

TerraModeler

for MicroStation SE/J and V8
Windows NT/2000/XP

– Your Choice for Terrain Modeling

TerraModeler is a full featured terrain modeling application optimized for MicroStation® SE, J and V8 from Bentley Systems. It creates surface models (TIN) of ground, soil layers or design elements by reading in laser points, graphical design elements or XYZ text files. Versatile functions to edit TINs and display them as contours, colored nets, profiles as well as calculate volumes between TINs makes TerraModeler a powerful package for many environmental design purposes. If your current terrain modeling software packages is complex to use, runs slowly or even stops due to many modeling points, take TerraModeler!

TerraModeler is an excellent choice for:

- Surveyors working with laser scanned data, total-station or GPS
- Designers in geotechnical environmental engineering
- Architects and landscape planners
- Contractors to calculate volumes

Fast Triangulation - Available RAM of PC only Limit

TerraScan outputs ground points to TerraModeler for surface modelling. From laser points one cannot detect breaklines automatic. However the surface-lock of TerraModeler and dynamic viewing of capabilities of TerraScan let you easily place break lines.

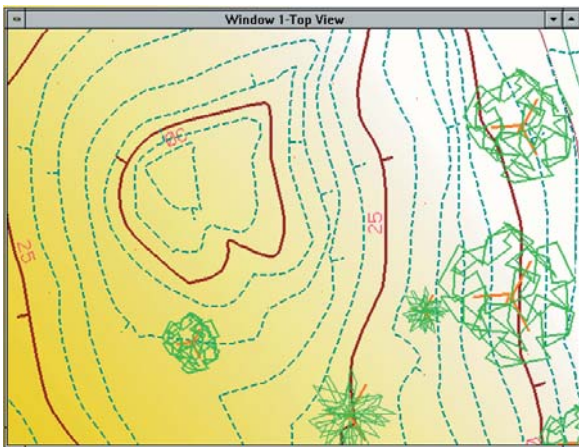
If you use TerraSurvey to read-in survey data from total-stations or GPS to create a survey map, TerraModeler can create automatic an optimized TIN from the survey-coded elements. Alternatively you can create a surface model from any graphical element by filtering them after level, element type or other attribute information.

Versatile Tools to Visualize TINs

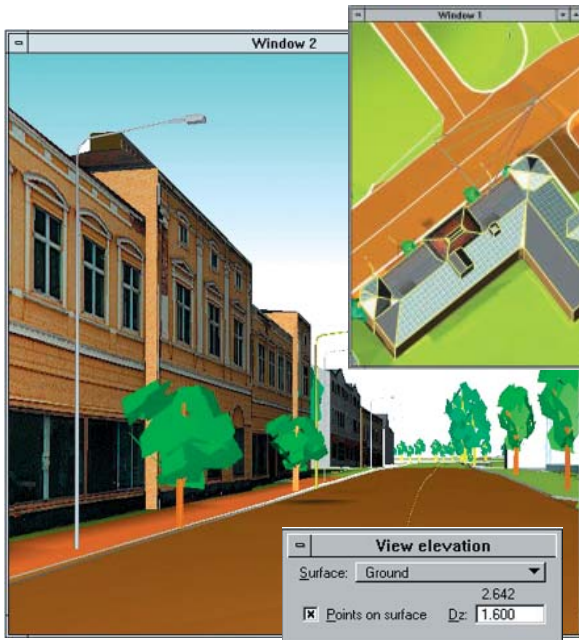
Contour maps can be generated automatically. They can be drawn as curves with smooth vertexes or as line string with sharp vertexes. The user can specify the intervals of minor, basic and major contours. The contours can be distinguished from each other by line color, weight or style. Automated contour production of TerraScan and TerraModeler let you create contours on project level from laser data.

Surface models can be displayed as TIN and grid elements, where the elements are colored by surface elevation or slope angle. The user can make own color schemas. Merging and subtracting TINs let him to compare the surfaces with each other.

User-defined domains separate different surface regions from each other. Domains such as Ground, Grass or Road can have their own colour or material display. Orthophotos, which are read-in as reference by TerraPhoto, can be draped over the TIN and displayed as rendered views.



A surface model can be created from laser points, graphical elements and contours.



TerraModeler let you view the elevation of a surface model and place interactively elements on their correct elevation. This capability makes TerraModeler a high-end planning and visualization package.



TerraModeler with TerraScan and TerraPhoto is an ideal software bundle to create and display city models.

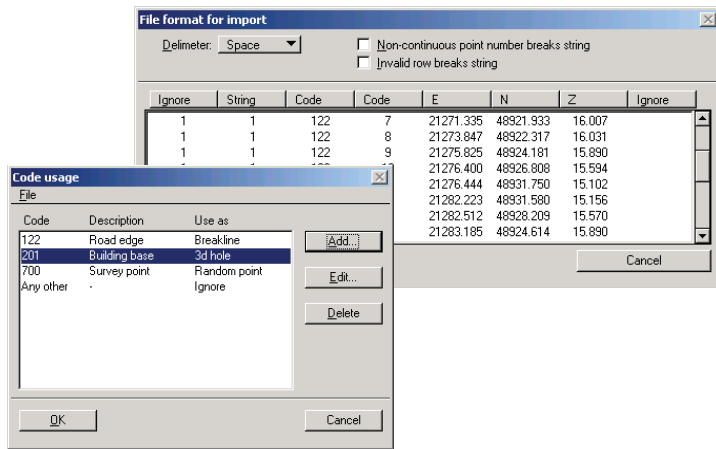
 **Terrasolid**

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Versatile Functions to Import and Export TINs

TerraModeler can import and export data files a variety of modeling formats. Supported data types are graphical triangles of design file, Xyz ascii files, SiteWorks surface models, GRD from *Intergraph*, Disimp grid file, NTF from Ordnance survey, raw binary grid file and elevation colored raster image.



User can define the file format and import practically any XYZ text files for creating TIN. TerraModeler exports TINs as ASCII, lattice files, graphical files and raster images in different formats.

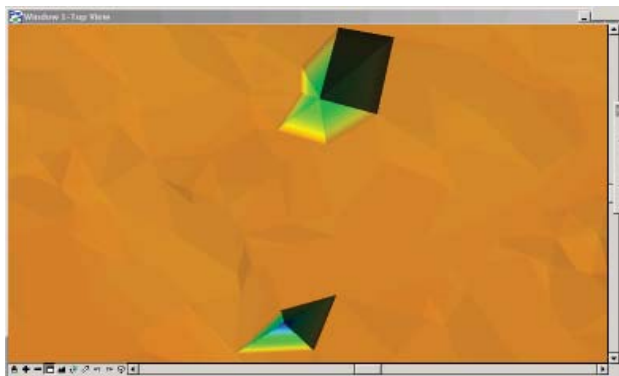
Modify TINs Interactively

Surface models must be checked after their creation and modified if necessary. TerraModeler let you edit TIN on point-by-point basis:

- Insert new point or move existing one to a new location
- Delete points
- Construct new break line or delete existing one
- Insert points along break line
- Select triangles and include or exclude them to the TIN

You can also modify areas bounded by a fence or a drawing element:

- Flatten TIN points to a fixed elevation
- Move points up or down with a given distance
- Move points either up or down after selected surface
- Include or exclude triangles
- Add holes inside TIN
- Delete modelling points or holes



'Shaded Surfaces' of TerraModeler makes it easy to validate laser points by TerraScan to selected point class.

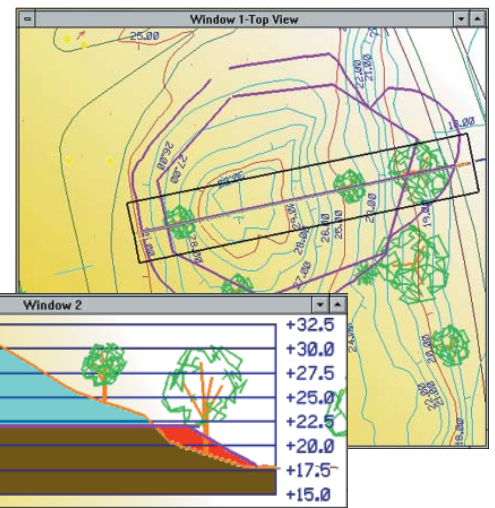
Surface Models as Powerful Design Aid

The "View Elevation" of TerraModeler is an easy-to-use tool, which let you to interactive view the elevation of the surface model. If you want to place lines, cells or other elements above or below the surface, just enter a desired Dz-value and let TerraModeler to calculate their exact height from the valid TIN.

For displaying and design you can create 3D- section views and two-dimensional profiles. A section view is a rotated 3D view along given line. It is ideal for design purposes because using the section you can place elements easily to their true 3D positions.

Profiles and cross-sections can be generated along an alignment, which can be any linear element such as line, shape, complex chain and shape. The profile can be positioned anywhere in the design file and updated automatically after a surface model has been modified.

Ability to draw interactively 3D-section views makes TerraModeler a powerful design tool in placing design elements in their true 3D position.



Calculate Volumes Quickly and Accurately even in Field Conditions

TerraModeler calculates volumes accurately between two surfaces using a grid based or prismatic method. The calculation area can be bounded by a fence or a third surface.

The calculation report contains cut and fill volumes and their area. A surface cut limit, if entered, computes cut volume separately for places where cut depth is less than given limit.

Alternatively you can calculate volumes along an alignment using section templates to define the shape of excavation. This method is suit well for calculating volumes in trenches.

To view quantity calculation as colored display in top and section views makes you possible for a visual control of calculation.

