Total Station Total Flexibility

Trimble®
ADDING VALUE TO GPS

Trimble
Total Station
Family

TRIMBLE INTEROPERABILITY

4700
modular system

4800
integrated system

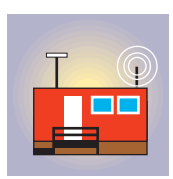
If you're like most surveyors, you never know what job you'll be faced with tomorrow. But now with Trimble's complete family of Total Stations, you're ready for anything.

From high-order control surveys to fast-paced construction stakeout, this tightly integrated, completely compatible set of survey tools will help you work faster and more accurately than ever before – giving you centimeter positions in seconds, no matter what the terrain or conditions.

Pick up the GPS Total Station® 4800 and you're holding the future of surveying in your hands. It's a complete Real-Time Kinematic (RTK) GPS survey system integrated into its own rangepole for unparalleled portability. With no cables or backpack to slow you down, you'll speed through projects, making measurements almost as fast as you can walk. You can climb over fences, scramble through brush, and get the job done instead of dealing with cumbersome gear.

When you need to make measurements from a vehicle or want to establish a project base station, the modular GPS Total Station 4700 is the instrument of choice. It's based on the same architecture as the 4800 system but in a

Vehicle Mounting



Semi-permanent Base Station

Extendible Antenna Set-up

All on the Pole

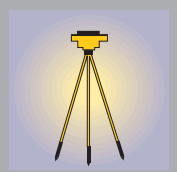
form that can be interconnected with a wide variety of antennae and other instrumentation to suit specific configurations.

And for those situations when you can't get to the point you want to measure, or where GPS just won't work (like under a dense canopy of trees,) our TTS™ Optical Survey Family takes over with the same accuracy and the same data format. But unlike traditional total stations, the TTS optical surveying family doesn't require reflectors to make measurements. Their laser rangefinder can get millimeter-accurate readings off virtually any passive object. That means you don't need an extra crew member and it means you can quickly and safely survey features like building facades or dam faces that are difficult or dangerous to reach.

All Trimble Total Stations are rugged, waterproof and share all family options and accessories. And all use the same Trimble survey data format and supporting software.

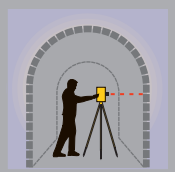
TTS 300
TTS 500

Optical Surveying Family



Base Station on a Tripod

Inaccessible Objects



No Satellite Visibility

Difficult Location

sea

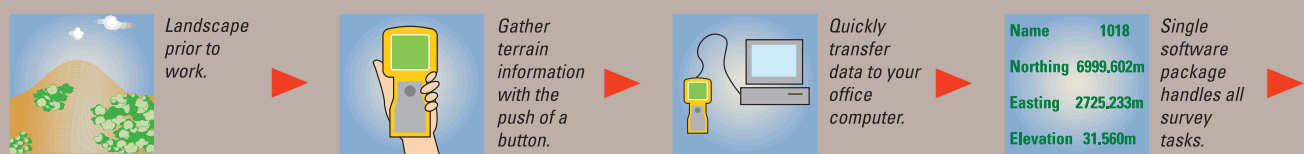
These days running a survey means moving mountains of data. That's why we designed the Trimble total stations from the ground up for streamlined data flow.

At the heart of the system is the TSC1™ with Trimble Survey Controller™ software – the most advanced handheld in the industry. Its graphic display and task–oriented controls take you efficiently through every survey operation, giving you a uniform way to control all your survey equipment, even instruments like laser rangefinders and optical total stations made by other manufacturers. With the TSC1 you see your data as you collect it, so you can verify its accuracy in the field.

Back in the office the TSC1 connects either directly, or via a PC card, to your desktop computer and quickly transfers your field data to Trimble Geomatics Office™. This integrated software package handles everything from the processing of GPS, optical, and RTK data, to the translation and export of this information to popular survey, CAD, and design software.

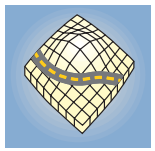
When you're ready to return to the field to stake out points, Trimble Geomatics Office translates your design information and transfers

Real World Dataflow



nless

a complete project file to the Trimble Survey Controller. The controller then navigates you directly to each point and instantly calculates a cut or fill. If local conditions require an optical measurement you can connect the controller to a TTS optical surveying instrument or any other electronic total station without missing a beat. Seamless data flow translates into effortless project flow.

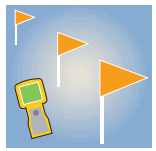


Seamless interface with every major design package.

Design

Bring complete project files to the field.

Upload



Graphical navigation screens get you right to the spot.

Stakeout

Landscape after road has been cut in.

Real World with New Road

Trimble total stations are the most productive survey tools ever developed. A single surveyor can now handle jobs that once required a full survey crew. With the ability to get centimeter positions in seconds, most users in the field report increases in productivity well over 100%. And seamless interoperability between the GPS and optical members of the family lets you tackle virtually any survey situation without hesitation.

Our GPS Total Stations update your position five times a second so you can set a point almost as fast as you can drive a stake. Our optical total stations extend this efficiency into areas GPS just can't reach, like tunnels, parking garages, or dense forest. Its unique mechanical design and reflectorless technology let you speed through measurements that would require significantly more time with conventional optical instruments.

With our smart handheld controller, you don't have to stake out a job in the order you designed it. If local conditions dictate you can change the order of your stakeout to whatever's convenient and the controller instantly recalculates the 3-D stakeout information for any new point you pick.

Productivity in the office is just as important. Trimble Geomatics Office gives you a single application for all your survey tasks. With user-friendly prompts and wizards to guide you through every process you'll be more efficient than ever before. And that means you'll be more competitive when it comes time to bid on bigger jobs.

Fast

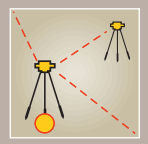
Specifications

Applications

Topographic


Construction Stakeout


Boundary


Control


Seismic

4700

4800

Features

- Modular real-time system ideal for different setups
- Small, lightweight dual-frequency GPS receiver with internal RTK radio modem
- Integrated real-time system completely on a pole
- Single housing contains dual-frequency GPS and RTK radio receiver and antennae
- Powerful TSC1 with Trimble Survey Controller software, Trimble Geomatics Office

Performance Specifications

Real-Time Survey Performance
(Requires TSC1 handheld with Survey Controller software.)

Modes: Real-time kinematic (RTK), Real-time continuous kinematic

Accuracy: *<10 km baseline length*

	Modes	Latency	Accuracy
Horizontal	1Hz	0.4 sec	±1cm + 1ppm
	5Hz	0.1 sec	±3cm + 2ppm
Vertical	1Hz	0.4 sec	±2cm + 1ppm
	5Hz	0.1 sec	±5cm + 2ppm

Initialization Type: Automatic while moving (on-the-fly [OTF]) or static

Initialization Reliability: ≥99.9%; within < 1 minute typical
Assumes recommended RTK surveying procedures and conditions are met.

Static Survey Performance
(Postprocessed)

Modes: Static survey, FastStatic survey

Accuracy: ±5 mm + 0.5 ppm Horizontal / ±5 mm + 1 ppm Vertical
Assumes recommended L1/L2 Static and FastStatic surveying procedures and conditions are met.

General Performance

Tracking: 9 channels L1 C/A code, L1/L2 full cycle carrier.

Datalogging: internal; in TSC1 handheld; or on TSC1 optional removable PC card. In internal memory; in TSC1 data collector; or on TSC1 optional removable PC card

Receiver Data Storage:
L1/L2 data / 6 SV's / 15 sec interval

120 hours internal memory | 50 hours internal memory

Unlimited data storage using optional TSC1 and PC data card

Internal Receive Only Radio

Freq. Range: 410-420 MHz, 430-440 MHz, 440-450 MHz, 450-460 MHz or 460-470 MHz
(only one range per receiver, up to 20 frequencies per range)

Distance range: Varies with Base Transmitting radio types. Also varies with terrain and operating conditions. Repeaters may be used to extend range depending upon radios used.

Technical Specifications

Receiver Size:	11.9cmD x 6.6cmH x 20.8cmL (4.7"D x 2.6"H x 8.2"L)	23cm D x 17.8cmH (9"D x 7"H)
Receiver Weight:	1.2kg (2.7lb) with internal radio 6.8kg (15lb) - as full RTK rover	2.1kg (4.6lb) with internal radio 3.9kg (8.5lb) - as full RTK rover
Power:	6W - powering full RTK rover/4.5W receiver only	7 W - powering full RTK rover/6W receiver only
Battery:	>9 hours typical with 6 Ah battery >8 hours typical with 2 camcorder batteries	>8 hours typical with 6 Ah battery >4 hours typical with PowerLiTE Lithium Ion battery
Operating Temp:	-40˚C to +65˚C	-40˚C to +55˚C
Storage Temp:	-40˚C to +75˚C	-40˚C to +75˚C
Humidity:	100%, fully sealed, weather proof	100%, fully sealed, buoyant
Shock:	1m drop on hard surface	2m pole drop

Options + Accessories

Standard Features:	RTCM Input V2.1; NMEA 0183 Output; Internal memory; RTK/OTF
Optional Features:	Event marker and 1PPS (available for 4700 only); RTCM Output V2.1 (available for both)
Software:	Trimble Survey Controller software; Trimble Geomatics Office software

TTS 500 / TTS 300

Features

- Reflectorless measurement capability
- Dual Axis automatic tilt compensator
- Dual speed continuous tangents with friction coupling
- Powerful TSC1 with Trimble Survey Controller software and Trimble Geomatics Office

Performance Specifications

Angle Measurement

Display Resolution (H/V)	1sec/1.0 mgon
Accuracy (H/V) (per DIN 18723)	TTS 300 ±3sec/1 mgon TTS 500 ±5sec/1.5 mgon

Distance Measurement

Type	Pulsed laser
Measuring range	1 prism >6000m (20,000ft) 90% reflective surface (white) >250m (820ft) 5% reflective surface (matte black) >58m (190ft)

Accuracy +	
Measuring Time:	5mm + 3ppm/1.3sec (high accuracy mode) 10mm + 3ppm/0.5sec (fast mode) 20mm + 3ppm/0.3sec (very fast mode)

Technical Specifications

Telescope	
Magnification:	30x (erect image)
Field of View:	1°
Size:	20cmW x 22.5cmD x 35cmH (7.9"W x 8.9"D x 13.8"H)
Weight:	4.8kg (10.5lb)
Power:	3W
Battery:	16 hours typical with 2 Lithium Ion batteries
Operating Temp:	-20°C to +50°C
Storage Temp:	-30°C to +70°C

Options + Accessories

Standard Features:	Tribrach, case, 2 Lithium Ion batteries
Software:	Trimble Survey Controller software; Trimble Geomatics Office

Specifications and descriptions subject to change without notice; All systems are FCC, DOC, and CE Mark approved

Trimble®

ADDING VALUE TO GPS

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