max)

* Will be available in the next major update for users under valid maintenance plan

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**EXPORT**

**Define and export your own custom text format**

**Open to industry standards (SBG, SBET, Google Earth)**

**Handle datum & projections**

**Export based on different events:**

- Time interval
- Distance interval
- Event markers

Create and re-use your own export preset
When you are far from a base station, Qinertia automatically generates a Virtual Base Station (VBS). This VBS is created at the nearest place of your trajectory in order to achieve the best position accuracy.

Qinertia - Your Full-featured Post Processing Solution

FLEXIBLE LICENSING

Easily share your floating license with your team. We offer flexible licensing options (perpetual or subscription) to best fit your needs.

QINERTIA LITE

✓ Ellipse sensors
✓ Land and air applications
✓ All Post-processing modes:
  • Single Base Station
  • Virtual Base Station

QINERTIA PRO

✓ All SBG sensors
✓ All applications
✓ All Post-processing modes:
  • Single Base Station
  • Virtual Base Station

PERPETUAL LICENSE

Initial purchase + yearly maintenance

SUBSCRIPTION

1 Month | 12 Months

VIRTUAL BASE STATION (VBS)

When you are far from a base station, Qinertia automatically generates a Virtual Base Station (VBS). This VBS is created at the nearest place of your trajectory in order to achieve the best position accuracy.
SBG Systems is a leading supplier of MEMS-based inertial motion sensing solutions. The company provides a wide range of inertial solutions from miniature to high accuracy. Combined with cutting-edge calibration techniques and advanced embedded algorithms, SBG Systems products are ideal solutions for industrial & research projects such as unmanned vehicle control, surveying applications, antenna tracking, and camera stabilization.