# Trimble 4700/5700/R7 - RTK Cheatsheet

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# Trimble 4700/5700/R7 - RTK Cheatsheet

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** (/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: _____ (usally "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

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