Data_ms – MicroStation Converter

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1.Introduction

MicroStation Data_ms product provides the user with a set of tools for converting different MicroStation elements into other element types or exporting these elements into external formats (Datamine, Surpac or standard ascii format).

In addition Data_ms converts Datamine and Surpac data into MicroStation elements.

One of the other functions available is the ability to label MicroStation tagged data.

When exporting data into Datamine format, the attribute information associated with the MicroStation elements (tag or database) can also be exported. Additionally, when importing Datamine data, the attribute information present in the Datamine files can be imported as the MicroStation tag data linked to the translated graphical data.

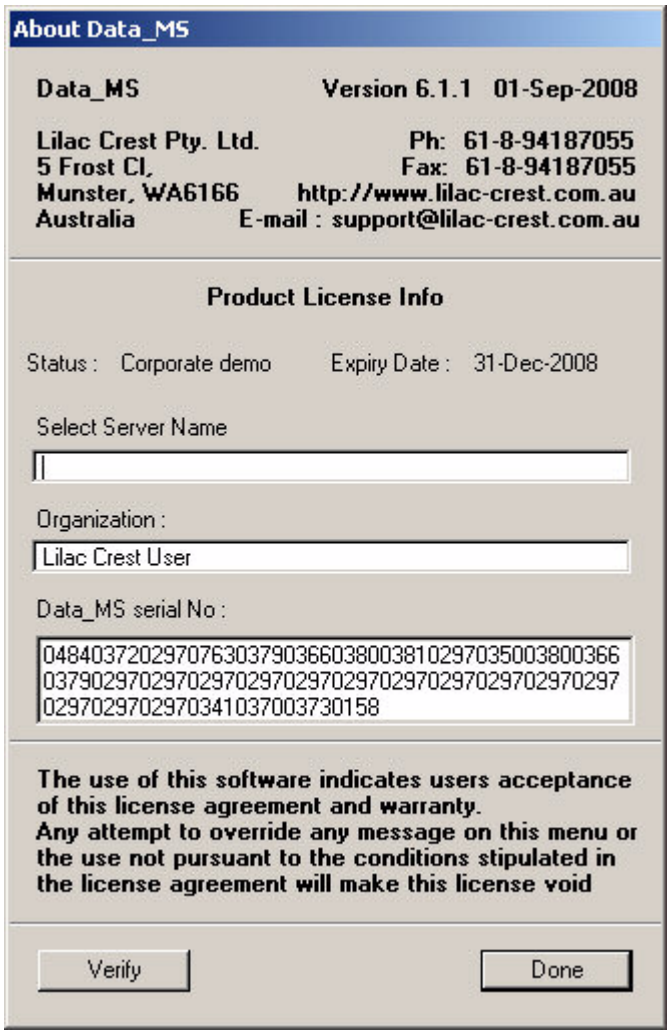
2.Installation

The software is normally downloaded from our web site or E-mailed by Lilac Crest. To load the software, copy MDL routine data_ms.ma and lcrest.dll into the MicroStation subdirectory defined by the MS_MDL MicroStation environment variable. Please make sure that data_ms.ma file is write enabled. In addition Data_ms online help file data_ms.chm needs to be copied into your nominated help directory, which should be included in the paths defined by MS_HELPPATH MicroStation environment variable.

3.Running Data_ms

In MicroStation , type mdl load data_ms in the MicroStation Command Window, or select the Utilities->MDL Applications from the pull down menu, select MDL application, and then load **Data_ms**

The very first time when **Data_ms** is loaded, the initial Dialog Box describing the license conditions will appear. This dialog enables the user to enter Organization name and software serial number, which in turn activates**Data_ms** (unless demo version with predefined demo serial number is used). The serial number is obtained from **Lilac Crest Pty. Ltd.** (or your dealer) when the software is purchased or provided as a demo copy.Once the organization and the serial number are keyed and the **Verify** button is pressed, the serial number is verified and if successful, this information is saved.



By selecting the **Verify** button, the user accepts the license conditions.

Next time when the software is run and proper license information was entered, this menu will not be displayed. By hitting **Done** the above dialog box is dismissed and the main working menu is displayed.

See also About Data_ms

4.Menus

The main data_ms menu provides access to all other functions within the program.

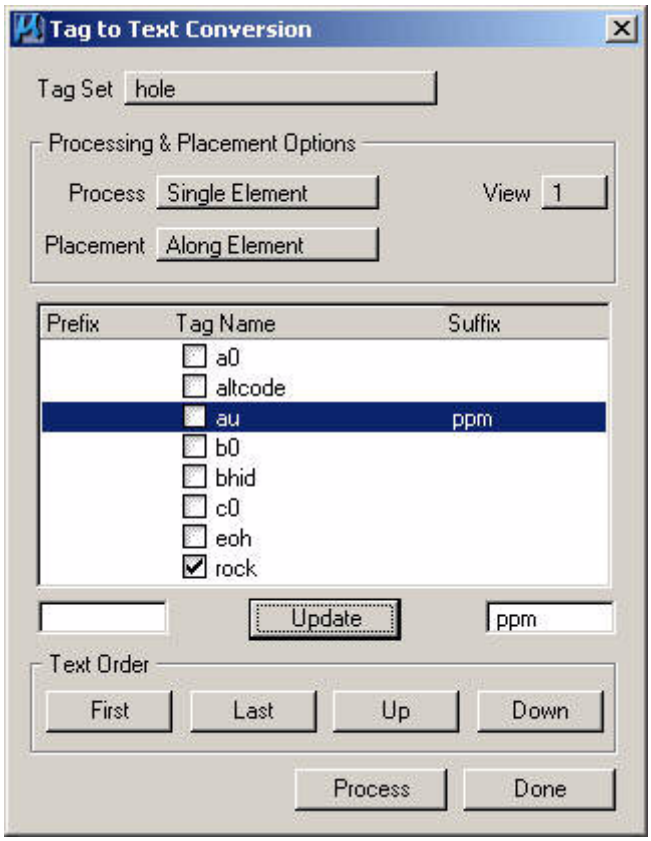
There are 6 options available :

Tag to Text Conversion,
Exporting MicroStation Data
Importing Data into MicroStation,
Parameter Setup
Online Help
About Data_ms - which provides product and licensing details.

5.Converting MicroStation Tags to Text

Tags to text function provides the way of annotating graphical elements with the tag values stored for each element. Only one tag set at a time could processed, however all or selected tags within this set are processed. The user can define text position in relation to the element as well as whether single or multiple element is annotated.

As far as the text symbology is concerned, the current MicroStation text parameters are used.



The above example illustrates tag to text conversion. The hole tag set was selected, and all the tags in this set were automatically listed. The user can define which tag is to be used by double clicking the line containing this tag. The selected tags are marked with a tick. In addition to placing the tag value, it is possible to define text prefix and suffix to be placed at the same time. The Update button provides the way of updating prefix and suffix values for each specific tag.

When more then one tag is selected for placement, the user can control text order by positioning specific tag at the required position in relation to other tag by highlighting required tag and using one of the buttons (First, Last, Up and Down).

The resulting text is placed in relation to the view selected.

As mentioned above, the user can select which elements are to be processed. The available options are :

a. Single element – the user is prompted to select element for processing
b. Selection – only element selected by MicroStation Selection tool are processed.
c. Fence – the user has to place MicroStation fence prior to the processing.
d. All – all elements are processed.

In addition the requested placement can be orientated in a different way in relation to the element being labelled. There are several options available, depending if the element being labelled is linear or closed.

Linear Elements :

a. Along Element- along element, tangent to the middle length point
b. Above Element- above element, tangent to the middle length point
c. Below Element- below element, tangent to the middle length point
d. Perpendicular- perpendicular to the middle length point
e. Custom- like "Above Element" but with the different offset (1 text height above the element) and different distance from the beginning of the element.

Closed Elements

a. Along Element- centroid inside the polygon, no rotation
b. Above Element- centroid inside the polygon, no rotation
c. Below Element- centroid inside the polygon, no rotation
d. Perpendicular- centroid inside the polygon, no rotation
e. Custom- centroid inside the shape at the line spacing offset.

Once requested options and tags are selected, the user needs to click “Process” button to start the processing.

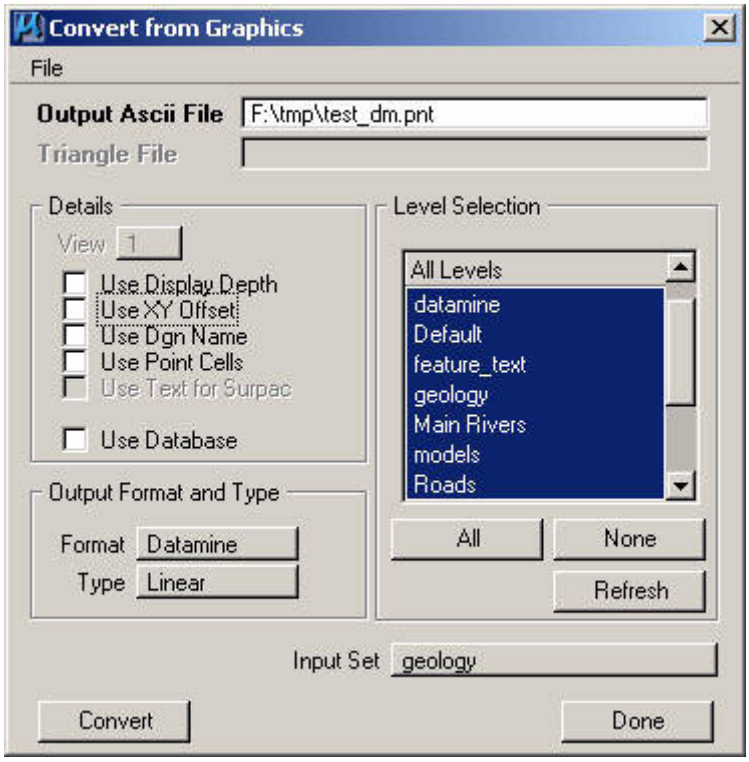
6.Exporting MicroStation Data

The exporting facility provides the option of outputting the result in one of the following formats :

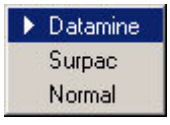
a. Datamine- linear, triangle (DTM), point

b. Surpac- linear, triangle (DTM)

c. Normal- linear, triangle (DTM)



The above menu displays all currently available options for outputting the data. If the specific option is not available for the selected output, then this option is greyed out. The first step involves selecting output format. There are three possibilities :



Datamine, Surpac and Normal, where Normal format outputs the data as a straight ascii file containing the coordinates, element id, and the sequence of vertices.

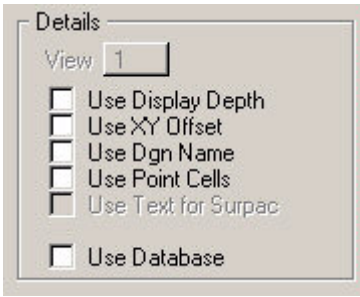
The next step requires the user to select data type from the list :

There are three types available : Linear, Triangulation data (DTM), and point data depending on the type of data available in the design file and required output data.

The required output file name should be defined using File from the menu bar. Usually one output file is required, however, when the triangulation data is requested, two files need to be defined – one for point data and the other for the triangle data.
When the Triangle type is selected, the Triangle File text field becomes enabled, as well as the option in the File menu bar.

The user can limit the number of input elements by selecting only required MicroStation levels from the Levels to Process level map. The individual levels can be selected from the level list. When all the levels are to be processed, the "All" button could be used. Alternatively when the selected list needs to be cleared, the "None" button may be utilized. In some cases, when the MicroStation level list is altered outside of data_ms (while the data ms is running), the "Refresh" option should be used to synchronize MicroStation level list with the data_ms.
Currently, the attribute data associated with the processed elements can be exported when the Datamine option is selected. There are two different attribute types that can be selected : MicroStation Tag data and Database data.
When the Tag data is to be exported, the required Tag Set needs to be selected from the Input Set option list. This list automatically populated for the current design file. The default value is NONE, which means that no Tag data is to be exported.

The Details toggles provide a way to more precisely define required data.



In 3D files, the user can limit input data, by excluding data outside the display depth. In order to invoke this, the Use Display Depth toggle needs to be ticked on and the MicroStation view to be used in conjunction needs to be selected from the View list.

The MicroStation data uses real coordinates. In some cases (especially when exporting AMG or MGA data to Datamine), when the coordinate values exceed some values, it is important to subtract specific offsets from the Eastings and Northings. Selecting Use XY Offset and having XY offset defined in DMS Parameter menu can achieve this.
In some cases, it is important to include the name of the current design file in the output file. When this toggle is activated, the name of the current design file is used.

Normally, MicroStation cells are not considered by the scanner for processing, however, in some cases, the user can click Use Point Cells and select Point data type for processing.

Similarly, when the Surpac format is requested, textual data is not considered as a valid data, however, by ticking Use Text for Surpac (and selecting Linear type), the text position and value is outputted in the newly created Surpac file.

Data_ms provides the option of exporting database information attached to the processed elements. In order to activate this option Use Database toggle needs to be selected. When activated, the Tag Set option is substituted by a new one

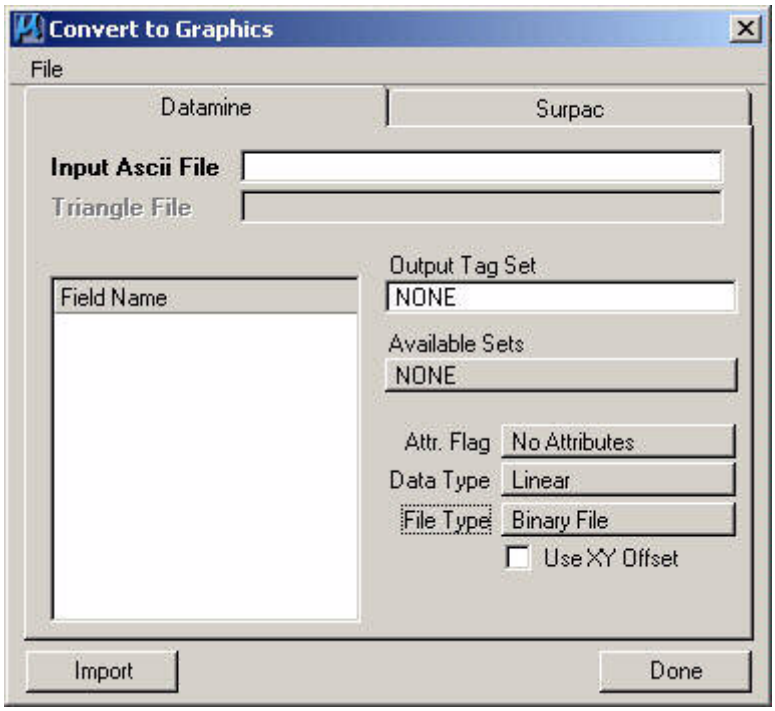
listing all available (and configured in miscatalog table) database tables. The user needs to select the table to be processed, and when this specific table is attached to the graphical element, all the data is included in the output file. It is important to remember that the database connection (from MicroStation) must be established before this option is invoked.

Once all required parameters and options are set, the user needs to click on Convert button to create output file(s).

7.Importing Data to MicroStation

Data_ms provides the way of importing two different data types : Datamine and Surpac. Once the import facility is invoked, the Datamine type is displayed (as the default). The user can switch to the Surpac one by clicking the tab at the top of the menu.

Importing Datamine Data



The above example illustrates the default display

The very first step must involve defining which file type of Datamine file the input file is. There are two types available :

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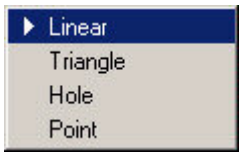
Ascii type – when the Datamine data is in a text format, and binary type when the conversion is required. This option determines how the file is going to be read.

The next step required is the selection of the Datamine Data Type.

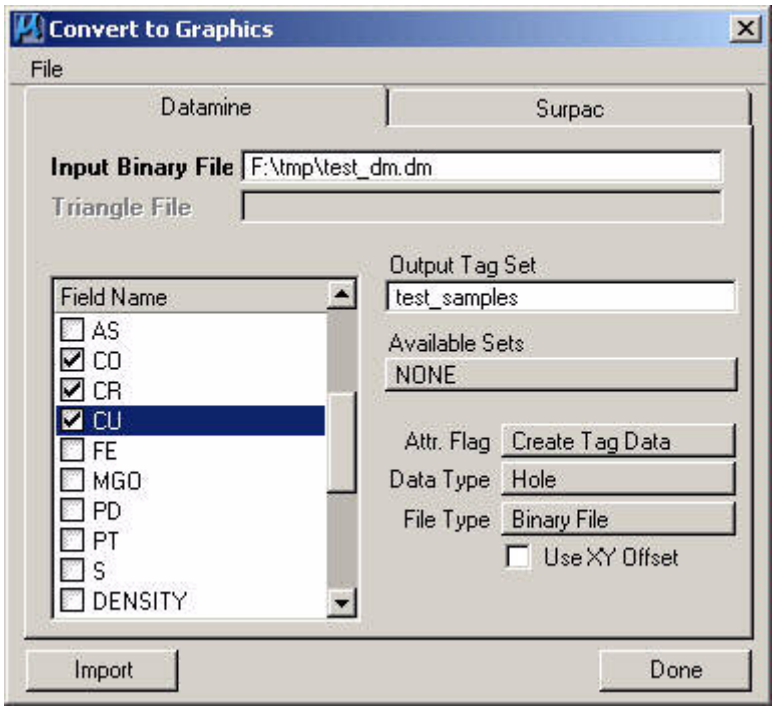


There are four data types available : Linear, Triangle, Hole and Point. These types relate to the different Datamine files available. The Linear, Hole and Triangle data types require single input file, whereas the Triangle one (DTM) requires two input files – one containing the points and the other the triangles. When this option is selected, the Triangle File text field is activated as well as the selection tool in the File menu bar at the top of the menu.

The next task involves the selection of the input file(s) using the File selector at the top of the menu. When the Triangle data type is selected, both point and triangle must be defined.

Once the input file is defined, the Field Name listbox is populated with the fields from input files.

As mentioned before (in the exporting part), the user may request that the constant values are to be added to the input coordinates. This option is invoked, when the Use XY Offset is selected.



At this stage, the user can directly proceed to have the data converted, or when the attribute data is to be imported as well, additional setup is required (at this stage no attribute conversion is available for the triangular data).

First , the user must decide which fields are to be imported by clicking on the field name. Only the fields which are ticked will be used for the attribute import (in the above example CO, CR and CU were selected).

The next step involves selecting Create Tag Data option from Attr. Flag to indicate that the attribute import is required. In addition tag set must be defined. The tag set doesn't need to exist, but it may. The user can select existing tag set from the Available Sets option (which will populate Output Tag Set text field), or just key in set name in the

Output Tag Set field. If the tag set already exists, but doesn't contain all the tags as selected, the new tags are automatically created.

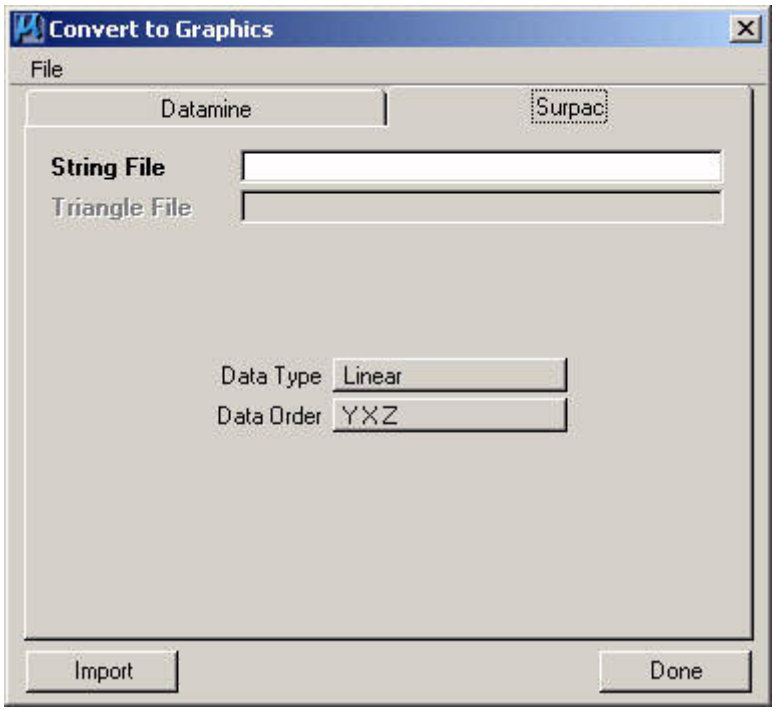
Once all the above are defined, the user needs to click on the Import button to initiate the process.

It is important to remember, that when importing tags, that the size of the file may grow very rapidly (it may even reach maximum design file size).

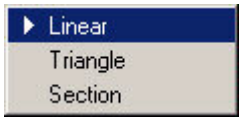
When the new elements are created, the default environment file is used to map the colours.

Importing Surpac Data.

When this option is selected the following menu is displayed :



The very first step normally involves selecting input Data Type. There are following options available depending on the type present in the input file(s) :

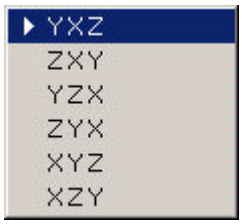


Both Linear and Section types require single input file, whereas the Triangle (DTM) option requires that two input (point and triangle) files will be used.

The next step requires that the user selects input file(s) using the File selection tool from the menu bar at the top of the menu (please note that the Triangle File text field and corresponding selection tool for the triangle file is activated when the Triangle data type is previously selected).

Data_ms processes input coordinates in the YXZ order (which is the default). However, if the other combination is required, the user can easily switch it into to the one used in the Surpac input file.

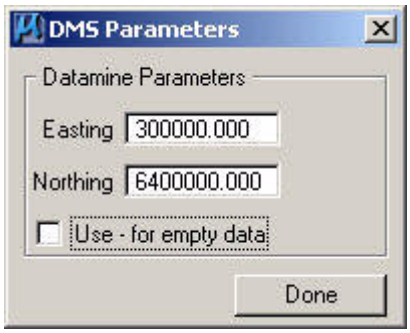
The following Data Order options are available :



Once all required options (and file name(s)) are selected the user needs to click Import button to import required Surpac data into current design file. At this stage, the currently defined MicroStation symbology is used for newly created data.

8.Parameters

The parameter menu provides the way of defining following parameters :



The Datamine offset – as described before, in some cases it is important to add or subtract constant values from the coordinates being imported or exported.

The above example illustrates that the constant value of 300000 will be used for Eastings and 6400000 for Nothings. This option is used only when the relevant toggles are activated on the import/export menus. The Easting and Northing offsets are “remembered” by MicroStation from session to session.

In addition, when some attribute data (and non numeric data as well) is exported to Datamine, some user may prefer that the empty data is marked with “-“ rather then having empty fields.

9.Online Help

Once Help command is selected from the main menu, the online Data_ms help is displayed.

10.About Data_ms

The About Data_ms option provides the way to obtain more product information (e.g. Lilac Crest address, contact phone/fax number and E-mail address), it also gives the user the ability to update serial number when required (e.g. changing it from Demo to Full production).

When activated, this command displays the same menu as described at the very beginning of this document.

See Running Data_ms

11.How to contact us

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