EZField™

ISO 9001 Certified

GNSS SURVEY DATA COLLECTION SOFTWARE

EZField is powerful yet easy to use survey software for recording base station, static site, kinematic and semi-kinematic survey data. EZField is used with the EZSurv post-processor to get the best out of your GNSS data. EZField and EZSurv are the easiest combination currently on the market for the post-processing of centimeter accuracy positions using GNSS-L1 receivers in semi-kinematic mode. Although designed primarily for single-frequency receivers, EZField can also be used with dual-frequency receivers in OTF mode.

EZField is designed to support the four GNSS survey modes of operation. Base Station mode is used to record data on a known point so it can be used with surrounding rover units. Static mode is used to establish reference stations with sub-centimeter accuracy. Semi-kinematic mode is used to compute L1 GNSS positions to within centimeter accuracy while in motion with your L1 GNSS rover units. Kinematic mode is used to collect point, line and polygon features with GNSS rover units.

BASE STATION MODE

Base Station data from established networks can rarely be used for centimeter accuracy using a GNSS-L1 receiver since they are often located farther than 10 km from your field work. Consequently, EZField lets you record GNSS data in Base Station mode so the data can easily be imported into EZSurv and automatically recognized as a valid base station.

ESTABLISHING A REFERENCE NETWORK

The static mode of operation is used to establish accurate reference sites with a high level of confidence. This mode of operation is usually used when three or more receivers are recording simultaneously to create a network of redundant vectors.

KINEMATIC MODE

The kinematic mode of operation lets users record GNSS data while on the move. When using a GNSS-L1 receiver, without frequent obstructions, sub-meter, sub-foot and centimeter accuracy can be achieved with this mode of operation. In kinematic mode, users can record point, line or polygon features.

SEMI-KINEMATIC MODE

The semi-kinematic mode of operation is certainly one of the key features of EZField. It can transform a GNSS-L1 rover unit into a centimeter accuracy device at an unmatchable quality/price ratio.

The key requirement for achieving centimeter accuracy with a GNSS-L1 receiver is to initialize your survey prior to moving the antenna. Initializing a survey means determining the carrier phase ambiguities.

Three different possibilities exist to perform this initialization process with EZField. One is to fix your roving antenna on an “initialization bar” for 2 minutes. The second is to set your roving antenna on a known marker for 20 seconds, and the third is to set your roving antenna on an unknown marker for about 15-20 minutes (the time required to establish its precise coordinates).

OnPOZ

EZField™

Features

KEY FEATURES

Base, static, semi-kinematic and kinematic modes of operation
Collect point, line and polygon features
Multiple GNSS receiver configurations and controls
Multiple views such as Navigation, Sky Plot, etc.
Mission planning
12 map projections and 62 predefined datums
Status bar lets users manage satellite status, power and memory
Available languages: English, French, Portuguese and Spanish

GNSS ACCURACY

Real-time accuracy depends on GNSS receiver and correction used (SBAS/RTCM/RTK)
Improved accuracy with EZSurv post-processing software

EZSURV POST-PROCESSED ACCURACY

RECEIVER	KINEMATIC	STATIC	SEMI KINEMATIC	OTF
Single frequency receiver	sub-meter[1], sub-foot[2]	sub-centimeter[3]	centimeter[4]	centimeter[5]
Dual frequency receiver	N/A	sub-centimeter[6]	N/A	centimeter[7]

1. Horizontal accuracy (HRMS). Requires 5-10 minutes of continuous tracking with at least 5 satellites and a PDOP better than 6. Multipath and ionospheric effects can affect final 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 better than 6. Multipath and ionospheric effects can affect final accuracy. Base station separation may affect accuracy by about 5ppm (depending on the quality of the base station data).
3. Horizontal baseline accuracy (HRMS). Requires 15-30 minutes of good data on a minimum of 4 satellites and a PDOP better than 6. Multipath and ionospheric effects can severely affect final accuracy. This horizontal accuracy usually translates into 1cm +/- 2 ppm.
4. Requires L1 frequency receiver that outputs quality code, Doppler and carrier phase observations, along with reliable real-time cycle-slip detection. EZField data collection software is designed to facilitate the semi-kinematic process. It allows you to easily initialize on an initialization bar or a known point.
5. Horizontal accuracy (HRMS). Requires 30 minutes of continuous tracking with at least 5 satellites and a PDOP better than 6. Base station must be within 10 km. Multipath and ionospheric effects can affect this accuracy. This horizontal accuracy usually translates into 2 cm +/- 2 ppm.
6. Static results require only 5-10 minutes of data to achieve centimeter accuracy. This horizontal accuracy usually translates into 1cm +/- 1 ppm (with good dual frequency data).
7. OTF requires approximately 30 seconds of continuous tracking with at least 5 satellites and a PDOP better than 6. Multipath and ionospheric effects can affect final accuracy. This horizontal accuracy usually translates into 2 cm +/- 2 ppm.

SUPPORTED GNSS DATA PROTOCOLS*

NMEA Protocol
Hemisphere GPS
NavCom
Novatel
Septentrio
Ublox

* Protocols are added on a regular basis

RECOMMENDED CONFIGURATION

EZField runs on a Windows mobile device powered Pocket PC.

Minimal configuration of desktop computer used to install EZField:

Desktop, laptop or tablet running Microsoft Windows XP, VISTA, 7, 8, 8.1 or 10
Microsoft ActiveSync or Mobile Device Center
100 megabytes of free storage space on disk (additional space required for the installation files)

Minimal configuration to run EZField on a mobile device:

Pocket PC device running Windows Mobile 2003 (or SE) or Windows Mobile 5.0 and better
Intel ARM compatible processor running at 300 MHz or higher
10 megabytes of free space on disk (additional space is required for your data)
128 megabytes (256 megabytes recommended) of volatile memory (RAM)
Serial communication port (Bluetooth supporting 57600 baud) for GNSS connection

EZSURV GNSS POST-PROCESSING COMPANION SOFTWARE

Automation	Scan Internet for base station network, automatic batch processing
GNSS Protocols	RINEX, Altus, CHC, Geneq, Hemisphere GPS, Javad, Kolida, NavCom, Novatel, Pentax, Septentrio, SiRF, South, Stonex, TechGeo, Ublox, Unistrong, and others
QA Tools	Loop closure, configurable processing parameters, residual analysis, satellite time span rejection, network adjustment, mission planning, etc.
Base Network	ARGN, NRCan, CORS, CDDIS, EUREF, Local and many others (open architecture to add other networks)
Versions	L1/L2 (dual frequency full version), L1 (L1 cm), Lite (sub-meter/sub-foot)

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