

Trimble Survey Controller[™]

Release Notes



Version 11.04
Revision A
April 2005

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Release Notes

Corporate Office

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Release Notice

This is the April 2005 release (Revision A) of the *Trimble Survey Controller Release Notes*. It applies to version 11.04 of the Trimble Survey Controller software.

Product Information

This section contains information about the Trimble Survey Controller software version 11.04 running on a Trimble® CU, ACU or TSCe controller ("the controller"). For detailed information, refer to the *Trimble Survey Controller Getting Started Guide*.



New user

In a new controller, the Trimble Survey Controller software version 11.04 and the Microsoft® Windows® CE .NET operating system are already installed.

To use the software in a language other than English, you must transfer the language pack file from the Trimble Survey Controller Software CD to the controller.

Upgrading from a previous version of the software

To use the Trimble Survey Controller software version 11.04, your controller must be running a Microsoft Windows CE .NET operating system the same as or later than that shown below.

Controller	Microsoft Windows CE .NET
Trimble CU	4.2.2.16
Trimble ACU	4.0.12
Trimble TSCe	4.0.12

- If the controller is running the Trimble Survey Controller software version 10.5, 10.6, 10.7, 10.8, or 11.0 the Microsoft Windows CE .NET operating system is already installed. You need to upgrade to the latest version of the operating system, but you do not need a Microsoft authorization key.
- If the TSCe controller is running the Trimble Survey Controller software version 10.00 or 10.01, the Microsoft Windows CE operating system version 3 is installed on the controller. To upgrade the TSCe controller operating system you need to contact Trimble Support and request a Microsoft Windows CE .NET authorization key and sticker.

Note – The recommended memory requirements for the controller running the Trimble Survey Controller software are: 128 MB non-volatile flash disk; 64 MB SDRAM

Note – As you install the software, you are given the option to download the contents of the Trimble Data folder. To safeguard the data in this folder, make sure that you select this option. Unlike previous versions, the Trimble Survey Controller version 11.0 software installation does not back up the Trimble data folder to Trimble Data V10.

Once you accept this step, the contents of Trimble Data are removed, regardless of whether or not you accept the option to download the contents of Trimble Data.

During the upgrade, complete all of the following steps. Follow the prompts that are provided by the installation wizard:

1. Install Microsoft ActiveSync® software version 3.7.1 from the *Trimble Survey Controller Software CD*.
2. Upgrade the controller to the latest version of the Microsoft Windows CE .NET operating system.

The operating system is installed to the /Disk folder on the controller. If there is insufficient storage space, back up some files and then delete them from the /Disk folder.

3. Install Trimble Survey Controller software version 11.04 on the controller.

The software is installed to the volatile storage area on the controller. This area does not include /Disk. If there is insufficient storage space, delete files, or uninstall programs and then reinstall them once the upgrade is complete.

4. Transfer a new language pack to the controller.
5. If applicable, use *Transfer downloaded Trimble data files* to transfer compatible files back onto the controller.

Converting job files and transferring data after an upgrade

During an upgrade, you can choose to save all files in \Trimble Data on the controller to the office computer. Once you upgrade, you can transfer back onto the controller any files that are compatible with the Trimble Survey Controller software version 11.0.

To determine compatibility, the software inspects the files before transferring them to the controller. Trimble Survey Controller software version 10.70 and 10.80 job files can be converted and transferred. A variety of other files (for example, .fal from version 10.7 and 10.8, .csv, .txt, .dtm, .tmm, .ggf, .cdg, .jpg, .sgf, .pgf, .dxf, and .shp) can also be transferred back onto the controller. A report of the transferred files is available at the end of this operation. The report details the files that were converted, the files that were transferred and the files that were not transferred because they are not supported (for example, Style files).

The files that are backed up are stored on the office computer in *C:\Documents and Settings\[user name]\Local Settings\Temp\[controller serial number]\Download*.

Using Trimble Survey Controller version 11.04 with other Trimble products

Trimble Survey Controller software version 11.04 communicates best with the software and hardware products shown in the following table. The software can also communicate with any version later than that shown:

Product type	Trimble product	Version
Software	Trimble Geomatics Office	1.61
	Trimble Link	3.00
	Data Transfer	1.13
	Trimble Total Control	2.71
	Terramodel®	10.13
Receiver	Trimble R7	2.10
	Trimble R8	2.22
	5700	2.10
	5800	2.22
	4800	1.30
	4700	1.30
	Trimble S Series	R2.0.0

Trimble 5600 Series	696–03.05
Trimble ATS	696–03.05
Trimble 3600 Elta CP (with interpreter)	1.15
Trimble 3600	2.00
Trimble 3300 Series	5.65

Updating office software

Note – If you have *GPS Pathfinder® Office software version 2.51 or later installed, make sure that the Connection Manager utility is closed before you update the office software.*

Before using Trimble Survey Controller software with Trimble office software, update the office software. To do this, select *Update Office Software* from the main menu on the *Trimble Survey Controller Software CD*.

The Trimble Survey Controller software version 11.04 uses a version 10.7 DC file.

If you use Trimble Geomatics Office, Trimble recommends that you update the Trimble Geomatics Office software from version 1.60 to 1.61. This option will not update versions of Trimble Geomatics Office that are earlier than version 1.60.

Although Trimble Survey Controller software version 11.04 can output a version 10.0 DC file to older versions of the office software, the process does not support all new records and some information may be lost.

Upgrading Trimble 3600 and 5600 instrument firmware

If you need to upgrade the Trimble 3600, 5600, or ATS instrument firmware, return the instrument to your Trimble service center.

Configuring the system options

The new Trimble Survey Controller systems are shipped unconfigured. They are configured automatically when you connect the controller to the instrument. Alternatively, select *Configuration/Options* and select the option(s) appropriate for you:

- GPS users – select *GPS surveying*
- Conventional Total Station users – select *TS surveying*
- Integrated surveying users – select both options
- Helmert, Station Setup Scale factor users – select *Advanced Geodetic Support*

These options control the styles that are available and the relevant options that appear throughout the software. You can reconfigure the Trimble Survey Controller system at any time.

New Features

This section summarizes new features in the Trimble Survey Controller software. For more information about

the features, refer to the Trimble Survey Controller Help or the *Trimble Survey Controller Getting Started Guide*.

Note – The help is also provided on the Trimble Survey Controller Software CD in a PDF document, which you can search or print.

*** * * The Trimble S6 Total Station Support* * ***

The Trimble S Series and the Trimble CU controller

The Trimble S6 total station interfaces to the Trimble CU controller using USB at 10 Hz. This reliable connection results in fast response times to all commands, providing you with the ability to work faster. The MagDrive Servo Technology turns the total station accurately, quickly and smoothly for all turning functions including Joystick controls and Surface scanning.

Improved joystick controls

You can now select the speed at which the instrument turns, turn both horizontally and vertically at the same time, and control if the instrument turns with respect to the instrument person or to the rod person. You can carry out fast right-angle turns using the +90, -90, and +180 softkeys.

Trimble S6 face 2 display

Angle and distance information, and status information (such as measurement method, target height, and measuring status) appears on the face 2 display of the Trimble S6 when the Trimble Survey Controller software is running.

Trimble Functions

Trimble Functions has been improved to include shortcuts to Start Robotic and Survey Controller Basic. Use the EDM button to toggle between TRK and STD modes in Trimble S6 instruments.

Target ID

Trimble S6 instruments use Target ID to ensure that the instrument locks to the correct target. The software checks the Target ID when you carry out a manual search or during an autosearch. The software does not check the Target ID when you use Snap to target to lock to a target.

To view or change the Target ID, tap the target icon.

Multiple targets

You can now configure and select multiple targets from the Status bar. To quickly switch between targets, or configure the target height, prism constant, or target ID, tap the Target icon.

You can configure one DR target and up to five non-DR targets.

Auto-search when using Autolock

If you initiate a measurement, and Autolock® is on but you are not locked to the target, the Trimble S6 instrument automatically starts searching for the target. The instrument then starts measuring once it is locked onto the target.

Canceling a search

If you cancel a search to a target, the Trimble S6 instrument returns to its start position.

Face 2 Display On-board Programs

If the instrument is not running the Trimble Survey Controller software, or does not have a Trimble CU controller attached, you can use the instrument's onboard programs on the face 2 display to level the instrument, or to set the radio parameters for a robotic survey. For more information, refer to the documentation for your instrument.

Note – The Trimble Survey Controller software cannot communicate with the instrument when the instrument's onboard programs are in use. Once you finish with the onboard programs, select [Exit] from the [Setup] menu to return to the [Waiting for connection...] menu.

***** General Enhancements *****

Surface scanning

Choose from three surface scanning methods; Horizontal/vertical angle interval, Rectangular plane, and now Line & Offset.

Trimble Functions shortcuts

Shortcuts to some Instrument menu functions are now available from Trimble Functions. In the Trimble Functions screen, tap and hold on the DR, Laser, Tracklight®, Autolock, and Search icons to quickly access their Instrument menu configuration screens.

Snap to target / Snap disabled

New terminology has been introduced to describe the feature formerly known as *Advanced lock*.

To automatically snap to the target in Autolock mode when the target is lost, set the autolock method to *Snap to target*.

Snap to target automatically locks on to a remote target if the instrument finds one.

If you do not want to automatically lock on to a target, set the Autolock® method to *Snap disabled*.

Servo auto turn

The *Servo options* configuration item has been changed to a *Servo auto turn* option that is only used in a servo survey. Servo auto turn options include *HA & VA*, *HA only*, or *Off*.

If you are working robotically, or when the *Servo auto turn* field in the survey style is set to *Off*, the instrument does not turn automatically. To turn the instrument to the angle indicated on the screen, tap Turn.

Customized ASCII Export

You can now produce customized reports in the field or office from the data stored in the Trimble Survey Controller Job file using the default XML style sheets, or by creating your own new style sheets.

Default style sheets on the controller enable you to generate Stakeout reports, Traverse reports, and Check shot reports. In addition, the software now has improved support for some older formats such as GDM Area and Job files, and M5 files. Additional sample reports are available on the *Trimble Survey Controller Software CD*.

Use the ASCII File Generator utility to create ASCII files on the office computer. Install this utility from the Trimble Survey Controller CD.

A basic understanding of programming is required to create your own style sheets. For more information, refer to the document *Creating Custom ASCII Files and Reports.pdf* in the \ Trimble Survey Controller \ Utilities \ ASCII File Generator \ Documentation folder on the Trimble Survey Controller software CD.

Raw data in a Trimble Survey Controller Job file

Raw data from the following Conventional offset measurements is now stored in the Trimble Survey Controller job; Horizontal angle offset, Single distance offset, Dual–prism offset, Circular object, and Remote object.

Raw data from the following COGO compute point intersections is now stored in the Trimble Survey Controller job; Bearing–distance intersection, Bearing–bearing intersection, and Distance–distance intersection.

The raw data is stored in the Trimble Survey Controller job and is available to export in Custom ASCII files. The additional raw data is not available in the DC file.

Rotate, Translate, and Scale

You can now transform a single point, or a selection of points, using one or more of Rotation, Scale, and Translation.

Point Manager

Use the new Point Manager to easily review; Point coordinates, Observations, the best point and all duplicate points, Target and antenna heights, and Codes and notes, You can easily edit; Target and antenna heights (single or multiple), and Codes and notes.

In Review current job, you can still edit existing target and antenna height records, but you can no longer insert a target or antenna height record. Use the Point Manager to edit single target or antenna height records.

QC Graph

To help detect errors, you can now view various quality indicators, such as Target height or PDOP, in a graphical format.

Taped distances

To define rectangular structures, such as building foundations, you can now use a graphical right angle and distance interface. Use a laser rangefinder to measure and insert distances into the Taped distances function.

Remote object

You can now use the improved interface to quickly and easily calculate the width and height of a remote object.

Compute point by Turned angles

You can now use Turned angles to compute intersection points. Use the Advanced pop-up arrow on the *Start point* field to configure Radial or Sequential data entry.

Compute point by Bearing and distance

Compute point by Bearing and distance replaces Key in Boundary. Use the Advanced pop-up arrow on the *Start point* field to configure Radial or Sequential data entry.

Improved 2D support

The Trimble Survey Controller software can now compute results using 2D data.

COGO Compute distance

In this enhanced function, distances computed with the Between point and line, and Between point and Arc methods now show a negative distance for offsets to the left of the line or arc.

Four point intersections

The Four point intersections operation now works independently of the line direction.

Feature coding

Feature code entry has been improved to make selection faster and more flexible:

- The code list is automatically filtered to show only codes with the characters appropriate to the key that was pressed on the controller.
- You do not have to set the alpha-numeric state on the controller; the code list filtering works independently of the alpha-numeric state of the controller.
- Enable Auto-complete for the software to default to the first matching code in the library. Enter another character to further filter the list, or use the arrow keys to select another code, if the first does not match.
- To use the frequently-used codes list, disable Auto-complete.

Display elevations in the map

You can now label points in the map with their elevations.

Time stamps

Every record in the Trimble Survey Controller job now contains an automatic timestamp.

You cannot configure when to store timestamps to the job file.

Time stamps are output to the DC file every 30 minutes.

To output data with timestamps on every record, use one of the existing Custom ASCII Export formats or define one of your own. Then use the Custom ASCII Export option on the controller, or the ASCII File Generator on the office computer.

DC file format

Trimble Survey Controller software version 11.0 outputs a version 10.70 DC file format. This is the same file format as the previous version; there are no additions or changes. Use Custom ASCII Export to access additional information that is stored in the job and available for Custom ASCII export.

Coordinate systems

Updates to the following coordinate systems have been made; Belgium, Costa Rica, Holland, Italy, Korea, Romania, Singapore, and the United States of America.

Leica DR

You can now set DR mode in the software for selected Leica DR instruments.

Selection list navigation

You can now press 1, 2, 3, 4 to jump to point name 1234 in point and file lists. This means that you can easily select a point to stake from a large stakeout list.

The software has a three-second time delay built into this feature. If you incorrectly start entering something, stop, wait three seconds for the sequence to clear and then start again.

Dual prism offset

The software now checks that the computed distance between prism A and prism B is the same as the distance that you have entered.

Bluetooth file transfer to the Office Computer

You can now transfer files from the Trimble CU controller to an office computer using Bluetooth® wireless technology. Use Bluetooth and Microsoft ActiveSync technology to establish a connection between the controller and the computer and then use the Trimble Data Transfer utility or Microsoft Explorer to transfer files.

Linked CSV files

Linked CSV files are now interpreted based on the current Job coordinates order setting.

Smart Alpha / Numeric Controls for the Trimble CU and ACU controllers

When you use the Trimble Survey Controller software on a Trimble CU or ACU controller, the software now automatically sets the controller into numeric mode for numeric fields.

Trimble CU, ACU, and TSCe screen lock

You can now use the keypad when the touch screen is disabled.

TCU	[Ctrl]+[Trimble key]
ACU	[Ctrl]+[Trimble key]
TSCe	[Ctrl]+[Power key]

Laser pointer offsets

The Trimble 5500 and 5600 instrument models 5502, 5503, and 841 843 now work with laser pointer offsets.

***** Roading Enhancements *****

GENIO string roads

The Trimble Survey Controller software version 11.04 now supports staking out roads defined by strings in a GENIO file.

Features include:

- Graphical display of the strings in both plan and cross section views.
- Ability to define a road from a GENIO file. To do this, from a graphical display of all strings in the GENIO file, select the master string for the road, and the associated sub strings for the selected master string.
- Options to add new strings relative to existing strings in the GENIO file.
- Ability to select the position to be staked from a graphical display – either a plan view or a cross section view. Alternatively, use the arrow keys on the controller to select positions to be staked.
- Ability to edit elevation values, or the calculated slope values for side slopes.
- Unique construction offsets relative to the geometry of the string being staked or to that of the master string.

LandXML Roads

You can now stake out roads defined in a LandXML file, including horizontal and vertical alignments, and cross section data.

Graphical cross slope staking

If you stake out a position on one side of a road, you can now mark up on the stake details relating to any graphically selected element from the other side of the road. This means that you can stake two positions in a single operation.

***** GPS, VRS, Internet connections, and Cellular Modem Enhancements *****

RTK on Demand

If you perform a real-time Internet survey, you can tap a button to pause or stop data from the network server or Trimble Survey Controller base station. This saves on base station data transport costs, if you are billed by data amount. When base data is paused, it will re-enable itself for critical survey operations such as measuring points, staking out, or gaining initialization.

Trimble Internal GPRS Support

You can now use the Trimble R8 internal GSM module to carry out internet-connected real-time surveys with a GPRS internet connection. For this operation, the SIM card in the Trimble R8 internal GSM module must have the GPRS service enabled by your GSM service provider.

RTK Network Status Reporting

You can now have messages from the RTK or VRS reference station network server displayed and stored in the Trimble Survey Controller software. The new *Network/Reference Station Status* page that appears in the Instrument menu during an RTK survey shows the latest textual message from the network server, along with items that show the status of the server.

VRS observations

By default, VRS observations are now stored as vectors from the nearest Physical Base Station (PBS). To store vectors, the VRS system must be configured to output the PBS information. If the VRS system does not output PBS data, VRS observations must be stored as positions.

NTRIP

Optimization changes to NTRIP include better authentication support, sortable source tables, and better handling of Internet connection failures.

Measure Calibration points from the map

When you select a single grid point in the map view, you can now tap and hold the point to access the *Measure calibration point* menu.

***** Changes in version 11.04 *****

- Long range support for the Trimble S6 Total Station is improved.
- The cursor now appears in the correct place when you tap in a field.

Other Information

Trimble Survey Controller is available in many Languages

The Trimble Survey Controller software version 11 is now available in Dutch as well as English, Chinese

(Simplified), French, German, Italian, Japanese, Korean, Portuguese, Spanish, and Swedish.

Connecting the Trimble S Series Total Station to a TSCe controller

Connect the TSCe controller to the Trimble S Series total stations using the supplied 26-pin-to-Hirose cable. In order to communicate with Trimble S Series total stations, the controller requires the Trimble S Series communication plug-in. When you upgrade the controller, make sure that you install this plug-in from the *Trimble Survey Controller Software CD*.

If you try to connect the controller to the Trimble S Series total station soon after you have made a connection between the controller and an office computer using Microsoft ActiveSync technology, the connection from the controller to the total station may fail. To avoid this problem, either cancel the ActiveSync connection before you remove the cable, or perform a soft reset on the controller.

Connecting a Trimble CU controller to the Office Computer

The Trimble CU controller communicates through the docking station to the office computer using USB. The docking station must be connected to the office computer through the USB-to-Hirose cable. You cannot connect the Hirose-to-7-pin lemo cable to a 7-pin lemo-to-DB9 cable (supplied with GPS systems) and use this to connect the docking station to the serial port on the office computer.

Memory requirements

When you open a Trimble Survey Controller job, the entire job is loaded into memory, which results in a more robust job and faster software operations. As the job becomes larger, memory requirements increase. In addition, improvements to the operating system and the software, means that Trimble Survey Controller software version 11.0 needs more memory than previous versions.

You can run Trimble Survey Controller software version 11.0 software on an early model of the TSCe controller that has less memory than the current models. However, this may limit the number and size of files you have space for on the controller.

Microsoft ActiveSync issues

To install the Trimble Survey Controller software and to transfer data files, you must connect the controller to the computer using Microsoft ActiveSync technology version 3.7.1. ActiveSync is included on the *Trimble Survey Controller Software CD*.

Make sure that the Trimble controller and office computer are switched on. Disconnect any devices that are communicating with the controller, and close down any applications to ensure that the communications ports are available.

Microsoft Explorer and the Trimble Data Transfer utility may sometimes fail to find the folders and display files on the controller. This can occur if another Microsoft Explorer window had been left browsing to the controller from a previous connection, or if the controller had been reset and a new connection made. To avoid this problem, make sure that you close all Microsoft Explorer windows before you disconnect the controller.

Documentation

Trimble Survey Controller Help is "context-sensitive." To get assistance, tap "?" at the top of the screen. This locates the topic that relates to what you are doing. To view the relevant help, tap the topic title.

The help is also provided on the *Trimble Survey Controller Software CD* as a single file in Adobe Portable Document Format (PDF). View this file on an office computer. You can use it to search for a particular topic or to print pages from the help.