

HOW TO QUALITY CHECK GPS DATA USING TRIMBLE BUSINESS CENTER

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Trimble Business Center (TBC) has replaced Trimble Geomatics Office as Trimble's GPS data processing software.

For post-processed static or kinematic surveys, TBC requires a license to enable full functionality including GPS baseline processing. A license is not needed to view and export processed results from RTK surveys.

Both hardware and network licenses are available from UNAVCO. A hardware license is a USB key, or "dongle", which enables TBC on a computer as long as it is connected to that computer's USB port. A network license can be obtained from the UNAVCO TBC license server. This license requires that the computer remains online. To obtain either hardware or software licenses, contact support@unavco.org.

1. Start TBC and verify license

Click Start / Trimble / Trimble Office / Trimble Business Center. Open the TBC License Manager by clicking Help / About Trimble Business Center / License.

1a) When using a hardware key, the Features window will say "Features Licensed by Hardware Key XXXXXXXXXX". Note that to find a hardware key, the Search Type must be set to Local Hardware.

1b) To obtain a network license, you must first configure the License Manager within TBC as well as the associated HASP Admin Control Center software. Contact UNAVCO for assistance.

When using a network license, the Features window should say "Features Licensed by Key XXXXXXXXXXXXXXXX".

If you cannot obtain a network license, verify that computer is online. Open a browser and pull up any website external to your local network, for example www.google.com. Hit Refresh on your browser to make sure you are loading the website itself, not a cached page. For further assistance, contact UNAVCO.

2. Start a new project

Click Start a new project. Select a Template and hit OK. For the first use, use the Metric Template. Click File / Save Project and save the project with a descriptive name.

Click Project / Project Settings and change Units / GPS Time to Local or UTC as desired. Under Baseline Processing / General, change Store Continuous as Trajectory to No. Click OK.

To preserve these settings for future projects, click File / Save Project as Template, assign a name to the template, and click Save. This template will be available next time you start a project.

3. Import base data

For Static and PPK surveys, first import GPS files from the base receiver (for RTK surveys only the roving data is imported).

Import the base data first by clicking File / Import, then browse to the correct folder, select base data (Trimble .T00, .T01, or .T02 files), and click Import. You can also drag and drop files into the TBC window.

The Receiver Raw Data Check In box will appear. Here you can check the date and time of the base data files, receiver details, and antenna details. Some fields are highlighted, indicating you can change them if necessary. Be sure that the base station files overlap in time your roving files. For QC processing it is not necessary to have the correct Antenna Type, Antenna Height, or Method fields for each topo point and continuous segment. However it is critical to capture this information so the final processing of your survey data will have correct vertical coordinates.

Click OK. A Project Definition window may appear. This is not important for data QC, so just click OK. The base station will now appear in the TBC Plan View window.

4. Import roving data

4a) For static surveys, or kinematic surveys done without a Data Collector, import the roving data in the same way as the base data.

4b) For kinematic surveys done with a Data Collector, either PPK or RTK, import the Data Collector's .job file. Make sure that all other Trimble files from your survey are in the same directory as the .job file. This should happen when you download data from the Data Collector.

When the Receiver Raw Data Check In window appears, make sure all desired data from the survey is selected for import. All named "topo points" will appear with their names in the Point ID box, and will be selected for import. All

“continuous topo” segments will appear as Continuous Segments, and will be selected for import. All data collected in between topo points and continuous topo segments will appear as Roving Segments. If any of these should be processed, select them and they will change to Continuous Segments for import.

For kinematic surveys, TBC may assume that your datafile contains data from one static point. To force TBC to recognize this as kinematic data, click View / Project Explorer. Expand the Points menu and double click on a roving data file to bring up the Properties window. In this window, click on the green arrow icon to show a drop down list of connected data. Select the gray bullseye to display the Occupation details. A new “Force Continuous” icon will appear with a backward-S symbol. Click this to convert from a static occupation to continuous segments, then click Yes.

5. Process and review GPS baselines

5a) For static surveys, click Survey / Process Baselines. When processing is finished the Process Baselines window will appear, where you can view processing results.

5b) For kinematic surveys, first click Project / Project Settings. Under Baseline Processing / General, verify that Store Continuous as Trajectory is set to No and click OK.

Now click Survey / Process Baselines. When processing is finished the Process Baselines window will appear, where you can view processing results.

For all surveys, the Solution column should contain the word Fixed for each point. This is the primary QC indicator you are looking for. It means you have acquired quality data which will allow precision position solutions during final processing. Some points may also have flag indicators next to their horizontal or vertical columns, but these are usually not indicative of major data collection errors.

Click Save. The individual points and baselines will appear on the Plan View screen. Properties of each point and each baseline can be viewed by clicking on them, selecting the desired point or baseline to highlight it, then right-clicking and selecting Properties.

6. Save the project by clicking File / Save Project