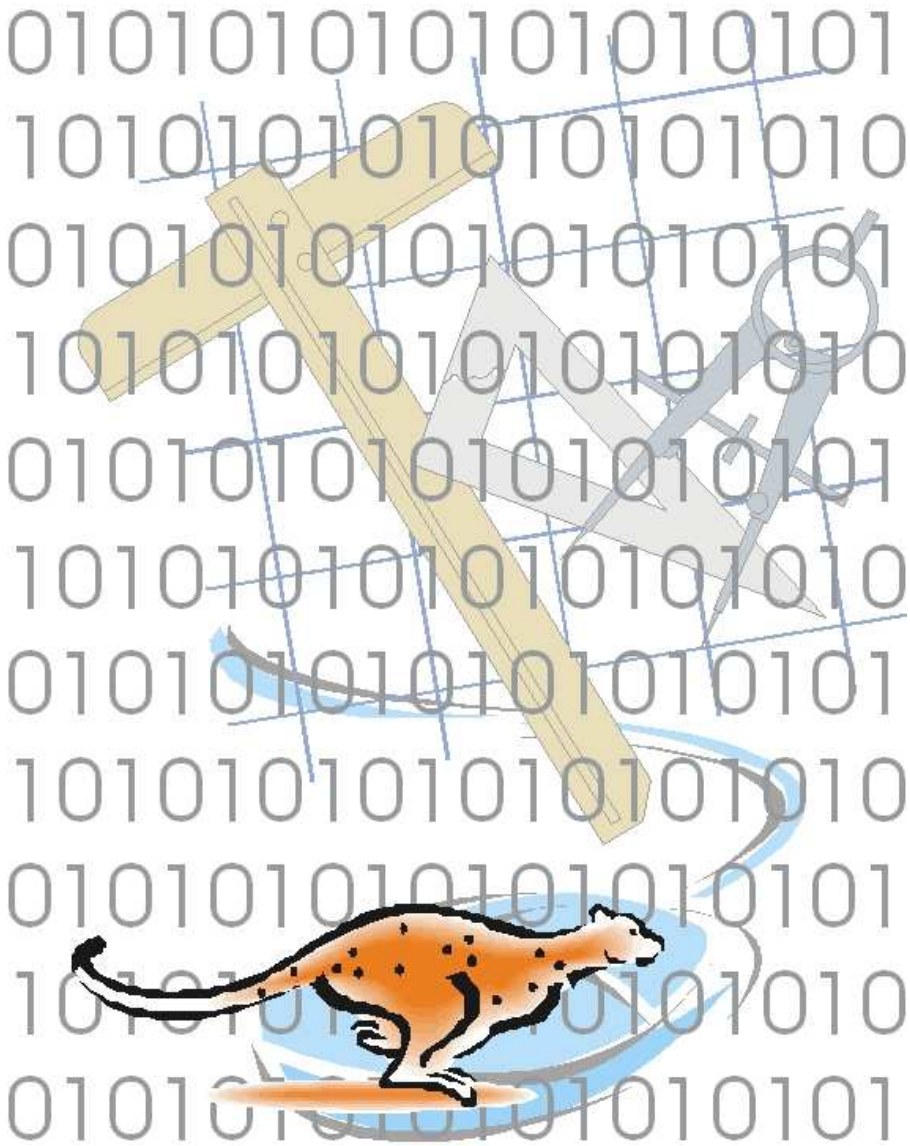
uCheetah!

6 Times Faster Than any Human
(It makes you feel like you are cheating!)

User Guide

Version 8i-042 May 2014



" My philosophy is to provide tools to people so that their work becomes more streamlined and efficient, thus enabling them to reach higher levels of standardisation and control. In this process, they are empowered to be completely independent and familiar with their working environment, ultimately resulting in the saving of man-hours. This is achieved by enhancing their knowledge with specific, targeted training, and the efficient use of customised tools, which they themselves have been involved in developing. '' - *JAF*

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PART I INTRODUCTION

uCheetah is a set of utilities, mainly customised for the Eskom Survey Drawing Office environment.

All routines are written using MDL (MicroStation Development Language) and some minor routines with Microsoft Visual C++.

DGN files must include levels 1-63, and be configured as 100:1 working units, with units set as m:cm, and display of 2 decimal places. If the working units are not set up like this, then some of the routines will simply not work or behave erratically.

Private Files.

uCheetah uses one cell library exclusively:- c:\uCheetah-V8i\uCheetah.cel. It is recommended that the user does not add new cells to this library, as they will be lost whenever uCheetah is updated or re-installed.

The main aim of developing uCheetah, is to reduce the number of man-hours spent on drawing tasks. Users are encouraged to put forward any proposals that support this aim. Most repetitive tasks can be automated, which saves man-hours and reduces boredom.

Changes to System Configuration.

uCheetah files must reside on the C:\> drive: in the 'uCheetah-V8i' folder:
Viz: C:\uCheetah-V8i\

uCheetah does not modify the computer system in any way, and neither does it make any changes to the MicroStation User Preferences.

uCheetah does not put hidden 'marks' in design files, nor attach hidden identification to any design file elements.

Licensing.

All the MDL (*.ma) files associated with uCheetah will only execute from a licensed uCheetah installation.

Example Data/Files.

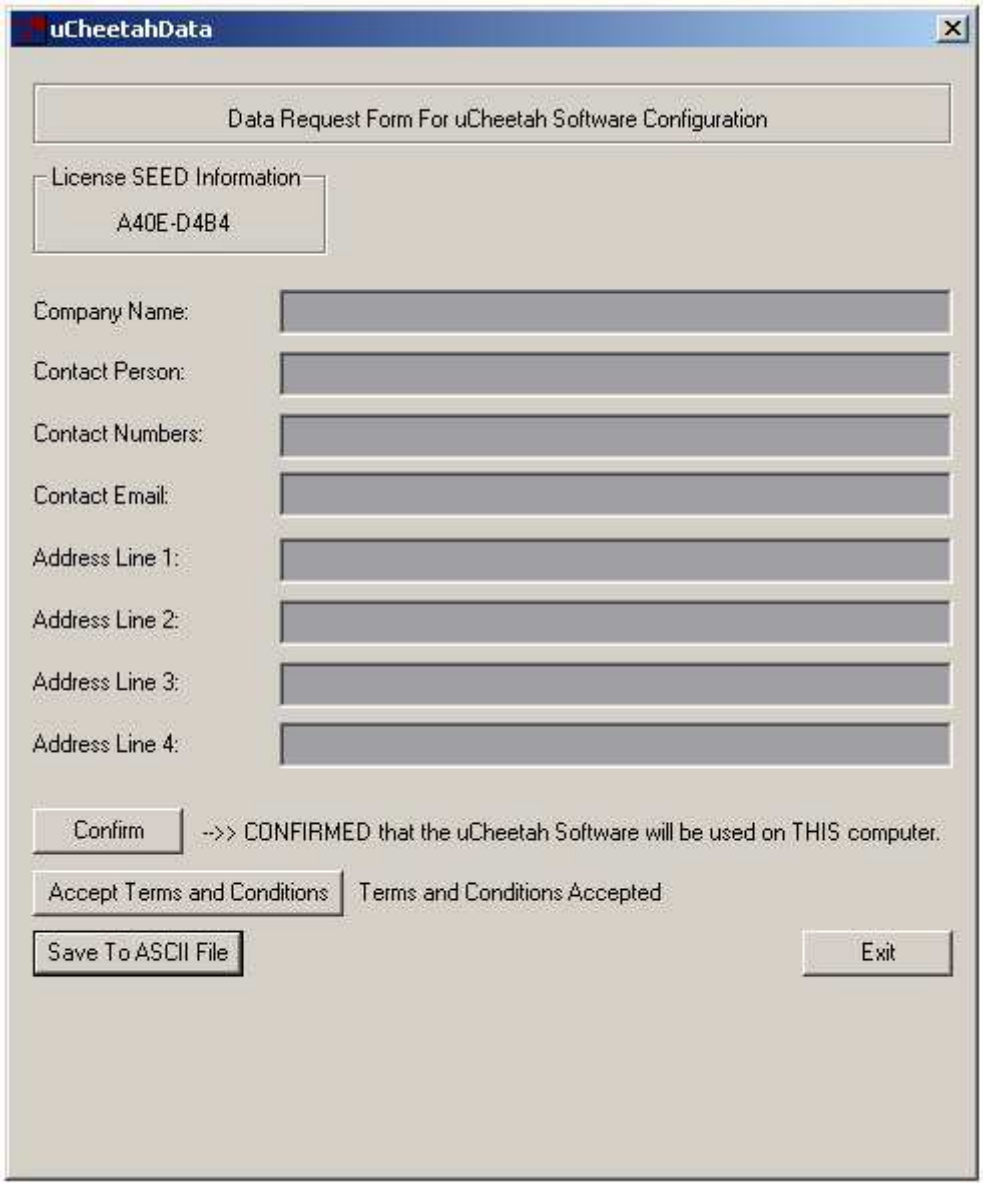
Some sections of this manual refer to example data, supplied for testing, or better understanding of the usage of any particular routine. All example data will be located in the directory 'C:\uCheetah-V8i\Examples\'

Obtaining a Licence to use uCheetah.

In order to be able to use uCheetah, a licensed version of the software will be created for you. In order to obtain the licence, first complete the Data Request Form available as "uCheetahData.exe". This can be forwarded to you via email, or is in the

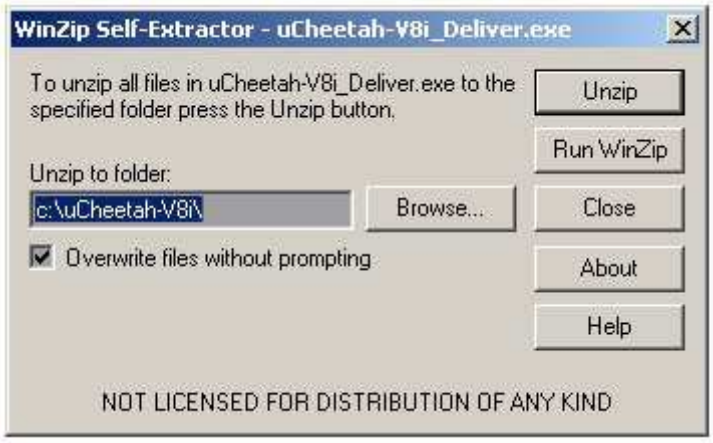
c:\uCheetah-V8i\RequestForm\ folder. It is also available via download from http://www.johnfrancis.co.za/Download.html.

Fill in the data fields in the form, save the data to an ASCII file and email the resultant ASCII file to johnfrancis@iafrica.com, for processing.



PART I.a INSTALLATION

To install uCheetah, launch the 'uCheetah-V8i.exe' file supplied. Select Unzip to install the utilities into the default folder as suggested. Do not install into any other folder, as the utilities will not function correctly. If the c:\uCheetah-V8i\ folder does not exist, then it will be created automatically.



PART II USING uCheetah

Launching the application.

NOTE! uCheetah will not work in "High Security" versions of MicroStation.

In the key-in window, type:- **MDL LOAD UCHEETAH**

or

Use the MicroStation Menus:- Utilities->MDL Applications: Select UCHEETAH under 'Available Applications', then click 'Load'. Close the MDL Applications Dialog Box Window. (This option MUST be used the first time the application is used – you will need to "Browse" to c:\uCheetah-V8i\MdlApps\ to find the uCheetah.ma file.)

A Function Key can be assigned for the loading of uCheetah;

Once the Main uCheetah Dialog Box is displayed, the utilities are available via a series of pull-down menus.

Fig. 1: Main uCheetah Dialog Box

Selecting ‘Quit’ will unload uCheetah, and all options loaded from ‘NationalStds’ and ‘Drawing’. Routines loaded from ‘Survey’ will remain loaded if ‘Quit’ is selected.

NOTE!

If a dialog box appears suggesting that “a configuration file is missing”, it can be either of two things:-

1). A needed configuration file “c:\uCheetah-V8i\config\uCheetah-V8i.cfg” is missing – you will need to contact John Francis to obtain a copy.

2). A ‘Rights’ issue needs to be resolved (only in Windows 7&8). All users need to be given ‘FULL Rights’ to the folder and sub-folders in which the MicroStation executables etc reside. The default folder is:- C:\Program Files (x86)\Bentley\MicroStation V8i (SELECTseries)\MicroStation\ - but it may have been installed elsewhere, at the installer’s request. The folder can be identified by looking at the ‘MSLOCAL’ variable in “Workspaces/Configuration” in MicroStation’s main menus. These folders need to be ‘writable’, however when installed in Win 7 or Win 8, they are ‘read-only’ by default.

OR, it can be resolved by doing the following:

In MicroStation, you need to look at the ‘MSDIR’ or ‘MSLOCAL’ variable under “Workspace/Configuration”, note what folder it refers to.

Close MicroStation.

Then, copy the ‘C:\uCheetah-V8i\Config\uCheetah-V8i.cfg’ file to the folder ‘(MSDIR)\config\appl\’

Eg. If MSDIR is “c:\Program Files (x86)\Bentley\MicroStation\”, then you must copy the ‘uCheetah-V8i.cfg’ to
‘c:\Program Files (x86)\Bentley\MicroStation\ config\appl\’

Restart MicroStation, and all should be resolved.

PART III CUSTOMISED UTILITIES

These utilities are grouped into three main categories, NationalStds, Drawing and Survey. The NationalStds and 'Drawing' sections are particularly relevant to Eskom, as they are in accordance with the Eskom Standards. The 'Survey' section is more generalised.

III.1 DRAWING

These tools provide a means of generating mapping symbology for map features. They are particularly useful for compiling spanning plans/detail sheets and profile strip survey drawings. The 'uCheetah' dialog box must not be closed while any items under 'Drawing' are open. There are four groups of routines, as follows:

Map Cells Individual map symbols, representing features that exist on the ground, and other map information symbols.

Map Areas Filling of an area, defined by the user, with an array of symbols representing the feature that exist on the ground.

Map Linear These routines place symbols along user-defined linear elements, synonymous with MicroStation LINE elements.

Map Curves These routines place symbols along user-defined curve elements, synonymous with MicroStation CURVE elements.

III.1.a Map Cells

In the uCheetah Dialog Box, select 'Drawing->Map Cells'.

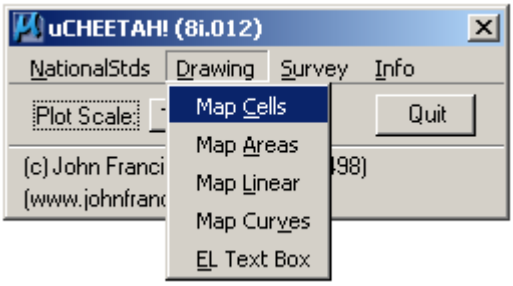


Fig. 2: Map Cells Selection

The Map Cells Dialog Box will be displayed, as such:

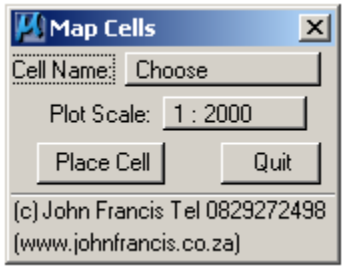


Fig. 3: MapCells Dialog Box

Click on 'Choose', in the MapCells dialog box to select which cell is to be placed. The available options are:

DipTank
Dipping Tank
Grave
Hut
Tower
Major Line Tower Position
Manhole
Pole
General Power Pole
Reservoir
North
North Arrow
TelPole
Telephone Pole
Tree
Trig
Trig Beacon
Well
Windmill
Water Main
Eskom Logo

Select the scale that the drawing will be plotted at.

Select 'Place Cell'.

Place the cell in the drawing, using a Data point.

III.1.b Map Areas

In the uCheetah Dialog Box, select 'Drawing->Map Areas'.

The Map Areas Dialog Box will be displayed, as such:

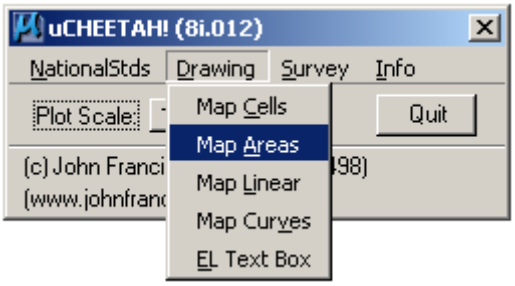


Fig. 4: Map Areas Selection

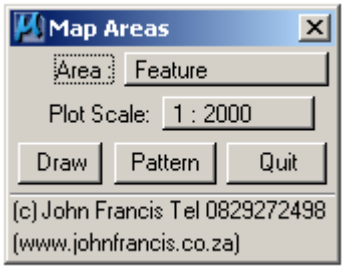


Fig. 5: Map Areas Dialog Box

Click on 'Feature', in the Map Areas dialog box to select which Area Symbol is to be used. The available options are:

Lands
Cultivated Lands
IrLands
Irrigated Lands
Trees
ConifTr
Coniferous Trees
Marsh
Rocky
Rocky Outcrop
Orchard
Cultivated Orchard
IrrOrch
Irrigated Orchard
Plantn
Plantation
Bush

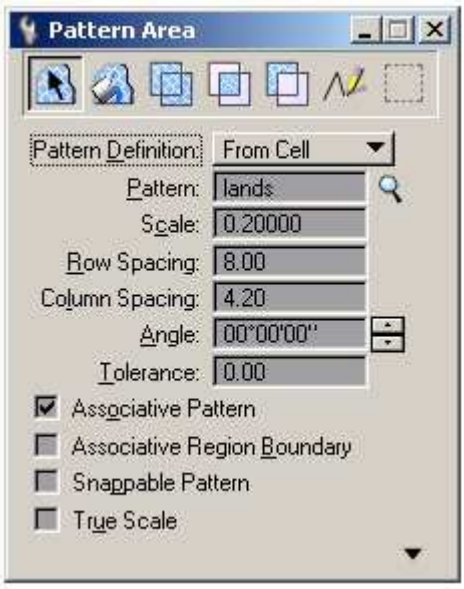
Select the scale that the drawing will be plotted.

Select 'Draw', then define the area, using Data points as if you were drawing a fence.

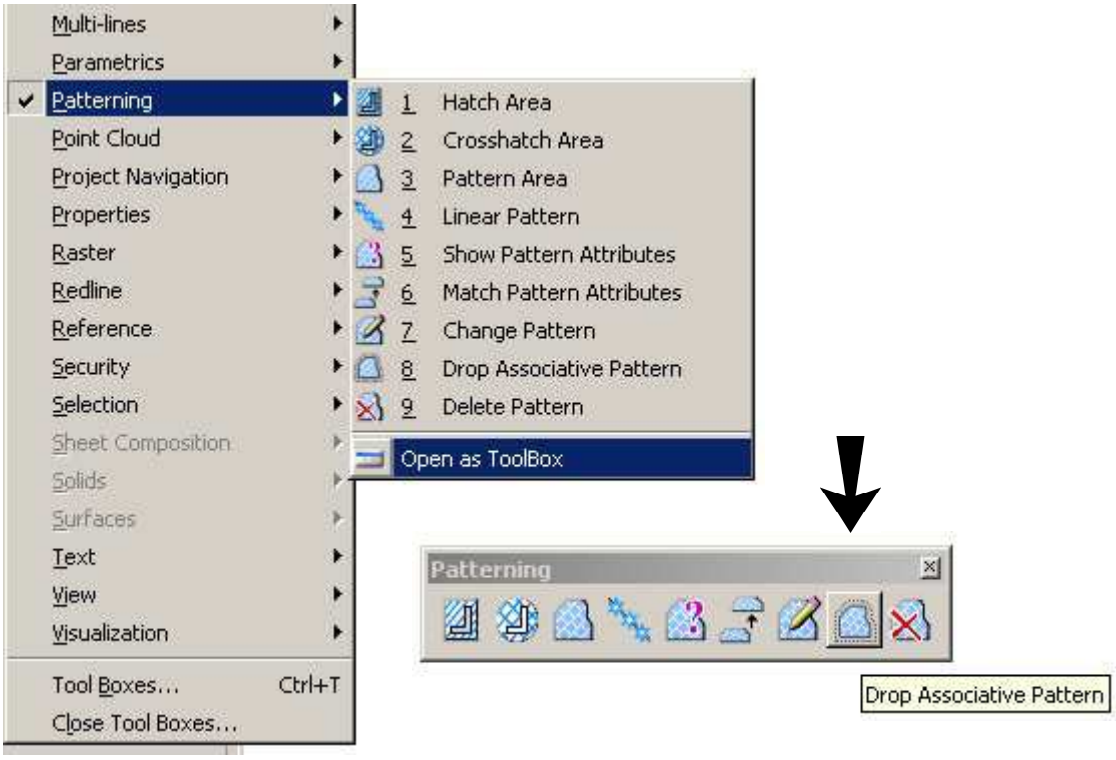
Once the 'shape' is closed, click on the 'Pattern' button to do the actual patterning inside the area. The area will be filled with the Feature pattern as selected.

Hint! Depending on your MicroStation settings, the patterns can behave in various ways. If the pattern mode is 'Associative' then a border will be left around the pattern area, as a 'shape'. If associative mode is off, there will be no border. To toggle the mode on or off, invoke the standard area-pattern

dialog box and select or de-select the ‘Associative Pattern’ toggle, prior to drawing your own area patterns.



To remove a border around your pattern, you will need to ‘Drop’ the pattern association. Firstly, open the ‘Patterning’ toolbox from ‘Tools’ drop-down menu, then select the ‘Drop Associative Pattern’ icon, and select the pattern in the view. The outside shape element can now be deleted. The pattern elements remain a graphic group, and can be manipulated as a whole if the Graphic-Group lock is on.



III.1.c Map Linear

In the uCheetah Dialog Box, select 'Drawing->Map Linear'.

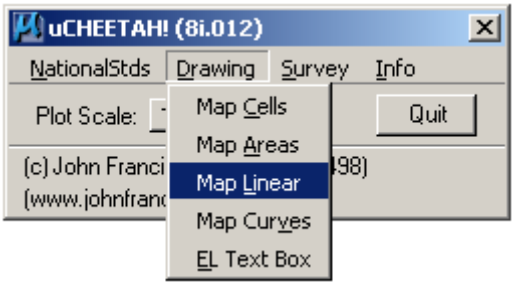


Fig. 6: Map Linear Selection

The Map Linear Dialog Box will be displayed, as such:

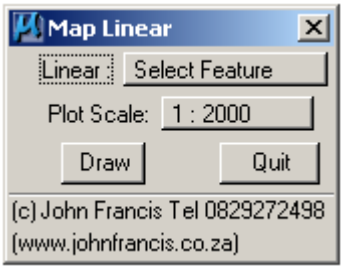


Fig. 7: Map Linear Dialog Box

Click on 'Feature', in the Map Linear dialog box to select which Linear Symbol is to be used. The available options are:

Tel Line
Telephone Line
Tel Cable
Telephone Cable
Pipeline
UG Cable
Underground Cable
Camp Fence
Sec Fence
Security Fence
Farm Bdy
Farm Boundary
SubDv Bdy
Sub-Divisional Boundary
Wall
Powline
General Power-line
D/C Pline
Double Circuit Power-Line

Select the scale that the drawing will be plotted .

Select 'Draw'.

Place a series of Data points as if you were drawing a linestring.

Once the 'Reset' button is pressed, the line will be patterned with the Feature as selected.

The last two Data Points determine the orientation of the symbols on the placed linestring. If the last Data Point is to the right of the previous one, then the symbol orientation will be to the top of the screen. If the last Data Point is to the left of the previous one, then the symbol orientation will be to the bottom of the screen.

Hint – If you wish the symbols in the patterned area to be 'snappable', then prior to using this routine, open the 'Patterns' tool menu, and select 'Snappable Pattern' in the pattern settings dialog box.

III.1.d Map Curves

In the uCheetah Dialog Box, select 'Drawing->Map Curves'.

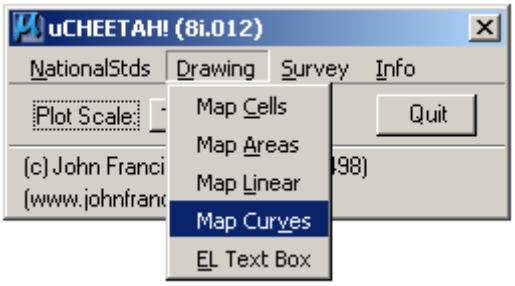


Fig.8: Map Curves Selection

The Map Curves Dialog Box will be displayed, as such:

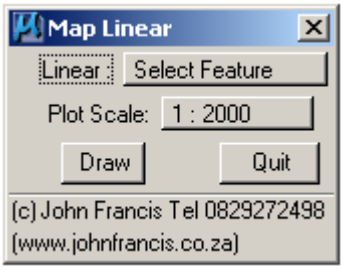


Fig. 9: Map Curves Dialog Box

Click on 'Feature', to select which Curve Symbol is to be used. The available options are:

Track
Road
Donga
Embank
Embankment
Edge Bush
Edge of Bush
Line Trees
Line of Trees
Line Conif
Line of Coniferous Trees
Foot Path
Rail Line
Railway Line
Terrace

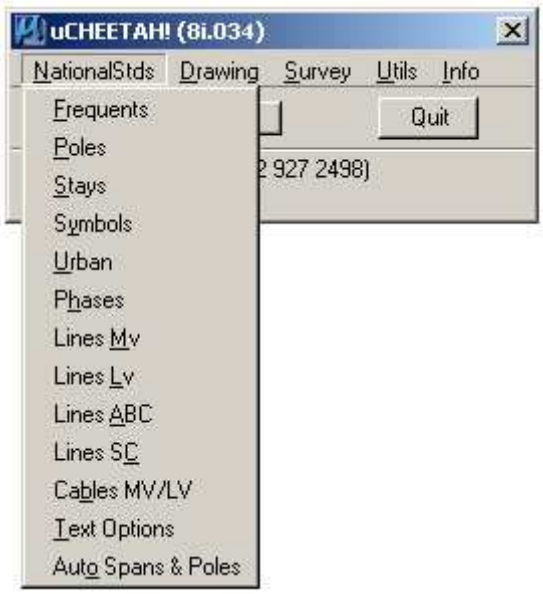
Select the scale that the drawing will be plotted.
Select 'Draw'.
Place a series of Data points as if you were drawing a curvestring.
Once the 'Reset' button is pressed, the curve will be patterned with the Feature as selected.

The last two Data Points determine the orientation of the symbols on the placed curvestring. If the last Data Point is to the right of the previous one, then the symbol orientation will be to the top of the screen. If the last Data Point is to the left of the previous one, then the symbol orientation will be to the bottom of the screen.

Hint – If you wish the symbols in the patterned area to be 'snappable', then prior to using this routine, open the 'Patterns' tool menu, and select 'Snappable Pattern' in the pattern settings dialog box.

III.2 NationalStds (National Standards)

These tools are used for drawing all MV and LV infrastructure, typically used in electrification drawings. Most of the items in the menus operate in a similar manner, with few exceptions, however, the operations are simple and self-explanatory.



Selecting 'Frequents' above will produce the dialog box on the right below.

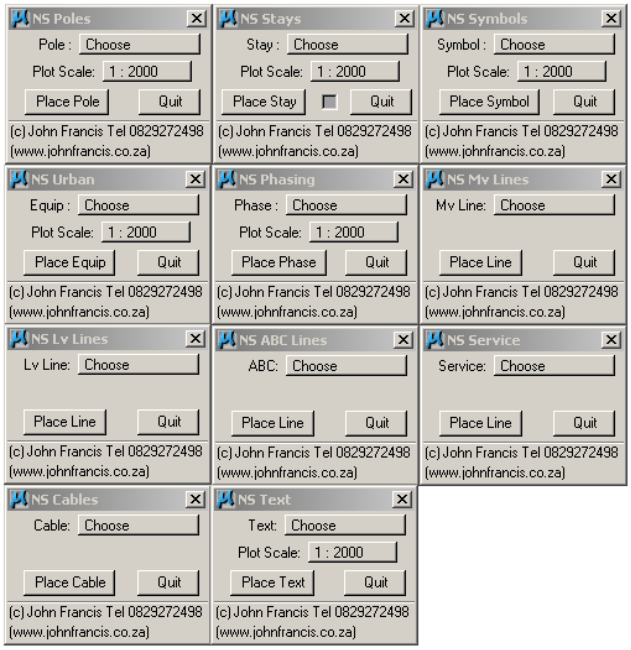


Fig.13: NS Standards' Dialog Boxes

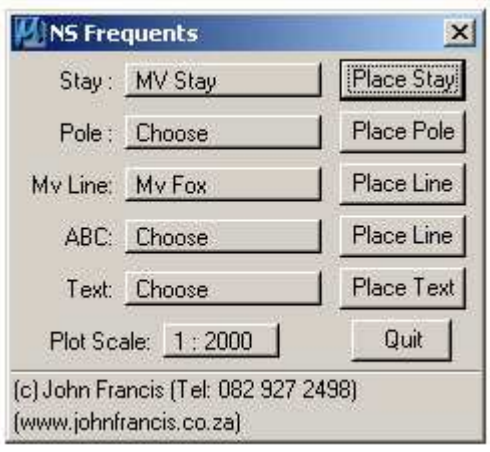


Fig.12: Frequents Dialog Box

Each category under NationalStds has its own dialog box, but the 'Frequents' dialog box is also supplied, which incorporates the most commonly used items in the National Standards' options.

III.2.a Stays

The Stays Utility has an additional option via the Check-Box between the 'Place Stay' and 'Quit' buttons. By 'Checking' this box, the stay will be placed in the opposite direction to normal. i.e. Usually, the stay will be placed in the same direction as the indicator line determined by the user. With the box 'Checked', the stay will be rotated by 180 °.

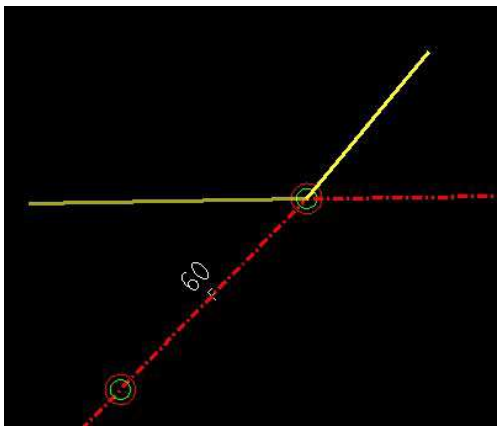


Fig.14: Stay Placement Normal

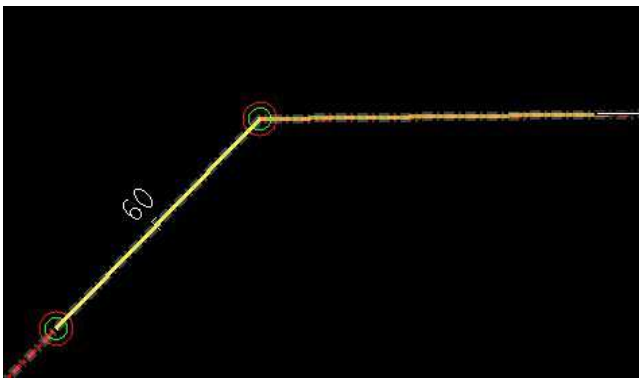


Fig.15: Stay Placement 180°

Both methods will yield the same result, but the 'Checked' method, will ensure that the stay is at exactly the same angle as the line, without having to estimate, as with the 'un-Checked' method.

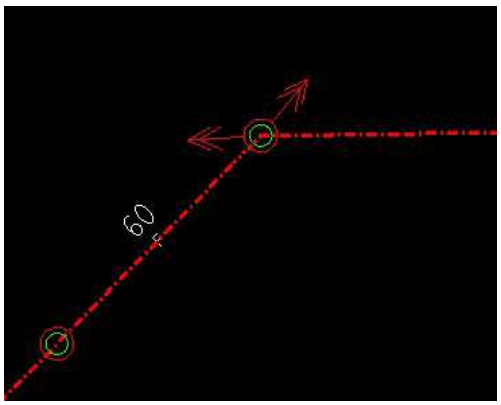
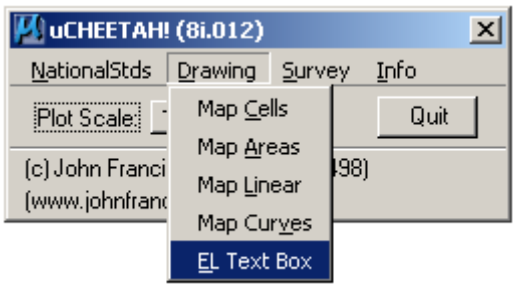


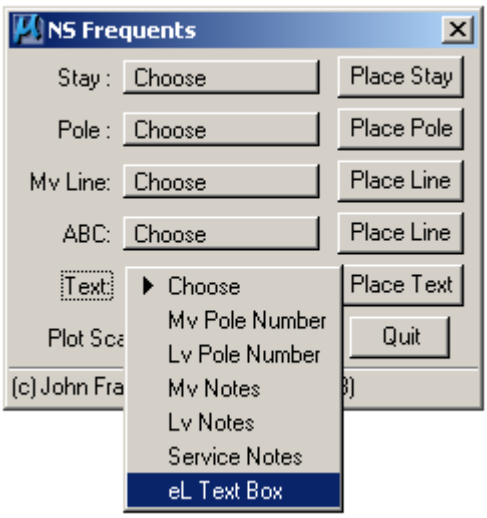
Fig.15: Stay Placement Result

For this to work when using the 'Stay' options in the 'Frequents' dialog box, then this 'NS Stays' box must first be opened, to set the Check-Box. The 'NS Stays' box can then be closed, but will need to be opened again to toggle the Check-box off when required.

III.2.b EL Box (Equivalent Length Graphic)

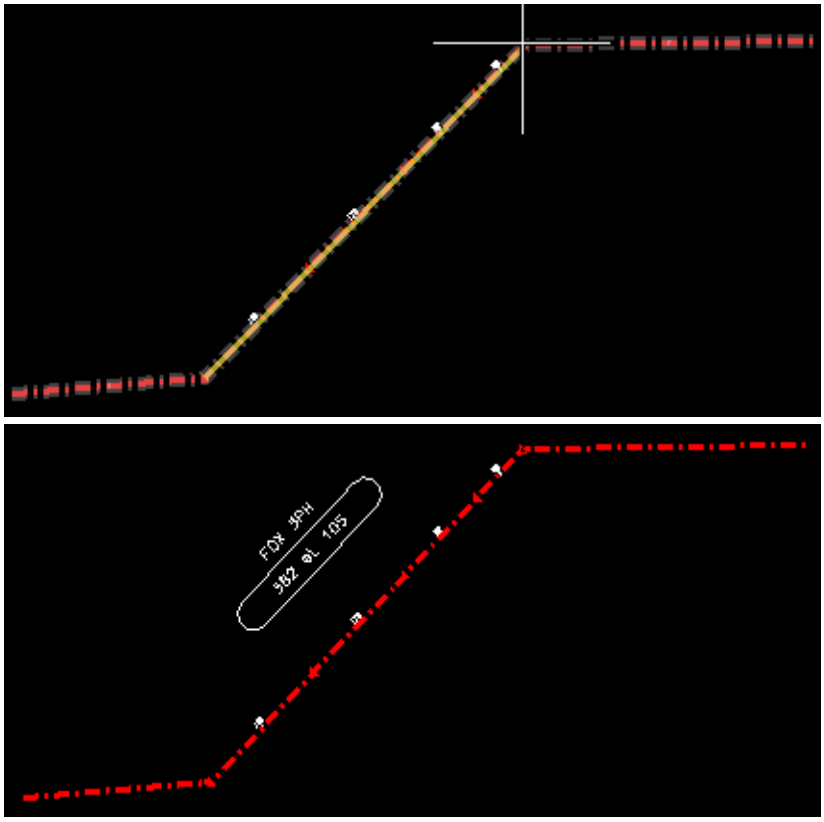
The EL Box placement utility can be found in two places:





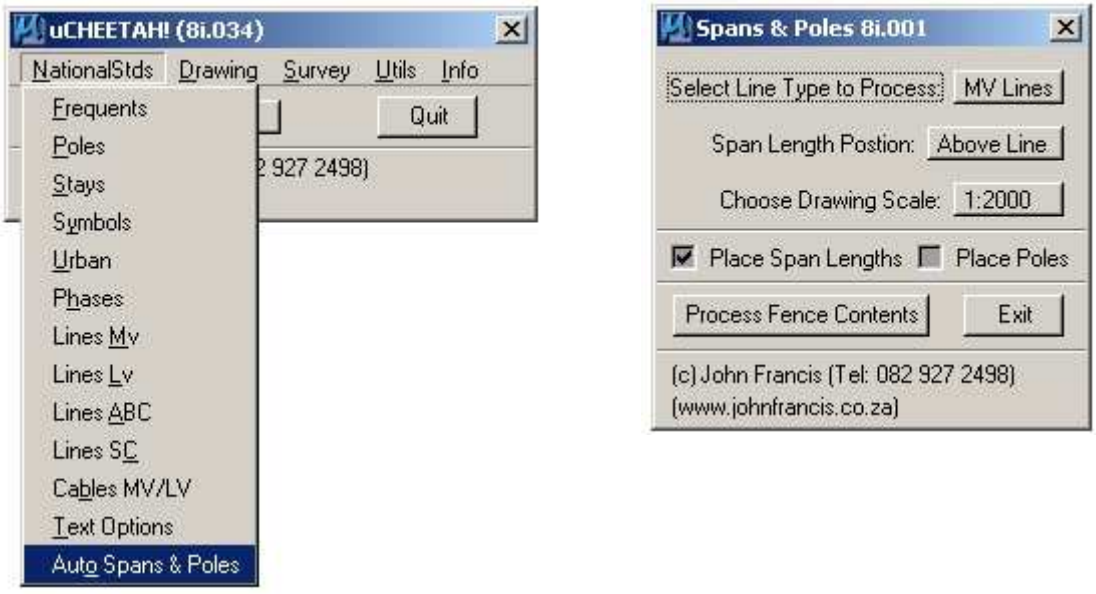
Text can entered into the box, and when 'Place eL' is selected, a direction line (as in the placement of stays) can be given, for the orientation of the graphic placement. The eL graphic will then be available on the cursor for placement in a convenient place in the drawing. *Tip: Snap on existing lines to set the eL Graphic parallel to the relevant line section.*

The eL Graphic is a 'Graphic Group' and can be manipulated (moved/deleted) as a unit, if the Graphic Group Lock is ON.



III.2.c Auto Span Lengths and Pole Placement

The Span Lengths Utility enables the automated placement of Span Lengths.



The choice available (MV or LV Lines), **ONLY sets the TEXT settings** specifically, i.e. Level 16 for LV and Level 17 for MV. This routine does not determine whether a line is either MV or LV, based on the line's symbology. MV Poles will be placed if "MV Lines" is selected, LV Poles if "LV Lines" is selected. Click in the Check-Box for placement of poles. All lines in the fence will be processed, so switch off the levels containing any lines which should not be processed, e.g. LV17 (eL Text Box).

The span lengths can be placed either Above or Below the line.

NOTE! The Scale setting is not linked to the general "uCheetah" Scale setting, as this is a separate routine – so be careful.

Usage: Place a Fence (any shape) around the lines for which span lengths need to be calculated. Obviously, MV and LV must be processed separately, so turn on/off the relevant levels as you require. For example, make the level which has the MV lines the Active Level, and switch off all the other levels (except LV17, which is for MV Notes/Text). Place a fence around the lines to be processed, and select "Process Span Lengths". Do the same for LV. Fence 'Clip' mode does not work with this routine.

Some fiddling, ingenuity and common sense will be required when processing MV/LV lines on shared structures – where they are drawn parallel, in order for the span lengths to be displayed in the correct position and with the correct value.

Poles are placed at the end of each line segment, so some cleaning up may be required. Obviously, MV/LV combination poles will need to be placed manually, and clearing away of the auto-placed poles on the MV-over-LV sections will need to be carried out first.

III.3 SURVEY

These tools are MDL routines which enhance the functionality of MicroStation. They assist the user by automating tasks which would otherwise take a long time to complete. Once any of the options on the 'Survey' menu are selected, the main 'uCheetah' menu may be closed if desired. Included here are the following:

CadCodes
Create and Place Rural Structure Codes

ColmPlot
Imports Geographical Co-ordinates to DGN

ReadYXZ
Import YXZ Co-ordinates From ASCII or Text File

Imp-YXZ
Import YXZ Co-ordinates From ASCII or Text File
(As per original SE/95 Version

Exp-WGS84 (DMS)
Extracts Geographical C0-ords to ASCII File (Lat, Long)

Exp-NYXZ
Extracts Text C0-ords to ASCII File (Text, Y, X, Ht)

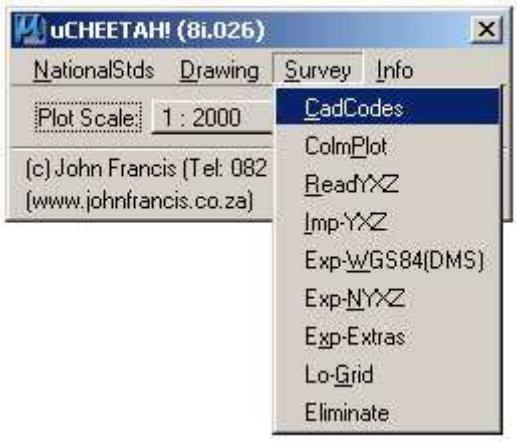
Exp-Extras
*Export*s *Text Items' Co-ordinates to ASCII file in various formats*

Lo-Grid
Create YX Grid Lines

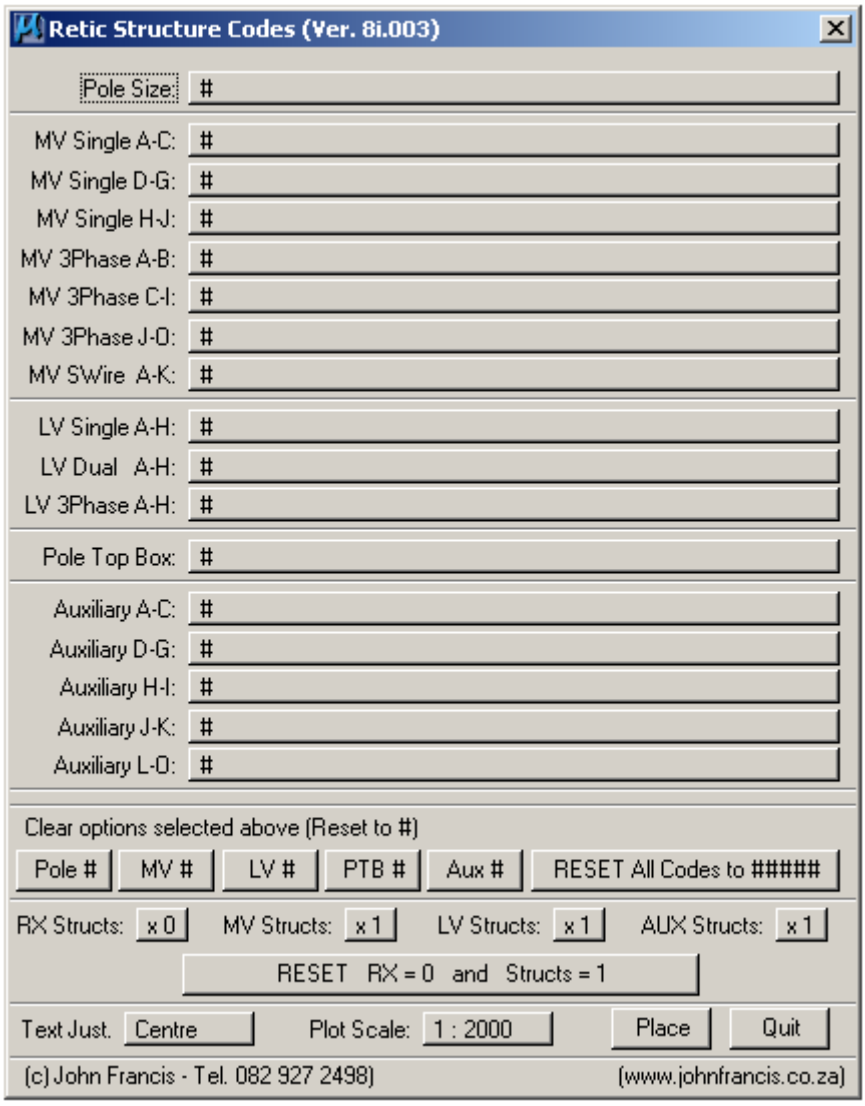
Eliminate
Eliminates duplicate TEXT items within a specified radius

III.3.a CadCodes

In the uCheetah Dialog Box, select 'Survey->CadCodes'.



A new Dialog Box will appear as follows:



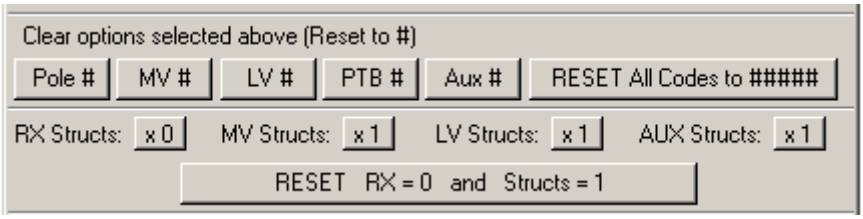
This utility assists the user to 'build' the 5-digit code used to describe a Rural Line Structure.

The code consists of five characters:

1 Pole Size
2 MV Equipment
3 LV Equipment
4 Pole Top Box
5 Auxiliary Equipment

The dialog box above is divided into five sections, corresponding to the five characters. Choose one option in each section, to build the code.

Choose a multiplier for the structures if desired.
Select the Text Justification desired.
Reset selections using the buttons below.



Select the scale that the drawing will be plotted at.
Note: This scale option is not related to the uCheetah Scale setting.

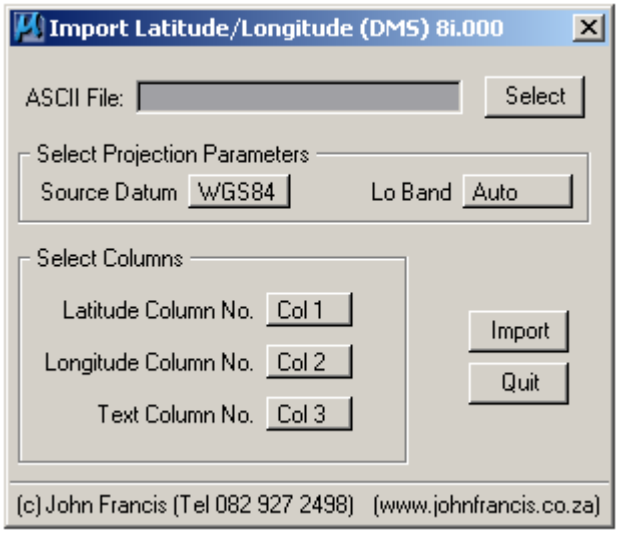
Select 'Place'.

Position the CODE where desired in the drawing, using a Data Point.

III.3.b ColmPlot (Column Plot)

In the uCheetah Dialog Box, select 'Survey->ColmPlot'.

A new Dialog Box will appear as follows:



This utility will import ASCII Geographical co-ordinates. The format of the ASCII file must be as per the example file 'colmplot2.asc'. Basically: Lat,Long,Descr,, (Two commas at the end of each line, conforms to an Eskom Standard Format).

Set the desired Text Size, Level, Colour, etc.

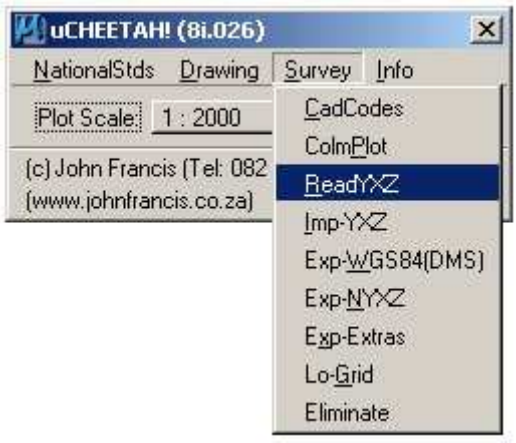
Select the Datum of the ASCII data. (The same Datum will be used to create the DGN file).

Select which columns the Latitude, Longitude and Text items are in.

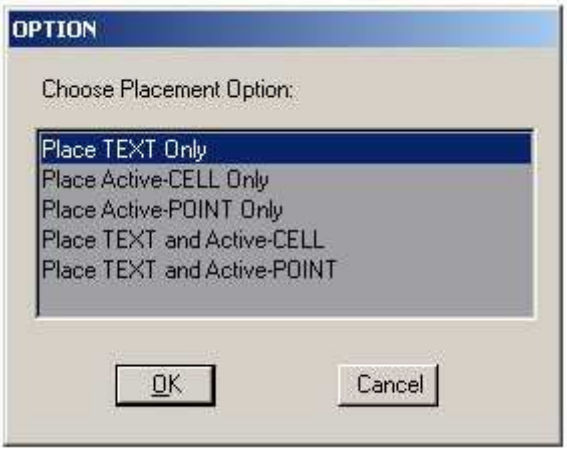
Select 'Import'.

III.3.c ReadYXZ

In the uCheetah Dialog Box, select 'Survey->ReadYXZ'.



After requesting the path and name of the ASCII co-ordinate file, a new Dialog Box will appear as follows:



ReadYXZ will import points from an ASCII file, into the design file.

The user has the option of placing a Cell at the co-ordinates listed in the ASCII file, or the T*ext (usually the point's name*) associated with the co-ordinates. Alternatively, both a Cell, *and* the Text may be placed. Instead of a cell, an active point may be imported. 'ASCII' is the anagram for 'American Standard Code for Information Interchange'. It is basically a plain text file (not binary), that can be viewed and edited in any plain text editor, such as notepad. If any 'hieroglyphics' are visible when viewing an ASCII file, then the file is not ASCII.

Requirements:
1) ASCII file in proper format. (N Y X Z or N Y X)
2) The cell library in which the desired CELL resides, must be attached.

Text

This program uses the current text settings, i.e. size, justification and font.

If the text is to be plotted at any specific size for a desired scale output, then the text size must be calculated and set prior to clicking 'OK'.

N Y X Z (At least ONE SPACE between fields, no spaces in the Name (N))
or
PtName Y X

E.g.:

ROCK	-78234.42	3218336.65	254.32
MH	-78106.22	3218332.23	252.34

or

ROCK	-78234.42	3218336.65
MH	-78106.22	3218332.23

ASCII File rules:

There must be at least one space between the fields (columns).
There can be many spaces, but there must be at least one.
The data does not have to be in straight columns, just as long as there is at least one space between the fields.

The spaces must not be TABS.
There must not be any spaces in the PtName (N) field. If your ASCII file has names with spaces in, they must be replaced with underscores(_) or hyphens (-).
The decimal character must be a point, not a comma.
The Fields/Columns must not be separated by commas, only spaces.

Input Data Format

Select 'Yes' if the signs of the Y,X co-ordinates in the ASCII file must be changed before plotting. I.e. The Eskom standard specifies that X co-ords must display as negative in MicroStation. If the X Co-ord value in the ASCII file is positive, then this box should be checked.

ASCII Format

Name Y X Z is used if PtName is the 1st Field/Column in the ASCII file.
See example file 'NYXZ-EG.TXT'
Y X Z Name is used if PtName is the 4th Field/Column in the ASCII file.
See example file 'YXZN-EG.TXT'

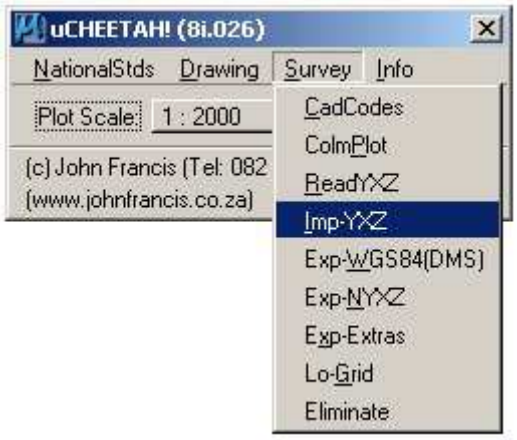
Once all selections have been made, select 'OK', and the program will run, and indicate in the MicroStation Command Window, how many points were plotted.

Example

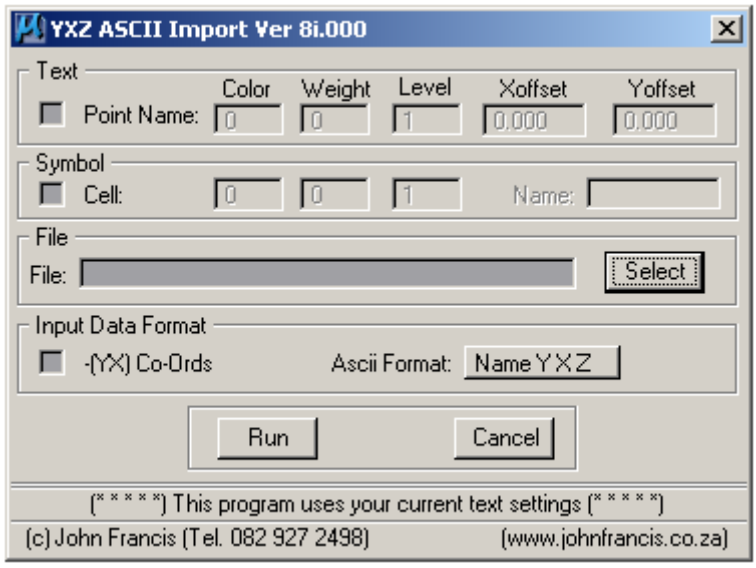
Attach Cell Library ‘UCHEETAH-V8i’
Set Active Cell to ’TRIG’
Set Text Size to 130 (TX=130)
Set Active Scale to 50 (AS=50)
Load ‘READYXZ’ application.
Select ‘Place TEXT and Active-CELL’
Select ‘Yes’ to reverse the signs
Use example ASCII File ‘NYXZ-EG.TXT’
Select ‘Run’ to import the ASCII File.

III.3.d Imp-YXZ

In the uCheetah Dialog Box, select 'Survey->Imp-YXZ'.



A new Dialog Box will appear as follows:



Imp-YXZ will import points from an ASCII file, into the design file.

The user has the option of placing a cell at the co-ordinates listed in the ASCII file, or the *text (usually the point's name*) associated with the co-ordinates. Alternatively, both a cell, *and* the text may be placed.

'ASCII' is the anagram for 'American Standard Code for Information Interchange'. It is basically a plain text file (not binary), that can be viewed and edited in any plain text editor, such as notepad. If any 'hieroglyphics' are visible when viewing an ASCII file, then the file is not ASCII.

Requirements:
1) ASCII file in proper format.

2) The cell library in which the desired CELL resides, must be attached.

Text

This program uses the current text settings, i.e. size, justification and font.

If the text is to be plotted at any specific size for a desired scale output, then the text size must be calculated and set prior to clicking 'Run'.

Check the box on the left in the Text area, if you wish the Point Name to be plotted. Key in the desired Colour, Weight and Level that must be used for the text.

Offset: If the text/PtName is to be plotted offset from the actual co-ordinate, usually if a cell was placed on the actual co-ordinate, then use these offset values to offset the text. The 'X' & 'Y' offsets are not based on the Lo co-ordinate, system, but on the Screen Co-ordinate system. I.e. X is negative to the left, and positive to the right. Y is negative towards the bottom of the screen, and positive to the top. The values keyed-in must be in metres.

Symbol (Cell)

Check the box on the left in the Symbol area, if you wish a CELL to be plotted. Key in the desired Colour, Weight and Level that the cell must be placed on. Key in the name of the cell in the 'Name' field. The correct cell library must be attached.

This program uses the current active scale when placing the cell. If the cell is to be plotted at any specific size for a desired scale output, then the active scale, in relation to the cell size, the active scale must be calculated and set using 'AS= ', prior to clicking 'Run'.

File

Key-in the ASCII file name which will be used, or select it via the 'Select' option. See the rules regarding ASCII file formats above.
ASCII File Format:

PtName Y X Z
or
Y X Z PtName

E.g.:

```
rock    -78234.42     3218336.65    254.32
mh      -78106.22     3218332.23    252.34
```

or

```
-78234.42     3218336.65    254.32        rock
-78106.22     3218332.23    252.34        mh
```

ASCII File rules:

There must be at least one space between the fields (columns).
There can be many spaces, but there must be at least one.
The data does not have to be in straight columns, just as long as there is at least one space between the fields.

The spaces must not be TABS.
There must be a 'Z' value (4th field/column), even if it is 0.
There must not be any spaces in the PtName field. If your ASCII file has names with spaces in, they must be replaced with underscores(_) or hyphens (-).
The decimal character must be a point, not a comma.
The Fields/Columns must not be separated by commas, only spaces.

Input Data Format

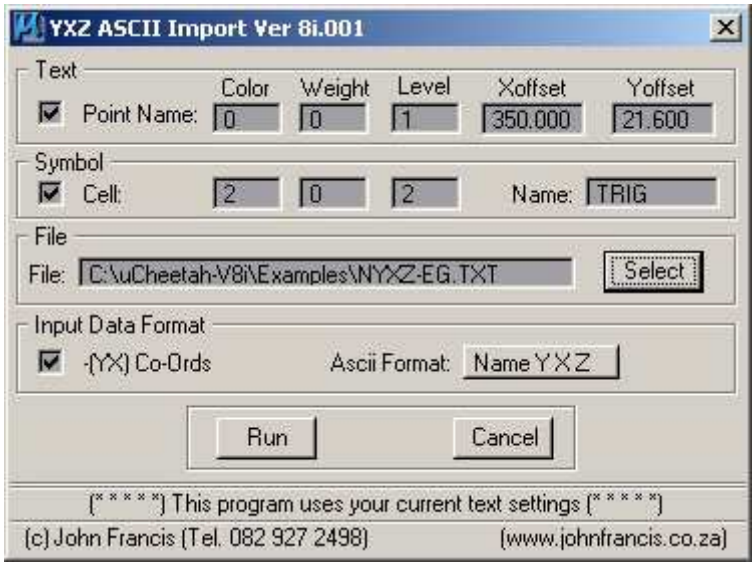
-(YX) Co-Ords Check this box if the signs of the Y,X co-ordinates in the ASCII file must be changed before plotting. I.e. The Eskom standard specifies that X co-ords must display as negative in MicroStation. If the X Co-ord value in the ASCII file is positive, then this box should be checked.

ASCII Format

Name Y X Z is used if PtName is the 1st Field/Column in the ASCII file.
See example file 'NYXZ-EG.TXT'
Y X Z Name is used if PtName is the 4th Field/Column in the ASCII file.
See example file 'YXZN-EG.TXT'

Once all selections have been made, select 'Run', and the program will run, and indicate in the MicroStation Command Window, how many points were plotted.

Example

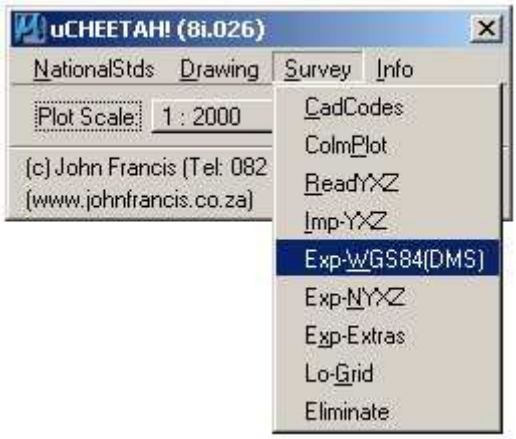


Attach Cell Library ‘UCHEETAH-V8i’
Set Text Size to 130 (TX=130)
Set Active Scale to 50 (AS=50)
Load ‘Imp-YXZ’ mdl application.
Check boxes to plot both ‘Text’ and ‘Symbol’
Use X-Offset of 350, and Y-Offset of 21.6
Use Cell named ’TRIG’
Use example ASCII File ‘NYXZ-EG.TXT’
Select ASCII Format ‘Name Y X Z’
Select ‘Run’ to import the ASCII File.

Note the Text offset from the Trig Cell.

III.3.e Export Wgs84 (DMS) to ASCII File

In the uCheetah Dialog Box, select 'Survey->Exp-WGS84(DMS)'.



A new Dialog Box will appear as follows:

This utility will extract TEXT items within a fence, to an ASCII file, Geographical (Latitude/Longitude) co-ordinates.

There must be no spaces in the TEXT strings. (TIP: Use Replace Text to change spaces to hyphens)

First, place a FENCE around the TEXT items to be exported.

Choose 'OutFile' to indicate the desired target ASCII file to be created.

Click a 'Data Point' in the view when the TEXT items are displayed, then select 'Export'.

The ASCII file will then be created as indicated.

III.3.f Export NYXZ to ASCII File

In the uCheetah Dialog Box, select 'Survey->Exp-WGS84(DMS)'.

With this routine, it is possible to export text items to an ASCII file in various formats.

Fig. 23: Exp-NYXZ Field Delimiter Options

By 'Checking' the '-[YX] Co-Ords' box, the output co-ordinates will have their signs reversed. Output fields can be separated by a comma, single space or in column format.

Fig. 24: Exp-NYXZ Element Group Options

Text items to be exported can be specified by means of a fence, individual items or all the text items in the Dgn File.

Fig. 25: Exp-NYXZ Decimal Options

Inspection of the resultant ASCII File values, it may be noted that the decimal place may be shifted from its correct position. This may occur if the working units of the file are not in the standard 'Eskom Format' (i.e. 100:1). The 'Shift Decimal' option is provided to compensate for this occurrence, if required.

III.3.g Export Extra Formats to ASCII File

In the uCheetah Dialog Box, select 'Survey->Exp-Extras'.

This utility will extract TEXT items within a fence, to an ASCII file, in various formats as per your selection below:

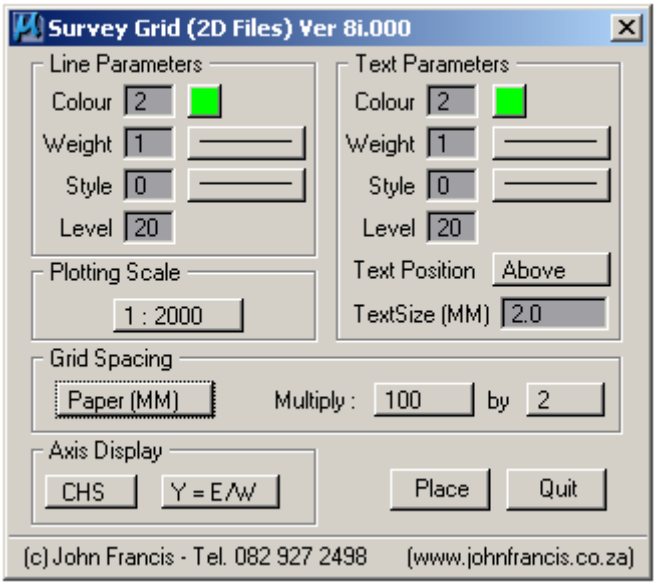
These formats are self-explanatory, except for the GARMIN Cvt format. This format is for importing co-ordinates into the Garmin MapSource software, as waypoints. The MapSource Software can then be used to transfer the "Waypoints" to a Garmin hand-held GPS receiver. The MapSource software is supplied with any Garmin GPS device, when purchasing such a device.

The file exported via this routine cannot be imported directly to the MapSource software, but must first be converted to a Garmin POI data format, which can be done using a freeware conversion utility called GPXtoPOI.exe, which is available as a free download at the following URL:
http://www.masterclass.com/gpxtopoi/gpxtopoidownload.html

III.3.h Lo-Grid

In the uCheetah Dialog Box, select 'Survey->Lo-Grid'.

A new Dialog Box will appear as follows:



Note: This utility only works in 2D Files.

The default settings are typical for 1:2000 plans.

Place a fence around the area where the grid is required. The fence can be irregular or a standard rectangular fence.

Line Parameters

Select desired element attributes for the grid lines.

Text Parameters

Select desired element attributes for the Y&X Grid Values

TextSize will be the size of the text when plotted on paper at the selected scale.

Plotting Scale

Choose the desired scale that the final paper plot will be done.
Note: This scale option is not related to the uCheetah Scale setting.

Grid Spacing

The grid spacing can be specified in two ways, either in units on the ground, or units(mm) on the plotted paper, which is the most common.

The ground units choice is handy if somebody wishes to count all the houses in, for example, 1Km block areas.

The 'Multiply' option is used to specify how many grid-spacing units. The default is 200, which is 200mm on the final paper plot.

Any combination of 'Multiply' figures can be used to get the required units. For example, the instead of '100 by 2', '50 by 4' could be used to get the same result.

Axis Display

Choose either 'CHS' or 'AS-IS'.

CHS will cause the Grid Values to be opposite that of the actual design file values. i.e. '–X' co-ords will be positive '+X' on the Grid.

AS-IS will cause the Grid Values to be the same as the actual design file values.

Y=E/W or Y=N/S

Always use Y=E/W, as this is the standard for South Africa.

Y=N/S is provided as an option, should there ever be reason to display grids on some user-defined local system.

III.3.i Eliminate

In the uCheetah Dialog Box, select ‘Survey->Eliminate’.

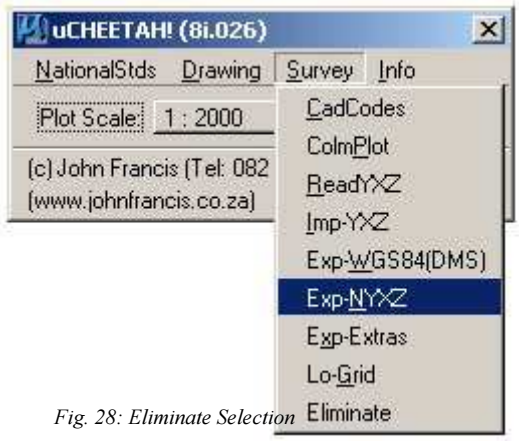


Fig. 28: Eliminate Selection

A new Dialog Box will appear as follows:

This utility will eliminate duplicate TEXT items within a fence.

It is useful to ‘Thin-out’ GPS data.

First, place a FENCE around the TEXT items to be eliminated.

Set the Radius in Metres, within which the elimination must take place.

Select ‘Eliminate’ to carry out the elimination.

III.4 UTILITIES

People make mistakes, so these tools assist in rectifying some issues.

III.4.a Restore Default Cell Library

In the uCheetah Dialog Box, select 'Utils-> Restore Default Cell Library'.

This will replace the default cell libraries required for uCheetah to function correctly. Use this when the required cells do not appear in your drawing when choosing to place them via the uCheetah sub-menus.

III.4.b Create Levels 1 to 63

In the uCheetah Dialog Box, select 'Utils-> Create Levels 1 to 63'.

uCheetah requires that Levels 1-63 exist in the DGN file, as per earlier versions of MicroStation, where levels 1-63 existed as a default.

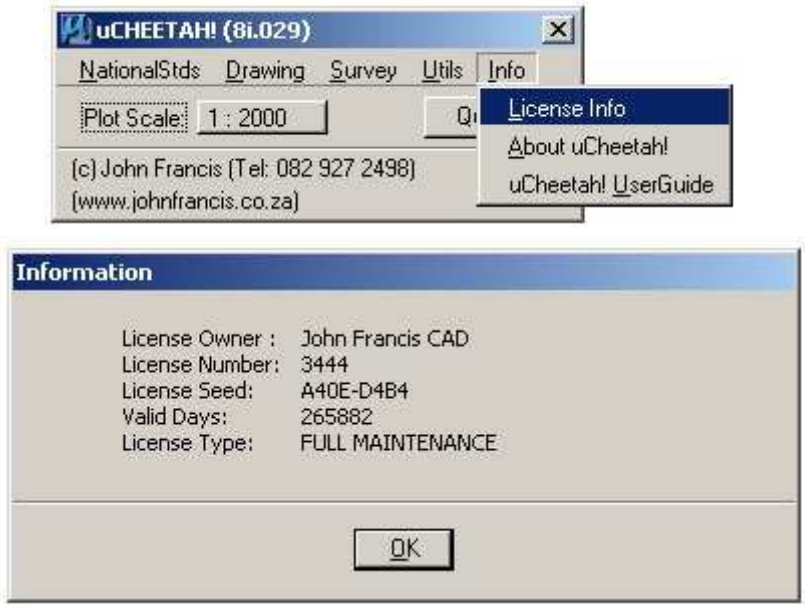
Use this if you have only ONE Level in your DGN file called "Default". This routine will create levels Numbered 1 to 63 and Named Level_1 to Level-63. If any additional levels exist other than "Default", then the numbering of the new levels will start at the next available level number, but will still be named from _1 to _63. This will cause problems with your data, so use this routine with caution.

Basically, if your DGN file is missing Levels Numbered 1-63, then you are not using the correct Eskom Standard Seed file, so you should have someone assist you in correcting your system setup.

III.5 INFO

III.5.a License Info

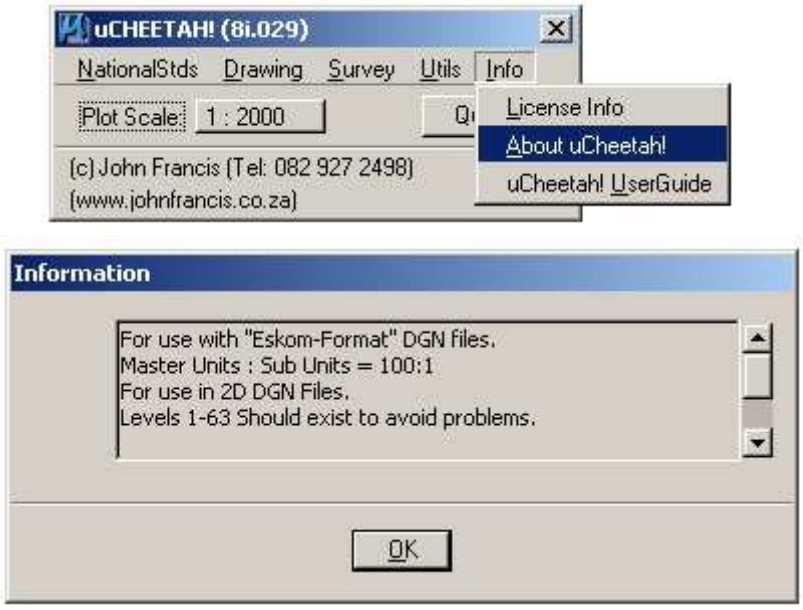
In the uCheetah Dialog Box, select 'Info-> License Info'.



This will display information about the current license and its validity.

III.5.b About uCheetah

In the uCheetah Dialog Box, select 'Info-> About uCheetah'.



This will display some useful information to avoid problems when using uCheetah.