The following are suggested settings for most UNAVCO-supported RTK surveys. For a detailed how-to on RTK surveys, see [Trimble 4700/5700/R7 - How to execute a real-time kinematic (RTK) survey from start to finish](http://kb.unavco.org/kb/questions/617/).

**Things to know before and during the survey:**

- **Base GPS antenna type:** ___________ (usually Zephyr Geodetic)
- **Rover GPS antenna type:** ___________ (usually Zephyr or Zephyr Geodetic)
- **Base GPS antenna height measurement method:** ___________ (usually "Bottom (or Top) of notch" or "Bottom of antenna mount")
- **Rover GPS antenna height measurement method:** ___________ (usually "Bottom of antenna mount")
- **Base station coordinates:** ___________ N/S latitude, ___________ E/W longitude, ___________ height (meters)

**In the job:**

- **Coordinate system:** Yes choose one, e.g. the appropriate UTM zone: [link]. **Datum:** WGS 1984, **Use geoid model:** No, **Use datum grid:** No, **Project height** [enter approximate average survey elevation], **Coordinates:** Grid.

**In the survey style:**

- Select "RTK" if you don't need raw data or "RTK & infill" if you do.

**Rover options**

- **Logging device (RTK & infill only):** Controller
- **Auto file names ("RTK & infill" only):** Yes
- **Logging interval ("RTK & infill" only):** depends on survey goals; usually 1-15 seconds
- **Broadcast format:** CMR+ [MUST be the same as the Broadcast format in Base options]
- **WAAS:** Off
- **INS position:** RTK only (TSC1)
- **Use station index:** Any
- **Prompt for station index:** Yes
- **Satellite differential:** Off (TSCe)
- **Elevation mask:** 13 00'00"
- **PDOP mask:** 6 (but can be more, e.g. 20)
- **Antenna height, Type, and Meas. to can be modified during the survey**

**Rover radio**

- **Type:** Trimble internal, Trimble 450/900 if using the UNAVCO EAR RTK set
- **Route through controller:** Leave blank (TSCe)
- **Receiver port:** Port 3

**Base options**

- **Logging device (RTK & infill only):** Receiver
- **Auto file names (RTK & infill only):** Yes
- **Logging interval (RTK & infill only):** Must be at least as frequent as rover, e.g. 1-15 seconds
- **Broadcast format:** CMR+ [MUST be the same as the Broadcast format in Rover options]
- **Output additional code RTCM:** No/blank
• Station index: 29
• Elevation mask: 13 00'00”
• Antenna height, Type, and Meas. to can be modified at survey start

**Base radio**
• Type: TRIMMARK 3 if using the UNAVCO EAR RTK set. Pacific Crest if using the UNAVCO OPP equipment
• Controller port: COM1
• Receiver port: Port 3

**Topo point**
• Auto point step size: 1
• Quality control: QC1&QC2
• Auto store point: Yes
• Occupation time: 0m 5s
• Number of measurements: 3
• Horizontal precision: 0.015m
• Vertical precision: 0.020m

**On the base radio, if a Trimble TRIMTALK III**
• Channel: 3, 461.1000Mhz
• Mode: Base w/No Rpt (unless you are using a repeater)
• Transmit Power: depends on survey
• Channel Sharing: Off
• Wireless Mode: TM3 19200 bps
• Port 1 Cfg: 38400-8-None-1
• Device Status: Call Sign OFF

Posted by: Beth Bartel - Fri, Jan 29, 2010 at 11:20 PM. This article has been viewed 5850 times.

Online URL: https://kb.unavco.org/kb/article/trimble-4700-5700-r7-rtk-cheatsheet-619.html