

Terramodel[®]

including Geocomp Update

Release Notes

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Release Notice

This notice includes extracts from the October 2003 (Revision D) Terramodel Release Notes, Trimble part number 0321-0804D.

These release notes are for Trimble Terramodel® 10.30 with Geocomp Update.

Introduction

Upgrading to *Terramodel 10.30* offers the following key benefits:

- New tunnel features make working with tunnels much easier.
- Support for Trimble SCS900 site controller system
- More Nikon communication options

This is a complete installation of *Terramodel 10.30*, including *Geocomp Update*. It will uninstall any previous release since *Terramodel 10* (including 10.12, 10.13, 10.2).

These release notes describe changes and new features added since *Terramodel 10.20 with Geocomp Update*. Please also read *Terramodel 10 User Guide* and *Terramodel 10.20 with Geocomp Update Release Notes*.

For other applications on this CD, see their specific *Release Notes*.

See *\Documentation\en* folder for release notes, manuals, user guides, training guides, instant experts and so on in Adobe PDF format. For a detailed list, see <http://www.geocomp.com.au/support/terramodel/10.30/cddocs.html>.

Installation

When you insert the Geocomp Systems installation CD for *Terramodel 10.30*, an AutoRun menu should appear. If not, execute AutoRun.exe in the root folder of the CD.

Installing Terramodel 10.30

Terramodel 10.30 requires Windows 95, 98, Me, NT, 2000 or XP.

If you use the *Geocomp Data Collector Interface* with certain data collectors, you may require Windows 95, 98, NT, 2000 or XP Pro.

You will need administrator user privileges.

Before installation, you may want to back up any files you may have changed that might be overwritten, replaced or updated. You can have a custom folder in the Terramodel Search Path containing your configuration files that is not touched by the installation. Please refer to *Trimble Terramodel 10.12 with Geocomp Update Release Notes*, or the *User Guide* for an explanation of the Terramodel Search Path.

Select the first option from the menu to install (or uninstall) Terramodel 10.30. You can select English, Spanish, French or German. If you select English, a little later you will get the choice of US or International English. The principal difference is that US English uses the *Station* and *Color* idiom whereas International uses *Chainage* and *Colour*. Note that while US English is the default, most of our users prefer International.

Whichever language you choose, the Geocomp Update (see below) installs our metric default prototype file and our menu. You can easily choose another prototype or menu.

During installation, you will get requests to display *readme* files. Select No, because the relevant content is repeated in this document you are now reading.

Terramodel 10.30 is added to the programs in the *Start menu* under *Trimble Office*. You also have the opportunity to add or update *Terramodel 10.30* and *TML List* shortcuts to the Desktop.

Coordinate System

The Terramodel installation can modify coordinate systems used by functions such as COORDCON, GEOSYS, *Coordinate System Manager* and other Trimble applications such as *Trimble Data Transfer* and *SiteVision*. If you have already set a coordinate system in any Trimble application, select **No** when you are asked “Would you like to replace the coordinate system and sites?”.

Don't reboot yet

If you are asked to reboot at the end of the installation, select **No**, and continue to install the Geocomp Update.

Geocomp Update

Once *Terramodel 10.30* is installed, you will be asked whether you want to install the *Geocomp Update*. You can install it now, or select the *Geocomp Update* from the AutoRun menu later.

Geocomp Update extends *Terramodel 10.30* with new and modified programs developed by Geocomp Systems. It also modifies the Windows Registry and *.ini* files. This upgrade is available free of charge for each Terramodel licence with a current *Geocomp Systems Customer Care Membership*. To join, see www.geocomp.com.au/contact/.

This installation updates files such as *tmodwin.ini*, *p3server.ini* and *alias.ini* to add to colourmaps, Terramodel Search Path and so on, and to link to our default prototype and AutoDraft Configuration files. You can easily reselect your existing prototype, *.adc*, and menu files after installation.

Hydrographic Data Management System

If you prepare hydrographic charts, at this point you may want to install the *Terramodel Hydrographic Data Management System (TM HDMS)* from the AutoRun menu on the CD. To use HDMS, refer to *hdms.pdf* installed with the software.

TM HDMS 1.9.6 includes faster removal of overlapping depth labels.

Checking installation

After completing the installation, reboot. In Terramodel, select About from the Help menu. This will confirm the version of Terramodel and the modules.

If the only module listed is Field Data, either no modules have been found on the key, the key cannot be found, or the lock version needs to be updated.

If there is no Products button next to the OK button, the key cannot be found and you should see [Rainbow Sentinel System Driver](#) below.

Click on the Products button. If the lock version is 0 or 1, you will need to upgrade the lock version to 2 to activate the modules for Terramodel 10.30. If so, see *Trimble Terramodel 10.12 with Geocomp Update Release Notes*, any instructions provided with your upgrade code or go to <http://www.terramodel.com/LockUpdate>

Blue crosses are permanent modules. Blue clocks are timed modules. If timed, note the number of demo days left.

Try a few commands from the menus and toolbar. Try a TML that is only included with the Geocomp Update such as GCIMPORT.

Rainbow Sentinel System Driver

All Terramodel modules, except Field Data, are secured with a Rainbow Sentinel SuperPro key. The key contains the code indicating the licence number, modules and version and plugs into either a USB or parallel port.

On most computers, to see the key on the port, the *Rainbow Sentinel System Driver* must be installed. Terramodel installation should install the *Rainbow Sentinel System Driver* automatically. You can install version 5.41 of the driver manually using the AutoRun menu.

Remove any USB keys before installing or removing the *Rainbow Sentinel System Driver*. Otherwise, the USB portion of the driver installation might fail.

The latest driver and a troubleshooting guide is available from <http://www.rainbow.com/support/ESC.asp>.

Some new Toshiba notebooks only allow the Rainbow Sentinel System Driver to activate the USB port, and not the parallel port. If Terramodel cannot find the key on the parallel port of a Toshiba notebook computer, even after installing the driver, see www.geocomp.com.au/support/toshiba.html.

See www.geocomp.com.au/support/dongle.html for more about Sentinel keys.

Please specify whether you want a USB or parallel port key at time of purchase.

Other applications

The AutoRun menu on the CD includes installations for:

- *Trimble Terramodel 10.30*
- *Trimble Terramodel 10.30 Geocomp Update*
- *Trimble Terramodel Visualizer 2.05*
- *Terramodel Hydrographic Data Management System 1.9.6*
- *Trimble Data Transfer 1.10*
- *Trimble Paydirt Sitework 5.11*
- *Rainbow Sentinel System Driver 5.41*
- *Adobe Acrobat Reader 5.1*

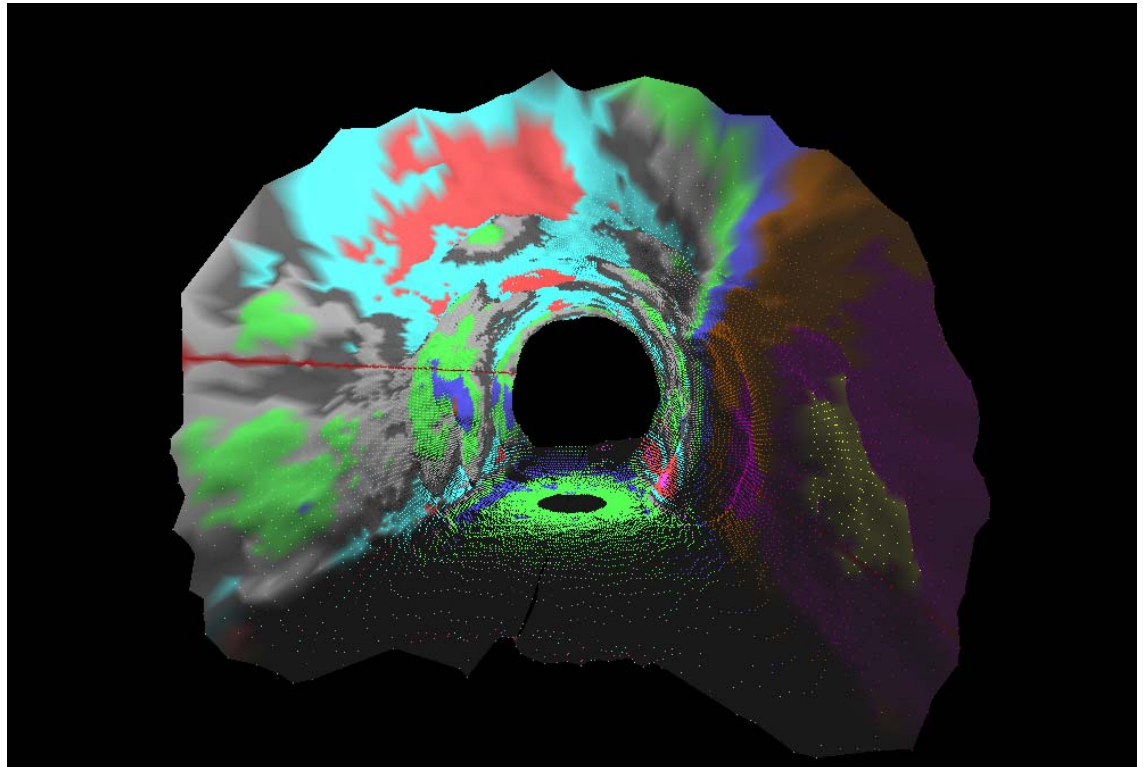
For more information, see the release notes for each application. Each installation also includes the option to uninstall.

There is also a link from the menu to www.ztree.com/html/ztreewin.htm. From this site you can download a trial version of ZtreeWin, the file manager that we recommend.

Enhancements

Working with Tunnels

Terramodel has been enhanced to support the needs of the engineer and surveyor working with points collected within tunnels.



The **TunnelDTM** command has been added. Using a HAL and VAL, this command unwraps the points on a specified layer into a special coordinate system which enables the Terramodel DTM engine to link the points even though the points may overlap in true 3D space. Certain commands have been enhanced to convert from this system as needed. A *Tunnel Training Guide* and example files are included in the \Examples\Tunneling folder on the Terramodel CD. This guide explains the capabilities and limitations of working with tunnel data. Online help for tunneling is also available when using Terramodel for working with tunnel information.

A tunnel.m menu file has been added to organize the new tunnel DTM-related commands and certain commands from the Roadway module into a single menu. This menu can be loaded from the **MenuCfg** command as described in the training guide and in the online help.

The new import script file *Callidus ASCII* imports ASCII point data from the Callidus Laser Scanner.

The **TVLite** command has been enhanced to display tunnel DTM data. In certain data sets the time required to display the data has been dramatically shortened. This command has also been enhanced to use the point colour of each point rather than using the colour of the layer.

The **RDX** command has been enhanced to properly interpolate cross sections from tunnel DTM data.

The **XSheet** command has been enhanced to properly interpolate cross sections from tunnel DTM data.

The **Shape** command has been revised to have a new user interface and to enable the user to enter circular segments.

The **Earthwrk** command has been enhanced to calculate average end area volumes using shapes such as those required for circular tunnels with tunnel DTM data.

The **RoadDTM** command has been enhanced to be able to create points from circular shaped templates.

The **Xsectiondt** command has been enhanced to display and shade arc shapes and tunnel DTM data. This command has also been enhanced to include a measure option that can snap to the existing and proposed surfaces and report the distance.

The **ColorCode** command has been added to the tunnel menu. This command enables the user to color code selected points based on a user-defined table specifying the distance from the existing tunnel DTM data to the proposed design. This enables the user to visually identify areas that require differing amounts of cut and fill, or that lie outside specified tolerances from the proposed design.

The exporting of lines in DXF/DWG files has been enhanced. A single 3D pline is created for each set, unless the set contains one or more arc segments. Exported sets with arc segments are created as a series of 3D plines and arc entities as required.

Export/Upload to Trimble SCS900

Terramodel 10.30 has added support for exporting data to the Trimble SCS900 Site Controller System. The support for sending data to the SCS900 system consists of three parts:

- An exchange folder, which mimics the SCS900 field data structure. This folder is a root folder for exchanging both SCS900 and Survey Controller data from Trimble CE devices and must be properly referenced by both Terramodel and the Trimble Office Synchronizer (see below).
- Terramodel export script for *SCS900* data files. The export script for SCS900 differs from all other export scripts; it acts as a file manager for the folders and file structure of the device, and allows the user to export multiple and different filetypes in a single execution of the script.
- Trimble Office Synchronizer, a separate program, which controls the exchange and synchronization of data between the SCS900 Controller (TSCe or ACU) and the PC or Network SCS900 exchange folder.

Please see the Terramodel online help for more information.

The Exchange Folder

This exchange folder can be located on your PC or on a network to which your PC has access. The folder can be C:\Trimble Sync for example.

- Beneath the root folder, each time a new device is connected to the PC that is operating Trimble SCS900, Survey Controller or TDS / Trimble Survey Pro, a device folder will be created and named as it is identified.
- Under the device folder, the data structure of the device / software is copied on the PC, e.g., for Trimble SCS900 the root data folder will be \Trimble SCS900 Data, whereas for Trimble Survey Controller it will be \Trimble Data.
- Beneath the root data folder you will find all the associated folders and data files used on that specific device.

In this way, Trimble Office Synchronizer will support the connectivity and synchronization with multiple field crews / devices.

SC900 Export Script – It does a little more

The Export Script for SCS900 differs from all other export scripts in that it acts as a file manager for the folders and file structure of the device, and allows the user to export multiple and different file types in a single execution of the script. The Script performs the following operations:

- Trimble Sync Folder and Device selection – Allows the user to designate the sync folder and, in the case of multiple field crews, select which device for which they are creating data.
- Site Selection – Allows the user to send the data to a specified Site, and allows the creation of Site level data, i.e., control points, background maps and site calibration information.
- Design Selection – Allows the user to create and manage multiple design folders, and to create data to represent a new design or construction phase. Design level information includes surface models, “live” foreground maps and stakeout coordinate lists.
- Work Order Selection – Allows the user to create and manage work orders for the site, complete with work order instructions and design folder references. This means that a field operator can simply open a work order in the field, receive written instructions on what is required and automatically load the necessary and relevant data for the task at hand.

The SCS900 export script allows the user to create files by exporting objects selected from the graphics views of Terramodel, or to add previously created files to the exchange folder. Adding files to the exchange folder effectively copies the file to the appropriate folder for the field device.

Trimble Office Synchronizer installs from the SCS900 CD

Trimble Office Synchronizer synchronizes data files between the SCS900 data structure on the field device (TSCe or ACU) and the PC or Network exchange folder accessible to Terramodel.

To install Trimble Office Synchronizer, follow the installation instructions on the CD provided for your SCS900 installation.

Note to the Installer: The Trimble Office Synchronizer requires two Microsoft® programs to be installed on the computer. These are “Microsoft Active Sync®” and the “Microsoft .NET Framework®”. These may already be installed on your computer, or they may to be installed during the installation of the Trimble Office Synchronizer. If you have issues during installation, both Active Sync and .NET Framework are available as a free download from Microsoft.

Set Up the Trimble Office Synchronizer

The first time that you connect a device after installing the Trimble Office Synchronizer, you will be requested to designate a root exchange folder. Be prepared to identify the root of the SCS900 exchange folder (e.g. C:\Trimble Sync). You will also need to enter the same information in the Terramodel export script file.

Note: When Trimble Office Synchronizer first connects with a device, you will be prompted to provide a name for this device. This device name will subsequently appear as a folder created under the root exchange folder, e.g. C:\Trimble Sync\Device 1. When you begin the SCS900 export script, this and any other devices that have been connected will be listed, and you must choose the device to which you wish to export files. This is so that Terramodel can support file generation and synchronization for multiple field crews.

Set Up the Terramodel Export Script

In Terramodel 10.30, an export script is installed for exporting data to the SCS900 controller. Before your first use, edit this script following these steps:

1. Click the *File\ExportUpload\Export Script Manager*.
2. Highlight the *SCS900* script and click **Edit**.
3. The *SCS900* dialog box appears with the *SCS900 Folder* tab on top. Edit the *Sync folder* field or use the **Browse** feature to point to the root of the exchange folder, e.g. C:\Trimble Sync. The SCS900 data structure must exist in a location accessible to the office computer, either on a local hard drive or on a connected network drive.
4. Click **OK** at the bottom of the *SCS900* dialog box to close the editing session.

Importing data from the SCS900 Controller

Import from the SCS900 controller by using the Terramodel AutoCAD DWG/DXF import script. These DXF files are transferred into the appropriate exchange folder by the Trimble Office Synchronizer software; they will be found in the Work Order output folder.

Important Note: All *.dxf* files created by SCS900 use the same standard layer names. So if you are importing more than one DXF file created by SCS900 into a single Terramodel project, and if you do not want the data from the various DXF files to be on the same layers within Terramodel, rename previously imported layers prior to importing additional SCS900 DXF data.

Import/Export support for Nikon

The Import and Export commands have been enhanced to support Raw data and coordinate data from the 300 and 500 series instruments. Coordinates as well as feature code (.lst) files can be uploaded to these instruments.

The 800 Series instruments have a PC card on them on which data is stored in a binary format. The Terramodel scripts use the Nikon ASCII raw data file, so you need to export in this format.

To use the Nikon NS95 Database Utility, refer to *NS95* in our *TML List* at <http://www.geocomp.com.au/support/terramodel/tmlist.htm>

You can also communicate with 800 series using RS232. The feature code lists for the 800 series are not supported.

The Geocomp Nikon import script allows for Geocomp-style field coding.

Notes

Aliases

Many new aliases have been added to alias.ini including alternative spellings and file conversions. For example, now AUTOCADOUT, ACADOUT, DXFOUT, DFXOUT and DWGOUT all launch the AutoCAD export script. You can easily add your own using ALIAS.

TML List

The latest list is at www.geocomp.com.au/support/terramodel/tmlist.htm.

The TML list current with this release is typically installed to

C:\Program Files\Trimble\Terramodel\Geocomp\tmlist.htm.

You can also go to this list through the Help menu.

Please take the time to look through the index of the list as you may find something powerful that you will need sometime.

Trimble Data Transfer

Trimble Data Transfer 1.10 can be installed from the AutoRun menu. This utility enables communication with various Trimble, Geodimeter and other instruments.

This utility will also update the *Terramodel Remote Device Manager*. This may be required to communicate with certain new Trimble instruments, such as the *Active Control Unit (ACU) and TSCe*.

See <http://www.geocomp.com.au/support/terramodel/acu.html> for help with communication between Terramodel and the Trimble ACU.

tmodelf.fnt, tm98f.fnt and tm98p.fnt

The complete set of Latin characters was added to *tmodelf.fnt* in Terramodel 10.12. Some special characters above character 127 have also been replaced including superscript and subscript characters.

tm98f.fnt (fixed-width) and *tm98p.fnt* (proportional width) retain the special characters \221 (subscript off), \222 (subscript on), \227 (superscript off) and \228 (superscript on).

For more details, please refer to page 157 of the *Terramodel 10 User Guide*.

Paydirt Sitework

This CD also includes Paydirt Sitework 5.0 and the Paydirt Sitework 5.11 Update.

If you install Terramodel 10.20 or 10.30 after you install Sitework, the Terramodel installation will modify the *gdx.ini* file in your Windows folder so that Sitework can launch Terramodel.

If you install Sitework 5.11 after Terramodel, check that the *gdx.ini* file specifies the Terramodel location. For example,

[Launch]

Terramodel=C:\Program Files\Trimble\Terramodel\Terramodel.exe

DWG and DXF import

Common reasons why Terramodel has difficulty importing DWG or DXF data

- Data is in AutoCAD 2004 format. The import script recognises releases up to 2002. Export data from AutoCAD 2004 in 2000 format.
- Data references external files. Import these files separately.
- The application creating the file does not export the format correctly.
- Data can only be read by an installation of AutoCAD that includes the plug-in used to create it, for example, *.dwg* files created by *MXDRAW*.
- Data is blocked, 2D, text, scaled, shifted or so on.
- Data may be imported into both the plan and sheet views without you realizing.

Hint: Import into an empty prototype file (such as *Geocomp_TM10.30 without objects.pro*). Using COUNT command, check what you have imported. Once you have understood and tidied, the combine with other project data.

Duplicate Points

If the project contains the layer DXF_PT_CHK, the import will remove duplicate points to layer 0 while importing DWG or DXF files. This can slow the import down. If DXF_PT_CHK is not present, it will not remove the points.

This is a change from some earlier versions of Terramodel, which removed the points (and ran slower) unless the layer NO_DXF_PT_CHK was present.

DWG and DXF export

The full stop or period (“.”) and space are invalid characters in AutoCAD layer names but are valid in Terramodel layer names. Since 10.20, Terramodel now substitutes both with “_” characters during the export.

The AutoCAD template file *spsdefault_iso.dwg* is like a Terramodel prototype or a Microstation seed file. DWG and DXF files exported from Terramodel are based on this file, which can be edited in AutoCAD. This can include predefined layers, blocks and linetypes. If you have feet units, *spsdefault.dwg* is used instead.

Terramodel looks for this file on the Terramodel Search Path. The default is *C:\Program Files\Trimble\Shared\Locale\English\spsdefault_iso.dwg*. This default includes AutoCAD linetypes from the *tmacadiso.lin* and *tm2acadiso.lin* files that match Terramodel linetypes in the *tmodel.lin* and *tmodel2.lin* files.

If the AutoCAD user expects certain settings or objects to always be present, or always has to make the same change to the data, then make the change to *spsdefault_iso.dwg*. Because the Terramodel project directory is always the first location on the TSP, you can have different versions of the template file for each project directory.

In some previous versions of Terramodel, *spsdefault_iso.dwg* included a linetype with an invalid name (GRND.4L). This would cause AutoCAD to reject DXF files created with some previous versions of Terramodel.

The AutoCAD conversion file (*.acf*) controls the mapping of colours, fonts and linetypes between Terramodel and AutoCAD. If the Terramodel colour is mapped to an AutoCAD colour of BYLAYER, the objects will be coloured BYLAYER in AutoCAD. This is equivalent to using colour 0 in Terramodel. If the Terramodel colour is mapped to AutoCAD colour 0, the blocks will be coloured BYBLOCK in AutoCAD.

As described under Working with Tunnels above, Terramodel exports a single 3D pline for each set, unless the set contains one of more arc segments, in which case, 3D plines and arcs are created as required.

FixLayers

Terramodel 10.20 can corrupt a layer attribute so that Terramodel 10.20 and 10.30 can not compute volumes by end area or roadway. If this happens, run FIXLAYERS at the command line to repair these layers.

More commands are now available in the FDM module.

Numerous commands have been unsecured in order to allow all file types required by Trimble field systems to be created, validated and supported within the basic Field Data Module (FDM) system.