Leica GPS900
QuickGuide

Version 1.0
English

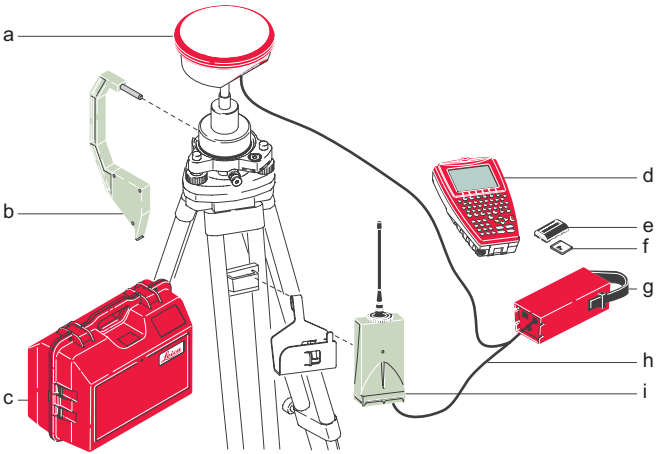
- when it has to be **right**

Leica Geosystems

To use the product in a permitted manner, please refer to the detailed safety instructions in the User Manual.

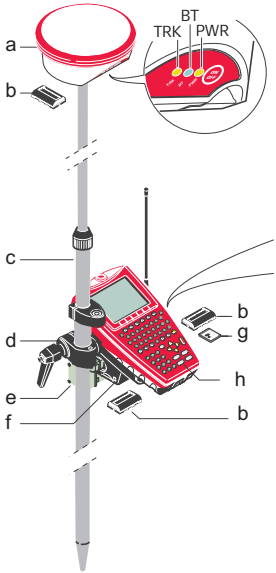
Hardware

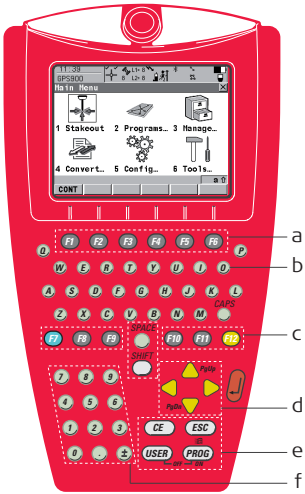
Real-time reference setup



a) GPS antenna (ATX900)
b) Height hook
c) Transport container
d) RX900
e) GFU device
f) External battery (GEB171)

Real-time rover setup





a) ATX900 with LED indicators
b) Battery (GEB211)
c) Telescopic carbon-fibre pole (GLS30)
d) Clamp (GHT52) to attach the GHT56 holder to the pole
e) Holder (GHT56) for attaching RX900 controller and RTK device to the pole
f) RX900

RX900

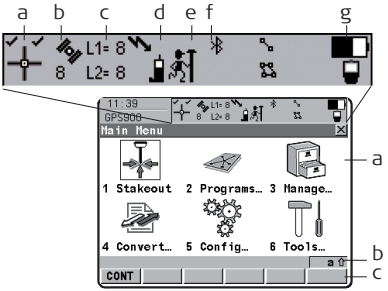
a) Function keys **F1**-**F6**
b) QWERTY keyboard
c) User-definable keys **F7**-**F12**
d) Arrow keys
e) Control keys
f) Numeric keys

Screen Display & Main Menu

Icons

a) Position status

b) Visible satellites
c) Contributing satellites
d) Real-time status
e) Position mode
f) Bluetooth
g) Battery



Screen Display

a) Screen area / Main Menu
b) Message line
c) Softkeys

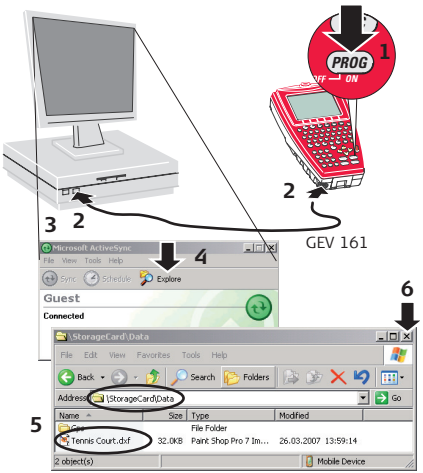
Main Menu

 1 Stakeout	Stakeout application.	 4 Convert...	Data conversion (import/export ASCII, GSI or DXF data, copy points between jobs).
 2 Programs...	Programs menu.	 5 Config...	To configure parameters related to a survey, RX900 and the radio.
 3 Manage...	Data management (jobs, data, codelists, coordinate systems, etc.).	 6 Tools...	Tools (format the memory device, upload firmware and language files, manually type in or upload a licence key, etc.).

Data Transfer

Description

To transfer data to or from the office computer, the RX900 controller must be connected to the office computer (optional for RX900 controller with color screen) using Microsoft ActiveSync, which must first be installed on the office computer.

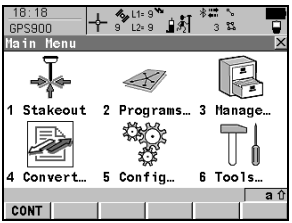


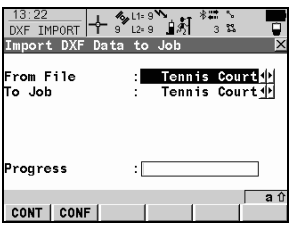
1. Turn on the RX900.
2. Connect it with the GEV161 USB cable to the PC.
3. The Microsoft ActiveSync program will start automatically and connect with the RX controller.
4. Click the Explore button in ActiveSync. The Windows Explorer opens.
5. Copy the DXF file and paste it into the folder Mobile Device/StorageCard/Data.
6. Close the Explorer window, the ActiveSync and disconnect the GPS900 receiver from the PC. Connect the GPS900 receiver to the ATX900.

Importing Data to a Job

Description
It is possible to import ASCII, GSI or DXF data from a file stored in the internal memory (RX900) or on the CF card (RX900c) to a job on the RX900. As example for the importing procedure the import of DXF data is shown below.

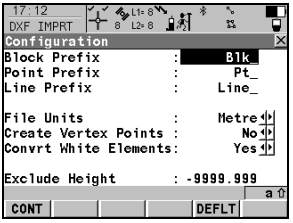
Import DXF data step-by-step





Ensure that at least one file in DXF format with the file extension *.dxf is stored in the \DATA directory of the internal memory/CF card.

1. **Starting the DXF Importer**
   - Select **Main Menu...Convert**.
   - Select **Convert Data...Imp Data** and access the Import Data to Job panel.
   - Select **DXF Import** and access the Import DXF Data to Job panel.
2. **Accessing the Configuration.**
   - Enter the **Configuration** panel (**CONF (F2)**).

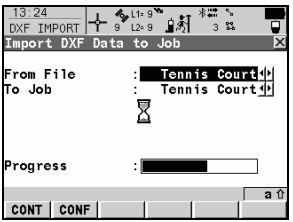


3. Configuring the DXF Importer.

- Ensure that the **File Units** are correct.

DXF files have no defined units and therefore the units must be defined within the DXF importer.

- Confirm the configuration settings and return to the Import DXF Data to Job panel.



4. Importing the DXF data.

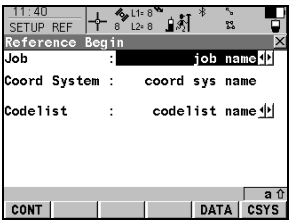
- Import the **DXF** data to the actice job (**CONT** (**F1**)).
- After importing the **DXF** data to the active job, complete the import or import another **DXF** data.

Reference Setup

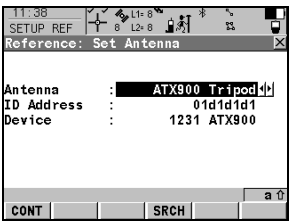
Description

Setup Reference is a program to configure GPS900 as a reference station. After completing the program, the reference station is operating and RX900 switches to rover mode and can be used for all rover applications.

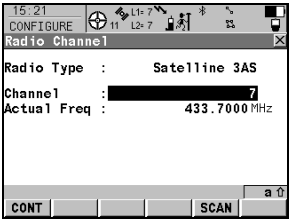
Configuring a GPS900 reference step-by-step

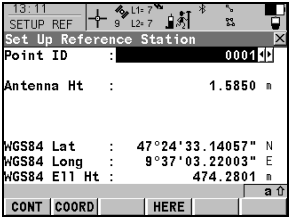


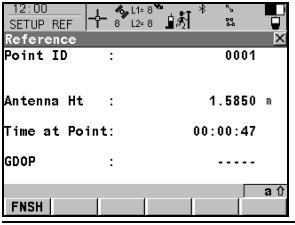
1. **Starting the Program**
   - Select a Job.
   - Check all of the points in the selected job (**DATA (F5)**) and continue (**CONT (F1)**).



2. **Selecting the Antenna**
   - Select the antenna.
   - Start searching for the antenna via Bluetooth (**SRCH (F4)**) and continue (**CONT (F1)**).







3. Setting the Radio Channel

- Enter the radio channel, scan (**SCAN (F5)**) for the radio at the reference and continue (**CONT (F1)**).

Ensure that the radio at the reference and the radio at the rover are set to the same frequency.

4. Selecting the Reference Point

- Select the **Point ID** of the known point and enter the antenna height.
- Press **HERE (F4)** to use the current navigated position for the setup and continue (**CONT (F1)**).

When setting the reference point for the setup, the selected point must be able to be viewed as WGS1984 coordinates.

5. Completing the Setup

- Finish (**FNSH (F1)**) the setup and return to the Main Menu screen.

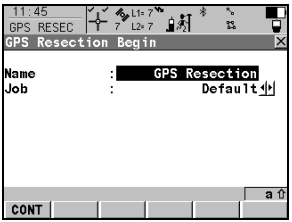
The RX900 disconnect itself from the reference antenna. The BT connection to the reference antenna will be broken.

GPS Resection

Description

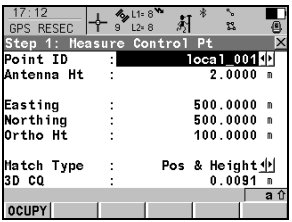
GPS Resection is used to orientate and calibrate the active job. The program is designed to provide an orientation to a GPS job in a similar method to a TPS resection.

Starting up with GPS Resection step-by-step



1. Starting the Program

- Type in a **Name** for the resection, select a **Job** and continue (**CONT (F1)**).

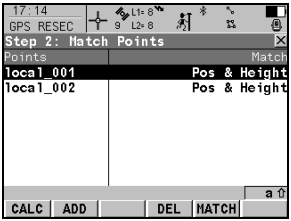


2. Measuring the local points

- Select **Point ID** of the known local point and occupy it.

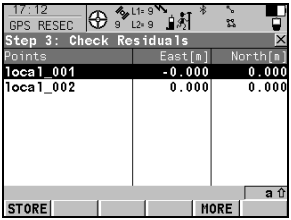
Hold the GPS real-time rover steady.

- Start measuring the point (**OCUPY (F1)**).
- End measuring the point (**STOP (F1)**).
- Store the measured point (**STORE (F1)**).



3. Matching the local points to WGS84 coordinates for position and/or height

- Select the type of match between the measured WGS84 and the known local point (**MATCH (F5)**).
- Survey another WGS84 point (**ADD (F2)**).
- Confirm the selections and compute the transformation (**CALC (F1)**).



4. Checking the calculated residuals

- Check the calculated residuals.
- Press **MORE (F5)** to display information about height residuals.
- If the residuals are unacceptable, return to **Step 2** (**ESC**)where you can edit, delete or temporarily points from the list and recalculate the transformation.
- Save the coordinate system and attach it to the active job (**STORE (F1)**).

Total Quality Management: Our commitment to total customer satisfaction.

Leica Geosystems AG, Heerbrugg, Switzerland, has been certified as being equipped with a quality system which meets the International Standards of Quality Management and Quality Systems (ISO standard 9001) and Environmental Management Systems (ISO standard 14001).

Ask your local Leica Geosystems dealer for more information about our TQM program.

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Original text

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