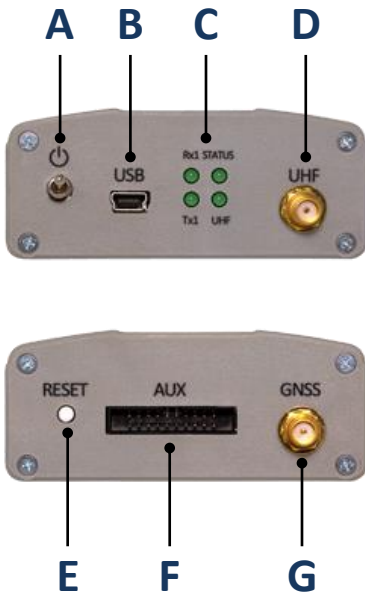


Quick start for GeoS-5 RTK UHF EVK

Overview



A. Power On/Off switch

B. USB port

C. LED Indicators

D. UHF antenna connector

E. Reset button

F. Test & Production interface

G. GNSS antenna connector

Setup

1. Download and install GeoSDemo5[®] (and documentation) from <http://geostar-navi.com/en/software/>
2. Connect UHF antenna to EVK unit (**D**).
3. Connect GNSS antenna to EVK unit (**G**) and place the antenna under clear sky view. Please find below the recommendations for GNSS antenna placement.
4. Connect EVK's USB port (**B**) to a PC (the USB driver will be installed automatically with GeoSDemo5[®] software).
5. Switch the EVK unit on (**A**).
6. Run GeoSDemo5[®] on PC, select COM ports manually or using autodetect function.
7. LEDs (**C**) will indicate GNSS operation and UHF communication status.
8. Setup GNSS module for Base or Rover configuration according to marking on EVK unit.

Configurations by default

- GNSS modules are configured for Rover;
- UHF radio is configured to transmit data for Base station (**B**) and to receive data for Rover (**R**); configuration is unchangeable.



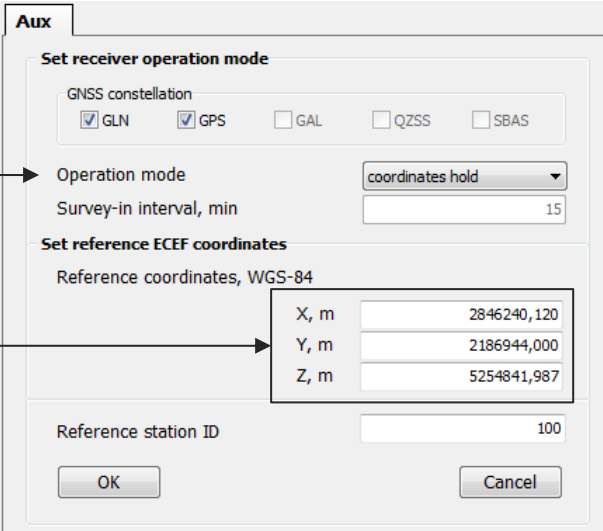
Base station setup

Setup Base station coordinates (Option 1):

- Open menu **Set reference ECEF coordinates**

- Choose operation mode **Coordinates hold**

- Enter GNSS antenna reference **ECEF** coordinates, click **Ok**



Aux

Set receiver operation mode

GNSS constellation
 GLN GPS GAL QZSS SBAS

Operation mode: **coordinates hold**

Survey-in interval, min: 15

Set reference ECEF coordinates

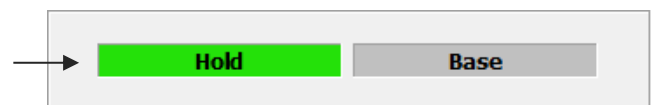
Reference coordinates, WGS-84

X, m	2846240,120
Y, m	2186944,000
Z, m	5254841,987

Reference station ID: 100

OK Cancel

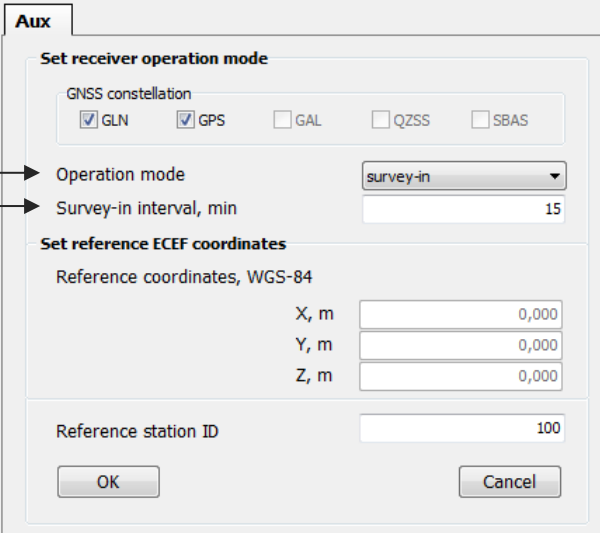
- Indication of GNSS operation for Base configuration



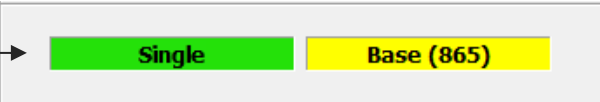
Setup Base station coordinates (Option 2):

- Open menu **Set reference ECEF coordinates**


- Choose **Survey-in**
- Enter survey-in interval in the range from 15 to 1440 minutes, click **OK**
Recommended time 60 minutes



- Time left to the end of survey-in (sec)



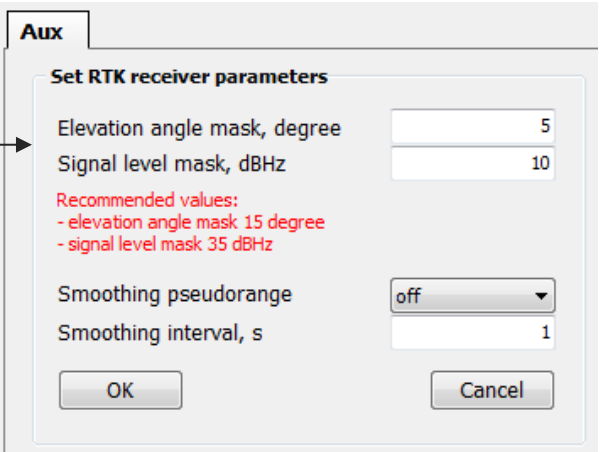
- Indication of GNSS operation for Base configuration



Recommended RTK receiver parameters

- Open menu **Set RTK receiver parameters**

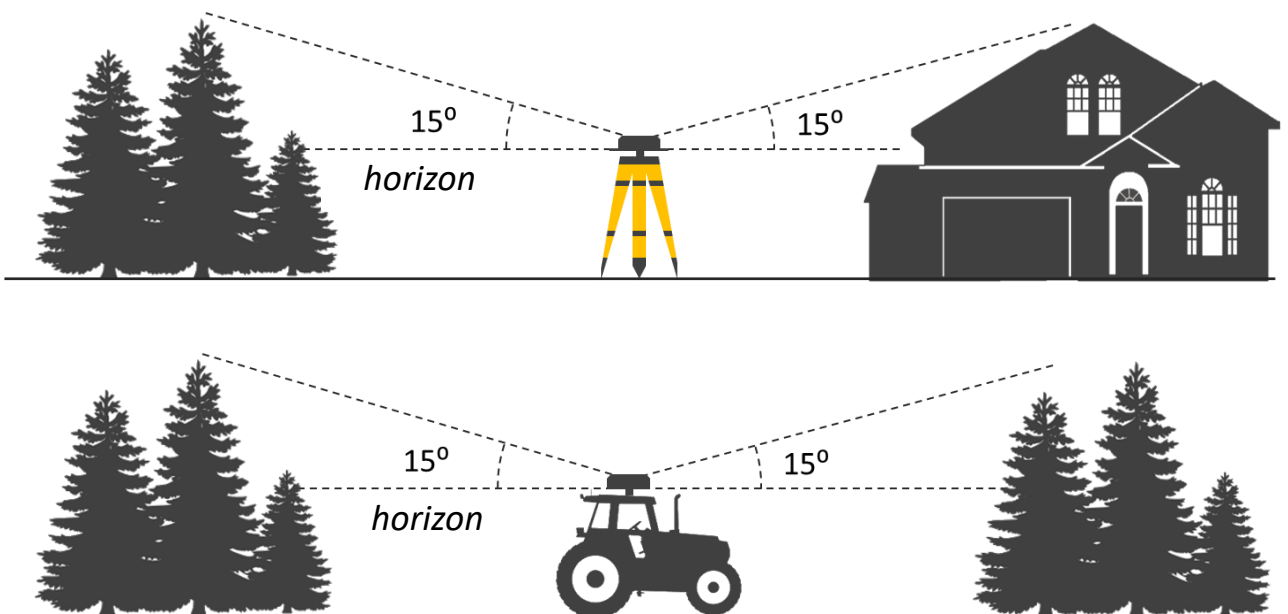
- To increase quality of RTK operation, set following values for:
 - elevation angle mask: 15 degree
 - signal level mask: 35 dBHz



Recommended GNSS antenna placement

Since the RTK technology allows calculating position of the object with centimeter-level accuracy, it is more sensitive for the GNSS antenna placement conditions, in contrast to the standard accuracy GNSS modules which able to determine the position with meter-level accuracy in difficult signal reception conditions.

Examples of recommended GNSS antenna placement are shown below.



Recommended environments:

- Open sky, elevation angle mask not less 15 degree above horizon. Absence of objects nearby: buildings, cars, trees, **peoples**, etc.
- A ground plane under the GNSS antenna reduces the effect of multipath, in case of using simple and cheap (not geodetic-class) GNSS antenna. A metal sheet with a radius not less 10 cm, a metal roof of a building or a machine can be used as the ground plane.
- Ensure that other electronic devices are not located close to the GNSS antenna.