Trimble Survey Controller™

Release Notes

Trimble™

Release Notice

This is the September 2002 release (Revision A) of the Trimble Survey Controller Release Notes. It applies to version 10.5 of the Trimble Survey Controller software.

Product Information

This section contains information about the Trimble Survey Controller™ software version 10.5 running on a Trimble™ ACU or TSCe™ controller ("the controller"). For more detailed information, refer to the *Trimble Survey Controller Getting Started Guide*.

New User

If you have purchased a new controller, Microsoft Windows CE.NET and the Trimble Survey Controller 10.5 software are already installed.

If you want to use the Trimble Survey Controller software in a language other than English, you must transfer the language pack file. Select *Install Survey Controller* / *Upload Language Pack* from the main menu on the Trimble Survey Controller CD.

Upgrading from Trimble Survey Controller version 10.0x

If you already have a Trimble controller running Trimble Survey Controller 10.0x, you must have Microsoft ActiveSync version 3.5 (Build 12007) installed to upgrade to version 10.5. If necessary, download it from http://www.microsoft.com/mobile/pocketpc/downloads/activesync35.asp

Run the installation wizard to:

- upgrade the controller operating system to Microsoft Windows CE.NET.

  Use the authorization key provided with the Trimble Survey Controller CD. If you do not have a key, contact Trimble Support.

- install the Trimble Survey Controller 10.5 software.

- transfer a language pack.

Installing Trimble Survey Controller in Korean, Chinese, and Japanese

After installing the software in one of these Asian languages, increase the amount of Program memory before running Trimble Survey Controller for the first time. Otherwise the software will run slowly.

To increase the memory allocation:

1. Press ⎡Alt⎤ on the keypad.
2. In the controller screen tap *My Computer* / *Properties.*
3. Select the *Memory* tab.
4. Move the slider bar to the left, then tap **OK**.

The Trimble ACU and TSCe controllers

The Trimble Survey Controller software is available on two platforms:

- The Trimble ACU (Attachable Control Unit) can be attached to a Trimble 3600 or 5600 instrument or used with an ACU Holder. This controller has an integrated Bluetooth module for wireless communication with a 5800 receiver or to other Trimble ACUs.

- The TSCe controller is connected to the conventional instrument by a cable. A BlueCap™ attachment is available for wireless communication to other Trimble products with Bluetooth.

Note - Before using a controller for the first time, make sure that the battery is fully charged. For more information, refer to the Trimble Survey Controller Getting Started Guide and the TSCe Product Guide.

Using Trimble Survey Controller with other Trimble products

Trimble Survey Controller version 10.5 communicates with the software and hardware products shown in Table 1.

Table 1. Trimble Survey Controller compatibility

	Trimble product	Version (or later)
Software	Trimble Geomatics Office™	1.60
	Trimble Link™	3.00
	Data Transfer	1.08
	Trimble Total Control™	2.70
	Terramodel®	10.1
Receiver	GPS Total Station® 5700	1.22
	GPS Total Station 5800	1.00
	GPS Total Station 4800 GPS Total Station 4700	1.30
Conventional Instrument	Trimble™ 5600 Series	696-03.05
	Trimble 3600 Elta CP (with interpreter)	1.15
	Trimble 3600	2.00
	Trimble 3300 Series	5.65

Updating Office software

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

Notes:

- *If you have GPS Pathfinder® Office software version 2.51 (or later) installed, close the Connection Manager utility before updating the software.*

- *The Trimble Survey Controller 10.5 software uses a version 10.0 DC file*

Upgrading Trimble 3600 and 5600 instrument firmware

If you need to upgrade the Trimble 3600 or 5600 instrument firmware (see Table 1), return the instrument to your Trimble service center.

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 Online Help or the *Getting Started Guide*.

Note - The online help is also provided on the CD in a PDF document, which you can search or print.

Configuration - survey styles

The new Trimble Survey Controller 10.5 systems are shipped unconfigured. They are configured automatically when you connect the controller to the instrument. Alternatively, select *Configuration / Options* and select the option appropriate for you:

- GPS users – select *GPS surveying*

- Conventional Total Station users - select *TS surveying*

- Integrated surveying users – select both options

These options control the styles available and relevant options that appear throughout the software. You can reconfigure these options at any time.

Note - The Trimble 3600/5600 Survey Style does not support Trimble 600M instruments. Instead, select the 600M from the drop-down list of models in the Instrument menu.

Note - If you only have one style, it is automatically chosen when you select Survey.

Instrument connection

There are two ways to connect to an instrument:

- Autoconnect – This occurs automatically.

- Perform a Station Setup – When you perform a Station Setup with the ACU attached to the instrument but the software not connected, Trimble Survey Controller initiates a connection. Information dialogs appear throughout this operation.

Note - The Instrument icon appears on the status bar when Trimble Survey Controller detects an instrument.

Job properties

Use the new *Job Properties* dialog to easily define coordinate systems, units, linked files, background files, a feature code library, and Cogo settings for a job. Previously, coordinate system, units, and Cogo settings were under the *Configuration* menu, background files were linked from the *Map of Current Job* dialog, and feature code libraries were linked from the *Code* field in the *Measure points* dialog.

Note – When you create a new job, settings from the previous job are used as the defaults.

Project height

In a new job with a defined Projection, the project height defaults to the last-used value. If there is no last-used value, the project height defaults to null and must be set to a real number. Make sure that you always set the project height to the approximate height of your job site. If a point has no elevation, the Trimble Survey Controller software uses the project height to calculate coordinates and distances.

Enhanced measuring from the map

Measuring topographic points from the map is now much faster. Tap ⬚Measure⬚ while in the map view to start measuring immediately, using current point name, target height, and other defaults. Select *Survey / Measure Points* for more control, for example, to use feature codes.

Enhanced feature code filtering

Feature code lists are now filtered as you enter characters. Entering numbers also filters the feature code list using the corresponding alpha characters. For example, to select a code of TREE from a feature code library, press "2" to filter the code list to display only codes starting with "2", "t", "u", or "v". As you enter subsequent characters, in this

case "1", "9", "9", the list is further filtered to display all codes starting with TREE. Enter the entire word, use the arrows to select it, or tap $\boxed{\text{Accept}}$ when the correct word is highlighted.

Cogo / Compute point

A *Cogo* / *Compute point* option has been added. This combines the functions of *Cogo* / *Intersection* and *Survey* / *Offset*.

Fast Fix

The Key in and Cogo menus now have an option to quickly measure a 'Fast fix' construction point directly from the Key in or Cogo dialogs. Construction points have their own point names, classification and filter option. The filter is switched off by default so that the constructions points will not clutter the map.

Cogo / Store as option

You can now define whether to store Cogo points as WGS-84, LOCAL, GRID, or Polar (AZ HD VD) coordinates.

Survey / Station and Offset (Refline)

A Station and Offset item has been added to the *Survey* menu to measure and stakeout relative to a line, arc, or road.

Select *Options* / *Display* / *View* / *Station and Offset* to review or display points as station and offset relative to a line, arc, or road. In *Key in point*, use this view to define a point by station and offset.

Conventional Instrument Support

New measurement display button

In *Measure Points* and *Survey Controller Basic*, you can now easily switch the measurement display between HA VA SD, HA HD VD, North East Elevation or a display view that you define.

Multiple target support

You can now use two types of target to define separate target heights and prism constants. When connected to an instrument with Direct Reflex, Target 2 is used as the DR target. Tap the Target icon to quickly switch between targets.

Auto matched pair support for servo instruments

This function retains the current point name of the Face 1 measurement and turns the instrument to Face 2 to perform the matching Face 2 measurement. When using an active target, the instrument automatically measures on Face 2 and then returns to the Face 1 position once the measurement is stored.

Automated rounds support for servo instruments with Autolock functionality

Once the round points have been defined, the instrument automatically turns to and measures each point until the rounds are completed.

Select *Time Between Rounds* to configure a time delay between round measurements.

Multiple backsight support

You can now perform a station setup using multiple backsight points, and calculate and apply a local scale factor.

Resection

You can now calculate and apply a local scale factor when computing a resection.

Note - If you do not want to calculate a local scale factor, select Configuration / Options and clear the Advanced Geodetic Support check box.

Trimble 3600 or 5600 Instruments

Trimble functions

Tap the *Instrument* icon on the status bar (or press the Trimble functions button on the ACU) to access the *Trimble functions* screen. Use this screen to control common instrument functions.

Enter a GDM program number in the *Trimble functions* screen to access corresponding Trimble Survey Controller functions. For more information about the program numbers, refer to the *Trimble Survey Controller Getting Started Guide*.

Enhanced Instrument icon

The *Instrument* icon on the status bar displays:

- the measurement modes STD (S), FTSD (F), TRK (T), and the EDM signal (*)
- a solid black line from the top of the instrument, when Autolock is on and the instrument is locked onto a target
- a solid red line from the top of the instrument, when the laser pointer is on

Enhanced Target icon

The *Target* icon on the status bar displays the current target, prism constant, target height, and Autolock or DR status.

The prism display changes as follows:

Autolock	Target	Prism display
Enabled	Locked	two black sections
Enabled	not locked	one rotating gray section
Disabled	n/a	Clear

Electronic level display

Use the Electronic level option to level the Trimble 3600 or 5600 instrument. Also use this function to check the level during the survey.

Survey Controller Basic

Use *Survey Controller Basic* to perform basic measurements and simple checks. You cannot store measurements in this mode.

Direct Reflex controls for 5600 DR 200+ instruments

Use the Direct Reflex controls to configure the minimum standard deviation, weak signal, and minimum and maximum range values for DR measurements.

Tracklight controls

Select *Instrument / Tracklight* to set and control the Tracklight state and intensity. Use the *Trimble functions* screen to switch Tracklight on and off.

Autolock controls for 5600 instruments with Autolock

Use the Autolock controls to access *Advanced lock* (to automatically lock onto a remote target) and *Auto search* (to automatically perform a horizontal search when lock is lost).

Instrument settings

Select *Instrument* / S*ettings* to view the instrument type and firmware version.

Use the *Instrument settings* dialog to configure Long range mode, Signal volume, EDM power save mode, Target test, and Reticle illumination.

Note - These options are displayed only if supported in the instrument.

Radio settings

Select *Instrument* / *Radio Settings* to configure radio settings (previously in the Style menu). The current values are automatically set in the controller when connecting to the instrument or radio.

Adjust menu

Use the *Adjust* menu to adjust the instrument for horizontal and vertical collimation, horizontal tilt axis, Autolock collimation (5600 instrument with Autolock only), and compensator collimation (3600 instrument only).

Data Transfer

Downloading Trimble 5600 GDM Files and M5 Files

Use the Trimble Data Transfer utility version 1.08 to download Trimble 5600 Job and M5 files.

Connection problems after running Microsoft's ActiveSync for the first time

If you have difficulty connecting to the controller after you install and run Microsoft ActiveSync for the first time, run the registry settings file on the Trimble Survey Controller CD. Select *Trimble Survey Controller \ Utilities* and double-click *SetUpActiveSync.reg*.

Other Information

Database search rules

Trimble Survey Controller gives most points and observations a classification to determine the relative importance of coordnates and observations stored in the job database.

Classifications are in the following descending hierarchy:

- Coordinates:
    1. Control
    2. Adjusted
    3. Normal
    4. Construction
    5. Deleted
- Observations:
    6. Normal / Mean Turned Angle (MTA)
    7. Construction
    8. Stakeout
    9. Backsight
    10. Check
    11. Deleted

Note - An MTA is always used in preference to any other F1 or F2 observation from the same Station setup.

For more information about search classes, refer to Database Search Rules in the Help.

Trimble Survey Controller 10.5 software outputs a version 10.0 Data Collector (DC) file type. Therefore, points with Adjusted, Normal and Construction class are output from a Survey Controller job file as points with Normal class in

the DC file. If duplicate Normal class points exist in the DC file, Trimble Geomatics Office, Trimble Total Control and Terramodel use the coordinates from the last Normal class point.

Bluetooth/BlueCap

Bluetooth is an international standard for a compact, low-cost, low-power wireless connection between devices.

The integrated Bluetooth module in the ACU, with the Microsoft CE.net operating system, enables this wireless connection to a Trimble 5800 receiver, or to Trimble ACUs or TSCe controllers that are equipped with the BlueCap attachment.

Similarly, a BlueCap attachment on a TSCe running Microsoft CE.net enables wireless communication with a 5800 GPS receiver and between this controller and other TSCe controllers that are equipped with the BlueCap attachment.

Note - To use Bluetooth or BlueCap, the controller must be running the Microsoft Windows CE.NET operating system.

When using Bluetooth, Trimble Survey Controller 10.5 does not support:

- RTK and Data Logging at rates faster that 5 seconds
- RTK and Infill at rates faster that 5 seconds
- Data logging at rates faster than 5 seconds
- Using a cellular modem for a radio connection
- Using a laser rangefinder on the ACU controller
- Configuring external radios other than TRIMMARK3

Note – Although Bluetooth does support data logging, Trimble strongly recommends that you use a cable between the data collector and receiver to ensure data integrity.

Tip – When using Bluetooth to connect to a 5800 receiver, minimize connection time by switching the receiver on before starting Trimble Survey Controller.

Documentation

Trimble Survey Controller Help

The Trimble Survey Controller software contains context-sensitive help. The help includes information from the *Trimble Survey Controller User Guide*, which it replaces.

The help files are also provided in PDF format on the Trimble Survey Controller CD so that you can search and print the Help from a PC.

Linked Survey Controller .job files

The *Trimble Survey Controller Getting Started Guide* refers to linked Survey Controller JOB (.job) files. Linked JOB files are not supported in this release.

CSV and TXT files are supported. To link a JOB file, first use the onboard converter to export the JOB file as a CSV file.

Trimble Survey Controller Getting Started Guide

In the Trimble Survey Controller Getting Started Guide, please read the new text, as shown below.

Location	Old text	New text
Page 6 Para. 2	the ACU automatically switches over to this battery, which provides approximately two hours running time when fully charged	the ACU automatically switches over to this battery, which provides approximately one hour running time when fully charged.
Page 6 Para. 3	When fully charged, these provide approximately 15 hours running time to the ACU through the 7-pin backplane.	When fully charged, these provide approximately 12 hours running time to the ACU through the 7-pin backplane.