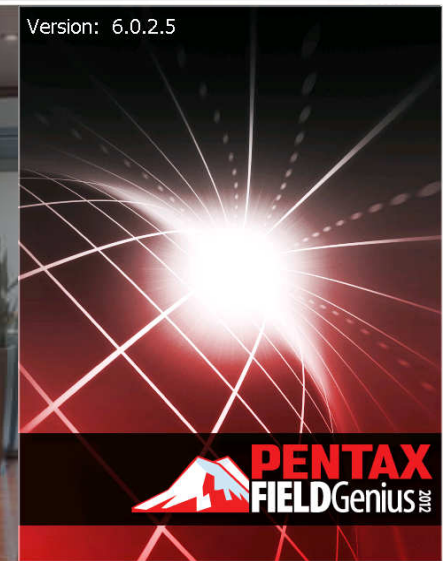




FieldGenius setting to Post-Process data with EZSurv™

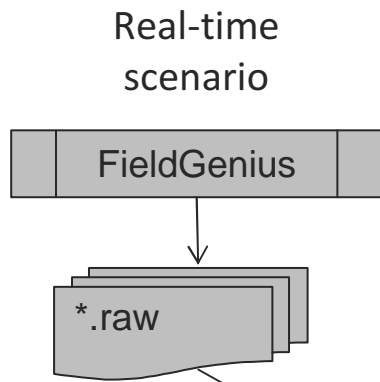
Version: 6.0.2.5



2012 - Training documents / Setting a Rover using a VRS (network)



EZSurv™ and FieldGenius

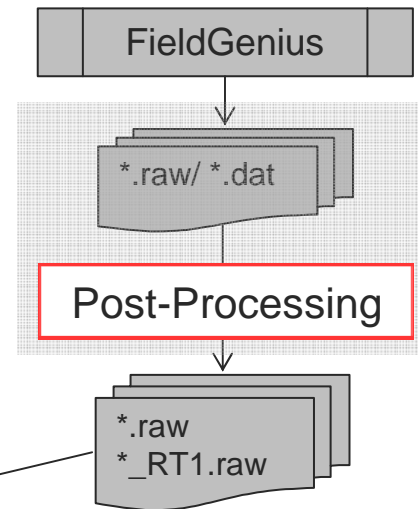


Post-Processing is a simple step inserted into the data flow.

Post-Processing simply rewrites the **raw** file with corrected positions



Post-process scenario





This tutorial explains how to use Field Genius to Post-Process GNSS data using EZSurv Post-Processing software

More specifically, it explains how to use it to set a rover to be used with a VRS (network) or simply to be used in Post-Processing

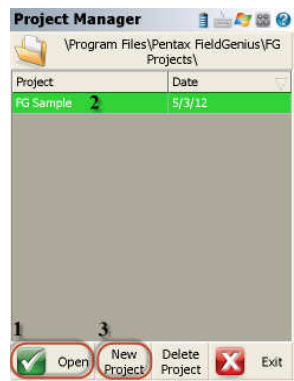
Project Setup (1/2)



Version: 6.0.2.5

PENTAX
FIELDGenius

Start FieldGenius



Project Manager

Project	Date
FG Sample 2	5/3/12

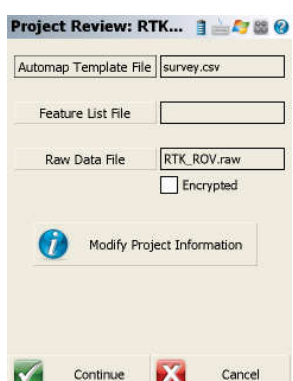
Open New Project Delete Project Exit

Project Manager

To **open an existing project**, use the “Open” button after selecting the appropriate project

To **create a new project**, select the «New Project» button. If you choose to create a new project, you’ll have to enter a project name in the next window.

(not shown here). After entering the name or opening an existing project, you’ll be brought to the “Project Review” window.



Project Review: RTK...

Automap Template File: survey.csv

Feature List File: []

Raw Data File: RTK_ROV.raw

Encrypted

Modify Project Information

Continue Cancel

New project File

This window let you review the parameters associated to the existing project or the new project (RTK_ROV in this example).

Click continue, then you will end up in the **Unit Setting** Windows

Project Setup (2/2)

Unit Setting Windows
Set your distance, and angle unit

Define a coordinate system

Select or edit a mapping system

Add Predefined or custom coordinate system





Setting Rover receiver (1/7)

Go Back to the Map View – Select Setting

Select GPS Rover

If there is any receiver configured, you will have to add one (2), or edit an existing one (3). These profiles are associated to a specific instrument.

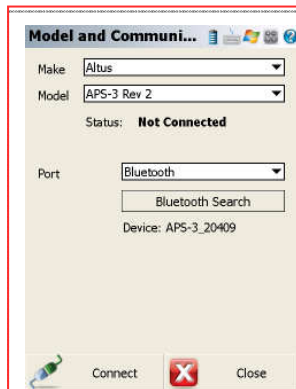
If you always use the same receiver as a rover, you could simply create an instrument profile for it and re-use the same one over and over again.

If you have to edit a profile, you will end up to the "GPS Profile" window.

From here there is 5 possible settings



Setting Rover receiver (2/7)

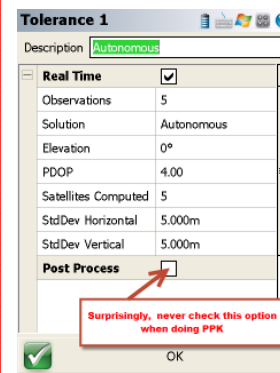


Setting Receiver and communication

Make: Select the Receiver brand

Model: Select the model of the GNSS receiver you're using.

Port: Select the communication medium. If you are using a wired communication, select the appropriate COM port and parameters. "Bluetooth Search" lets you search and pair with bluetooth devices in range of your pocket PC.



Create *Tolerance* «profile»

Observations: Number of epoch to record for a point.

Solution: Minimum solution type to record a position (if you want to post-process your data, always use «AUTONOMOUS», then if you have an RTK position it will record it, if you lose RTK it will still record it to be post-processed).

Elevation: Required elevation mask.

PDOP: Minimum PDOP to consider an epoch as valid

Satellites Computed: Minimum number of satellite to consider an epoch as valid (5 is good)

StdDev Horizontal: Minimum horizontal standard deviation to consider an epoch as valid (always put a high number if you want to post process your data)

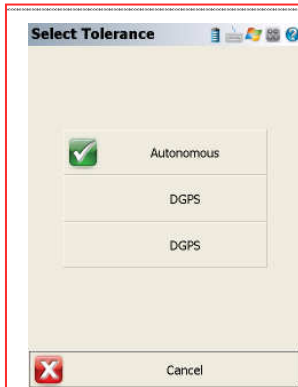
StdDev Vertical: Minimum vertical standard deviation to consider an epoch as valid (always put a high number if you want to post process your data)

Please do not use the "Post Process" tolerances (check the note on the image).

You can edit the 3 Tolerance «profile» to fit your needs (and edit their Name). During a survey you can switch from one to another to fit your need.

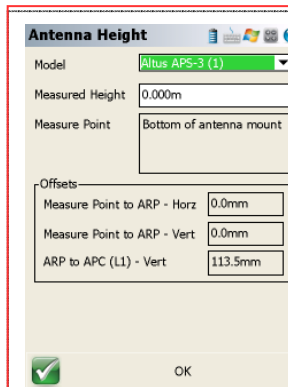


Setting Rover receiver (3/7)



Select an Active tolerance

Since you have 3 different tolerance "profiles" when working with a rover, you have to select an Active one. In the example the tolerance [Autonomous] in "Internal GNSS" instrument profile is now active. You can switch from one of these 3 values during your survey.

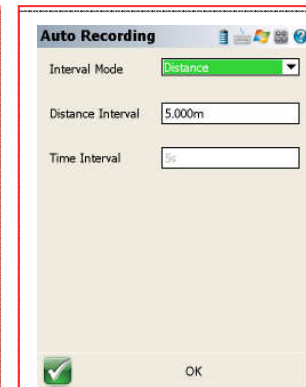


Set Antenna height

Model: Select the proper antenna model (see the "Measure Point" note to correctly identify your model).

Measured Height: Antenna height to the ARP or to the Measurement Point

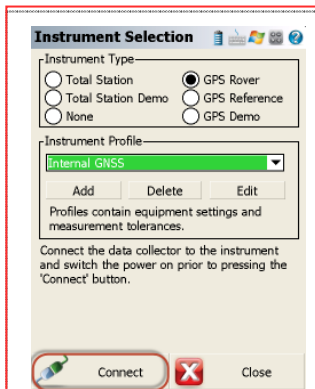
Measure Point: Comment on where the measure should be done on the antenna. Directly linked to the model you chose.



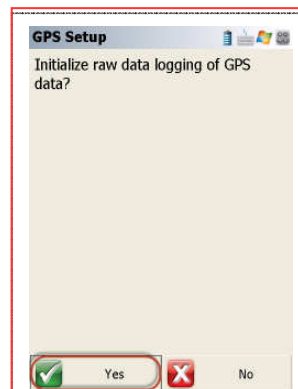
Set Auto recording mode by distance or time



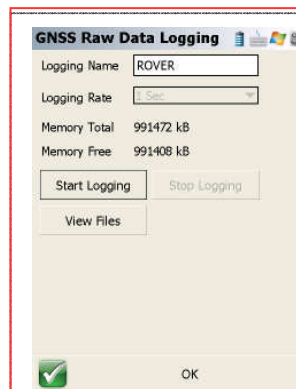
Setting Rover receiver (4/7)



Go back in the *Instrument Selection* screen and click Connect



Click Yes



Set GNSS raw data logging – Click OK

Logging Name: GNSS File name (for the rover) to be recorded on the receiver SD card. (“ROVER” in this example).

Logging rate: for a rover is locked at 1 second. This is a direct impact of the “OnPOZ Tagging” option checked earlier.

Start Logging: Start the raw GNSS data logging. **Be sure to press this button** before pressing “OK” to get out of this window.

Setting Rover receiver (5/7)

Link Configure

Link Device: GSM Module [Setup]

Link Communication:

GPS Port: Internal Device

Baud: []

Data Bits: [] Parity: []

Stop Bits: [] Flow: []

Data Format: CMR/CMR+

Station ID: Any

[Connect] [Close]

Link Device: To do RTK you will need to correctly identify which type of device you are working with and select it here. If you use your receiver to connect on the internet, choose "GSM Module"; if the SIM card is in the data collector, please select "Data Collector Internet". In the example above, I have selected "GSM Module". To configure my link device, press on "Setup". You will get the "Mobile Settings" window that allows to enter the information about ISP (called "Network Options") and the Base that is going to transmit the corrections (called "Data Source"). Press OK when done. You will be brought back to the "Link Configure" window.

Link Communication: When selecting certain "Link Device" ("Data Collector Internet" for example), the "Link Communication" settings will be editable. You will then be able to enter all the information required for a proper connection to the device selected (refer to the FieldGenius manual).

Data format: Options that allows you to set the format of your GNSS correction to be received. Also lets you pick a station ID, useful when doing local RTK.

Mobile Settings

Network Options

PIN Code []

Internet APN []

Internet Username []

Internet Password []

Data Source

Source Type: Network

Send GGA

Address []

Port []

Username []

Password []

[OK]

Corrections settings - Close

Mobile Setting Windows

When finished, press "Connect". FieldGenius will then apply the parameters you have entered and try to connect to the base station. If everything is correctly entered, it will bring you to the **Map View** windows. If some settings are wrong, a prompt with "initialization failed" will show up. Please review your parameters and try again.

Setting Rover receiver (6/7)

Back to Map View to set OnPOZ Tagging – Click on Pentax

Click on setting

Click on Option

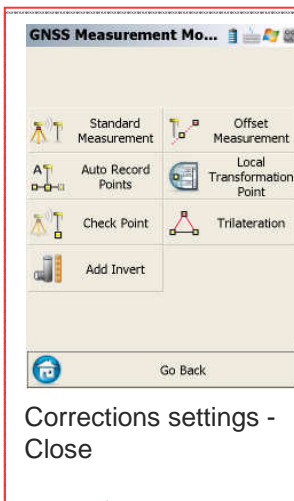
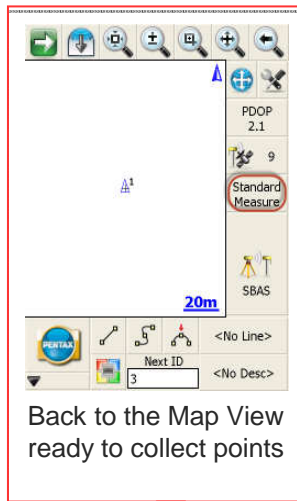
Select OnPOZ tagging on click OK Back to Map View

This option is critical to post-process with EZSurv.

It allows to do PPK (or replay your RTK run in post-mission).

If it is not check You cannot post-process your *.RAW Fieldgenius project file with EZSurv

Setting Rover receiver (7/7)



From the map view, press on the “GNSS Measurement Mode” button. This button is actually labeled “Standard Measure” in the example below to reflect the current choice. When you are in the “GNSS Measurement Mode” windows, select «Standard measurement» and click Go Back

The duration of a site in the “Standard Measurement” is set by the number of observations you have put in the Tolerance Profile that is Active.

Note that all settings in the Active Tolerance will have a direct impact on recording a point. If the minimum values set in the tolerance settings are not met, FieldGenius **will not** collect the point. **When working with post-processing, always put a high values for these settings.**



Your rover is now configured, it is receiving corrections (or not, if you are working purely in Post-Processing) and it is recording raw data.

You can now collect as much points as you want. These points will all be recorded in the same *.RAW file as the one used to start the Base.

You can change your *Active Tolerance* to accommodate your needs while doing a survey. In open area, when working in the radio range, you can use a Tolerance that accepts only RTK point. Whereas, in some other areas, you can select an *Autonomous Tolerance* in order to still work while the radio is down and post-process these positions

Some steps described in this tutorial will not have to be done every time, once set, they can be reused time after time



Collecting points/ Stop Recording

To collect points, in the Map View, Click on the Action button

Repeat this as you want to collect points

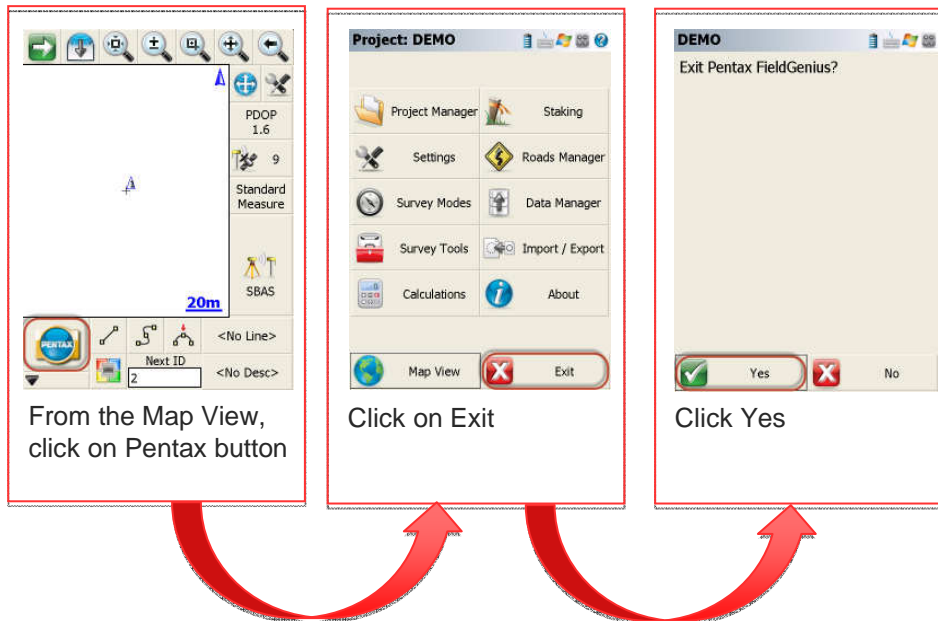
→
To stop the survey

To Stop recording click on Setting

Click on Raw data logging

Click on Stop Logging

Exit FiledGenius





Data Files

Name	Date modified	Type
RTK_ROV.cdx	24/11/2012 3:13 AM	CDX File
RTK_ROV_figures.cdx	24/11/2012 3:13 AM	CDX File
RTK_ROV.ini	24/11/2012 3:13 AM	Configuration settings
RTK_ROV.dbf	24/11/2012 3:13 AM	DBF File
RTK_ROV_figures.dbf	24/11/2012 3:13 AM	DBF File
RTK_ROV_automap.csv	18/12/2005 5:43 PM	Fichier CSV Microsoft Excel
RTK_ROV.raw	24/11/2012 3:13 AM	RAW File
ROVER.SBF	23/11/2012 3:04 PM	Septentrio Binary Format

File from the data collector.
Simply import this file in EZSurv for post-processing (and select the proper Base Station provider)

File from the Rover receiver SD card

Data Files that you should get on your PC after file transfer.