Trimble 4700/5700/R7 - How to configure for kinematic surveys

69 Freddy Blume December 14, 2009 Application Notes, Application Notes 4077

Trimble 4700/5700/R7 Receiver Kinematic Surveys

This is an outline of the steps needed to run a kinematic survey with the Trimble 4700, 4800, 5700, and R7 receivers. It is only intended as a guide - refer to the manual for more details and options.

1. Start the base station static survey using quickstart (power up the receiver and push the data logging button if it does not automatically start logging), a programmed survey, or with the controller. Note that the base receiver must collect data at least as frequently as the rover (i.e. the sample rate of the base must be equal to or higher than the sample rate of the rover).

2. If using the TSC1 controller, insert a memory card. [Note: The TSC1 controller will not work with an R7 receiver.]

3. Connect the survey controller to Port 1 on the roving GPS receiver.

4. Turn on controller.

5. Select "Files/Job Management" on controller display main menu.

6. Create "New" or select an existing job. To create a new job, enter a job name and set file location to "PC card", select "No projection/no datum" as the coordinate system, and set reference elevation to 0.0.

7. "Esc" to main menu. Verify active job at the top of the screen.

8. Select "Configuration/Survey Styles" on controller display main menu.

9. Highlight "Trimble PP Kinematic" and press F2 (Copy) to create and name a custom survey style. Choose "Main memory" for file location. Press F1 (OK).

10. Select the custom survey style just created and press F5 (Edit) to edit the style settings.

11. Select "Rover options" and configure the options. Typical settings are:
    Survey type: PP kinematic
    Logging device: Controller
    Auto file names: Yes
    Logging interval: 1.0, 5.0, or 15.0s
    Elevation mask: 13 degrees
    PDOP mask: 6.0

Antenna height: depends on application
Antenna type: depends on application
Antenna meas. to: depends on application
Press enter to return to previous menu.

12. Select "Topo point" and configure the options. Typical settings are:
    Auto point step size: 1
    Quality control: QC1
    Auto store point: Yes
    Occupation time: 5s
    Number of measurements: 3
    Press enter to return to previous menu.

13. "Esc" to main menu.

14. Select "Survey" on controller display main menu.

15. Select the appropriate survey style, usually the custom style created for the specific job.

16. Select "Measure points". The survey is in roving mode until a point name is entered and the "Measure" button is pressed.

17. When the antenna is stationary over a point to be measured, enter a point name, antenna height, and measurement method, and press F1 (Measure). **It is critical that the antenna does not move while in static mode - from the time you press "Measure" until you receive the "Point stored" confirmation.** The survey is back in roving mode after the "Point stored" confirmation.

18. Continue to measure points as appropriate throughout survey.

19. Do not end the survey until the survey has initiallized, indicated by "PPK=Fixed" on the survey status screen.

20. Press "Esc", then "End survey" to end the survey.

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