EZSurv software is an open and complete solution designed to easily and reliably process raw GNSS data. This software product is the perfect tool to complement RTK systems. It is fully compatible with survey data recorded using FieldGenius (from MicroSurveys) or SurvCE (from Carlson Software) data collection software. It is intended for users who care about accurate results, without having to set numerous scientific parameters.

BASE STATION DATA ACCESS

The basic idea of GNSS post-processing is to combine nearby base station (fixed station) data, along with your GNSS rover data in order to improve accuracy. EZSurv automates this task to facilitate data processing. EZSurv automatically searches the Internet for the closest GNSS base station to process your field data. This search is performed on thousands of existing GNSS networks around the world. Post-processing of your data is handled automatically by pressing a single key. All you need is an Internet connection.

IMPORTING MULTIPLE DATA FORMATS

Importing GNSS datasets is straightforward since you can easily drag and drop files into the observation window to quickly see their descriptions and attributes. EZSurv directly supports raw binary formats from several manufacturers, as well as the receiver independent exchange format (RINEX).

COORDINATE SYSTEM

EZSurv offers several predefined «Map Projection/Datum» to help users quickly translate GNSS positions into regional mapping systems. Moreover, EZSurv’s Mapping Systems tool provides complete coordinate-system support to customize your own mapping system. We support several datum, ellipsoids and projection templates. Our engine also supports Local Grid for small area projects. Post-processing data is the best procedure to ensure that your positions are properly aligned to your regional reference system.

RIGOROUS PROCESSING ENGINE

EZSurv uses the latest GNSS processing techniques to get the most out of your GNSS data. Depending on your fieldwork methodology, the software will process any of the following modes:

- Static
- Rapid static
- Stop and go
- Kinematic
- Semi-kinematic
- OTF (for single and dual frequency receivers)
- Precise Point Positioning (for static and kinematic files).

All processing is fully automated. Baseline and trajectory computation can be launched in batch mode (as many baselines and trajectories as you want). Advanced users can adjust various processing parameters to meet special requirements.

QUALITY CONTROL

Various tools are included for quality control:

- Editing of GNSS data file properties
- Graphical representations of observed satellites
- Graphical representations of carrier phase/doppler/pseudorange residuals
- Graphical tools to help analyze cycle-slip occurrences in data
- Inverse computation
- Loop closure utilities for users creating networks of baselines
- Least Squares Adjustment to adjust network of baselines.
Features

**POST-PROCESSED ACCURACY**

<table>
<thead>
<tr>
<th>RECEIVER</th>
<th>KINEMATIC</th>
<th>STATIC</th>
<th>SEMI KINEMATIC</th>
<th>OTF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-frequency</td>
<td>Sub-meter1, sub-foot2</td>
<td>Sub-centimeter1</td>
<td>Centimeter4</td>
<td>Centimeter6</td>
</tr>
<tr>
<td>Dual-frequency</td>
<td>N/A</td>
<td>Sub-centimeter1</td>
<td>N/A</td>
<td>Centimeter4</td>
</tr>
</tbody>
</table>

1. Horizontal accuracy (HRMS). Requires 5-10 minutes of continuous tracking with at least 5 satellites and a PDOP less than 6. Multipath and atmospheric effects can affect this accuracy. Base station separation may affect accuracy by about 5 ppm (depending on the quality of the base station data).
2. Horizontal accuracy (HRMS). Requires 15-20 minutes of continuous tracking with at least 5 satellites and a PDOP less than 6. Multipath and atmospheric effects can affect this accuracy. Base station separation may affect accuracy by about 5 ppm (depending on the quality of the base station data).
3. Horizontal accuracy (HRMS). Requires 15-30 minutes of continuous tracking with at least 5 satellites and a PDOP less than 6. Multipath and atmospheric effects can affect this accuracy. Base station separation may affect accuracy by about 5 ppm (depending on the quality of the base station data).
4. Requires L1 frequency receiver that outputs quality code, Doppler and carrier phase observations, along with reliable real-time cycle-slip detection.
5. Horizontal baseline accuracy (HRMS). Requires 15-30 minutes of continuous tracking with at least 5 satellites and a PDOP less than 6. Multipath and atmospheric effects can affect this accuracy. Base station separation may affect accuracy by about 5 ppm (depending on the quality of the base station data).
6. OTF requires approximately 15 seconds of continuous tracking with at least 5 satellites and a PDOP less than 6. Multipath and ionospheric effects can affect final accuracy. This horizontal accuracy usually translates into 2 cm +/- 2 ppm.

**SUPPORTED GNSS PROTOCOLS***

- RINEX
- Javad
- Hemisphere GPS
- Bad Elf GNSS Surveyor
- CHC Navigation
- NAVCOM T300
- SATLAB Geosolutions
- SBBlue from Genieq
- ESRI ArcPad
- Ike GPS

* Protocols are added on a regular basis.

**COMPATIBLE DATA COLLECTION SOFTWARE**

- MicroSurvey FieldGenius (land surveying application)
- Carlson SurvCE (land surveying application)
- Esri ArcPad with OnPOZ GNSS Driver for ArcPad (GIS application)
- OnPOZ EZTag CE (GIS application)
- OnPOZ EZField (land surveying application)
- OnPOZ GNSS Control Panel
- Ike GPS data acquisition software
- BAP precision GeoAssist software
- Geo-Plus VisionTerrain

**VIEW**

- Plan view to graphically analyze your survey
- Project Manager view to manage your data with archive capability

**GRAPHICAL ANALYSIS**

- Number of satellites in view in a file
- Satellite by satellite visibility in a file (pseudorange/carrier phase/Doppler)
- Cycle-slip display
- Observation files time span
- Point and baseline error ellipse from Least Squares adjustment
- Standardized Residual Histogram (from Least Squares adjustment)

**DATA EDITING**

- Site name, coordinates, antenna height and antenna model
- Coordinates systems and geoid models
- Time span
- Total or partial satellite segment elimination
- Expert raw data in standard RINEX format

**AUTOMATED PROCESS**

- Baseline definition from imported static files
- Trajectory definition from imported rover files
- Internet scan to detect base station data that fits rover and static files
- Outlier detection (bad data elimination)
- Algorithm to reduce data noise
- Ambiguity smoothing
- Base station data interpolation
- Ambiguity fixing
- Semi-kinematic processing for L1
- Baseline batch processing
- Trajectory batch processing
- Loop closure generation
- Rigorous least-squares adjustment

**QA TOOLS**

- Loop closure report (closed and open loop)
- Process summary report
- Baseline summary report
- Trajectory summary report
- Network adjustment summary report
- Residuals plot
- Comparison between RTK and PPK positions (with delta N, E, H)

**AVAILABLE VERSIONS**

<table>
<thead>
<tr>
<th>EZSurv Lite</th>
<th>EZSurv L1</th>
<th>EZSurv L1 L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-meter/Sub-foot</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Static L1 fixe (sub-centimeter)</td>
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<td>*</td>
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<tr>
<td>OTF L1 (centimeter)</td>
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<tr>
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