

# 4800 Specifications

Unless otherwise noted, specifications are for configuration with internal radio modem.

## STANDARD FEATURES

- RTCM Version 2 input
- NMEA-0183 output
- Internal memory
- RTK/OTF

## TECHNICAL SPECIFICATIONS

### Physical

**Size:** 23 cm (9") D x 17.8 cm (7") H  
**Receiver weight:** 2.1 kg (4.6 lb) with internal radio  
 3.9 kg (8.5 lb) as full RTK rover

### Electrical

**Receiver power:** 6 Watts, receiver only  
 7 Watts as full RTK rover  
 10.5 to 20 VDC  
**Battery life (typical):** >4 hours as full RTK rover including internal radio and TSC1, with 1 Li-Ion battery.  
**Certification:** FCC & CE mark approved

### Environmental

**Operating temp:** -40°C to +55°C (-40°F to +131°F)  
**Storage temp:** -20°C to +75°C (-40°F to +167°F)  
**Humidity:** 100%, fully sealed. Buoyant  
**Shock:** 2 m (6ft) accidental pole drop

## PERFORMANCE SPECIFICATIONS

### Static Survey Performance

**Modes:** Quick-start, Static survey, FastStatic survey  
**Accuracy:**  
**Horizontal:** ±5mm + 0.5ppm  
**Vertical:** ±5mm + 1ppm  
**Azimuth:** ±1 arc second + 5/baseline length in kilometers

### Kinematic Survey Performance (Postprocessed)

(Requires TSC1™ data collector with Trimble Survey Controller™ software at rover.)

**Modes:** Continuous, Stop & go  
**Accuracy:**  
**Horizontal:** ±1 cm + 1 ppm  
**Vertical:** ±2 cm + 1 ppm  
**Occupation:**  
**Continuous:** 1 measurement  
**Stop & go:** 2 epochs (min) with 5 satellites  
**Fastest datalogging rate:** 1 Hz

### Real-time Survey Performance

**Modes:** Real-time Kinematic (RTK),  
 Real-time Differential (DGPS)  
**Real-time DGPS accuracy:** 0.2 m + 1 ppm RMS  
**RTK accuracy:**

Mode	Latency	Accuracy
<b>Horizontal:</b>		
1 Hz fine	0.4 second	±1 cm + 1 ppm
5 Hz fine	0.1 second	±3 cm + 2 ppm
<b>Vertical:</b>		
1 Hz fine	0.4 second	±2 cm + 1 ppm
5 Hz fine	0.1 second	±5 cm + 2 ppm

**Range:** Range varies depending on radios used, local terrain and operating conditions. Multiple radio repeaters may be used to extend range, depending on type used.

### Initialization

**Mode:** Automatic while stationary  
 Automatic while moving on the fly (OTF)  
**Time:** <1 minute (typical)  
 < 10 seconds (typical for known points or RTK initializer)  
**Reliability:** >99.9%

*Performance criteria are a function of the number of satellites visible, occupation time, observation conditions, obstructions, baseline length and environmental effects, and are based on favorable atmospheric conditions. Assumes five satellites (minimum) tracked continuously with the recommended antenna using the recommended static surveying procedures utilizing L1 and L2 signals at all sites; precise ephemerides and meteorological data may be required. Performance specifications are RMS and ppm values are times baseline length.*

### General Performance

**Start-up:** <30 seconds from power-on to start survey with recent ephemeris  
**Measurements:** L1 C/A code, L1/L2 full cycle carrier  
 Fully operational during P-code encryption  
**Number of channels:** 18  
**Datalogging:** In internal memory; in TSC1 data collector;  
 or on TSC1 optional removable PC card  
**Receiver data storage:** 50 hours internal memory of L1/L2 data,  
 6 satellites, 15 second interval  
 Unlimited data storage using optional TSC1 and PC data card

### Internal Radio Modem and Antenna Performance

(Requires internal radio modem and internal radio antenna option.)

**Modes:** High gain UHF  
**Range:**

	Base Radio Modem
<b>TRIMTALK™ 450S</b>	<b>TRIMMARK™ IIe</b>
<b>Optimal:</b> 10km	15 km
<b>Typical:</b> 3–5 km	10–12 km

*Varies with terrain & operating conditions. Repeaters may be used to extend range depending on type of radios used.*

### Radio Modem:

**Freq. range:** 410–420 MHz, 430–440 MHz, 440–450 MHz,  
 450–460 MHz or 460–470 MHz  
 (only one per model)  
**Channels:** Up to 20 (factory pre-set)  
**Channel spacing:** 12.5 KHz or 25 KHz (only one per system)  
**Wireless data rates:** 4800 and 9600 bps  
**Modulation:** GMSK

*Broadcast frequency, transmit power, channel spacing and antenna gain are regulated by country-of-use. These are unique on a per country basis. The broadcast frequencies, channel spacing and country-of-use for the radio modem must be specified at time of order. Contact your Trimble representative for further information.*

## OPTIONS AND ACCESSORIES

**Survey options:** PowerLiTE™ GPS pole  
**Datalogging options:** TSC1 data collector with Trimble Survey Controller software  
 4 or 10 Mb PC cards for TSC1  
**Receiver firmware options:** RTCM SC-104 output Version 2  
 Internal radio modem/radio antenna  
 Event marker  
**Batteries:** 6Ah sealed lead acid, PowerLiTE Lithium ion  
**Support:** Extended hardware warranty  
 Firmware and software upgrade agreements  
 Training on-site or at factory  
**GPS Software:** Trimble Geomatics Office - *The total GPS and conventional survey data processing solution.*

## ORDERING INFORMATION

For further information please contact your nearest Trimble Authorized Distributor or Trimble Office. You may also visit our website at <http://www.trimble.com>.



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