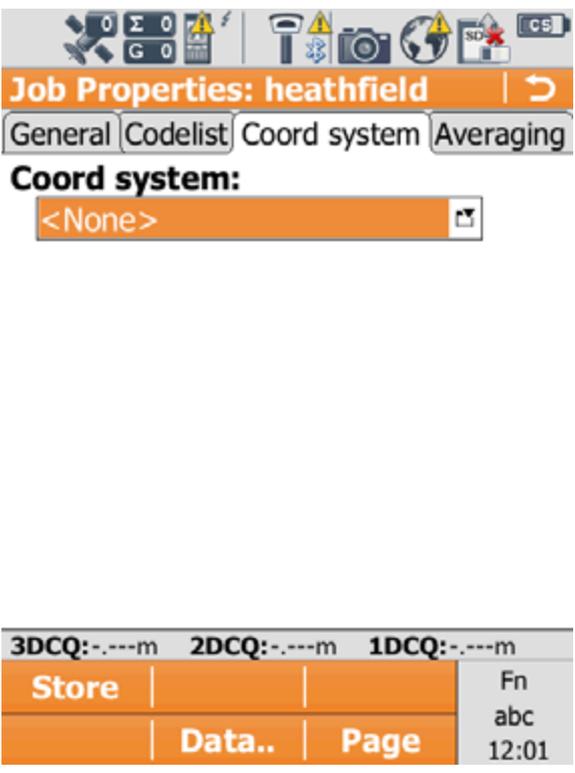


Removing OS Scaling to create Scale Factor 1

The purpose of a One Point Localisation is to create a flat grid centered on a single surveyed point. The survey point can have any ENH value but in this case, we are using the OS coordinate system to generate an ENH. We can then use these values to center our flat grid, creating a “pseudo” OS coordinate system without the scale factor inherent in the OS coordinate system files. It is suitable for surveys up to a radius of no more than c.2km from this point and can be conducted on site.

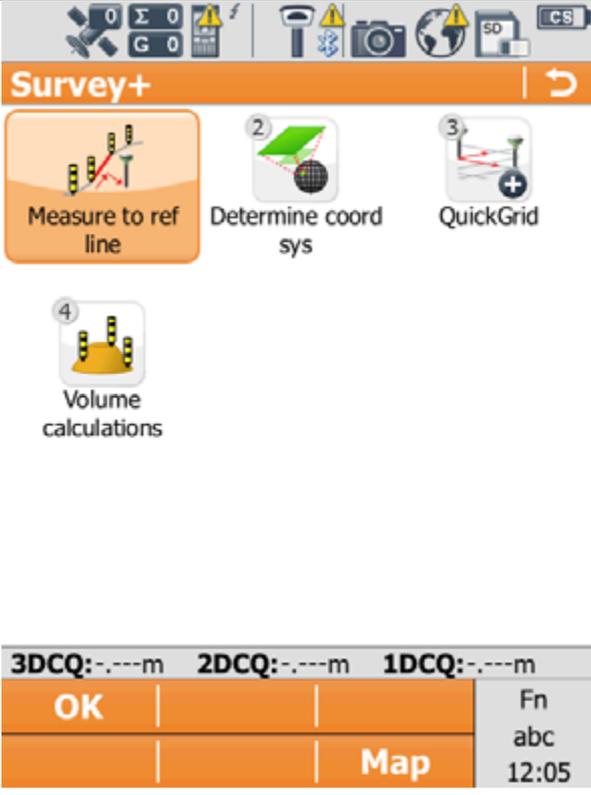
Step	Action	Screen Display
1	Create a new working job on the Viva controller, ensuring that you use the OSGB36 coordinate system.	 <p>The screenshot shows the 'Leica GPS Favourites' menu on a handheld device. At the top, there are status icons for signal strength, battery, and other system indicators. Below the title bar, there are nine numbered icons arranged in a 3x3 grid: 1. Current GPS position, 2. Satellite tracking, 3. RTK data link status, 4. RTK settings, 5. Load RTK profile, 6. Server / mountpoint (highlighted in orange), 7. Start RTK stream, 8. Quality control, and 9. Page. At the bottom of the screen, there are three data fields: '3DCQ:-:---m', '2DCQ:-:---m', and '1DCQ:-:---m'. Below these fields is a control panel with an 'OK' button, a 'Fn' button, and a numeric keypad showing 'abc' and '12:04'.</p>
2	Press the * key to the right of the central D-pad on the controller to bring up the GPS Favourites . Press 8)Quality control then select Param.. at the bottom of the screen and set the stop criteria to 20 positions.	 <p>This screenshot is identical to the one in Step 1, showing the 'Leica GPS Favourites' menu. The 'Server / mountpoint' option (icon 6) is highlighted in orange. The rest of the interface, including the status bar, icons, and bottom control panel, remains the same.</p>

<p>3</p>	<p>Press OK until you reach the main menu. Then go into Survey and connect to the Smartnet RTK service. Measure your fixed position.</p>	 <p>The screenshot shows the 'Leica GPS Favourites' menu with the following options: Current GPS position, Satellite tracking, RTK data link status, RTK settings, Load RTK profile, Server / mountpoint (highlighted), Start RTK stream, Quality control, and Page. At the bottom, there are three columns for 3DCQ, 2DCQ, and 1DCQ, and a keypad with 'OK', 'Fn', 'abc', and '12:04'.</p>
<p>4</p>	<p>This will give you your OSGB position. You will now need to copy the ENH values into a new job which does not have the OSGB coordinate system attached.</p>	
<p>5</p>	<p>Go to the main menu of the controller then go to Jobs and data and create a new job. Ensure that the job has the option of <none> as it's coordinate system then store the job.</p>	 <p>The screenshot shows the 'Job Properties: heathfield' menu with tabs for General, Codelist, Coord system, and Averaging. The 'Coord system' is set to '<None>'. At the bottom, there are three columns for 3DCQ, 2DCQ, and 1DCQ, and a keypad with 'Store', 'Data..', 'Page', 'Fn', 'abc', and '12:01'.</p>

Sunbelt Rentals Survey

3 Orpheus House, Calleva Park, Aldermaston, Reading, RG7 8TA. 0330 678 0181 Support Number: 01293 565565 sales@sunbeltsurvey.co.uk
www.sunbeltsurvey.co.uk

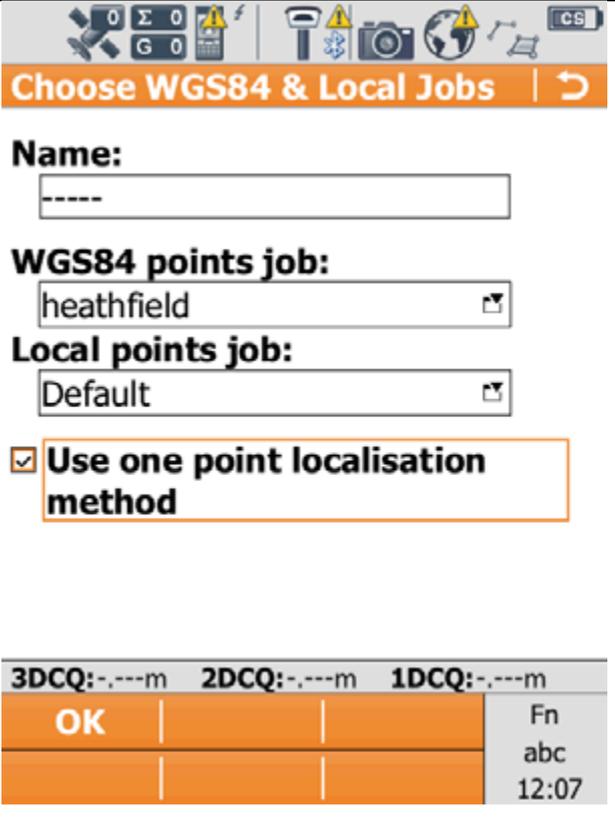
Registered Office: Sunbelt Rentals Ltd. 100 Cheapside, London EC2V 6DT. Registered No. 444569 England & Wales

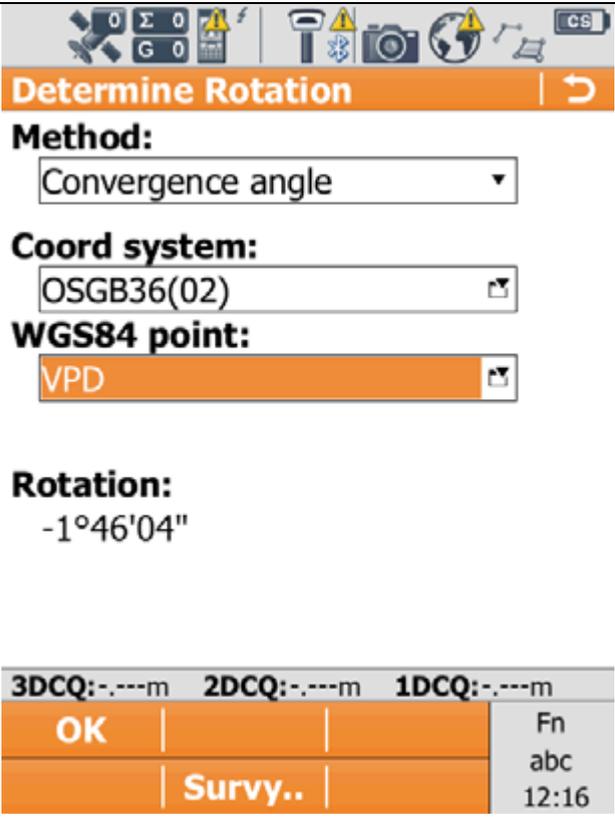
<p>6</p>	<p>Then within Jobs and Data go to export and copy data and export ASCII data. Export the point you recorded earlier as a CSV file. Then you can reimport it into your job with the <none> coordinate system.</p>	
<p>7</p>	<p>You can now begin the coordinate comparison. From the main menu select Go to work then Survey+ the Determine coord sys.</p>	

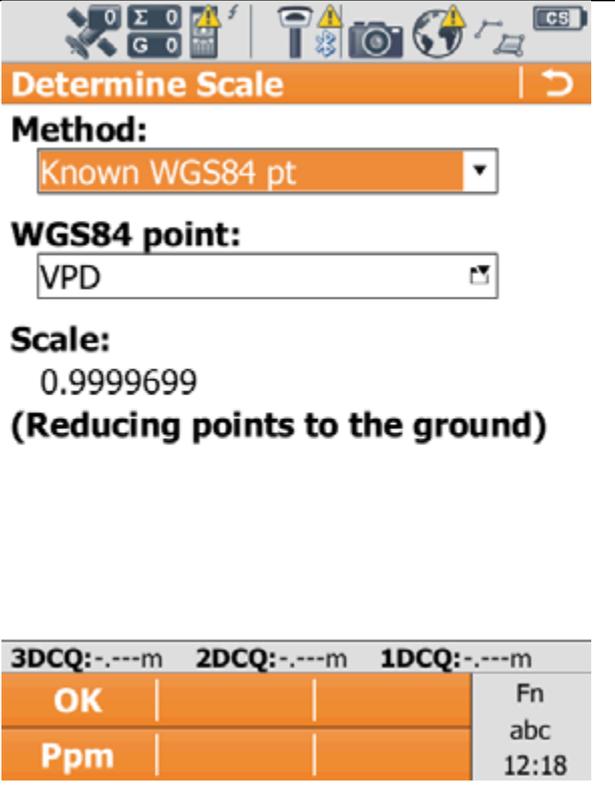
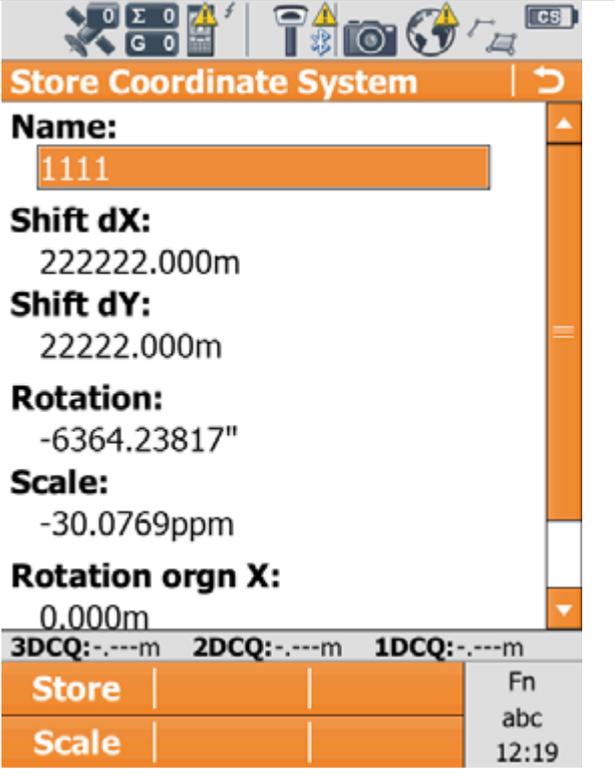
Sunbelt Rentals Survey

3 Orpheus House, Calleva Park, Aldermaston, Reading, RG7 8TA. 0330 678 0181 Support Number: 01293 565565 sales@sunbeltsurvey.co.uk
www.sunbeltsurvey.co.uk

Registered Office: Sunbelt Rentals Ltd. 100 Cheapside, London EC2V 6DT. Registered No. 444569 England & Wales

<p>8</p>	<p>Select the One-step conversion, then press OK. Name your coordinate system then select your original survey as your WGS84 job and your <none> coordinate system job as the local points job. Tick the box to use the one point localization method.</p> <p>Then press OK.</p>	 <p>The screenshot shows the 'Choose WGS84 & Local Jobs' screen. At the top, there is a toolbar with various icons. Below the title bar, there is a 'Name:' field with a text input box containing '----'. Underneath, there are two dropdown menus: 'WGS84 points job:' with 'heathfield' selected, and 'Local points job:' with 'Default' selected. A checkbox labeled 'Use one point localisation method' is checked and highlighted with an orange border. At the bottom, there is a keypad with '3DCQ:--m', '2DCQ:--m', and '1DCQ:--m' buttons, an 'OK' button, and a function area with 'Fn', 'abc', and '12:07'.</p>
<p>9</p>	<p>Select your Height mode to be Elliptical then press OK. Select the Osgmo2gb Geoid model then press OK.</p>	 <p>The screenshot shows the 'Choose System Components' screen. It features a toolbar at the top. Below the title bar, there is a 'Geoid model:' dropdown menu with 'OSGM02 (GB)' selected. At the bottom, there is a keypad with '3DCQ:--m', '2DCQ:--m', and '1DCQ:--m' buttons, an 'OK' button, and a function area with 'Fn', 'abc', and '12:10'.</p>

<p>10</p>	<p>Match your two points in position and height.</p>	 <p>Choose Common Point</p> <p>Match in: Position & height</p> <p>WGS84 point: VPD</p> <p>Local point: 11</p> <p>3DCQ:--m 2DCQ:--m 1DCQ:--m</p> <p>OK Fn abc 12:15</p>
<p>11</p>	<p>Determine the rotation of the coordinate system. Select Convergence angle as the method and OSGB36 as the coord system.</p>	 <p>Determine Rotation</p> <p>Method: Convergence angle</p> <p>Coord system: OSGB36(02)</p> <p>WGS84 point: VPD</p> <p>Rotation: -1°46'04"</p> <p>3DCQ:--m 2DCQ:--m 1DCQ:--m</p> <p>OK Fn abc 12:16</p> <p>Survy..</p>

<p>12</p>	<p>Determine the scale using the known WGS84 pt then press OK.</p>	 <p>Determine Scale</p> <p>Method: Known WGS84 pt</p> <p>WGS84 point: VPD</p> <p>Scale: 0.9999699 (Reducing points to the ground)</p> <p>3DCQ:--m 2DCQ:--m 1DCQ:--m</p> <table border="1"> <tr> <td>OK</td> <td></td> <td></td> <td>Fn</td> </tr> <tr> <td>Ppm</td> <td></td> <td></td> <td>abc</td> </tr> <tr> <td></td> <td></td> <td></td> <td>12:18</td> </tr> </table>	OK			Fn	Ppm			abc				12:18
OK			Fn											
Ppm			abc											
			12:18											
<p>13</p>	<p>You can now Name and store your new coordinate system.</p>	 <p>Store Coordinate System</p> <p>Name: 1111</p> <p>Shift dX: 22222.000m</p> <p>Shift dY: 22222.000m</p> <p>Rotation: -6364.23817"</p> <p>Scale: -30.0769ppm</p> <p>Rotation orgn X: 0.000m</p> <p>3DCQ:--m 2DCQ:--m 1DCQ:--m</p> <table border="1"> <tr> <td>Store</td> <td></td> <td></td> <td>Fn</td> </tr> <tr> <td>Scale</td> <td></td> <td></td> <td>abc</td> </tr> <tr> <td></td> <td></td> <td></td> <td>12:19</td> </tr> </table>	Store			Fn	Scale			abc				12:19
Store			Fn											
Scale			abc											
			12:19											