H KOREC™

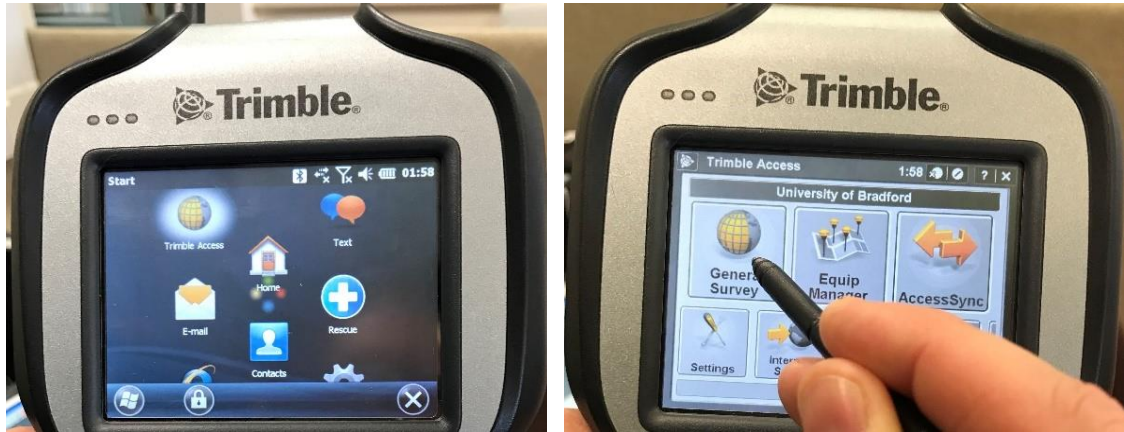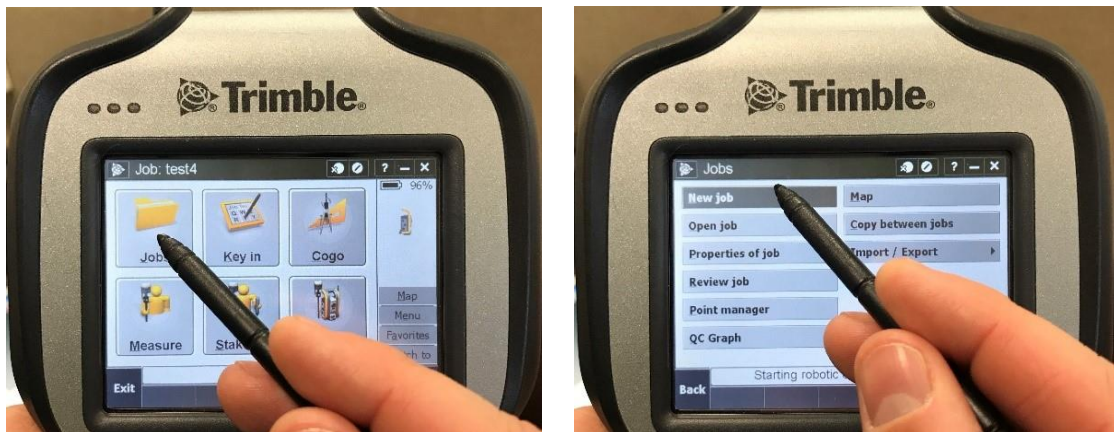# Connecting a Trimble Total Station to a MIRA GPR
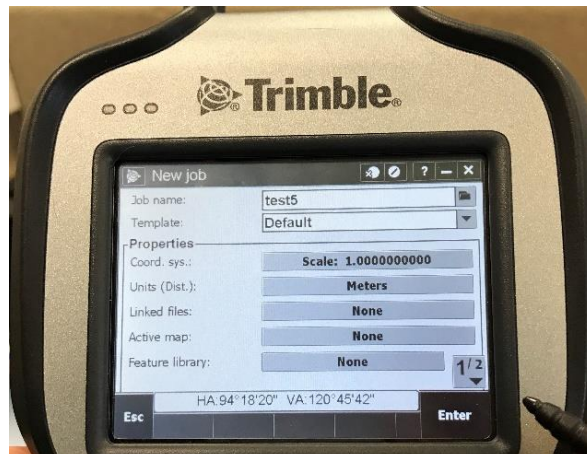
1) Set up the instrument on a tripod where you have a full view of your survey area and start both instrument and the TSC3.
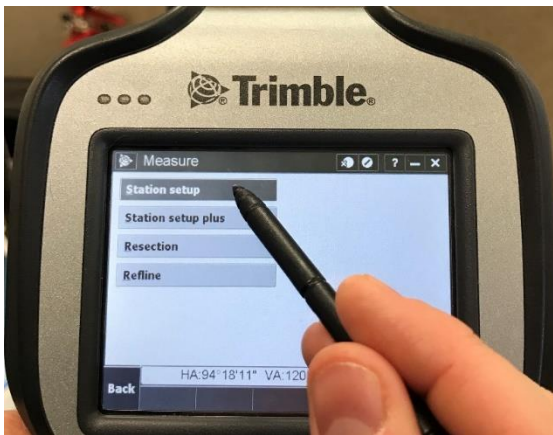2) Open Trimble Access in the TSC3 and open "General Survey".

3) Create a new job by going to "Jobs" > "New job"
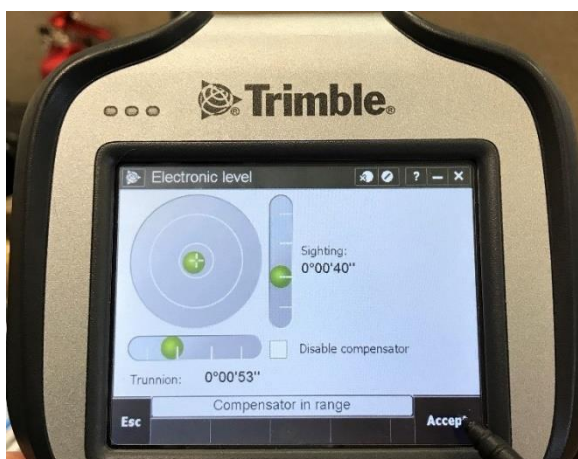

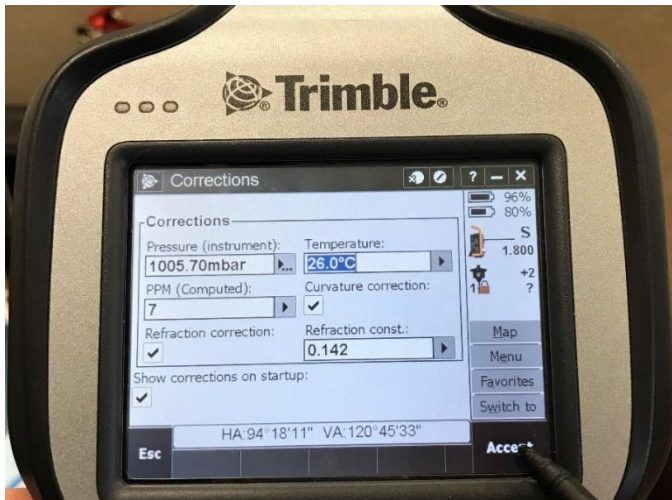4) Name the project and make sure that the settings are as follows:

5) Accept the settings
6) Go to "Measure" > "VX & S Series" > "Station setup"

7) Ensure the instrument is completely horizontal by turning the screws underneath the instrument. Check the compensator values on the TSC3 ("Instrument" > "Electronic level")

8) Check the corrections page and choose "Accept".

9) In the next setup screen, you need to name the instrument (you don't have to enter a code) and the instrument height (from the ground up to the markings on the side of the station). You also must enter values in the "key in the instrument point" dialogue.

If you are setting up a local coordinate system this would be the location of the station. Suggested settings are Easting 1000, Northing 1000 and elevation (100). Note that if you choose 0 on elevation, MIRA soft may encounter problems as a sloping surface will introduce negative elevation values into the data set. Confirm by pressing enter/accept.

10) In the next setup window, the backsight point name should be entered (this could be anything). You don't have to enter code at this point. Add a backsight height (for example 1.0m or 2.0 m). Type 0 in the box called Azimuth. This is for telling the instrument where the 0 angle is. It is recommended to point the instrument towards a fixed point (like a corner of a building).

The method should be "Angles only" (note that some customers use Angles and distance here). When you press "Enter" and then "Measure" the Angles on the screen should change to 0 (like a calibration).
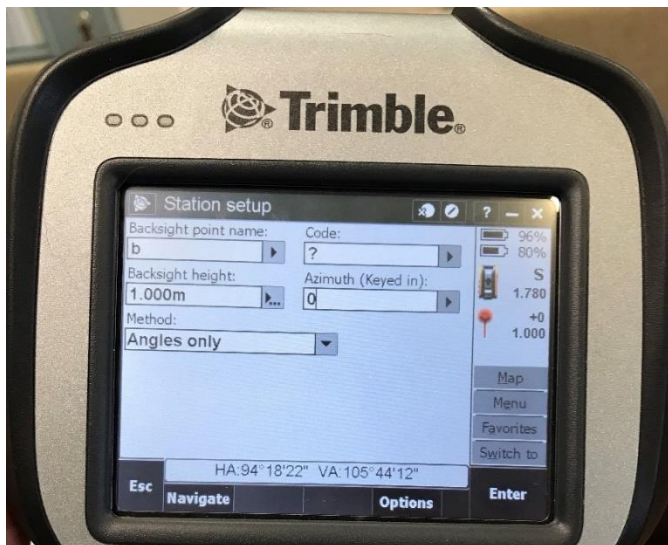
11) You are then presented with a summary page. If the settings look ok press "Store". Horizontal angle should be 0 and vertical angle 90 degrees (if the "tilt" of the total station was parallel to the ground surface during the calibration).
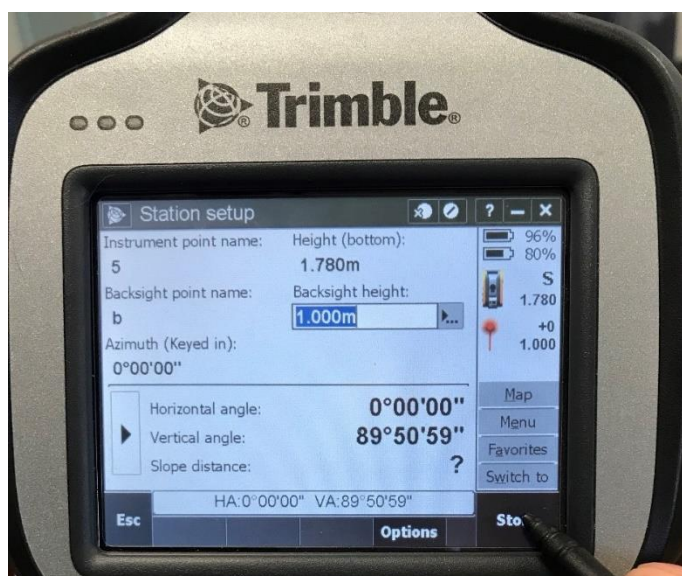
12) To make the total station output the NMEA string go to "Instrument" and go to Page 2 and select "Data Output"
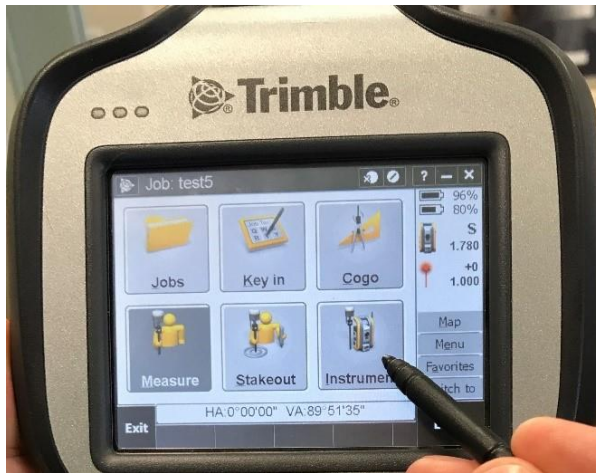

13) Choose Continuous in the "Streamed data" dialogue box.
14) Choose Pseudo NMEA GGA in the "Streamed format" dialogue box.
15) Enter the appropriate COM-port number and the Baud rate settings (115200 or 9600). Also check page 2 to enter additional settings (like data bits, stop bits, parity etc).

16) Start the "streaming" by pressing start in the lower right corner. Once this is done the button will change to "Stop". Back out of the screen by pressing minimize in the upper right corner.
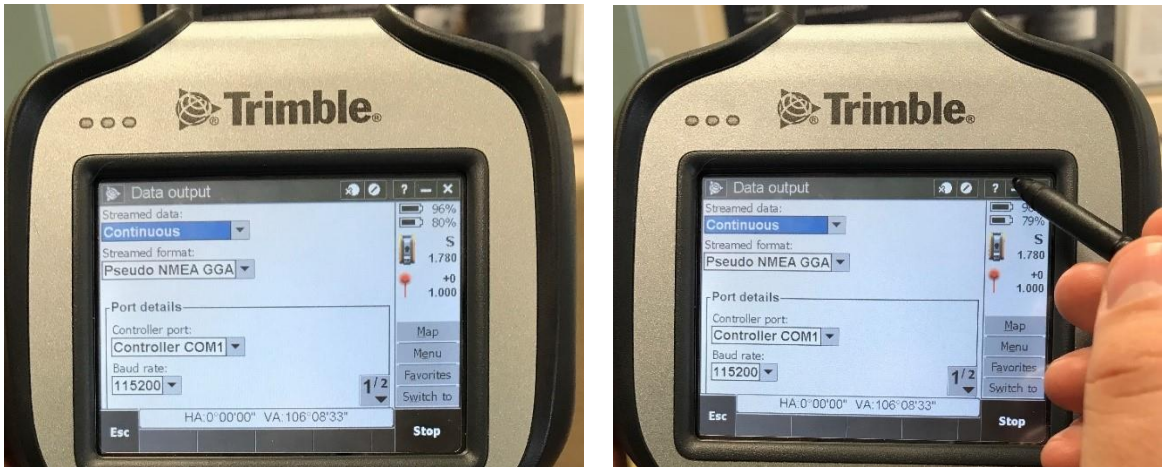
17) Make sure that the appropriate prism is selected by clicking the "red ball on a stick" icon (reflector-less measurements) and change it to the prism.
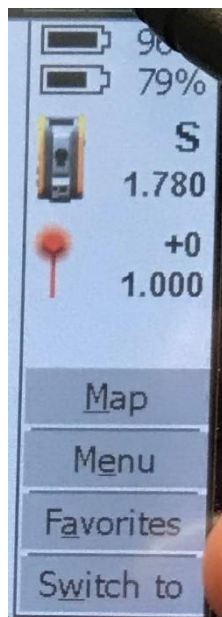
18) Make sure instrument is in tracking mode by pressing the total station icon on the right-hand side of the screen. Then select TRK which is the top left button on the next screen. In this menu you could also select Joystick in order to point the total station towards the prism on the MIRA. When this is roughly in the right place click search to establish a prism lock. This should make the red positioning bar in MIRA soft to go Black to indicate that the instruments are ready for measurements.

19) Note that when selecting the appropriate positioning inside MIRA soft you may have to select Leica as the total station brand in order to make it work (and not Trimble).