Trimble SX10 Scanning Total Station Webinar Questions & Answers

What is the process to combine scan data from the Trimble SX10 scanning total station to my survey data?

There are multiple ways to combine the scan data and the survey data.

- The easiest way to combine scan data is for users to run the Trimble SX10 scanning total station in a traditional total station workflow. By using the instrument in this manner, the scans and survey data are automatically combined by the station setup routine. In this workflow there is ***no need for scan data registration.***
- Non-registered scan stations can be registered to survey scans via cloud to cloud registration using Trimble Business Center software.
- Trimble Real Works® software offers additional capabilities for registering scans together, including plane-based registration, and target based registration.

The SX10 doesn't have an eye piece. Can I aim accurately without an eye-piece?

Yes. Instead of a traditional eyepiece we are using a calibrated group of cameras to accomplish the pointing accuracy of the system. As an example, the images below show zoom level 6 (out of 8) of an SX10 scanning total station at effective 84x zoom and the 30x zoom optical lens of a Trimble S7 total station. The Trimble SX10 scanning total station has two additional digital zoom levels above level 6, which allows the instrument and controller to accomplish steps of 1". For a full overview of the different zoom levels, refer to the *Trimble SX10 Scanning Total Station User Guide*.

There is no display. Why does this instrument not have a display?

The Trimble SX10 scanning total station is a fully robotic spatial station. All the functionality is designed to use the instrument in the robotic capacity. All the controls and operations can be accomplished through the connection to the tablet.

How big are the scan files?

Scan files will range in size depending on the number of points collected. But a basic rule of thumb is approximately 50,000 points per 1 MB on the controller. For example, a Full Dome scan inside a building containing 7.16–7.67 million points is approximately 140–150 MB.

Does the SX10 use the active auto lock technology that the other Trimble robots use?

There is no Active Tracking as you are familiar with on the old S Series. However, there is an advanced camera based tracking system that gives very impressive tracking results. A real hands on demo is where this shins. So basically, you will not be able to use the active properties of the MT 1000, however you can still measure to the glass on the MT1000.

Since the camera is only 5 MP, can this system be integrated with an external HD camera for stitching HD photos with the scan data?

At this time we do not have an automatic routine to stitch the images of an external camera with our point clouds. Let me be very clear about the 5MP camera. There are actually 3 x 5MP cameras each with a different FOV. The pixel spacing of our medium camera equals 4.4mm per pixel at a distance of 50m whereas the highest density scan has a resolution of 6.25mm @ 50m. Therefore the primary camera has the definition needed to capture all the higher resolution. A full dome with that camera is 400+ images. But thank you for the feedback and I will gladly discuss how we can accomplish that in Real works like we do already today.

In reference to the piling detail where you picked out the coordinate position of the bolt hole, was that from the one scan location or multiple locations like the V10?

That example was using data from one station alone! With the V10 we needed two stations to give us depth to the pixels. With the SX10 as long as you have Scan and images, the point cloud can be your depth mask allowing you to do the virtual DR from a single station.

How often would the cameras need calibration?

The Tele camera is the only camera we currently allow calibration on. The other cameras should not require calibration very often unless you have a significant bump or impact of your instrument. At that case I would recommend the whole system. We are working to introduce an automatic routine for the primary camera but the overview camera achieves the best calibration with the production routine in the factory. No user calibration will improve that overview camera.

Trimble SX10 webpage

Trimble SX10 Data Sheet

Trimble SX10 Video

Trimble Total Station Comparisons

Please contact NEI for more information regarding the Trimble SX10 Scanning Total Station.