Using VRSNow with Trimble Access

Assumptions

It is assumed that the Controller/Receiver/Phone has a data enabled SIM card inserted and that the Internet connection, login information and VRS settings are correctly configured. In other words the kit is ready to use. It is also assumed the survey will be to OS National Grid coordinates.

Different Controllers may have a slightly different button layout to those shown in the graphics below.

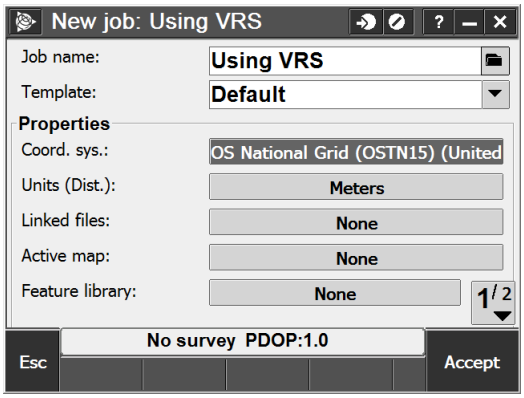
Starting a Survey & Measuring Points

- Turn on the GNSS Receiver and Controller (NB. The GeoXR is an integrated Receiver & Controller), then start Trimble Access if it isn't already open. Press the General Survey button.

- Within General Survey press the Jobs button and create a new job, setting the coordinate system to OS National Grid (OSTN15) (United Kingdom). Remember to select both the OSTN15 shift grid file and the OSGM15 geoid model when setting the coordinate system.

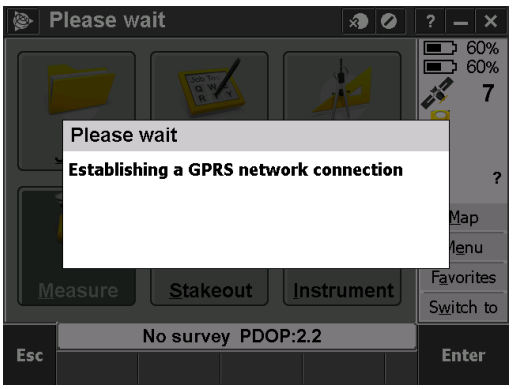
- In the Units section check that the coordinate order is set to Eastings, Northings, Elevation for standard UK use.

- New Controllers should have an OSTN15 template prepared with this information.
- Press Enter, then Accept to complete the job creation process.

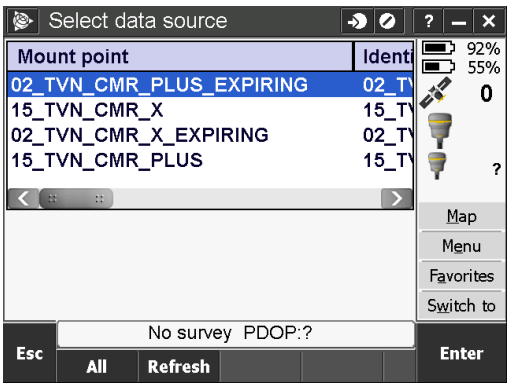


- Tap on the Measure button and select the VRS Survey Style from the drop down list presented, then select Measure points. If there is only the VRS Survey Style configured on the Controller, then after tapping the Measure button the Measure Points option will be directly available.

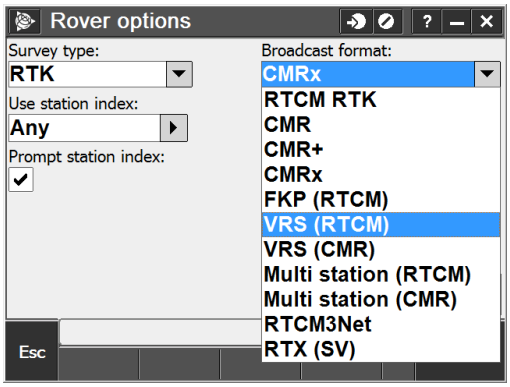
- This will now initialise the Internet connection through the modem (TSC3 internal, Receiver internal or Bluetooth mobile phone):



- Once the Internet connection has been established you may be asked which data stream (Mount point) you wish to use.



- The list that appears will vary depending on whether the VRS Survey Style is set to use data streamed in the VRS (CMR) or VRS (RTCM) broadcast formats.



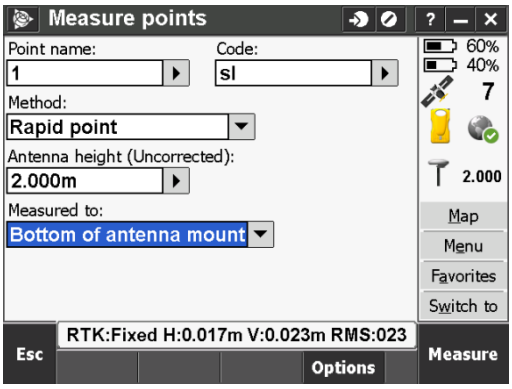
- If using RTCM, select the 15_TVN_RTCM_3.1 data stream containing both GPS & GLONASS or GPS only as appropriate to your Receiver type. If using CMR, then select the CMR Plus or CRM X data stream.

- After a short period of time whilst base data is received and the integer ambiguities are resolved, initialisation will be gained giving you fixed baselines. Try to have the receiver in an open area clear of obstructions whilst initialisation is taking place.

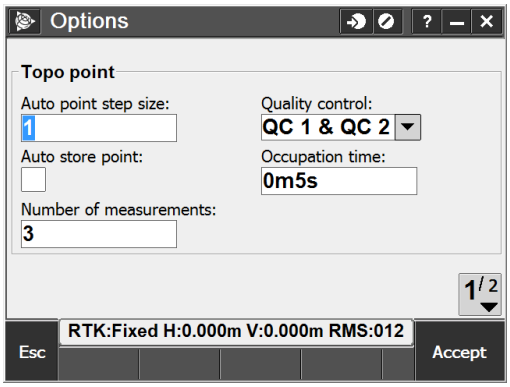
- The Horizontal and Vertical precisions and the RMS value are reported at the lower edge of the screen. There will also be a message here indicating whether or not the receiver is initialised.

- Enter a Point name, Code and select a measurement Method. The options are Rapid Point (quickest but least precise), Topo Point (normal precision), Observed Control Point or Calibration Point (longest to measure but most precise).

- Enter the Antenna height and Measured to parameters. If reading the height from the pole this should be set to Bottom of antenna mount.



- The point measurement methods may be customised by clicking the Options button, and changing the settings on the screen:



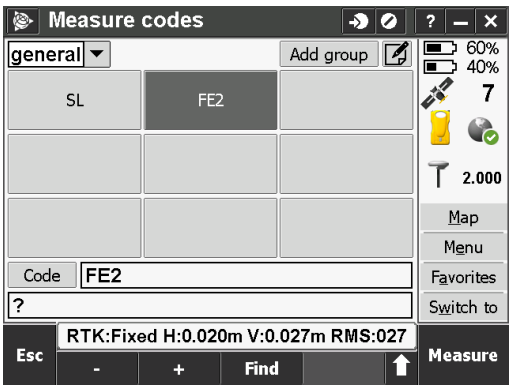
- You are now ready to measure points using VRSNow by tapping the Measure button or pressing the Enter button on the Controller keypad. If your copy of Access isn't configured to automatically store measurements (tick the Auto store point box in the options dialogue as per the image above), then you will have to tap Store to save each point.

Measure Codes

- It is also possible to survey by picking from a defined selection of codes as shown below instead of picking codes from a list or manually entering them, as in the Measure Points screen. This method is particularly useful if you are only using a small number of codes on a regular basis, measuring string features, or need to constrain the number of codes used on a series of cross sections for example.

- To access this screen return to the General Survey main screen and tap the Measure button then select Measure codes. The first time this screen is used you will need to press the Add group button to create a screen of blank buttons.

- To assign a code to a button, tap and hold on it until it stays dark and a pinging sound is heard. Then release the stylus from the screen and enter the code required. In the example below two codes have been assigned to two buttons.



- To measure a code point, just tap the button required. It is also possible to highlight a button by using the spider key on the TSC3 keypad and pressing the Enter button to take the measurement. String numbers can be attached to codes by highlighting the button required and using the – and + soft keys at the base of the screen.

- Only 9 codes are available on any one Group screen although it is possible to have multiple groups of codes set up on different screens and any individual code can be included in more than one group.

- The type of points measured is the one that is defined in the Measure Topo screen (topo point, rapid point, etc.).

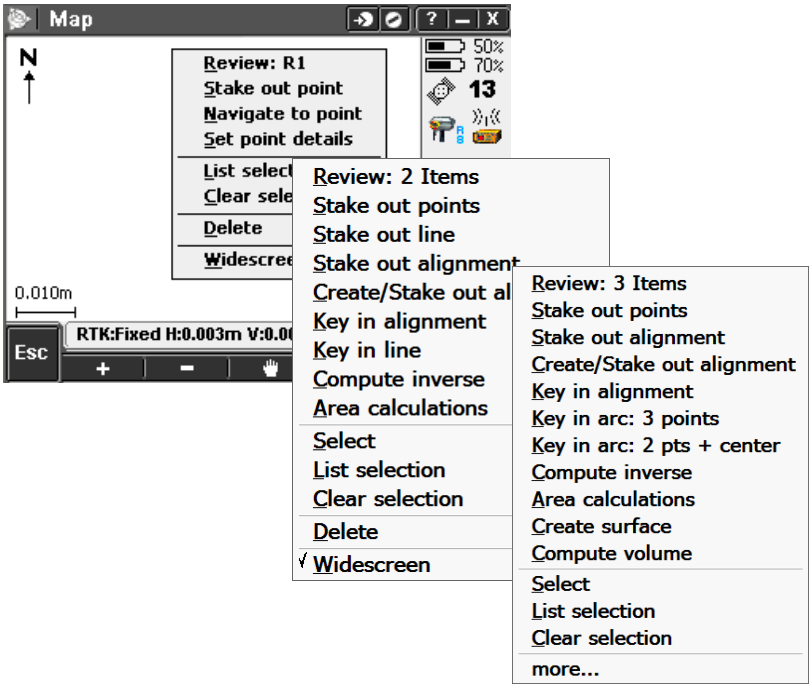
Map Functions – Quick Guide

To view the map screen, tap on the Map button located to the right of the General Survey screen.

- Zoom window - Tap and hold down the Plus button, and then drag a window on the map screen. Tap the Plus button to release this function.
- Zoom in/out - Tap the plus/minus buttons.
- Zoom extents – Tap the Star button on the right.
- Pan – Tap the hand button, then press and move the stylus across the map.

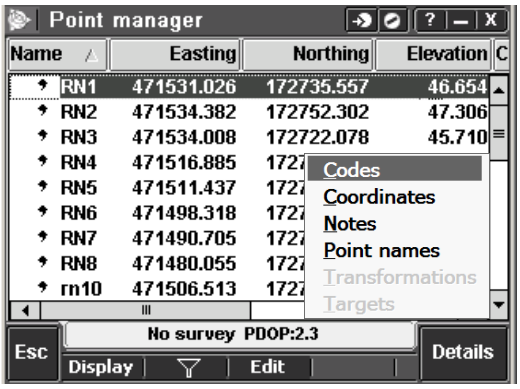
Access more map options by tapping the up arrow at the end of the bar.

- It is possible to select a point or multiple points on the map by tapping on them. To deselect points, then tap & hold in a clear part of the map screen and choose Clear selection from the menu that appears.
- When a point is selected using the tap and hold function (equivalent to a PC right-click) reveals a contextual menu relating to the selected item. Here we can review point information, stakeout, list etc. Selecting two or more points provides you with more options.



Point Manager

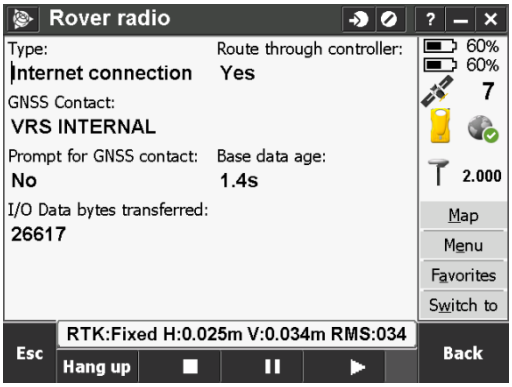
- The Point Manager is accessed by tapping Favorites > Point Manager or Jobs > Point Manager. It provides a list of the points stored within, or linked to, the current job. Here it is possible to delete/undelete points and to change certain point properties, such as the code, by pressing Edit, and then Codes.



Data Stream Monitoring

- If there is a pause in the survey, the data stream being received through the Internet connection can be paused also. This enables you to save on the GPRS expense.

- To pause the signal click on the globe icon on the right hand side of the screen. You will then be shown a screen with familiar Pause and Stop buttons at the bottom edge. Click on either of these to stop the data stream. To re-establish the data stream, click on the Play icon.



Ending the Survey

- When you have completed the survey, return to the General Survey menu screen and select **Measure** > **End survey**, or open the GNSS Functions screen and tap The End survey button.