

4700 Specifications

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

PERFORMANCE SPECIFICATIONS

Real-time Survey Performance

(Requires TSC1™ handheld with Trimble Survey Controller™ software.)

Modes:	Real-time stop-&-go, Real-time continuous		
Precision:	Modes	Latency	Accuracy
	1Hz fine	0.4 second	±1cm+2ppm Horizontal ±2cm+2ppm Vertical
	5Hz fine	0.1 second	±3cm+2ppm Horizontal ±5cm+2ppm Vertical
	Coarse	20cm RMS	
Range:	Up to 10km, depending on radios used		

Initialization

Type:	Automatic while moving (on-the-fly [OTF]) or static
Reliability:	≥99.9%
Time:	<1 minute typical

All real-time survey performance criteria are a function of the number of satellites visible, obstructions, baseline length, multipath, reference station position accuracy and environmental effects.

Static Survey Performance (Postprocessing)

Modes:	Static survey, FastStatic survey
Precision:	
Horizontal:	±5mm+1ppm (times baseline length)
Vertical:	±10mm+1ppm (times baseline length)
Azimuth:	1 arc second + 5"/baseline length in kilometers

Assumes five satellites (min) tracked continuously using the recommended static surveying procedures utilizing the L1 and L2 signals at all sites; precise ephemerides and meteorological data may be required. FastStatic accuracy is a function of occupation time and observation conditions.

Kinematic Survey Performance (Postprocessing)

(Requires TSC1 handheld with Trimble Survey Controller software.)

Modes:	Continuous or stop & go
Precision:	
Horizontal:	±1cm + 2ppm (times baseline length ≤10km) ±2cm + 1ppm (times baseline length >10km)
Vertical:	±2cm + 1ppm (times baseline length)
Occupation:	Continuous: 1 second measurement time Stop & go: 2 second (min) with 5 satellites

General Performance

Tracking:	9 channels (12 ch for CORS system only) L1 C/A code, L1/L2 full cycle carrier Fully operational during P-code encryption
Datalogging:	Data is logged internally (Additional data storage in the TSC1 or on the optional removable PC cards available for the TSC1)
Internal Data Storage:	120 hours of L1/L2 data while tracking 6 satellites at standard output 15 second epoch interval
Standard Input/Output:	RTCM SC-104 input version 2.1 NMEA-0183 Navigation output

Internal Receive only Radio Modem Performance

(Requires internal radio modem)

Modes:	High gain UHF	
Range:	Base Radio Modem	
	TRIMTALK™ 450S	TRIMMARK™ IIe
Optimal:	10km	15km
Typical:	3-5km	10-12km

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, 430-440MHz, 440-450MHz, 450-460 MHz or 460-470 MHz (only one per model)
Channels:	Up to 20 (factory pre-set)
Channel Spacing:	12.5 KHz or 25KHz (only one per system)
Wireless Data Rates:	4800 and 9600bps
Modulation:	GMSK

Specifications and descriptions subject to change without notice.

TECHNICAL SPECIFICATIONS

Physical

Size:	11.9 cm D X 6.6 cm H X 20.8 cm L (4.7" D X 2.6" H X 8.2" L)
Weight:	1.2 kg (2.7 lbs) with internal radio 6.8 kg (15 lbs) as full RTK rover (Includes radio modem, antenna, GPS antenna, TSC1, cabling, optional backpack and rangepole)

Electrical

Power:	4.5W - 4700 Receiver only 5.0W - Base configuration (receiver, antenna, TRIMTALK™ 450S radio) 6.0W - Rover configuration (receiver, antenna, TSC1, internal radio)
GPS Signal processing:	32 bit processor, Maxwell architecture, Multibit, very low-noise C/A code processing, Super-trak™
Battery:	>9 hours typical with 6 Ah battery >8 hours typical with two camcorder batteries
Status indicators:	Five LED indicators for satellites tracked, data logging, data transmission/receipt, and 2 power ports
On/off:	Single button or remote controlled with TSC1
Communication:	Dual RS-232 ports for serial input and data collector control; Baud rates up to 38,400 (57,600 on port 2); Dedicated RS-232 serial port for external radio communications
Certification:	FCC, DOC, and CE Mark approved

Environmental

Operating temp:	-40°C to +65°C (-40°F to +149°F)
Storage temp:	-40°C to +75°C (-40° to + 167°F)
Humidity:	100%, fully sealed
Shock:	1 m drop hard surface

OPTIONS AND ACCESSORIES

Survey accessories:	TSC1 handheld with Trimble Survey Controller Software 4MB or 10MB PCMCIA cards for TSC1, 4700 Rover backpack, 2M Rangepole
Receiver options:	RTCM SC-104 output version 2.1 Event marker 1 PPS output
Batteries:	6 Ah sealed lead acid, 2.3 Ah camcorder battery
Support:	Extended hardware warranties, software and firmware support agreements, Training at factory or on-site
GPS Software:	Trimble Survey Office™ Software Integrated GPS and conventional survey data processing package GPSurvey™ Postprocessing Software GPS postprocessing and project management software. Includes network adjustment, providing simultaneous adjustment of GPS and conventional survey data

ORDERING INFORMATION

GPS Total Station® 4700 is offered in a number of RTK and Postprocessing configurations. Specific part number and bundle information can be found on the "4700 Standard Bundles" sheet, (TID 11256A)	
4700 CORS System w/Choke Ring Antenna	38339-01
4700 CORS System w/Micro-centered Permanent Mount Antenna	38339-03
Stand Alone 4700 Receiver, No Radio	38065-00
Stand Alone 4700 Receiver, 1 Radio*	38065-01-XX

* Receivers with internal radios have a -XX in their part numbers, which refers to a specific set frequency band. Contact your local sales representative or dealer for specific bundle and pricing information. Frequencies, channel spacing and country-of-use must be specified at time of order.



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