



# Cube-link Data transfer software **User Manual**

*Stonex Software Cube-link – User Manual Vers. 3.0*



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## Software Introduction

The Cube-link application is based on two types of data: topographic points and CAD elements. Topographic points are graphically represented by a symbol and CAD entities can be lines, polylines, circles, arcs, etc. Topographic points are fundamental in the Cube-link data structure, they are generated either by importing data or graphically by creating new points.

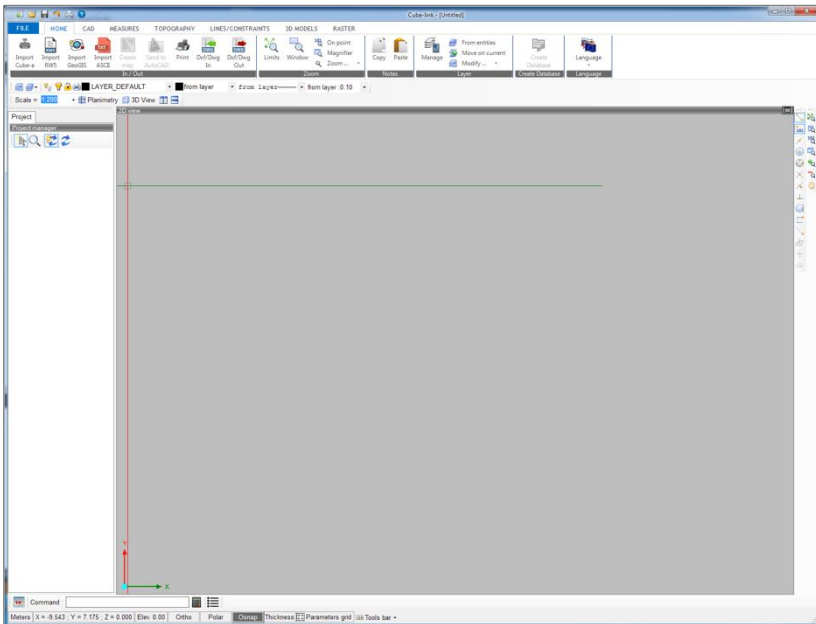
The first operation can be performed from ASCII files, these must contain in each record at least the point identifier and its Cartesian coordinates (2D coordinates); creating points, otherwise, can be made through specific CAD operations provided in the application, which will be explained in more detail below.

The most significant topographic points imports are those surveyed in field with data-recorder devices. In this case, each set of topographic points imported from a job done in field creates a fieldbook.

For example, topographic points, as a result of importing a job done with GPS, will be represented by symbols and with different graphic properties. However, these must be considered as a data structure that contains all the information gained during topographical relief, regarding the position such as coordinates (east, north, height, latitude, longitude, elevation), but also regarding accuracy and control (epoch numbers) as well as information on working modes (e.g. RTK differential correction).

Cube-link work phases can be summarized in:

- data input (imports from devices or files);
- editing or creation of graphics and entity elements required to complete the project;
- data output on data-recorder devices (e.g. for stakeout operations), or printing.



# 1. Installing and uninstalling the Cube-link

## 1.1 Cube-link installation

To install the program just launch the installer, select the language (which can be changed at any time even to the installed program), read and accept the user license agreement; select the folder for the location of the shortcuts and eventually set any link to the program from the desktop. Before you click the Install button you can check and eventually change the program's folder location, the start menu folder, any additional tasks such as the link from the desktop. Once the installation is completed, the first time you launch the program you will be asked to register yourself, to do so just follow the instructions that appear in the window (*figure 1.1*) and start discovering the features of this useful program.

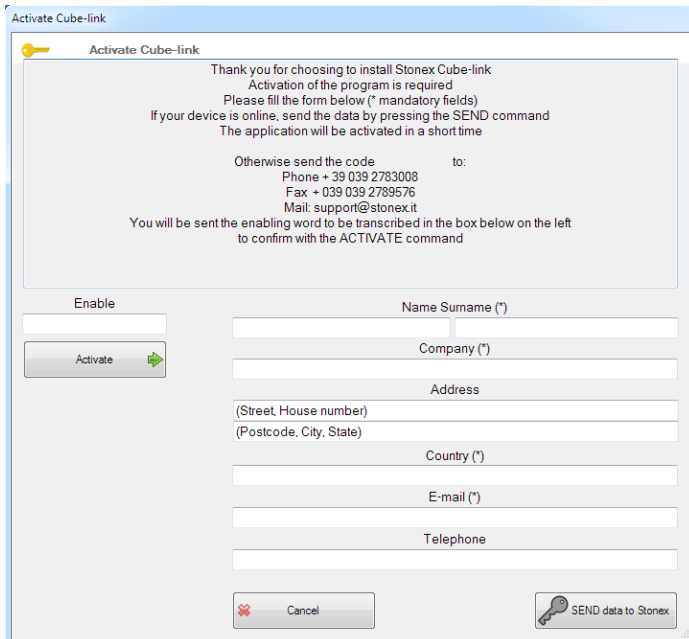
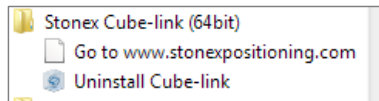


Figure 1.1

## 1.2 Cube-link uninstallation

To uninstall, go to the folder where the program is located and press the uninstall button that will execute the operation (*figure 1.2*).



*Figure 1.2*

## 2. File

### 2.1 Open and save projects

The Cube-link project files have .cubelnk file extension and within them contain all the CAD and topographic entities used to work. It is possible to save template files (.cubetpl file extension) that contain all the settings used for a project (size variables, parameter settings, layers, etc.) so that for a new job it is possible to select a template file with the settings that are already appropriate to the type of work you are going to do.

Projects are saved in the recent projects list (Open recent projects button) in the File menu. Selecting a project from this list and hovering it over with the mouse will display a preview of the graphic works (*figure 2.1*).

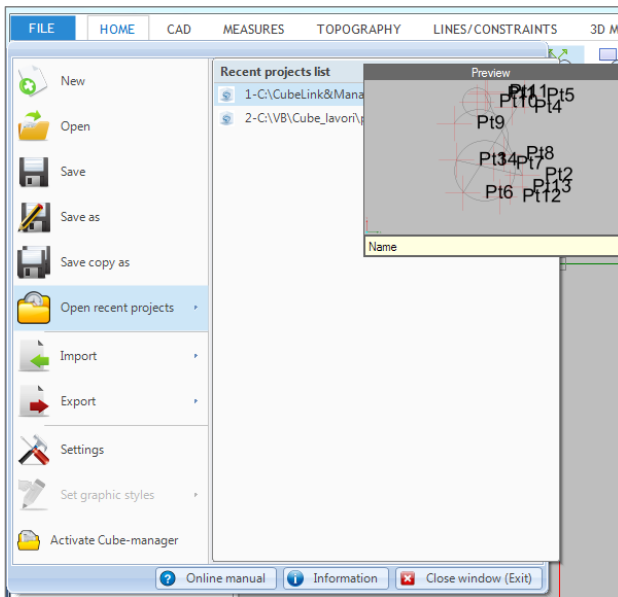


Figure 2.1

## 2.2 Import and Export files

Cube-link allows you to import and export files in many formats, including the Cube-a format. To import, select a format from the list shown in Import menu (figure 2.2), each choice will open a new window (look at the relevant sections for details, Paragraph 3.1). You can also import Cube-link projects, this function will act as a normal opening of a Cube-link file.

RW5 files and GeoGis files use mobile devices while Cube-a files use Android devices. In the case of mobile devices, you can use the USB connection, which means that devices must always be first connected to the Windows Mobile Device Center.

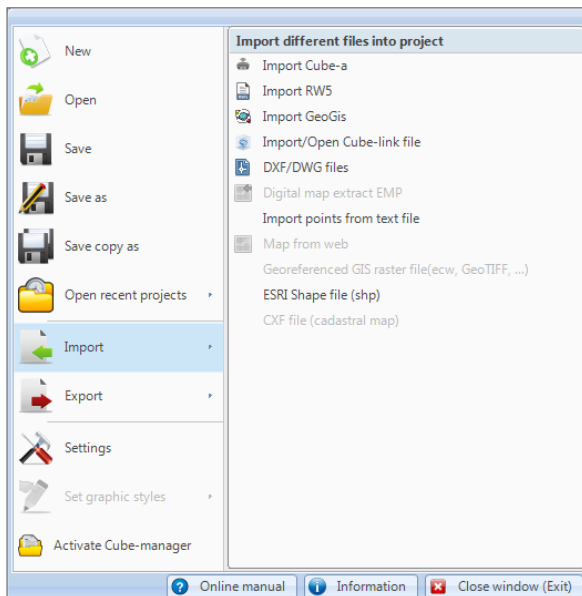


Figure 2.2



The import for ESRI Shape files is also available; after clicking on the ESRI Shape file (.shp) button, you will see a work window which will display a preview of the file to import (*figure 2.3*).

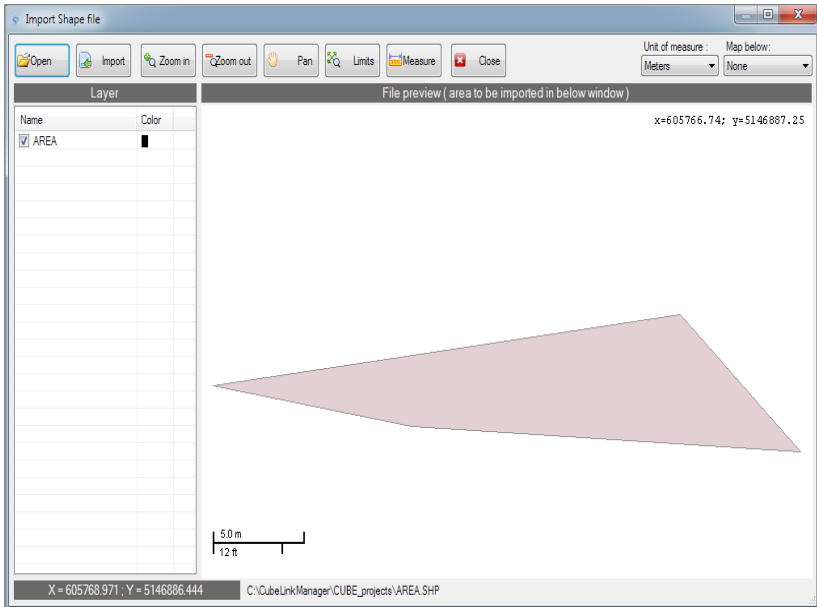
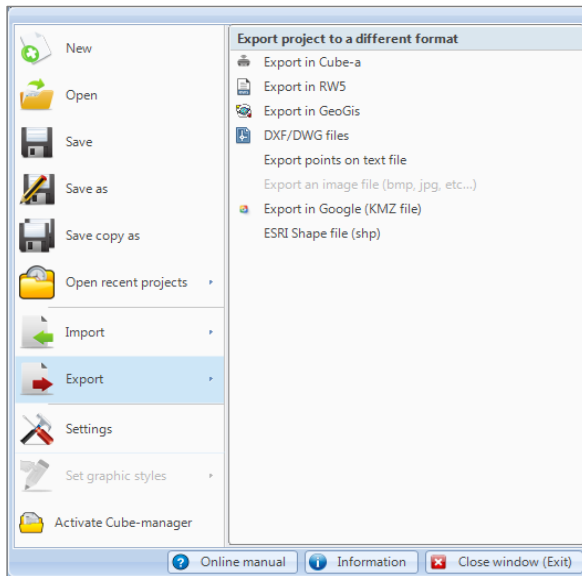


Figure 2.3

To export click on the relevant format in Export menu window (*figure 2.4*), set and enter the correct information, e.g. name and path of the file.



*Figure 2.4*

In the export for the Cube-a format you need to declare the name and path of the file, after that, choose whether to export any content or just topographic points and then click Proceed (*figure 2.5*).

For exporting the RW5 file after defining its name and path, if you are going to do a post-processing you can also enter a name and path of the Raw Data file (EzSurv by Effigis). You can also create a CDR file from the project (*figure 2.6*).

The GeoGis file export window looks the same as the Cube-file export window and also has the same functionality. After setting the name and path to follow, you can choose whether to import the entire file or just the topographic points (*figure 2.7*).

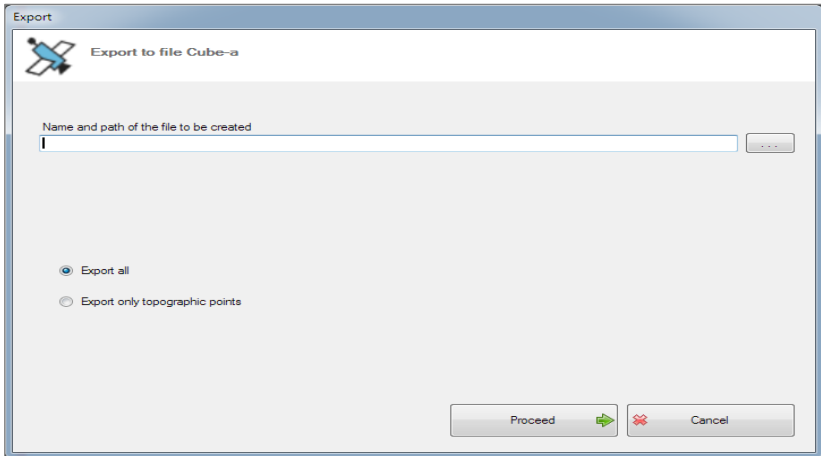


Figure 2.5

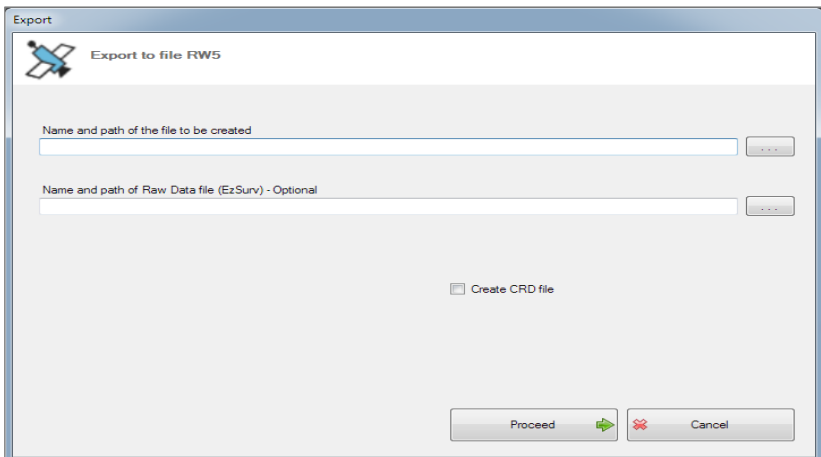


Figure 2.6

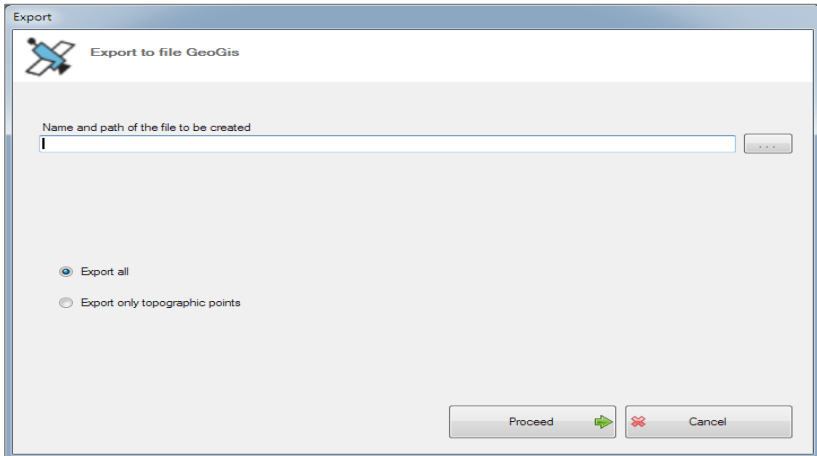


Figure 2.7

To create a text file just click on the [Export points on text file](#) button and define what features you want to give to the file. You can choose whether to include a header and you can decide which and how many data the file should contain. In addition to that, you can define the format of the geographic coordinates, the character to be used as the separator, and the characters at the beginning and end of the line (*figure 2.8*).

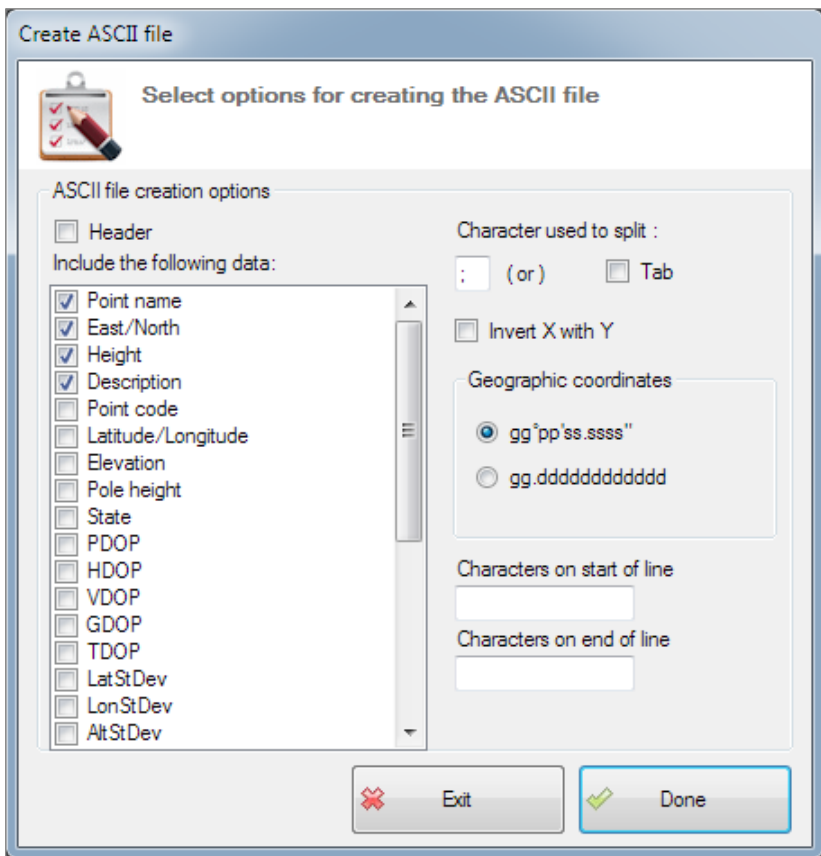
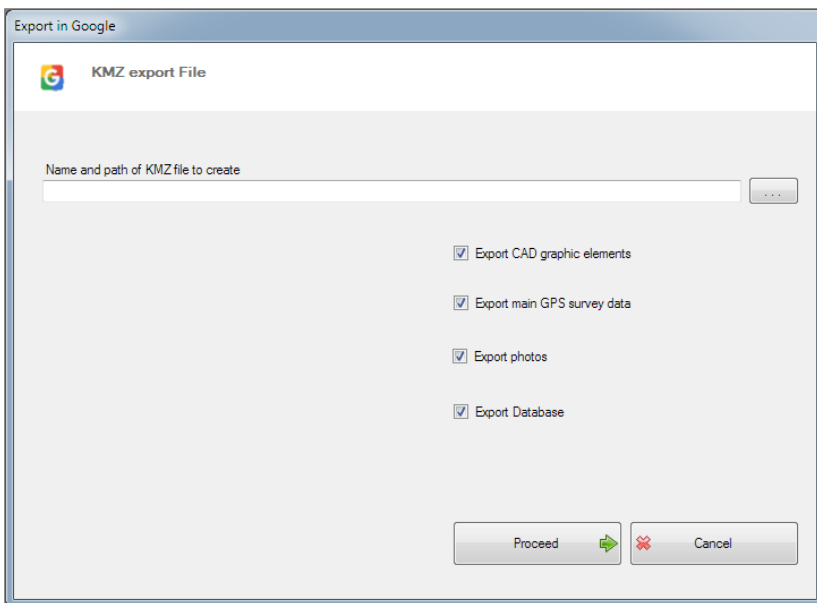


Figure 2.8

By accessing the Export to Google (KMZ file) function, you can generate a KMZ file that can be viewed in Google Earth. The procedure is similar to the other exports of this application; first specify a name and a path for the file and then proceed with the selection of the features you want it to have. The structure of this window is convenient because you can indicate which data you want to export: CAD elements; GPS data; photo; database attributes (*figure 2.9*).



*Figure 2.9*

## 2.3 Settings

In Settings, you can set the general program functions such as checking for updates on startup or the AutoCAD® version to use (*figure 2.10*). This feature is made up of 5 tabs that will be discussed below. The features available will allow you to fully customize the aesthetic, functional and practical aspects of the program.

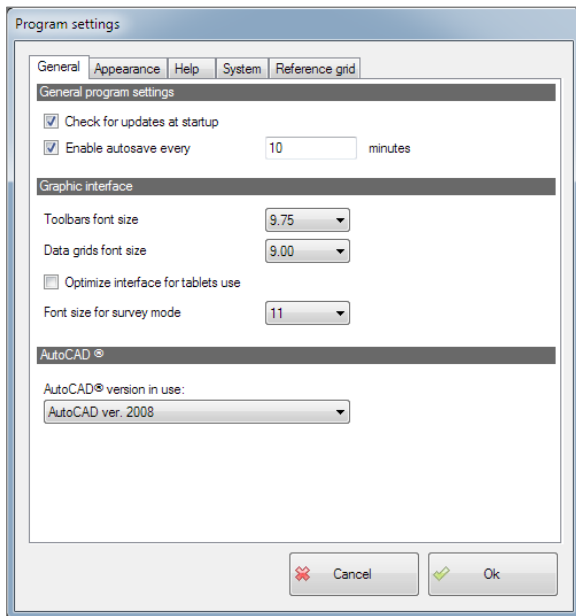


Figure 2.10

In the Appearance tab (*figure 2.11*) of the program settings it is also possible to determine, for example, the background color of the workspace or enable the dynamic information on the cursor.

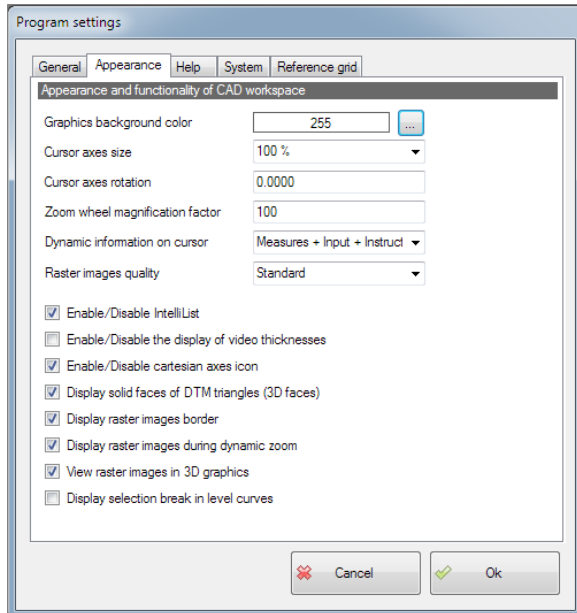


Figure 2.11



The Help tab (*figure 2.12*) is useful for setting whether to use the object snap and in which mode, it determines also if either enable or disable the polar pointing.

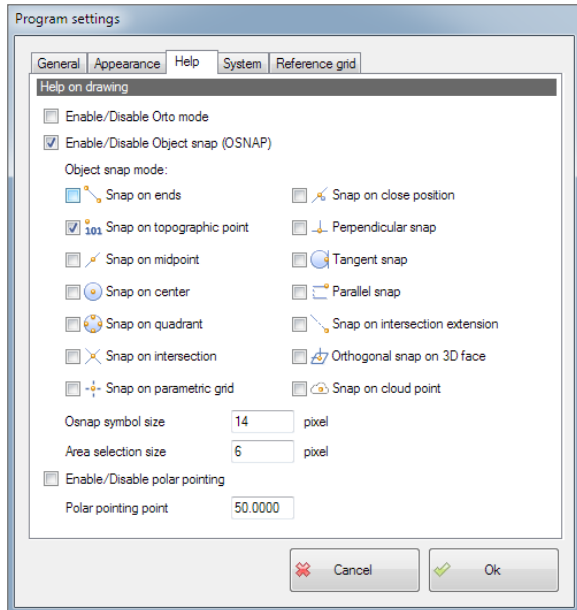


Figure 2.12

In the System tab, it is possible to set topographic measurement units and decimal digits for the program to display parameters such as heights, coordinates, distances, etc. (figure 2.13)

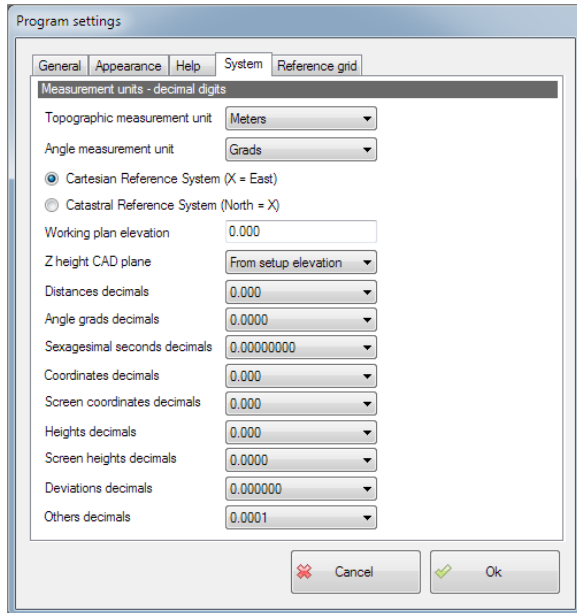


Figure 2.13

In the last tab, the Reference grid (figure 2.14), you can indicate whether to display the reference grid and what features should have.

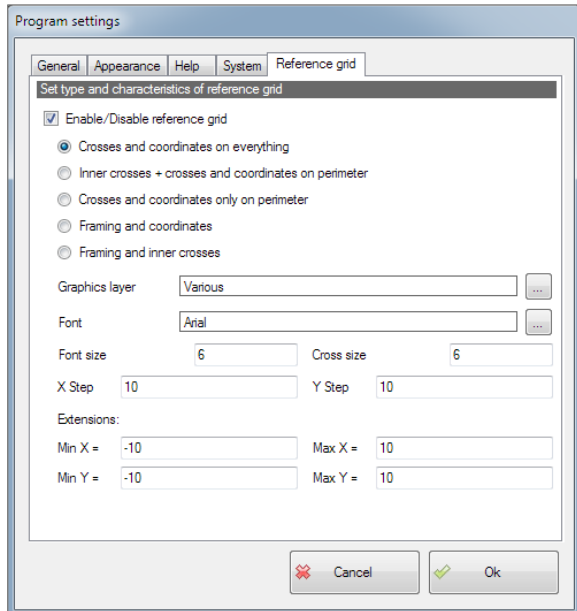


Figure 2.14

## 2.4 Activate Cube-manager

Cube-link is a free program that performs a part of Cube-manager functions. In your version (Cube-link) almost all the functions are visible but some are in gray and disabled (Pregeo commands are only visible when the Italian language is set), to have all the available features of Cube-manager, you can purchase a full version of it; contact Stonex Europe Srl for more details.

## 3. Home

### 3.1 In / Out

In the In / Out section (*figure 3.1*) are collected all the formats available for importing into the program and, for each of them, there is a button that opens a working window. The import is about data recorded on field, if there are graphic elements related to them, these will be imported as CAD entities. No data transformations will be made at this stage unless you select it before the import.

In this section, there is also the printing function and a button for importing/exporting Dxf/Dwg files.

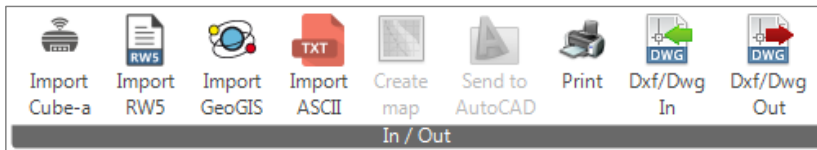


Figure 3.1

### 3.1.1 Import Cube-a

To import a Cube-a file, after you connect the device to your computer, you can copy the folder called StonexCube/Projects, which will contain several other subfolders, in this way the system can understand, for example, whether there are photographs in the file and link them to your project. It is also possible to transform photographs into GeoTIFF files (*figure 3.2*).

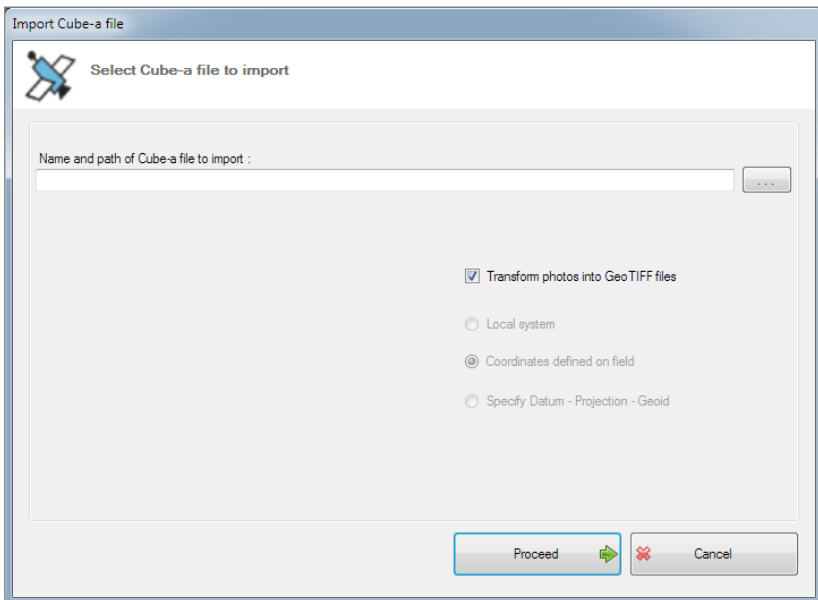


Figure 3.2

### 3.1.2 Import RW5

To import RW5 file, specify the file name and path and click on the search button (*figure 3.3*). A utility feature is the ability to select the CRD file and therefore only import the updated data recorded in field.

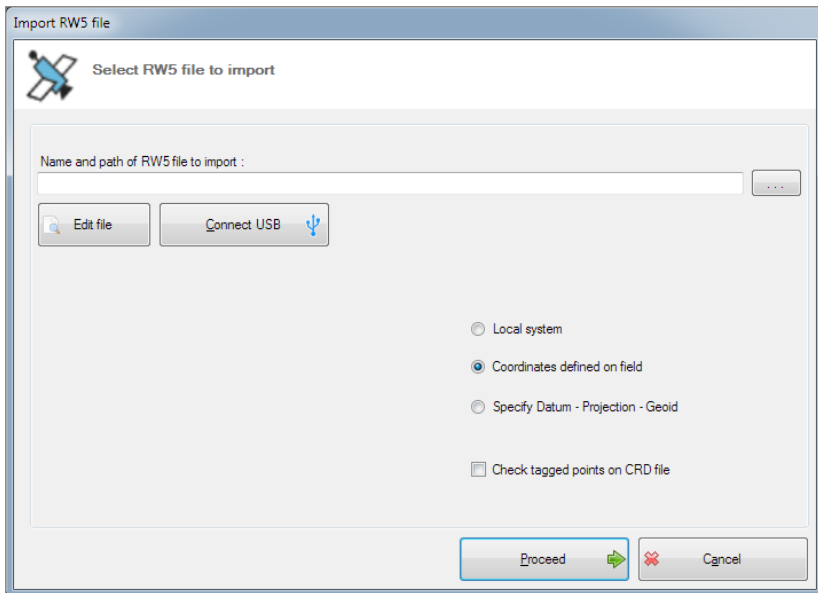


Figure 3.3

You can also read this file as a text file (editable) by clicking the Edit file button (figure 3.4).

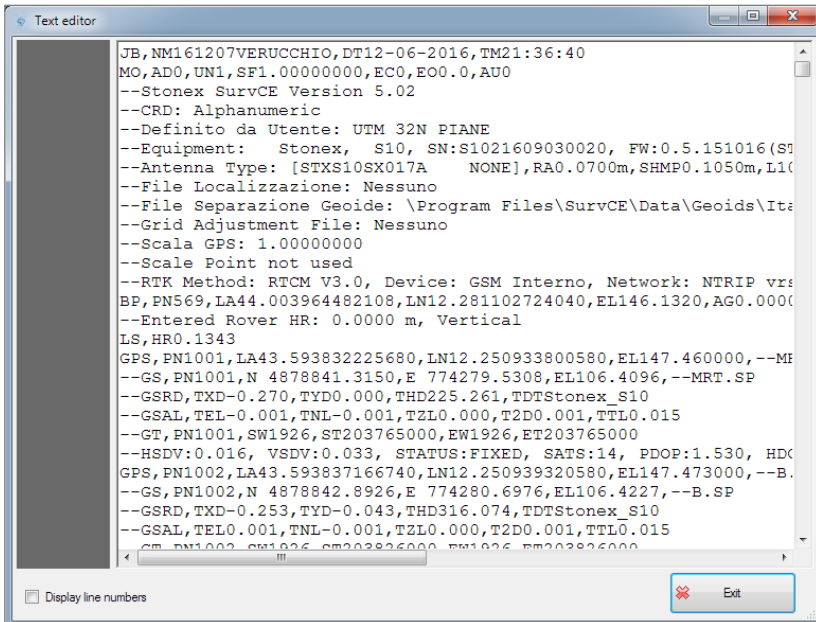


Figure 3.4

If you want to use a USB connection click on the Connect USB button (*figure 3.3*). The data recorder used in field can be directly connected to the PC and through the dialog box (*figure 3.5*) it can directly download files from the portable device to the computer, or vice versa. By default, the system always sits in the recorded data folder, this location can be changed at will by clicking on the 3-dot button. You can select from which folder to take files; the structure is made to nodes and it is the representation of the actual device's aspect.

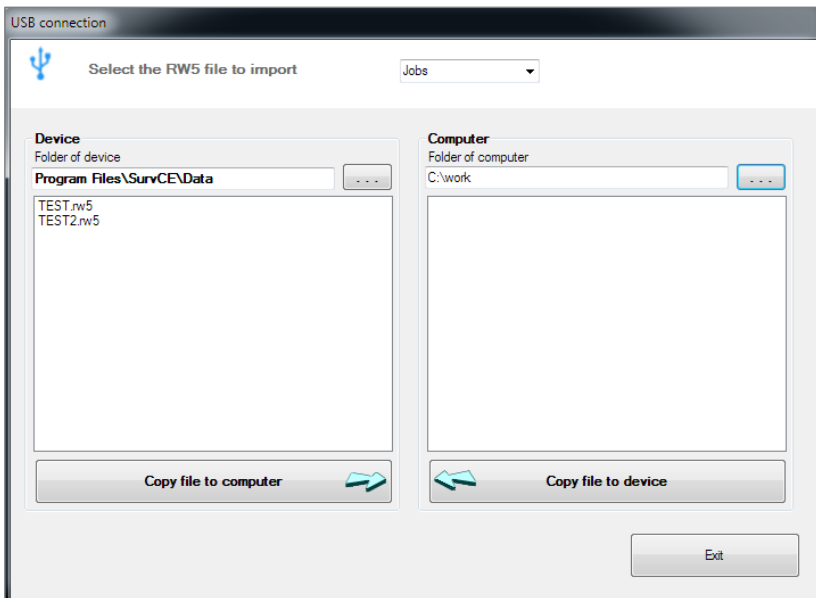


Figure 3.5



The data can be downloaded with original reference system or modified reference system. If you choose to change the reference system, just select the Specify Datum - Projection - Geoid entry that will give you access to the Datum reference system window (*figure 3.6*). In this workspace, you can select a Country of reference, once the nation is selected, all the Datum and Projections used in the nation are displayed. Then you can select a Geoid which is independent, so it means that the original coordinates will be translated into the selected reference system. (*figure 3.7-3.8*).

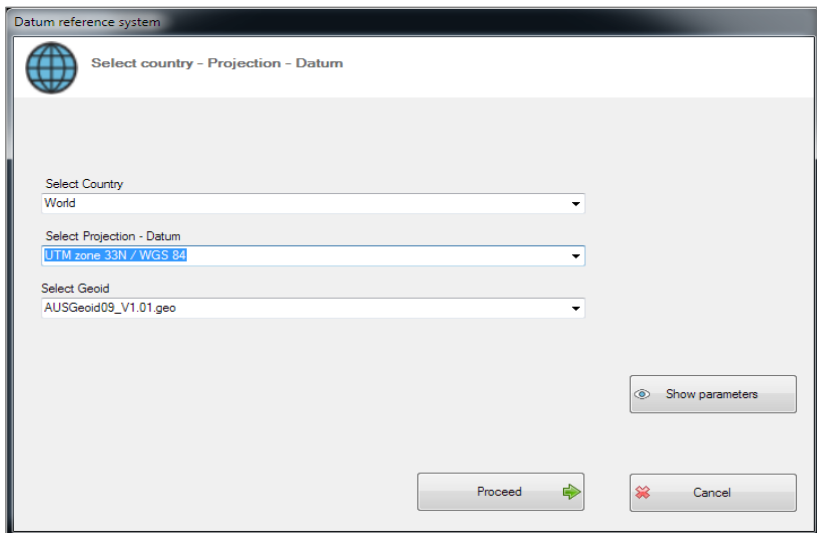


Figure 3.6

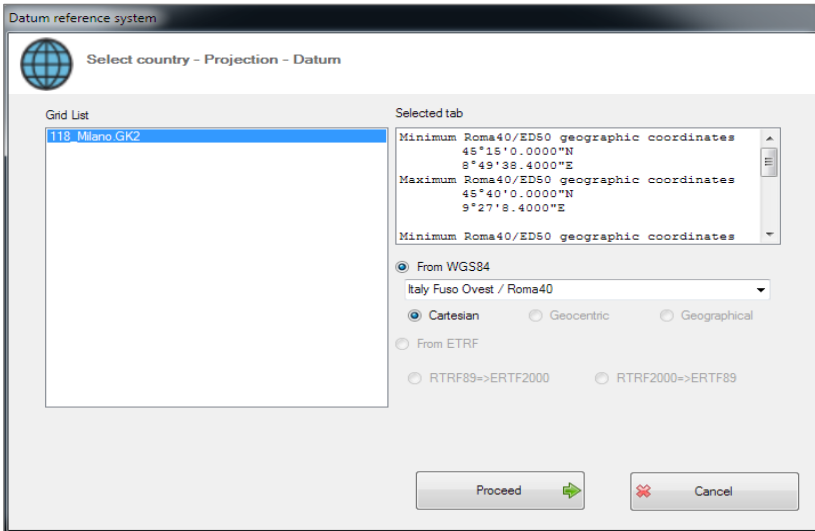


Figure 3.7

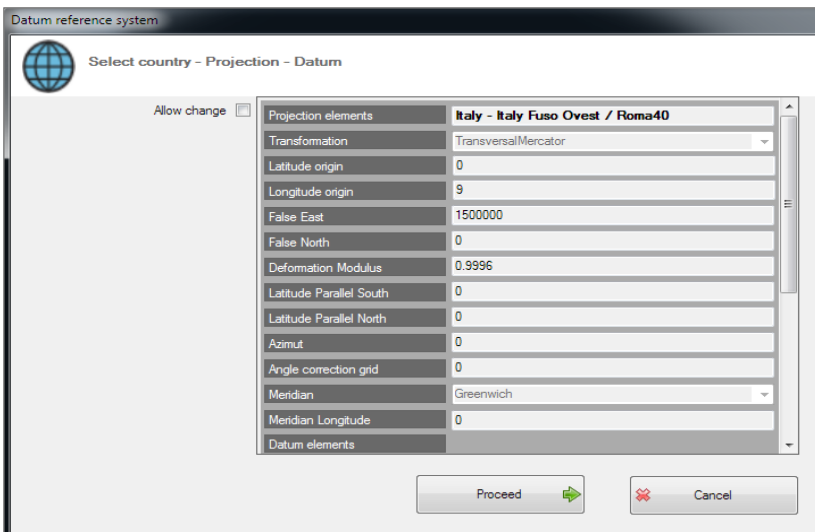


Figure 3.8

### 3.1.3 Import GeoGis

The Import of GeoGis format provides all the features described in section 3.1.2 for the RW5 format (*figure 3.9*).

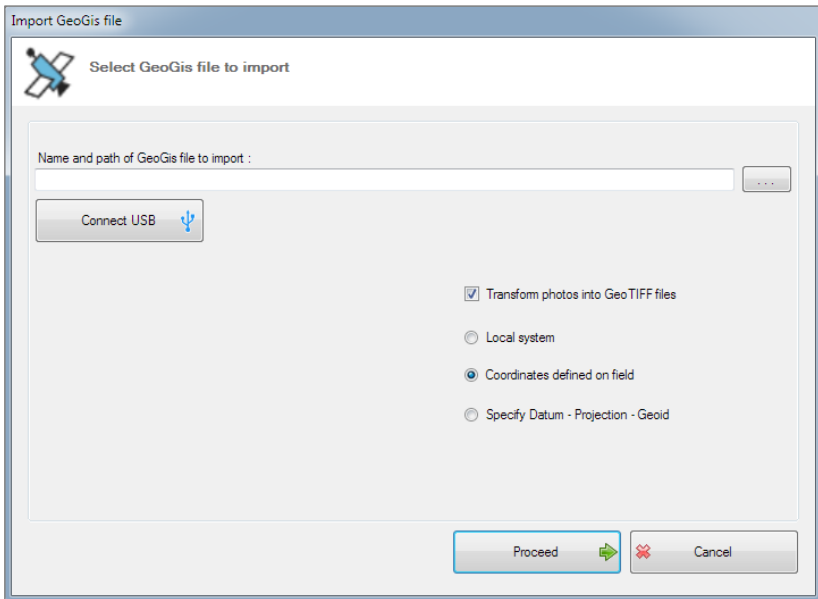


Figure 3.9

The USB connection (*figure 3.10*) is also available and you can also convert images, if present, in the GeoTIFF format. Also, for this type of file, you can import using an original reference system, set up a local reference system, or select a different reference system (Specify Datum – Projection – Geoid). Please note that not only jobs but also other type of files (Raster, dxf, shp) can be imported.

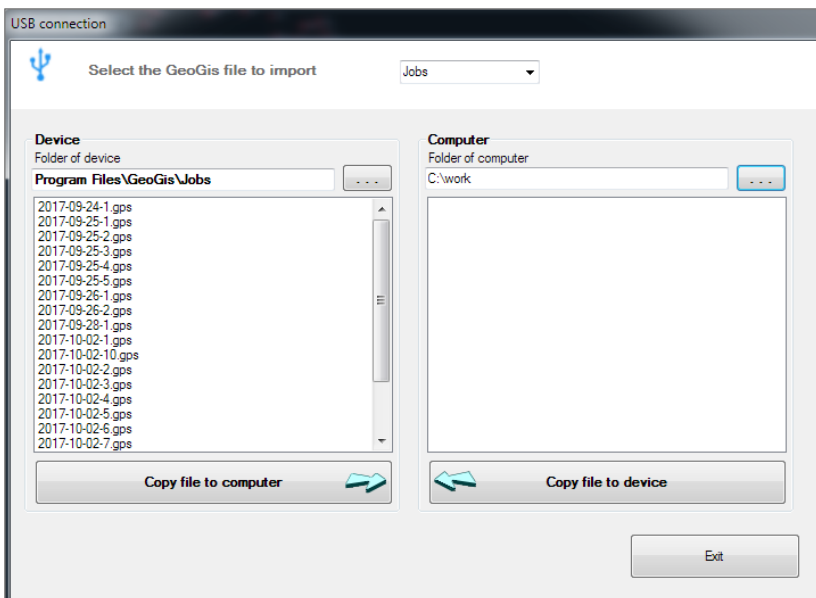


Figure 3.10

### 3.1.4 Import ASCII

Click the Import ASCII button to import ASCII files or generic text files. This function is composed of 4 steps. In the first, you have to search for the file to import by name and path, at this stage you can also edit the file. Before proceeding, you must select whether to create topographic points or CAD points from the imported file (*figure 3.11*).

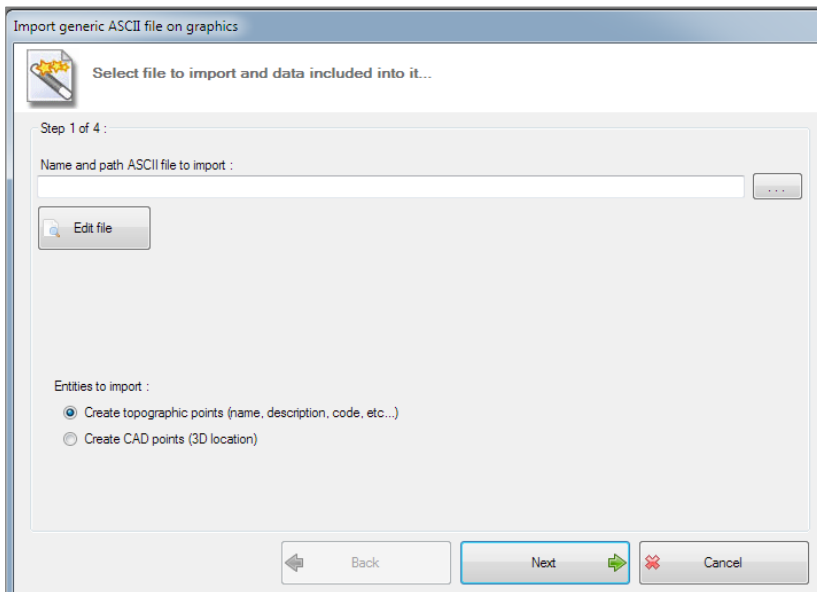
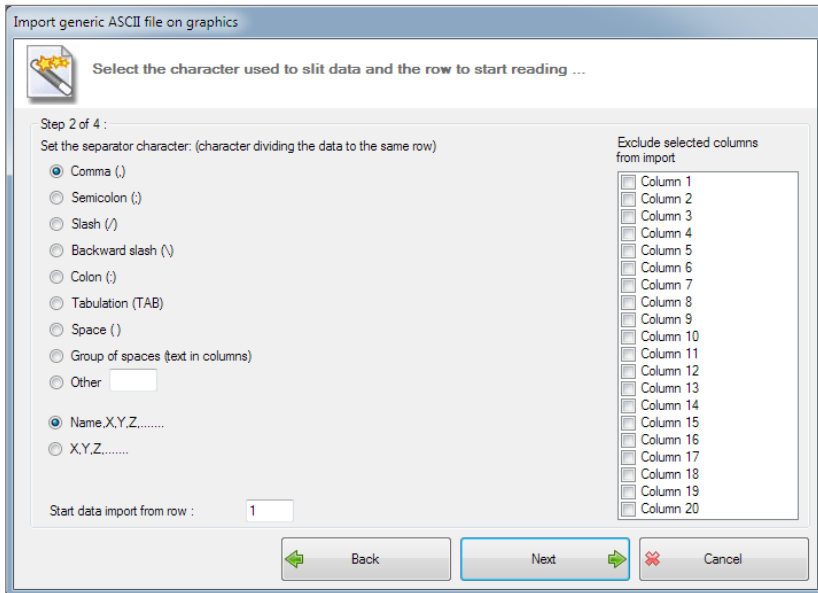


Figure 3.11

In Step 2 (*figure 3.12*), you can choose a character to use to divide the data on the same row, in addition you can select the columns you want to exclude from the import and finally you can determine from which row you want to start reading data.



*Figure 3.12*

In Step 3, you can attribute the content type (Point name; Coordinate X, Y, Z; Description; Code) to each column (figure 3.13-3.14).

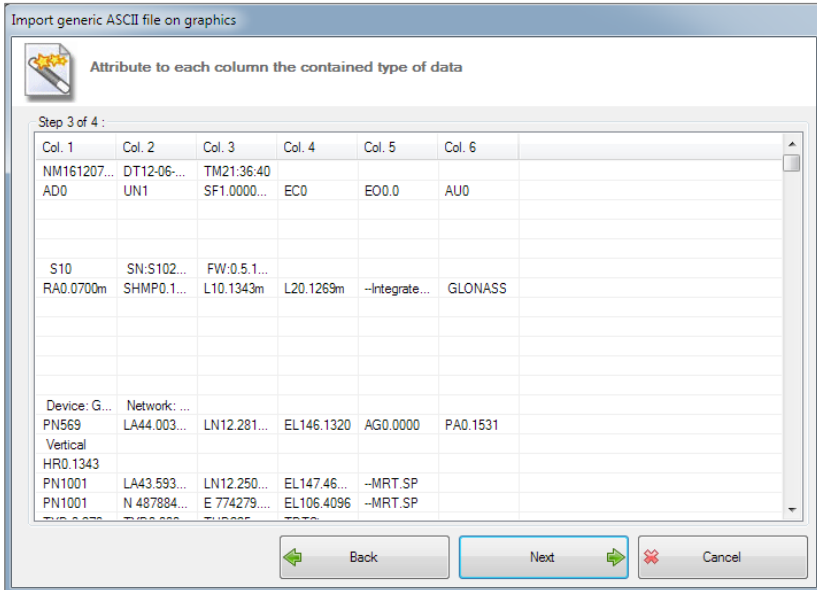


Figure 3.13

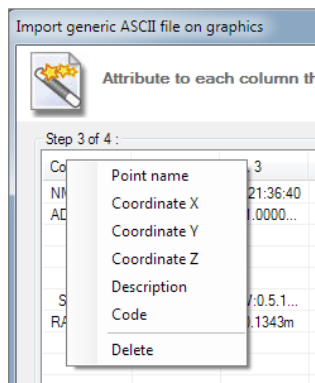


Figure 3.14

In the last dialog box, step number 4 (*figure 3.15*), you can click on the Import button, and defined points that will be stored in memory.

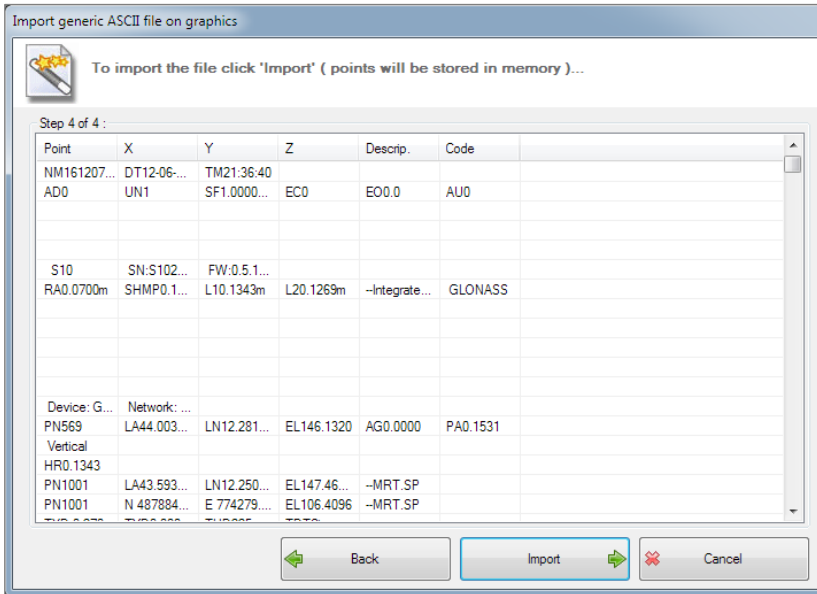


Figure 3.15



### 3.1.5 Print

The Print command opens a window that includes three tabs: print settings; printing styles; printing tables. Print Settings (figure 3.16) is the tab where you can set the printer you want to use as well as the page to print. Scale, origin, print area, and print sizes can be set here.

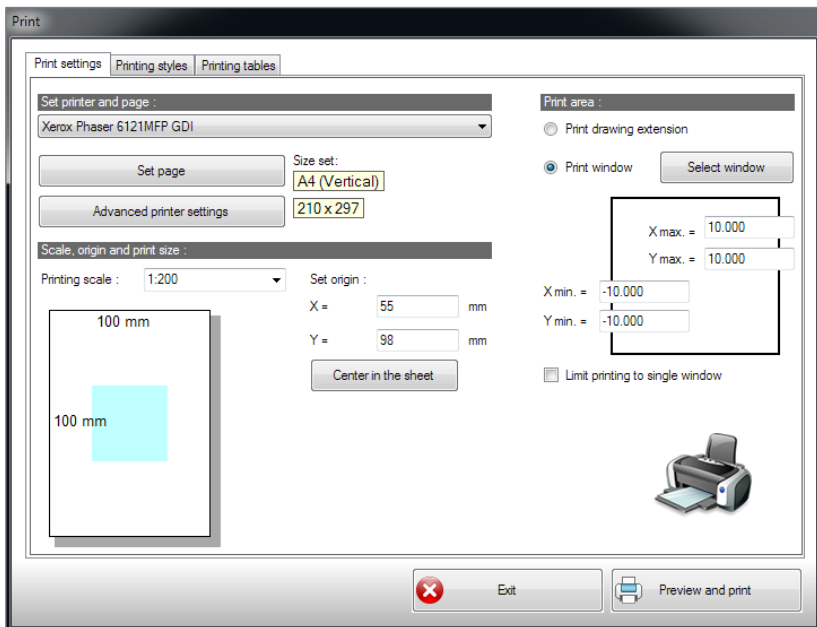


Figure 3.16

In the Printing Styles tab, you can choose whether to set styles including thickness, terminations, joints using layer settings or choosing them as new ones. You can also import previously saved styles or save new ones (figure 3.17).

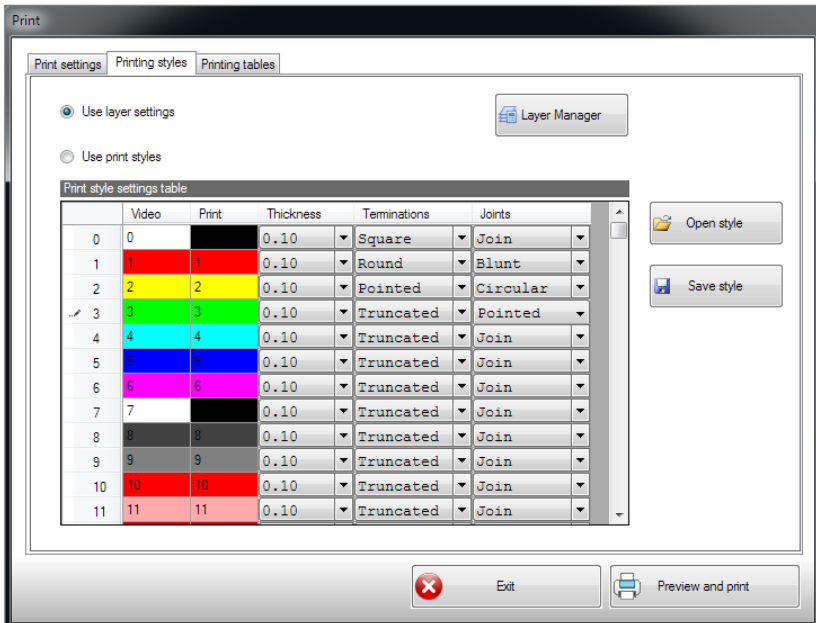


Figure 3.17

The last tab, the Printing tables is dedicated to saving, deleting or loading print tables. In each of the tabs just described, you can click the print preview button (Preview and print) to see a layout of how it will print (*figure 3.18*).

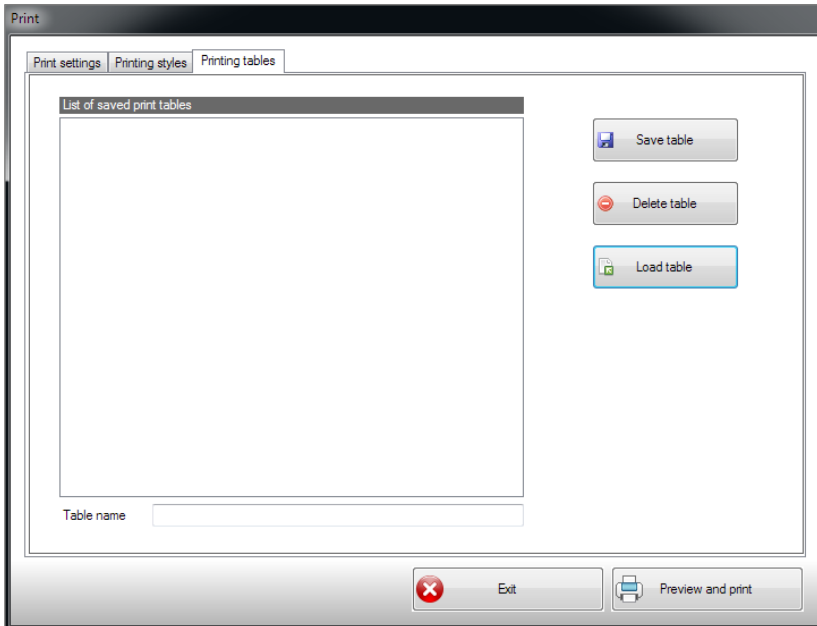


Figure 3.18

### 3.1.6 DXF/DWG In

This function allows the system to import graphic elements as they are and since there are no topographic point entities in these type of files, you can force this choice, so that entities with attributes become points with dimension.

### 3.1.7 DXF/DWG Out

The program also has the ability to create a DXF/DWG file (*figure 3.19*), the first important choice to make is the version of AutoCAD® that you want to use to create the file. Then you can select entity options, especially if you want to include raster images, hatches, and topographic points. Finally, you need to indicate what attributes you want to define for the points and also how you want to obtain them, for example if you want to get them from the point label. In the general options section, you can enter the text size and you can also choose whether to create a 2D DXF file.

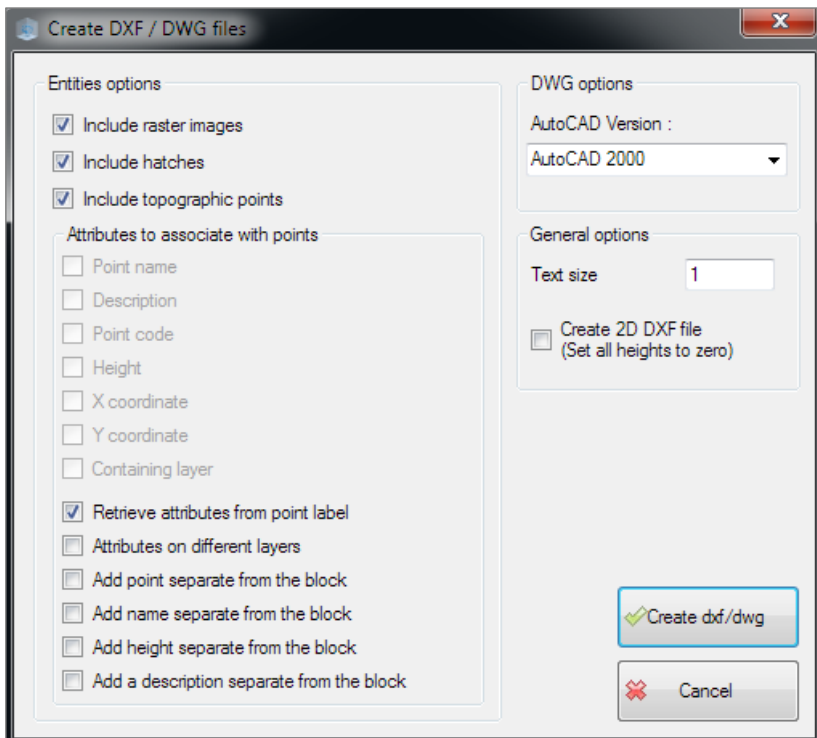


Figure 3.19

### 3.2 Zoom, notes and layer

The zoom, notes and layer sections (*figure 3.20*) are located close to the In / Out section because they are useful in file processing. The zoom has a number of magnification and screen-view features (*figure 3.21*). In the notes section, you will find the classic copy-paste function. The layer function is used to manage the various layers that are in the project (*figure 3.22-3.23*).

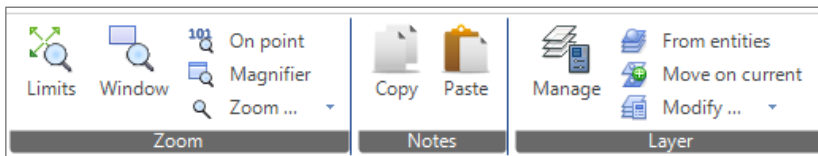


Figure 3.20

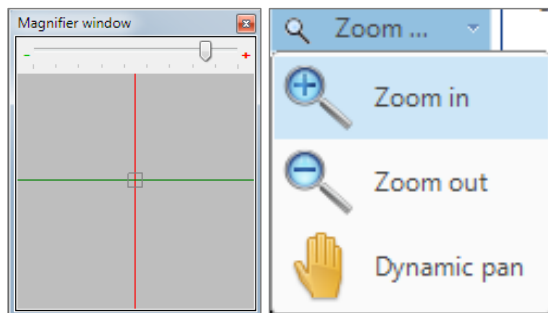


Figure 3.21

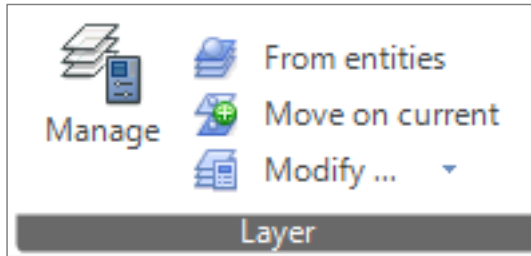


Figure 3.22

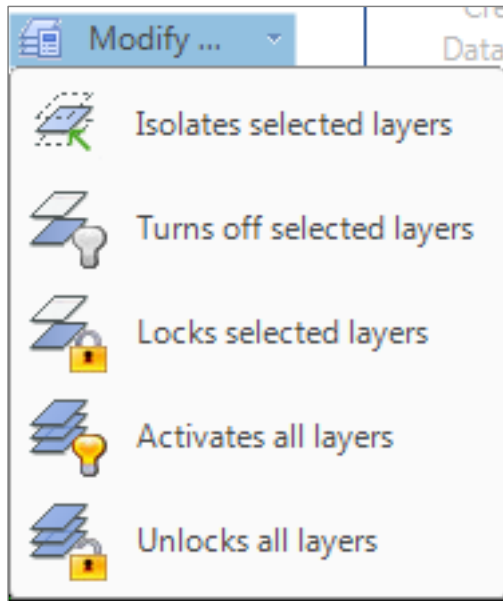


Figure 3.23

Layers can be managed through Layer property manager window by clicking the related icon in the main screen (*figure 3.24*, icon in red circle). In this window (*figure 3.25*), you can create new layers and delete others. There are available layers displayed and their classic features such as color and line type. From this window, you can print the contents of a layer and decide whether or not to show present names and symbols (clicking on the eye icon).

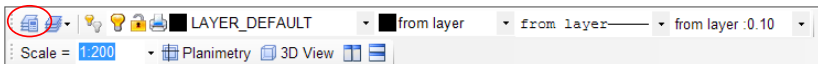


Figure 3.24

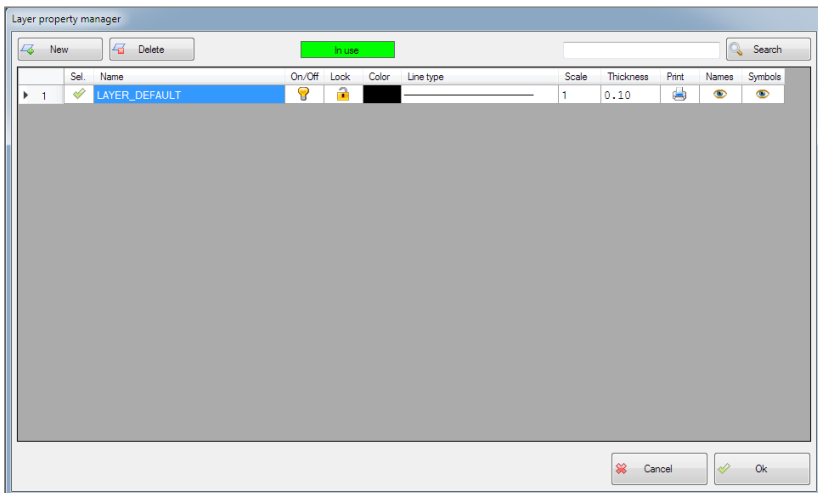
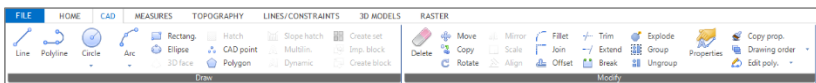


Figure 3.25

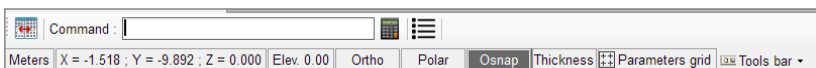
## 4. CAD

Clicking on the CAD tab (*figure 4.1*), it is possible to enter the area dedicated to CAD design and processing which is intended to support and complement the topographic features.



*Figure 4.1*

These functions are almost identical to those of AutoCAD® and the numerous CAD clones. These functions can be used in combination with osnap (object snap) modes (such as osnap on ends or on mid points). Note that by default the program starts with an active osnap on ends. This setting can be switched at any time by clicking on the Osnap button (on / off), shown in *figure 4.2* in dark gray, that means to be active.



*Figure 4.2*

All the osnap modes are represented by the icons in the *figure 4.3*, hover over with the mouse and you will see a tooltip that suggests the functionality of the command.



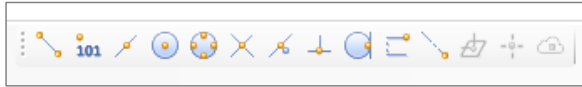


Figure 4.3

## 4.1 Draw CAD entities

In Draw section, you can find commands for drawing CAD entities such as lines, polylines, polygons, and so on. Once you select an item you want to draw, just follow the instructions (represented as tooltips that will appear on the screen and commands to enter in the command line) to complete the command (*figure 4.4*, example of a tooltip on the screen; *figure 4.5*, example of the command line).

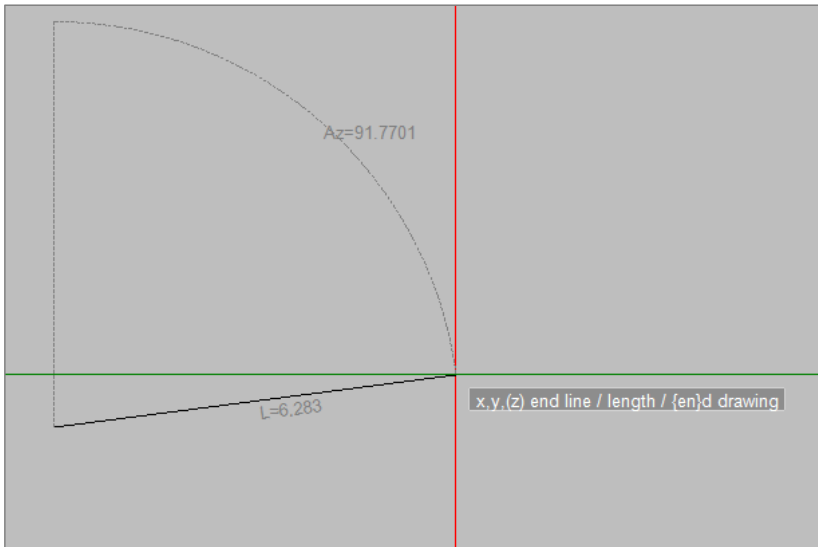


Figure 4.4

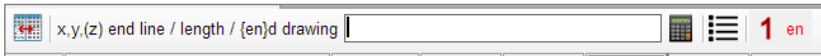


Figure 4.5

Often with the suggestions in the command line at bottom-left of the main screen, some other subcommands are available, they have a very intuitive use, however, there is a command that is worth analyzing, the pro command from properties (figure 4.6).



Figure 4.6

This command takes you to the Quick entities selection window, which consists of two tabs. The first, CAD entities (figure 4.7), allows you to select entities by referring to a characteristic or another, e.g. color and line type.

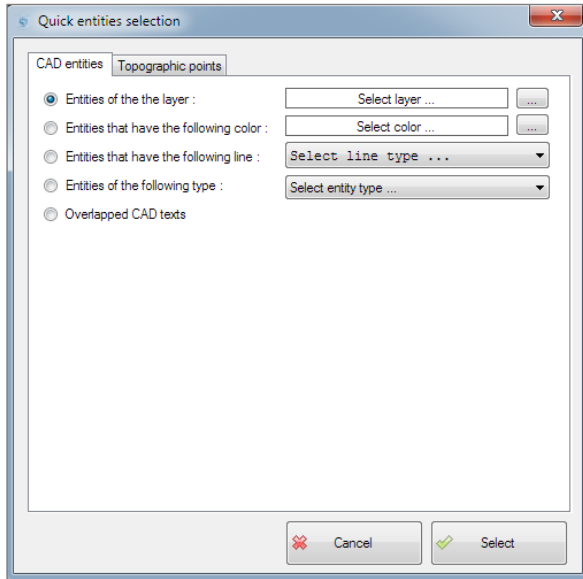


Figure 4.7

The second tab is called Topographic points and allows a selection of these according to the selected characteristic, as you can see in the *figure 4.8*, there is a wide range of characteristics to select, from points with a given symbol to points on the same fieldbook.

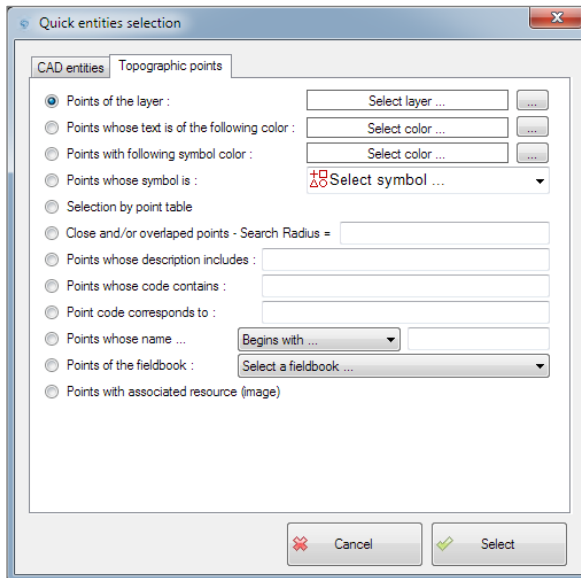


Figure 4.8

Two commands in this CAD area also have subcommands, these are: Circle and Arc (figure 4.6). Subcommands are intended to provide alternative choices for drawing these two elements, for the circle for example, you can decide whether to draw it using 3 points, 2 points, or tangents and radius.

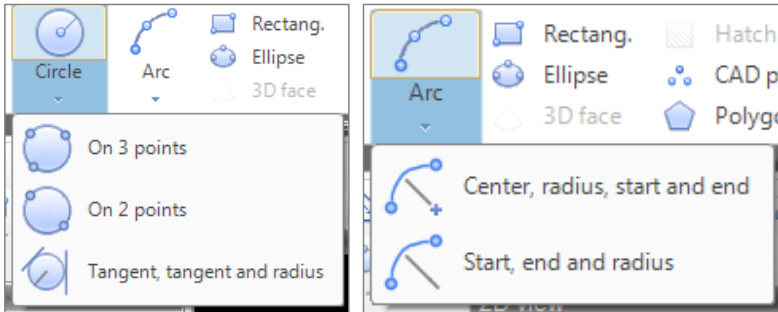


Figure 4.6

## 4.2 Modify CAD entities

In the Draw section, you can find all the functions for processing the CAD entities. Command names and icons are very intuitive, and each command has a tooltip that briefly explains what its functionality is. Among the available commands are fillet, join, explode and group, these commands are useful in working with CAD entity groups.

The Properties button opens a window that summarizes the properties of the selected entity, the system recognizes what kind of entity it is and down the window returns the entity type (*figure 4.7*, in this case it is the properties of a line).

There is also a command to copy the properties of an entity to another and a command to change the display order of the drawings (*figure 4.8*).

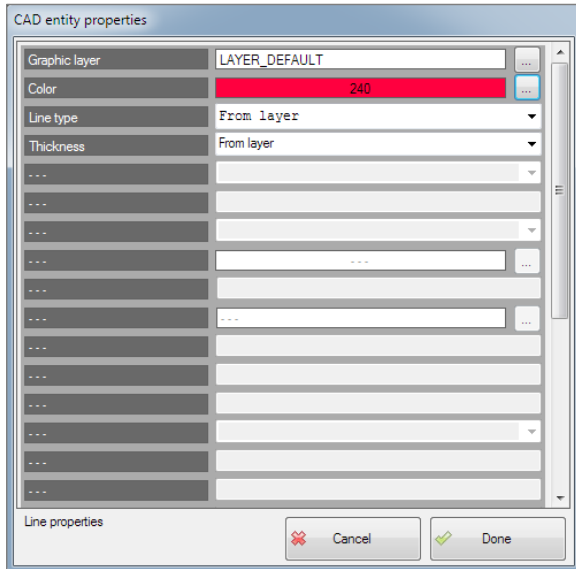


Figure 4.7

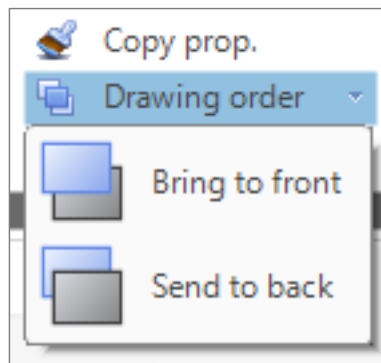
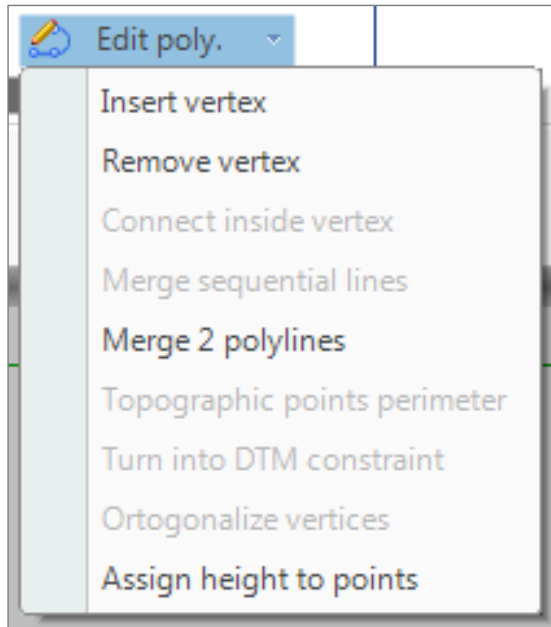


Figure 4.8

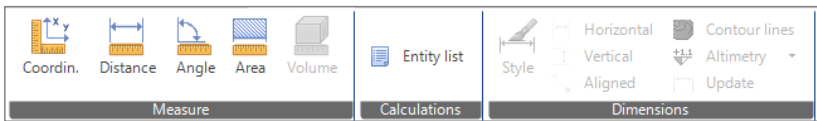
In *figure 4.9* you can see the relative window of the Edit poly. command. The commands contained are used to modify a polyline, for example by inserting a vertex or removing it. The use is very simple, and like any other CAD command, just follow the suggestions that appear on the screen.



*Figure 4.9*

## 5. Measures

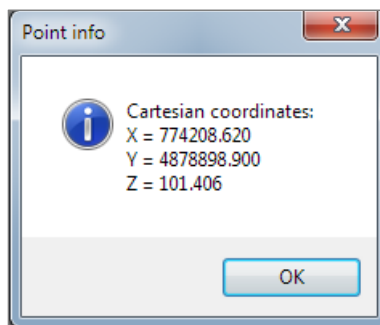
These functions (*figure 5.1*) are used to calculate and to have a set of information about survey data recorded.



*Figure 5.1*

### 5.1 Coordinates, distance, angle, area and calculations

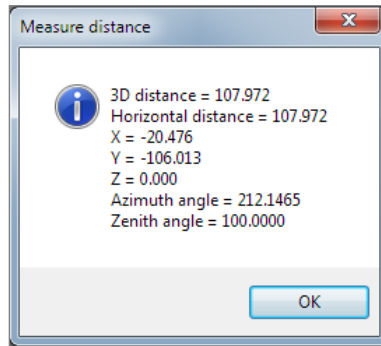
The Coordin. button when clicked will give you the option of choosing a point and then it will display the Cartesian coordinates (with the addition of the height) of that point, as shown in the *figure 5.2*.



*Figure 5.2*

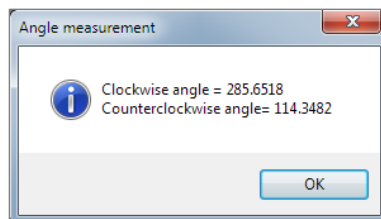


The Distance button when clicked will give you the option to select two points and it will measure the distance between the two. The information provided by this function are the 3D distance, the horizontal distance, the component along the x-axis, the component along the y-axis, the azimuth angle and the zenith angle (*figure 5.3*).



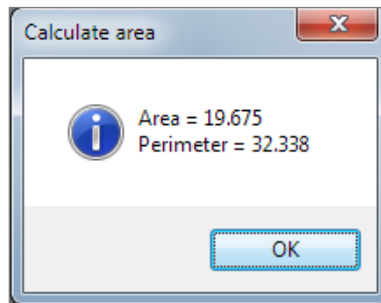
*Figure 5.3*

The Ange button when clicked will give you the option to select 3 points, the starting point, the midpoint, and the end point. This function will calculate a clockwise angle and a counterclockwise angle and these measurements will then be displayed on screen as shown in *figure 5.4*.



*Figure 5.4*

The Area button when clicked will allow you to enter the first point where to start calculating the area, then the application will continue to ask you to select the next point (up to n points) to draw the shape of which you want to measure the area, after selecting the last point, just type the command en (from end command, in the command line) for the function to make up the calculation. The area and perimeter of the shape will then be displayed in the window (*figure 5.5*).



*Figure 5.5*

The Entity list button provides a list with the elements in the project, the list is presented as an editable text file. You can also select only few entities to be displayed in the list (*figure 5.6*).

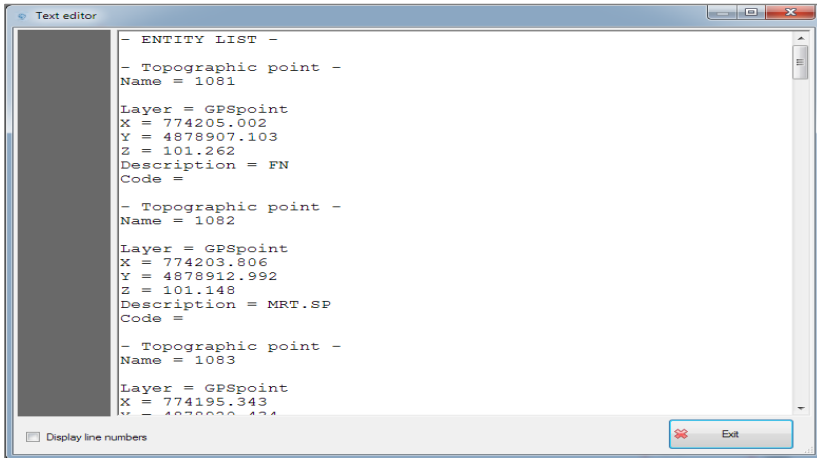


Figure 5.6

## 6. Topography

In this section (*figure 6.1*), you can draw a new topographic point, change the features of an existing one, select the CAD entities to use for the new points and see all the points of the project grouped into a table. You can also create a printable file with a list of points.

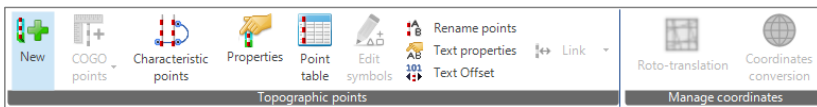


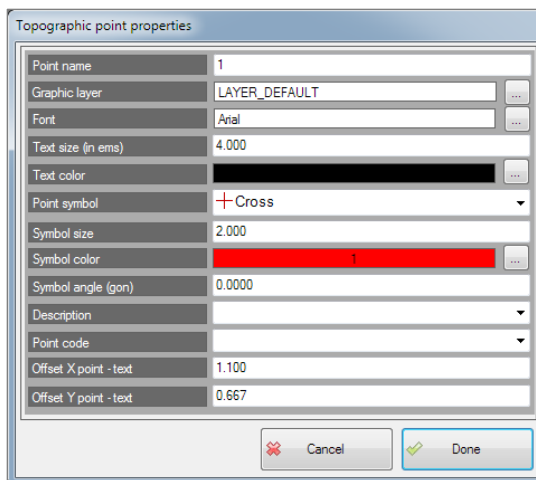
Figure 6.1

## 6.1 Topographic points

The New command is used to insert new topographic points. By clicking on this button, you can open a working window (*figure 6.2*, Topographic point properties) and in this you can insert and customize the graphic properties you want the new point to have.

The properties are completely customizable (note that you can also create a point with the properties that the application sets by default, such as the cross as a symbol) and you can select the layer that you want the point to belong to. The Select layer window (*figure 6.3*) displays a list of available layers, all can be turned on or off, locked, and selected. You can also add new layers by clicking on the Add Layer button at the bottom left.

You can change the name of the point and the font used. You can also change the color of the text by selecting the choices in the window (*figure 6.4*, Select color window) that opens when you click the search button beside the Text color label. This window allows you to select a color from one of the available clusters, such as the grayscale or the work area background, or from the layer.



Topographic point properties	
Point name	1
Graphic layer	LAYER_DEFAULT
Font	Arial
Text size (in ems)	4.000
Text color	[Color selection button]
Point symbol	+ Cross
Symbol size	2.000
Symbol color	[Color selection button]
Symbol angle (gon)	0.0000
Description	[Dropdown menu]
Point code	[Dropdown menu]
Offset X point -text	1.100
Offset Y point -text	0.667

*Figure 6.2*

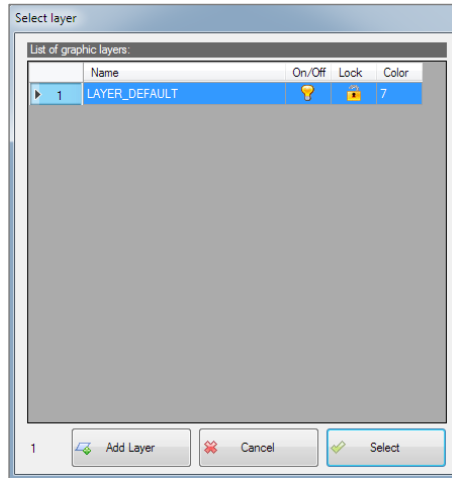


Figure 6.3

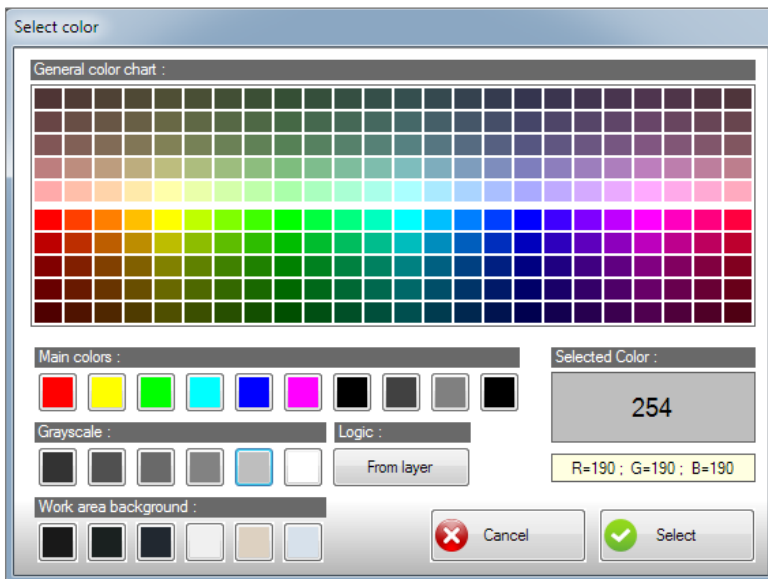
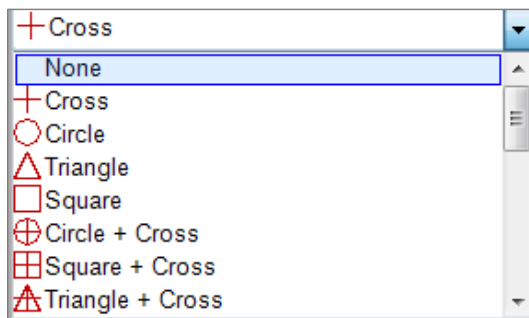


Figure 6.4

The symbol is another characteristic that can be personalized. You can choose an icon to attribute to the point (*figure 6.5*), you can define the size of the symbol, the color (with a selection window equal to the text color selection) and the rotation angle of the symbol. Offset X point-text and Offset Y point-text are the positions of the text calculated from the point origin.

When all the graphic properties are set according to your needs, you can enter the point by locating the position with the mouse or entering the coordinates manually from the command line.



*Figure 6.5*

By clicking the Characteristic points button, you can select one or more CAD entities to create topographic points. In the Characteristic points window (*figure 6.6*), you can select a layer (having access to the Select layer window, as previously explained). You can enter the starting point name and delete the overlapping points. Within this feature you can filter even more thoroughly the CAD entities to use, you can do this by flagging the available choices.

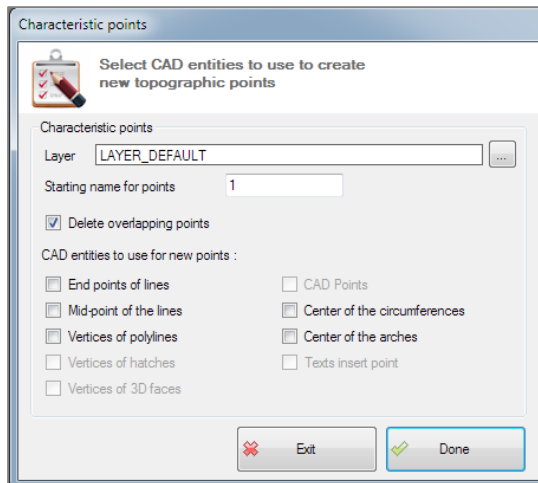


Figure 6.6

Particularly convenient is the Properties button (figure 6.7), once you select one or more topographic points you can use this feature to find out all their properties and also to modify them. The graphic aspect of this window is similar to that we encountered in creating a new point, but this also represents all the point coordinates and it will provide the possibility to change all the characteristics. You also have the opportunity to see if and what images are linked to a particular point (Linked image function).

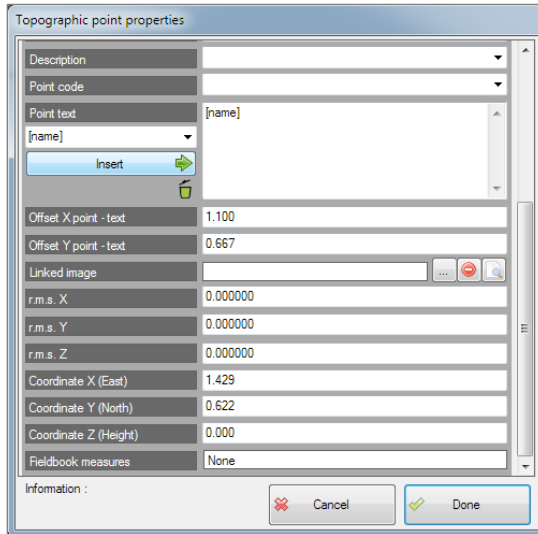
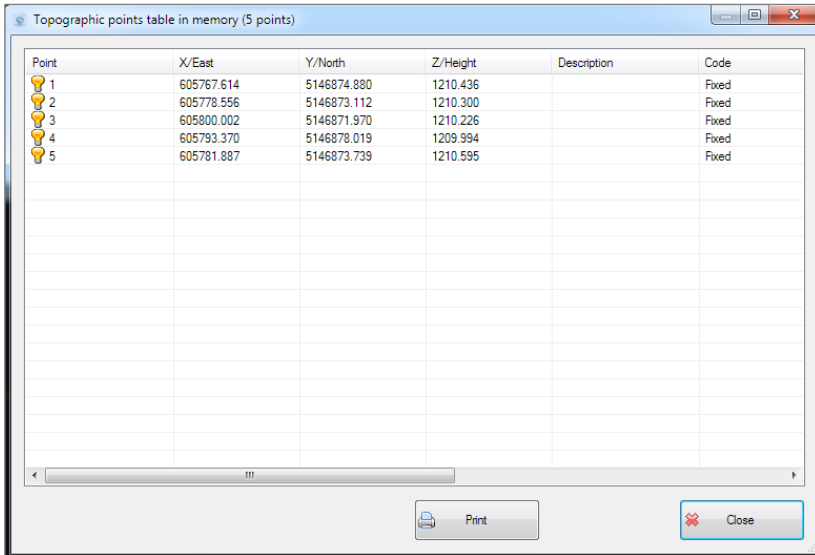


Figure 6.7

By clicking Point table, you can create a table with all the points in the project that will be grouped together along with their coordinates, names, descriptions, codes, as shown in *figure 6.8* (an example of a table with 5 points in memory).





Point	X/East	Y/North	Z/Height	Description	Code
1	605767.614	5146874.880	1210.436		Fixed
2	605778.556	5146873.112	1210.300		Fixed
3	605800.002	5146871.970	1210.226		Fixed
4	605793.370	5146878.019	1209.994		Fixed
5	605781.887	5146873.739	1210.595		Fixed

Figure 6.8

You can print the table with the Print button. This button will give you access to a text file editor where you will find the table with all the points (figure 6.9), at this stage the table can be changed in its fields, contents and graphic appearance.



## 7. Tools and Commands

### 7.1 Tools and commands of the software

List of all commands that can be used by the command line (*figure 7.1*) of the program:

Command	Description
OPEN	Opens projects (Cube-link files with extension .cubelnk)
SAVE	Saves the project ( with extension .cubelnk for a normal file, with extension .cubetpl for a template file)
NEW	New project
DXFIN	Imports dxf/dwg files
ASCIIN	Imports generic ASCII files
SHAPEIN	Imports Esri Shape files
RW5IN	Imports RW5 files
CUBEAIN	Imports Cube-a files
GEOGISIN	Imports GeoGis files
DXFOUT	Creates dxf/dwg files
KMLOUT	Creates a KML file for Google Earth
SENDCAD	Sends selected entities to AutoCAD®
PRINT	Prints the drawing
COPYNOTES	Copies CAD entities to notes
PASTENOTES	Pastes the CAD entities from notes
SETTINGS	General program settings
QUIT	Closes the program
2DVIEW	Enables 2D view
3DVIEW	Enables 3D view
TABLETMODE	Enables or disables Tablet mode
ZOOMLI	Zoom limits
ZOOMIN	Zoom in
ZOOMOUT	Zoom out
ZOOMWI	Zoom window
ZOOMPT	Zoom on topographic point
DYNPAN	Activates dynamic pan
ZOOMMA	Enables/disables zoom window
AERIALVIEW	Enables/disables the panoramic view

POINT	Draws a point at the selected location
LINE	Line on 2 points
CIRCLE	Circle with choice of options
CIRCLECE	Center and radius circle
CIRCLE3P	3-point circle
CIRCLE2P	2-point circle
CIRCLETR	Tangent, tangent and radius circle
ARC	Enables arc design options
ARC3P	Arc on 3 points
ARCCE	Arc center, radius, beginning and end
ARCBE	Arco beginning, end and radius
POLYLINE	Draws polylines
RECTANGLE	Draws a rectangle
POLYGON	Draws a regular polygon
ELLIPSE	Draws an ellipse
DELETE	Deletes CAD entities
MOVE	Moves CAD entities
COPY	Copies CAD entities
ROTATE	Rotates CAD entities
OFFSET	Offset of the CAD entity
JOIN	Connects to entities
FILLET	Connects with arc
EXTEND	Extends an entity to the limit
TRIM	Trims entities
BREAK	Breaks entities
GROUP	Groups CAD entities
UNGROUP	Ungroups CAD entities
EXPLODE	Explodes complex CAD entities
PROPERTIES	Modify the properties of CAD entities
COPYPROP	Copies properties from a CAD entity
DRAWINGORD	Changes view order
FOREORDER	Brings to foreground
BACKORDER	Sends to background
INSPONPOLY	Inserts polyline vertex or profile vertex
DELPTONPOLY	Deletes a vertex from a polyline or a profile
MERGEPOLY	Joins two polylines into a single polyline
POLYINHEIGHT	Sets all the vertices of a polyline to a set height.

LAYER	Opens the layer properties manager window
LAYERFROMENT	Activates layer from entity properties
CURRLAYER	Moves on current layer the selected entities
ISOLALAYER	Isolates the layers of the selected entities
LAYEROFF	Turns off the layers of the selected entities
LOCKLAYER	Blocks the layers of the selected entities
LAYERONOFF	Turns the current layer on or off
ALLLAYERON	Enables all layers
UNLOCKLAYERS	Unlocks all layers
VIDEOTHICK	Displays video thicknesses
SYMBOSNAP	Sets the osnap symbol size
ROTAXES	Sets the cursor axes rotation
AXESSIZE	Sets the cursor axes size
VIDEOSCALE	Scales the video display
GRAPHICBGGROUND	Sets the background color of the graphic window
CURSORINFO	Sets dynamic information on the cursor (values from 1 to 7)
ORTHO	Enables/disables Ortho
OSNAP	Enables/disables osnap

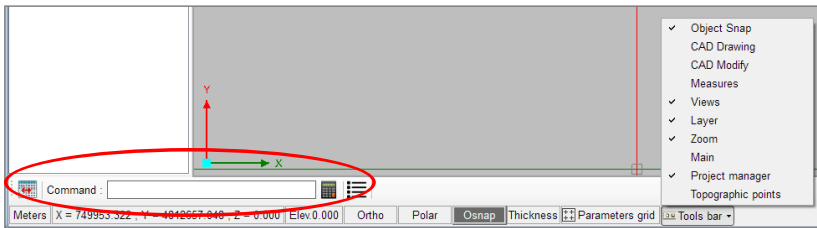


Figure 7.1

In commands that involve selecting CAD entities or topographic points, with the right-click you can enter a menu that allows you to access a quick entity selection. Selection takes place through the choice of the respective properties and is divided into topographic and CAD entities. From this window, you can also quickly access the entity properties window (figure 7.2).

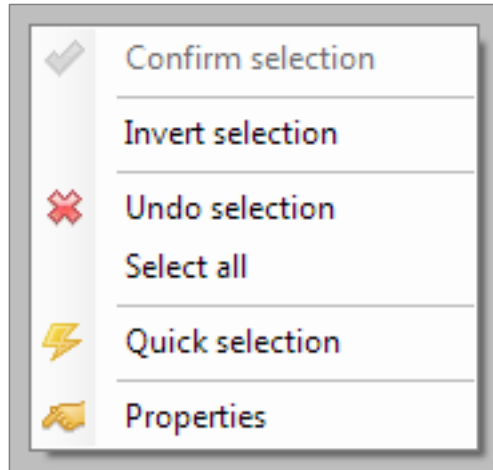


Figure 7.2

The project manager panel (*figure 7.3*, middle-left part of the main screen), is a tree structure that contains all the topographic and raster entities present in the project. You can select topographic entities and use them as an alternative to graphic selection.

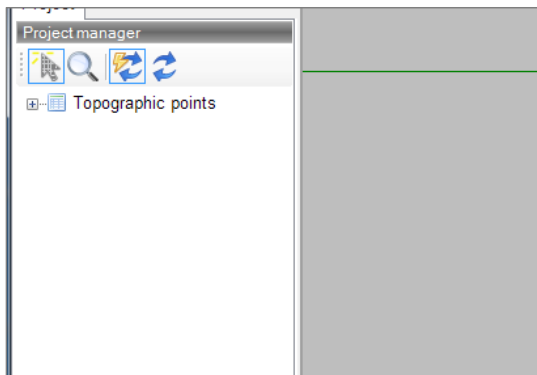


Figure 7.3

The project manager panel can be switched on or off by pressing the Show/Hide button at the bottom left (*figure 7.4*).

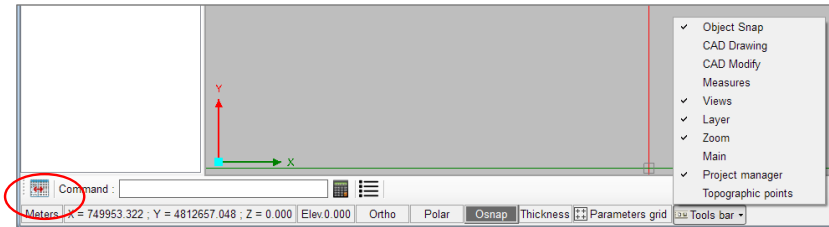


Figure 7.4

At the bottom of the screen, you can see the coordinates of the elements in the project, enable or disable the osnap mode, the ortho view and the polar view. Also thicknesses and grids can be activated or deactivated. By clicking the Tools bar button (*figure 7.5*), you can customize the layout and display of available shortcuts (*figure 7.6*, available shortcuts, to reposition them click on the 4 lateral points to drag and drop the commands).

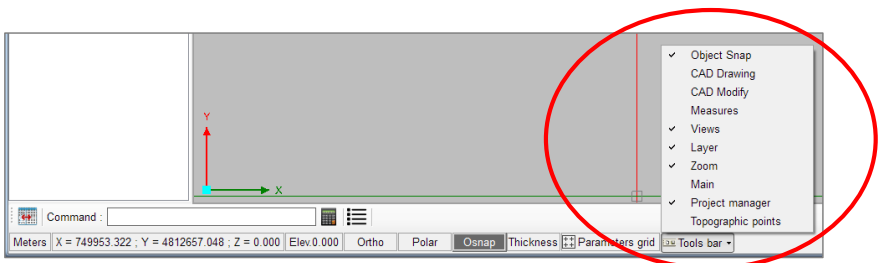


Figure 7.5

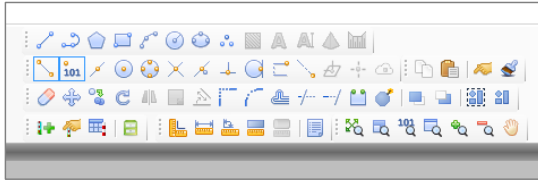


Figure 7.6

Whenever you try to insert a new file with an existing project already open, a window will open (*figure 7.7*) and you can choose what to do, whether to add the file to the present or to proceed differently.

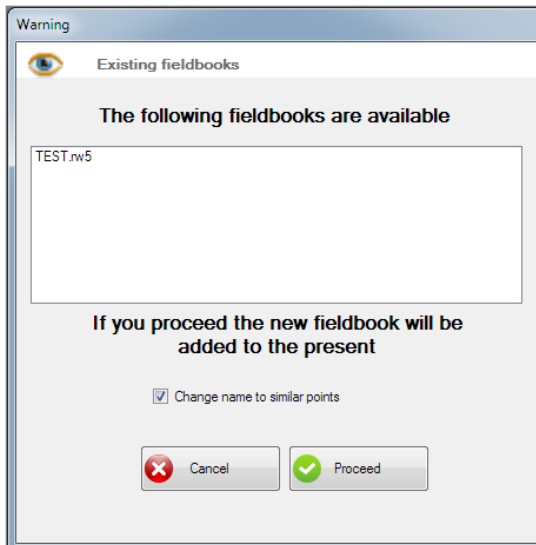
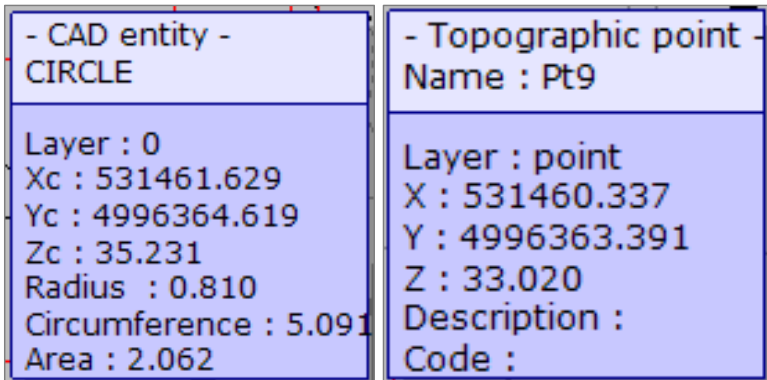


Figure 7.7



At any time, you can read the characteristics of the elements the project by hovering over the elements with the mouse, the application will display a window like the ones in figure 7.8 that will describe the element type and its characteristics.



*Figure 7.8*



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