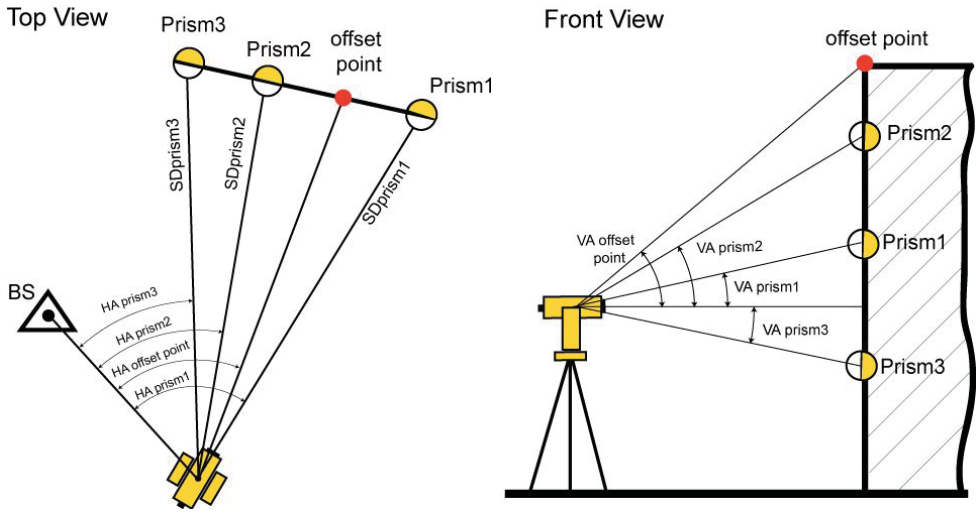
The Plane and Corner Offset is displayed on the picture:



The **Points** screen will display the coordinates of the offset point. The offset point has the  icon in the **Points** dialog.

Offsets for GPS Survey

The Offsets tab is **always** presented when you open the **Topo** screen for the GPS survey. The Offsets tab contains up to three offset types. The Offset Laser is available only if a laser distance meter device is used.

Follow the link to find out more:

Offset Line	**Offset Line**
Azimuth & Offsets	**Azimuth and Offsets**
2 Distance Offset	**2 Distance Offset**
Offset Laser	**Offset Laser**

Offset Line

How this task for the offset is performed?- **Determination** of the horizontal and vertical (3D) coordinates of an inaccessible point, using two measured points and additional distance offsets measurements, for example, performed with the tape.

To do this determination:

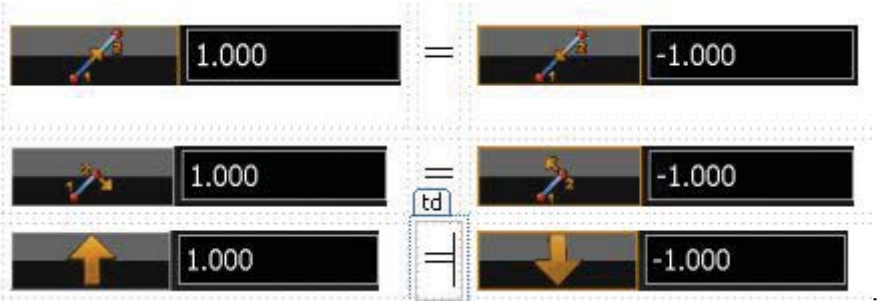
1. Enter the name of the determined point and the rover antenna height in the Point field of the **Topo** dialog.

   Note: Be sure that the current type of position calculation method corresponds to the precision of the determined point.

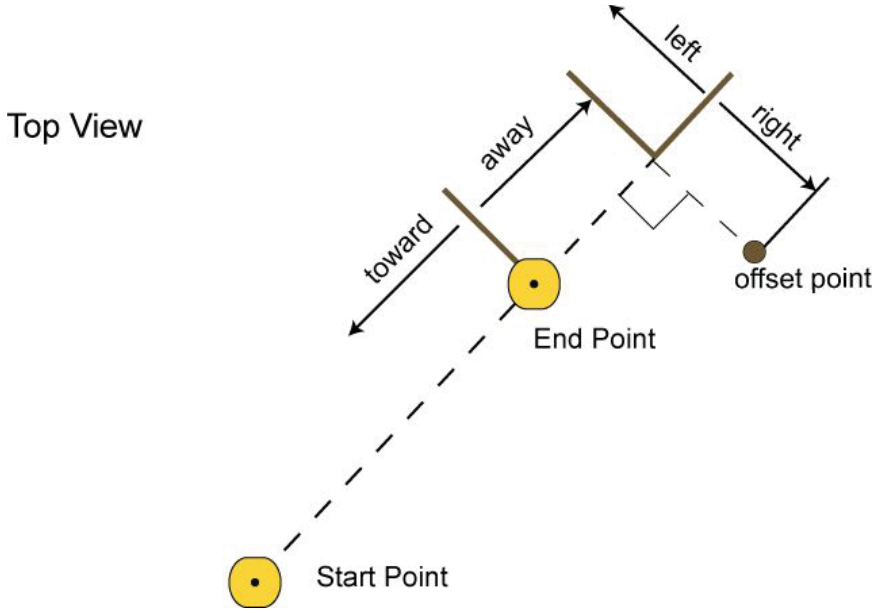
2. Click  in the top left corner, highlight **Measure** in the pop-up menu and select 

.

3. The **Offset Line** dialog is displayed.
4. Select the Start and End points from the map (click ) or from the list (click ), or measure them (click ) in the dialog.
5. Measure offsets from the End point to the determined point and enter the values. Use one of two ways to define the direction of the given offset: either click on the button of the current selection or use the minus sign "-" for the current value:



6. The directions of the offsets are explained in the figure:



7. In the **Point** field and **Code** field you can enter a name and a code of the offset point.
8. Click  to save the calculated coordinates of the offset point. The **Points** screen will display the coordinates of the offset point.

The offset point lies on the perpendicular to the line "Start Point - End Point".

Hoffset_point = Hpoint2 + (Up/Down_offset)

To check the status of a GPS+ survey, select the *Status* option from the pop-up menu that displays by clicking  in the top left corner. **More...**

Azimuth and Offsets

How this task for the offset is performed?- Determination of the horizontal and vertical (3D) coordinates of an inaccessible point, using one measured point and distance and angle measurements from this point to the offset point.

To determine a point with the Azimuth & Offsets task:

1. Type the name of determined point and the rover antenna height in the Point field of the **Topo** dialog.

   Note: Be sure that the current type of position calculation method corresponds to the precision of the determined point.

2. Click  in the top left corner, highlight **Measure** in the pop-up menu and select Azimuth & Offsets.

3. The **Azimuth - Distance - Height** dialog is displayed.

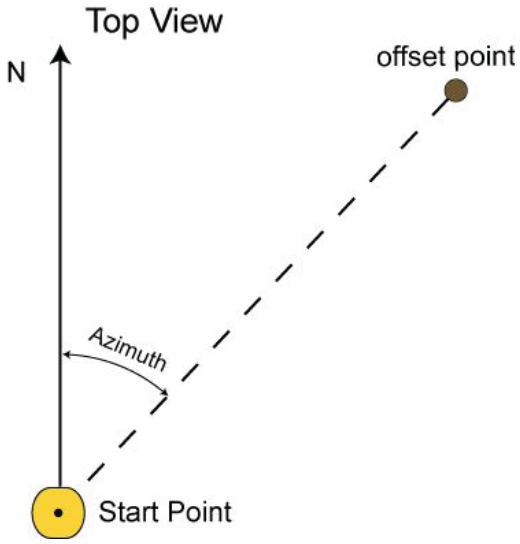
4. Select Start Point from the map (click ) or from the list (click ), or measure it (click ) in the screen.

5. In the **Point** field and **Code** field you can enter a name and a code of the offset point.

6. Define the direction to the offset point in the Azimuth - Distance - Height screen. Use one of two methods to define the offset point in horizontal plane (the hand symbol points out that there is a choice):

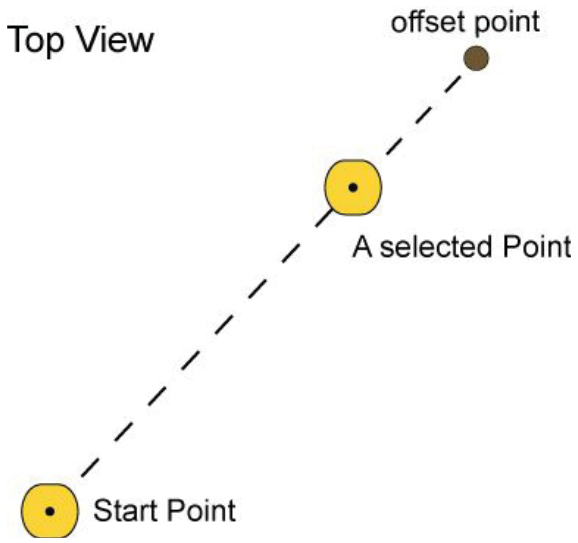
   1) Azimuth

   The horizontal angle is determined by the azimuth to the offset point.



   2) Az to Pt

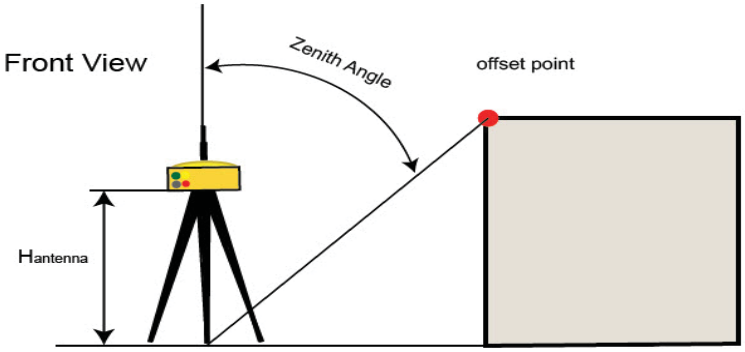
   The horizontal angle is determined by the azimuth to a point (selected from the list/map). The offset point lies on the line "Start Point"- "Selected Point".



7. Measure the vertical offset from the Start Point and enter the value in the corresponding field of the Azimuth - Distance - Height screen. Use one of three methods to define the offset point in a vertical plane (the hand symbol points out that there is a choice):

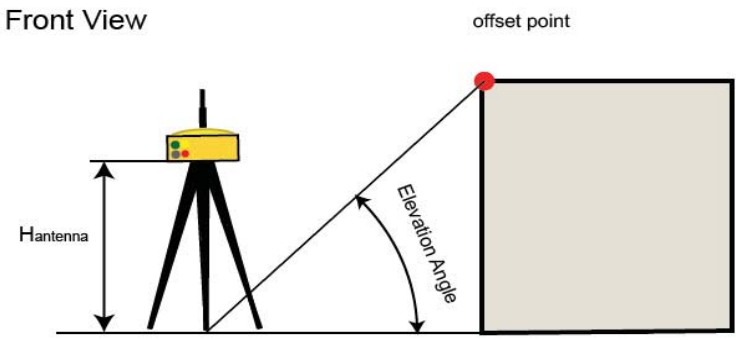
1) Zenith Angle

The zenith angle is measured (from an index with 0 derected towards the zenith).



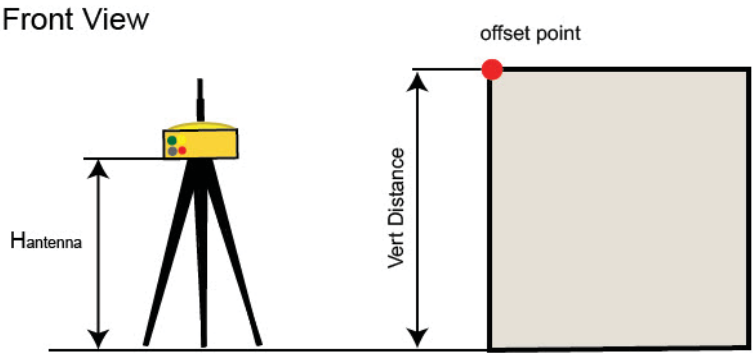
2) Elev Angle

The vertical angle is measured (relative to 0 that coincides with horizontal).



The vertical distance between the offset point and the horizontal passed through the start point.

3) Vert Distance



8. Measure the horizontal distance offset from the Start Point and enter the value in the **Horizontal Dist** field of the **Azimuth - Distance - Height** dialog.
9. Click to calculate and save the coordinates of the offset point. The **Points** screen will display the coordinates of the offset point.

To check the status of a GPS+ survey, select the *Status* option from the pop-up menu that displays by clicking in the top left corner. **More...**

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2 Distance Offset

How this task for the offset is performed?- Determination of the horizontal coordinates of an point, using distances to the point from two known points. The elevation value of the first known point is assigned to the offset point.

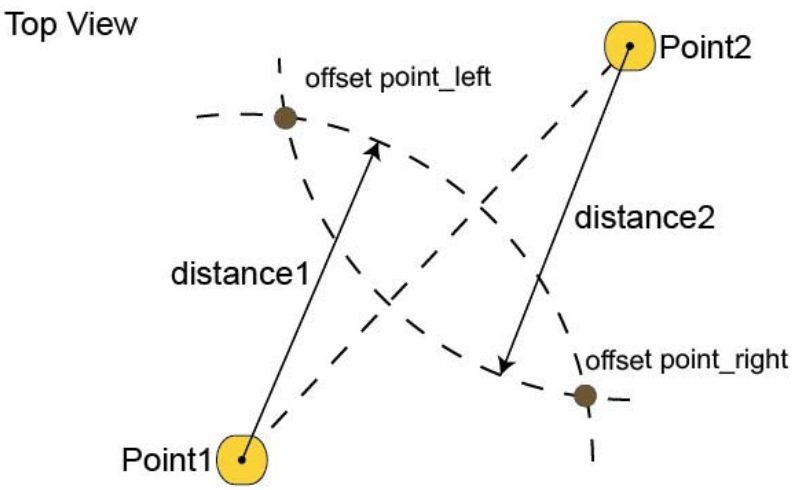
1. Enter the name of the determined point and the rover antenna height in the Point field of the **Topo** dialog.

   Note: Be sure that the current type of position calculation method corresponds to the precision of the determined point.

2. Click  in the top left corner, highlight **Measure** in the pop-up menu and select 2 Distance Offset.

3. The dialog **2 Distance Offset** is displayed.
4. Select the **Point 1** and **Point 2** from the map (click ) or from the list (click ), or measure them (click ) in the dialog.

5. From each point, enter the distance value in the **Distance** field or measure the value (click ).



6. Enter the name of the **Offset Point** and select the side where the offset point is located in the list "*Left of line 1-2*"/ "*Right of line 1-2*". In **Code** field you can enter a code of the offset point.
7. Click  to save the calculated coordinates of the offset point. The **Points** screen will display the coordinates of the offset point.

To check the status of a GPS+ survey, select the *Status* option from the pop-up menu that displays by clicking  in the top left corner. **More...**

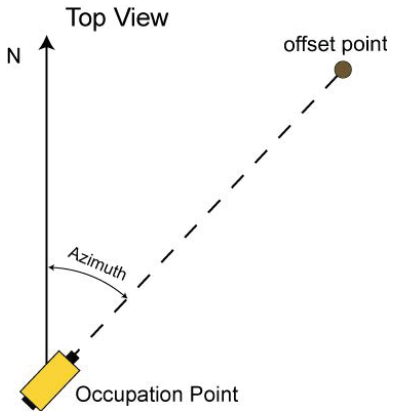
Offset Laser

How this task for the offset is performed?- Determination of the horizontal and vertical (3D) coordinates of an inaccessible point, using distance and angle measurements to the point from a laser rangefinder. MAGNET Field enables you to use an external laser rangefinder. Before any measurement, set the type of the used rangefinder in job configuration.

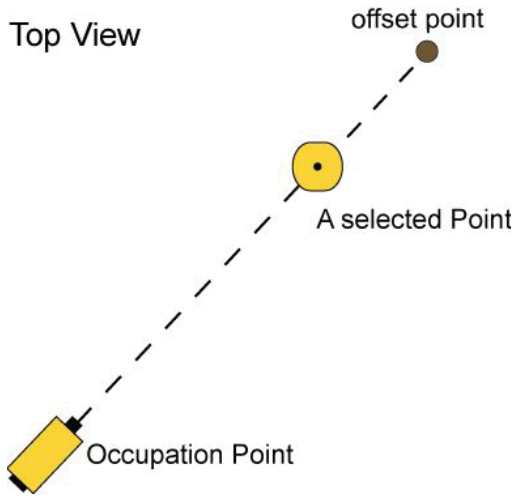
To work with an external laser rangefinder:

1. Click the Configure icon  .
2. Click the Survey icon  .
3. Click Peripherals in the **Rover Receiver** screen.
4. Check the External laser option, select which device to connect the laser rangefinder to: Controller or Receiver.
5. Click Parameters in the Peripherals dialog to set communication parameters between the controller and external laser rangefinder.
6. Before starting measurements with the laser rangefinder, make sure that the current coordinate system in the given MAGNET Field job is datum, grid, or localization.
7. Make sure that the job contains the coordinates of the point where the laser rangefinder will be located. This point is called "Occ point" for this offset type.
8. Enter the name of the determined point in the Point field of the **Topo** dialog.
9. Click  in the top left corner, highlight **Measure** in the pop-up menu and select Offset Laser.
10. The **Laser Measure** dialog is displayed.
11. Select the name of the external laser rangefinder from the list in the Bluetooth Devices screen. Click Select in the dialog.
12. Select the Occupation Point from the map (click ) or from the list (click ) in the Config Laser screen.

13. Either enter the azimuth to the offset point (if Azimuth is selected).



14. Or select a point from the list/map (if Az to Pt is selected). In this case the horizontal angle will be determined by the azimuth to the selected point. The offset point will be on the line "Occupation Point"-"Selected Point".



15. Enter the laser rangefinder height in the corresponding field.
16. In the **Point** field and **Code** field you can enter a name and a code of the offset point.
17. Sight the laser to the desired point and press the Fire button on the laser rangefinder to measure the slope distance and vertical angle to the point. After measurements are successfully performed, MAGNET Field displays the Store Point screen with the calculated coordinates of the offset point.
18. Click ✓ to save the offset point in the MAGNET Field job. The **Points** screen will display the coordinates of the offset point.

To reconnect the external laser, select the *Reconnect Laser* option from the pop-up menu that displays by clicking  in the top left corner. **More...**