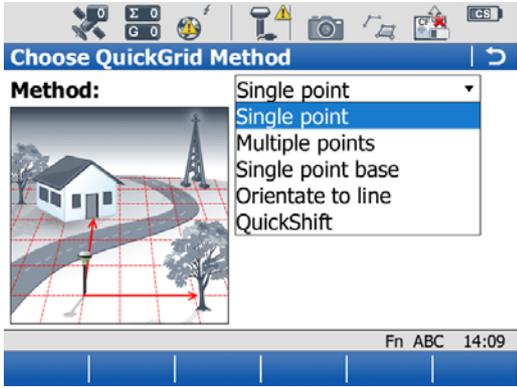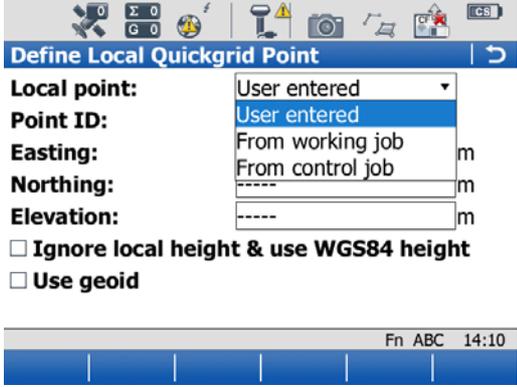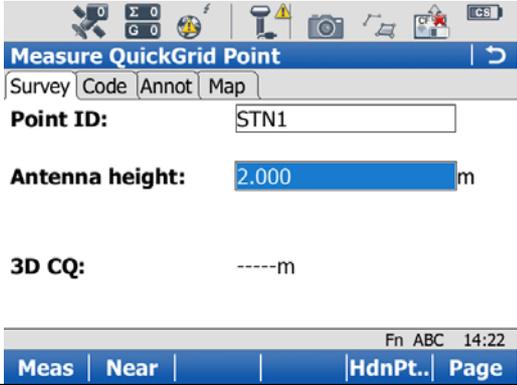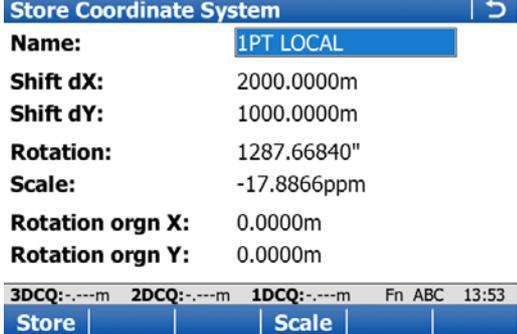# Leica Viva Quick Guide
Leica Viva: Quick Grid Guide

Leica SmartWorx Viva has a simplified means of quickly creating a site co-ordinate system called 'Quick Grid'. This has several methods depending on site requirements, listed below:

- **Single Point:** This method is targeted at the basic customer who wants to set up a local coordinate system based on a single point.
  The orientation is fixed to WGS 1984 north.
  A height scale is applied to bring GPS distances to "ground" using measured point WGS 1984 height.

- **Multiple Points:** This method is targeted at the more rigorous customer who wants to set up a local coordinate system based on multiple points. Rotation and scale are as calculated.

- **Single Point Base:** This method is targeted at the basic customer who wants to set up a local coordinate system based on the base station position. The orientation is fixed to WGS 1984 north. A height scale is applied to bring GPS distances to "ground" using measured point WGS 1984 height.

- **Orientate To Line:** This method is targeted at the more advanced customer who wants to set up a local coordinate system based on a single point, but set the orientation of the resulting grid by measuring a second point. The rotation is as calculated.

- **QuickShift:** This method is targeted at the more advanced customer who wants to shift their existing coordinate system based on a single point.
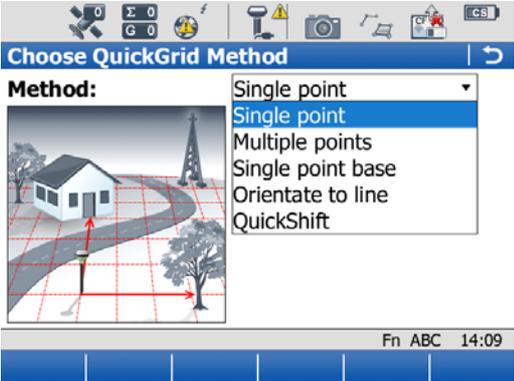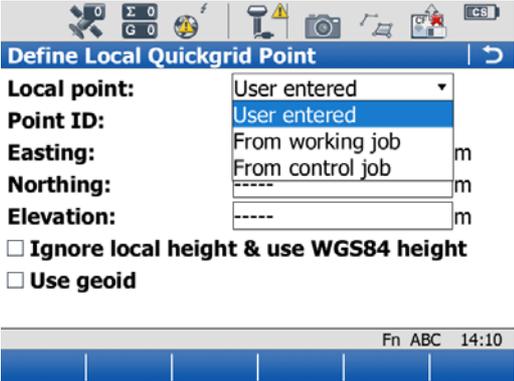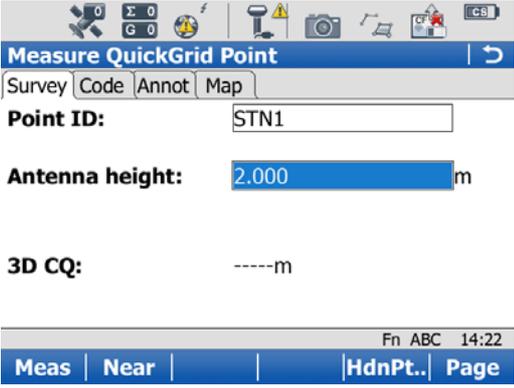 A 3D transformation is calculated.

- **Leica Viva Quick Guide: Quick Grid**
  - **Single Point Method**

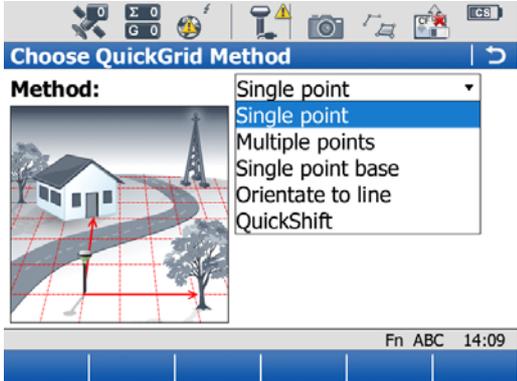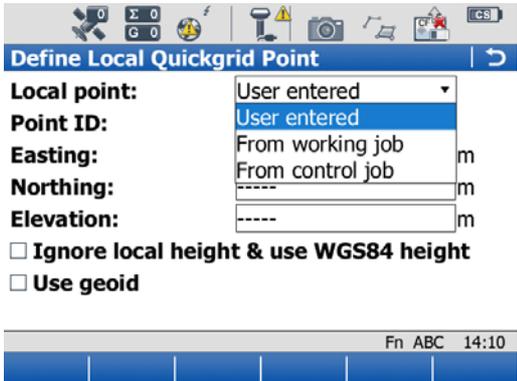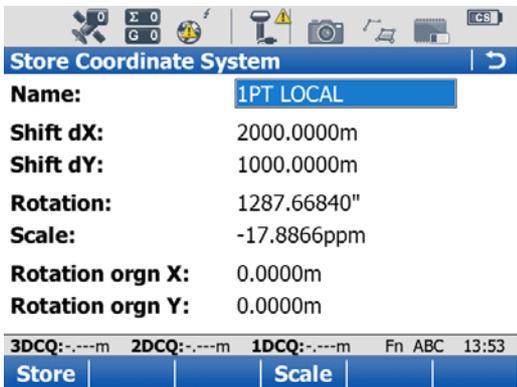| Step	Instruction	Screenshots
1.1	This method is targeted at the basic customer who wants to set up a local coordinate system based on a single point. Start QuickGrid by pressing **Go to Work! Survey & stake pts Start base station** then **Survey+..** then **QuickGrid**. Select **Single Point** as the method then press OK.	**Choose QuickGrid Method** Method: Single point Single point Multiple points Single point base Orientate to line QuickShift Fn ABC 14:09
1.2	Now enter the local co-ordinates of your single reference point. These can be manually entered, or the Working or Control Job can be searched, if you your point is already defined. Leave the **Ignore local height……** and the **Use geoid** boxes unchecked. Press OK.	**Define Local Quickgrid Point** Local point: User entered Point ID: User entered Easting: From working job Northing: From control job ----- m Elevation: ----- m ☐ Ignore local height & use WGS84 height ☐ Use geoid Fn ABC 14:10
1.3	Input a point ID and **Meas**ure the reference point.	**Measure QuickGrid Point** Survey | Code | Annot | Map Point ID: STN1 Antenna height: 2.000 m 3D CQ: -----m Fn ABC 14:22 Meas | Near | | HdnPt.. | Page
1.4	Enter a name for the new co-ordinate system and press **Store**. It will automatically attach to the current Working job.	**Store Coordinate System** Name: 1PT LOCAL Shift dX: 2000.0000m Shift dY: 1000.0000m Rotation: 1287.66840" Scale: -17.8866ppm Rotation orgn X: 0.0000m Rotation orgn Y: 0.0000m 3DCQ:-.---m 2DCQ:-.---m 1DCQ:-.---m Fn ABC 13:53 Store | | Scale |

- **Leica Viva Quick Guide: Quick Grid**
  - **Multiple Points Method**

Step	Instruction	Screenshots
2.1	This method is targeted at the more rigorous customer who wants to set up a local coordinate system based on multiple points. Rotation and scale are as calculated. Start QuickGrid by pressing **Go to Work! Survey & stake pts Start base station** then Survey+.. then QuickGrid. Select **Multiple Points** as the method then press OK.	
2.2	Now enter the local co-ordinates of your first reference point. These can be manually entered, or the Working or Control Job can be searched, if you your point is already defined. Leave the **Ignore local height……** and the **Use geoid** boxes unchecked. Press OK.	
2.3	Input a point ID and **Meas**ure the first reference point.	

- **Leica Viva Quick Guide: Quick Grid**
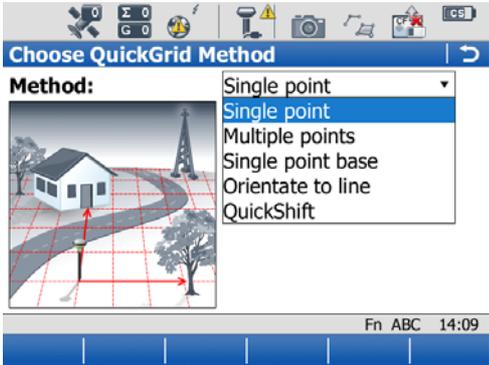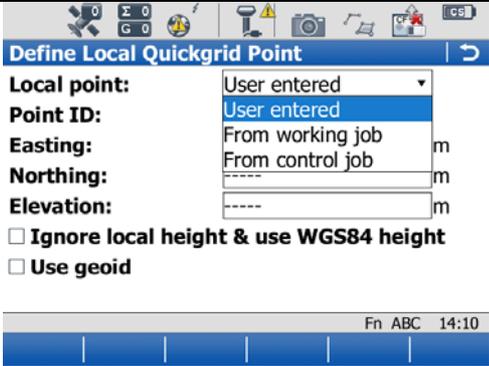 - **Multiple Points Method (contd)**

Step	Instruction	Screenshots
2.4	The Matched Points page will appear automatically. To add extra points press **New** (F2), and repeat until all the required points have been measured. To change the Match type (e.g. Position and Height, Position only or Height only) press **Match** (F3). Press **More** to view the height residuals. When you have surveyed all the points and are happy with the results, press **OK.**	
2.5	Enter a name for the new co-ordinate system and press **Store**. It will automatically attach to the current Working job.	
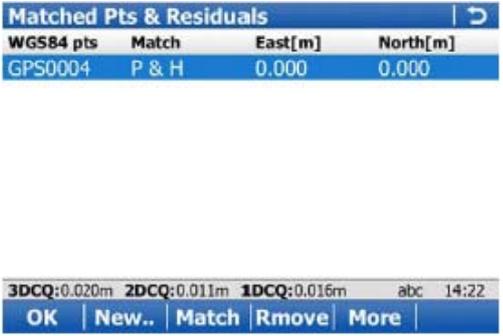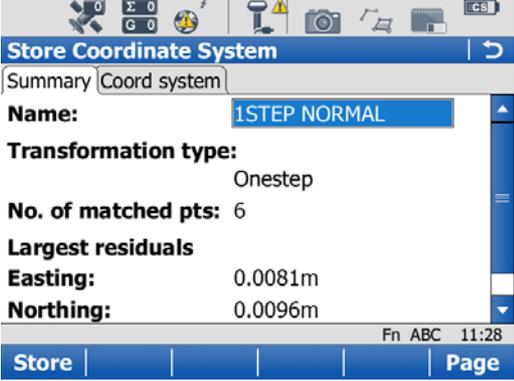
- Leica Viva Quick Guide: Quick Grid
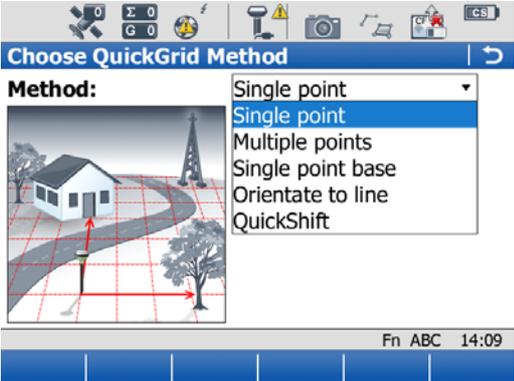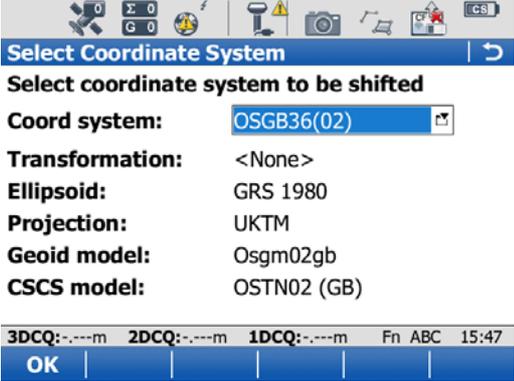 - Single Point Base Method

Step	Instruction	Screenshots
3.1	This method is targeted at the basic customer who wants to set up a local coordinate system based on the base station position. The orientation is fixed to WGS 1984 north. A height scale is applied to bring GPS distances to "ground" using measured point WGS 1984 height. Start QuickGrid by pressing **Go to Work!** Survey & stake pts Start base station then Survey+.. then QuickGrid. Select **Single Point Base** as the method then press OK.	
3.2	Now enter the local co-ordinates of your first reference point. These can be manually entered, or the Working or Control Job can be searched, if you your point is already defined. Leave the **Ignore local height……** and the **Use geoid** boxes unchecked. Press OK.	
3.3	Enter a name for the new co-ordinate system and press **Store**. It will automatically attach to the current Working job	

- **Leica Viva Quick Guide: Quick Grid**
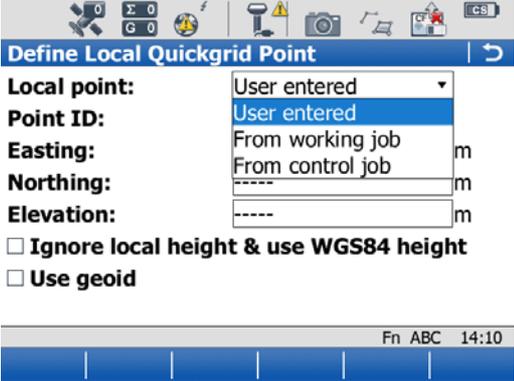 - **Orientate to Line Method**

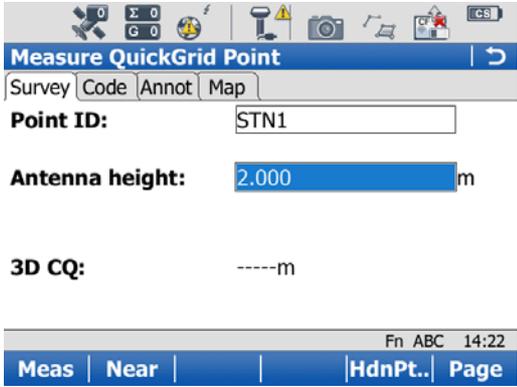| Step	Instruction	Screenshots
4.1	This method is targeted at the more advanced customer who wants to set up a local coordinate system based on a single point, but set the orientation of the resulting grid by measuring a second point. The rotation is as calculated. Start QuickGrid by pressing , Survey+.. , QuickGrid . Select **Orientate to Line** as the method then press OK	
4.2	Now enter the local co-ordinates of your single reference point. These can be manually entered, or the Working or Control Job can be searched, if you your point is already defined. Leave the **Ignore local height……** and the **Use geoid** boxes unchecked. Press OK	
4.3	Input a point ID and **Meas**ure the reference point. Next measure the two points and define the required azimuth between them.	
4.4	Enter a name for the new co-ordinate system and press **Store**. It will automatically attach to the current Working job.	
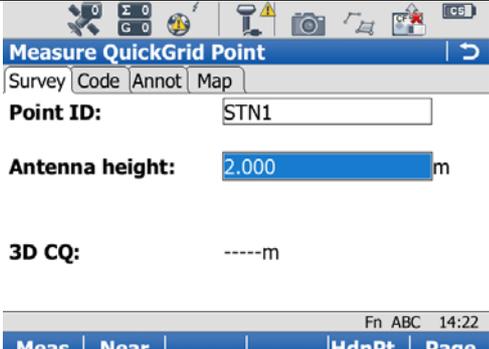
- Leica Viva Quick Guide: Quick Grid
  - Quickshift Method

Step	Instruction	Screenshots
5.1	This method is targeted at the more advanced customer who wants to shift their existing 3D Classical co-ordinate system based on a single point. A 3D transformation is calculated. Start QuickGrid by pressing **Go to Work! Survey & stake pts Start base station** then **Survey+..** then **QuickGrid**. Select **QuickShift** as the method then press OK.	 **Choose QuickGrid Method** Method: Single point Single point Multiple points Single point base Orientate to line QuickShift Fn ABC 14:09
5.2	Select the existing co-ordinate system from the list.	**Select Coordinate System** Select coordinate system to be shifted Coord system: OSGB36(02) Transformation: <None> Ellipsoid: GRS 1980 Projection: UKTM Geoid model: Osgm02gb CSCS model: OSTN02 (GB) 3DCQ:-.---m 2DCQ:-.---m 1DCQ:-.---m Fn ABC 15:47 OK
5.3	Now enter the local co-ordinates of your single reference point. These can be manually entered, or the Working or Control Job can be searched, if you your point is already defined. Leave the **Ignore local height……** and the **Use geoid** boxes unchecked if a height transformation needs to be calculated. Check them both if a geoid is to be used, and select the correct geoid from the list. Press OK	**Define Local Quickgrid Point** Local point: User entered Point ID: User entered Easting: From working job m Northing: From control job m ----- m Elevation: ----- m ☐ Ignore local height & use WGS84 height ☐ Use geoid Fn ABC 14:10

▪ **Leica Viva Quick Guide: Quick Grid**

  ▪ **Quickshift Method (contd)**

Step	Instruction	Screenshots
5.4	Input a point ID and **Meas**ure the reference point.	
5.5	Enter a name for the new co-ordinate system and press **Store**. It will automatically attach to the current Working job.	

- when it has to be **right**