



Universal Translator

10.5

USER GUIDE

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MapInfo Universal Translator User Guide

The MapInfo Universal Translator translates files in MapInfo formats to other spatial data formats and translates files from spatial formats into MapInfo .TAB files. The Universal Translator runs as a tool under MapInfo Professional's Tools Menu, but can also be run manually in a MapBasic window, using another language program, or in batch-file mode.

i For using other data with universal formats such as ESRI ArcSDE, ESRI Personal Geodatabase (*.MDB), USGS Spatial Data Transfer Standard (*.CATD.DDF), VPF NIMA/NGA (*.FT), try the Universal Data option in MapInfo Professional.

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Introduction to the MapInfo Universal Translator

The Universal Translator translates these file formats into MapInfo .TAB and .MIF\MID files:

- AutoCAD DWG/DXF
- ESRI ArcInfo Export (E00)
- ESRI Shapefile (SHP)
- MicroStation Design (DGN)
- Spatial Data Transfer Standard (SDTS)
- Vector Product Format (VPF)

The Universal Translator translates MapInfo .TAB and .MIF\MID files into these formats:

- AutoCAD DWG/DXF
- ESRI ArcInfo Export (E00)
- ESRI Shapefile
- MicroStation Design

About Using the Universal Translator

To produce successful results, the data you are converting must be in the language of the system you are using. This version is double-byte enabled; contains support for the latest Shape file format; updated AutoCAD metafiles and updated Intergraph metafiles.

The Universal Translator does not officially support 3-dimensional Intergraph DGN or 3 dimensional AutoCad DWG/DXF files; the translation results using these files are unpredictable.

Unlike MapInfo Professional's import DXF, the Universal Translator does not perform coordinate transformations.

When translating DWG/DXF to TAB/MIF, the Universal Translator does not translate AutoCad meshes.

Universal Translator does support UNC paths.

When translating from SHAPE to TAB, Universal Translator defaults empty fields to the following:

- Empty numeric field with a width of one translates to a 0 (zero)
- Empty numeric field with a width of two translates to -9
- Empty numeric field with a width of three translates to -99
- Empty numeric field with a width of four translates to -999
- Empty numeric field with a width of five or greater translates to -9999

A single file translation may result in multiple files depending on file types.

Virtual Memory: when translating to or from DWG/DXF, it is possible to encounter a lack of virtual memory. An error message displays indicating this problem.

Examples of Multiple Files Resulting from Translation

This topic shows examples translation processes that result in multiple files.

DGN to TAB - MIF/MID

The name of original file is appended to geometry type.

Original File

CANADA.DGN

Translated Files

CANADA_ELLIPSES.TAB, CANADA_POINTS.TAB, CANADA_TEXT.TAB

DWG/DXF to TAB - MIF/MID

The name of original file is appended to layer name. AutoCad organizes drawing entities by user named layers.

Original File

SWEDEN.DWG

Translated Files

SWEDEN_FORESTS.TAB, SWEDEN_RIVERS.TAB, SWEDEN_ROADS.TAB

SHAPE to TAB - MIF/MID

One shape file creates one TAB/MIF/MID file.

Original File

STATES.SHP

Translated File

STATES.TAB

TAB - MIF/MID to Shape

The name of original file appended to geometry type.

Original File

USHIGHWAY.TAB

Translated Files

USHIWAY_POLYLINE.SHP, USHIWAY_POINT.SHP

TAB - MIF/MID to DWG/DXF and DGN

One TAB - MIF/MID file creates one DWG or DXF or DGN files.

Original File

STATES.TAB

Translated Files

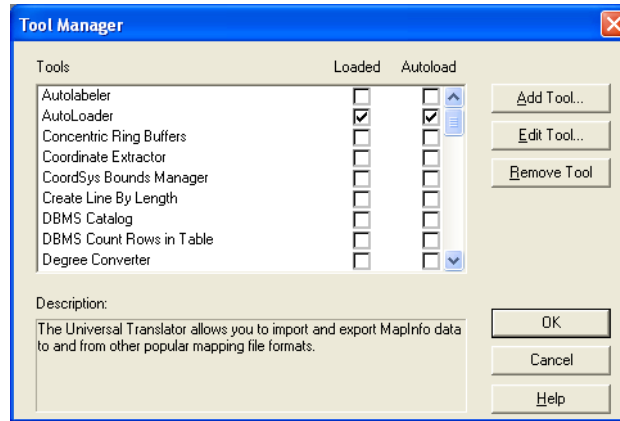
STATES.DGN, STATES.DWG

Loading the Universal Translator into the Tool Manager

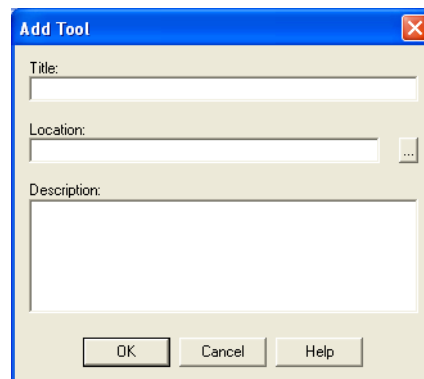
The Universal Translator is automatically loaded with MapInfo Professional. It is accessed by choosing **Tools > Universal Translator > Universal Translator**. If unloaded, then you must reload it manually from the Tools menu.


To load the Universal Translator to the Tool Manager menu:

1. From the MapInfo Professional Main menu choose **Tools > Tool Manager**. The Tool Manager dialog box displays.



2. Scroll down the **Tools** list and do one of the following:
 - If the Universal Translator is not in the list, go to **step 3**.
 - If the Universal Translator is in the list, scroll down to the entry and go to **step 7**.
3. Click the **Add Tool** button and the Add Tool dialog box displays.

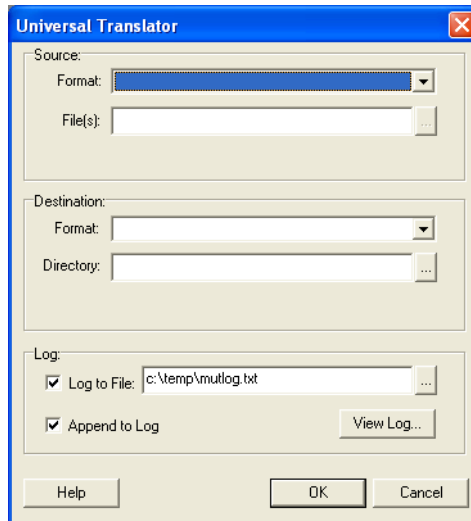


4. Type **Universal Translator** into the **Description** field.
5. Beside the **Location** field, click the  button. Using the Select MapBasic Program dialog box, search for the MUT.MBX file in the \UT folder within your installation directory. When you find it, select it and click **Open**.
6. Click **OK** to add the Universal Translator to the Tool Manager window.
7. To load the Universal Translator for this session only, select the check box in the **Load** column. To load the Universal Translator each time you open MapInfo Professional, select the **AutoLoad** check box. Both check boxes can be selected.
8. Click **OK** to save your entries.


Using the Universal Translator


To run the Universal Translator:

1. Choose **Tools > Universal Translator > Universal Translator** to display the Universal Translator dialog box.






2. In the Source pane, from the Source **Format** drop-down list, select the source format for the dataset that you want to translate.

 When you select **AutoCAD**, the translator defaults to DWG format.

3. In the **File(s)** box, type the name(s) of the files you want to translate or click  to search for the source files and then click **Open** to return to the Universal Translator dialog box.
4. Depending on your selection from the Source Format list (in **step 2**), one or more of the following displays in the Source pane of the dialog:
 - **Use projection setting in source file** check box, displays after selecting ESRI Shape file from the format list. Select this check box to have the Universal Translator look for the projection setting in a *.prj file, that is in the same directory as SHP file, and use it for the translation if its a supported projection in MapInfo Professional.
 - **Settings** button, click to display the Design File Input Settings dialog box to choose the coordinate units for the input file: Master, Sub, or UOR.
 - **Projection** button, click to display the Choose Projection dialog box and set a specific projection for the input file. The projection files that display in the Choose Projection list are from the MapInfo Projection MAPINFOW.PRJ file. If the appropriate projection entry does not display in this list, you can make a custom matching projection entry beforehand in this file (see the MapInfo Professional *User Guide* for more detail). If you select the wrong projection, you may get incorrect results. Please contact the vendor or original creator of this data to obtain descriptive information\metadata concerning the projection\coordinate system used in the input files to translate them correctly into MapInfo format.


5. In the Destination pane, from the **Format** drop-down list, select the format into which you want to translate the selected file(s) to.

 When translating a file into a MapInfo .TAB file, the translation creates table versions unique to the MapInfo Professional version capable of using the data contained in the TAB file.

6. In the **Directory** box, enter the destination of the translated file(s) or click  to indicate the name and path of the destination.
7. If your selection from the Destination Format list (in **step 5**) is one of the following, then one or more options display in the Source pane:
- **AutoCAD DWG/DXF** – Click the **Settings** button to display the AutoCAD Output Settings dialog box and select the appropriate AutoCAD file version from the list. From the **File Type** list, select whether the output should be DWG or DXF.
 - **ESRI ArcInfo Export (E00)** – Click the **Settings** button to display the EOO output Settings dialog box and select Coverage Precision and Compression options for the translated file.
 - **MicroStation Design** – From the **Version** list, select the version number for the translated file you are creating.
8. In the Log pane, set up the log file. The Universal Translator automatically creates a log file to document the translation process. If the translation fails, you should first look at the log to determine the cause of failure.
- a. Enter a name and location for this log file in the **Log to File** field. The default is your current temp directory and a file name of mutlog.txt (C:\temp\mutlog.txt). You can also select the  button to choose another name and/or path for this log file.
- b. To add to an existing log file, select the **Append to Log** check box. This adds the log entries from the translation to the end of the previous log entry. When you do not select this check box, the Universal Translator overwrites the previous log entries. This step is not required.

 To view the existing log, click **View Log**.

9. Click **OK** to begin the translation process.

 There is more detail in the Universal Translator Help System about the other dialog boxes discussed in this section. Press the **F1** Help key on your keyboard to display help for the active Universal Translator dialog box.

Using the Universal Translator From the Command Line

This section describes the syntax and parameter for running the Universal Translator in command-line mode. Only supported parameters are discussed; any other command-line parameters are not supported, and assistance with these should be obtained from SAFE Software, Inc. The Universal Translator uses syntax from Full FME translator SAFE Software.

The following examples use the same commands as are available through the Universal Translator in MapInfo Professional. Examples include using commands in the MapBasic programming language.

Examples assume a DOS prompt is running from the directory holding the IMUT.exe executable. Place all the parameters in one continuous line to execute each command. Replace path names and replace MAPINFO by .MIF if .MIF files are required instead of native .TAB files.

Translations are performed in two stages. The application:

1. Generates a semantic control or *mapping file* script that controls the translation.
2. Runs the translation using this generated mapping file.

Important syntax notes:

- Any options given as **Yes** can also be specified as **No** to turn off the behavior.
- The **DestDataset** indicates where the output is to be written, and the **SourceDataset** controls where the input is read from.
- Log files can be generated from each stage.
- Embedded quotes such as MapInfo CoordSys clauses need to be passed with escape characters such as this example:

```
CoordSys Earth Projection 10, 104, \"m\", 0** In MapBasic, a CoordSys
string containing a specific map unit can be passed like this to
IMUT:"CoordSys Earth Projection 10, 104," + chr$(92) + chr$(34) + "m" +
chr$(92)+ chr$(34)+ ", 0"** Uses ASCII character codes chr$(92) for the
"\\" character and chr$(34) to embed quoted strings.
```

Importing Data Using the Command Line

This section provides details for importing data into MapInfo Professional from other data source formats.



Important: In this document we only cover the features that are used in MapInfo Professional's Universal Translator MBX. If you use command line parameters other than those documented here, Pitney Bowes Software Inc. Corporation has not tested and does not support them. Support for those command-line parameters and for any unexpected results that occur need to be obtained from SAFE Software, Inc.

Importing Data from AutoCAD DWG and DXF Formats


Follow these steps to import data from AutoCAD DWG and DXF formats into a MapInfo .TAB file from the command line.

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate autocadScan MAPINFO "D:\test.dwg"  
"C:\Temp\mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME  
"C:\Temp\mutlog.txt" LOG_APPEND "NO" --Source_EXPAND_BLOCKS "yes" --  
Source_ATTR "autocad_attributes" --Source_ATTRKIND "extended_entity_data"  
--LAYERBASENAME "test"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from the DOS prompt, so path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **autocadScan** – Input format is AutoCAD format file.
- **MAPINFO** – Output format is MapInfo .TAB. If the output file format is .MIF\MID, then use ".MIF".
- **"D:\test.dwg"** – Path and filename of the input AutoCAD file.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file – can be prefixed with any name.
- **LOG_STANDARDOUT** – Generates a text log file during the translation (Yes or No).
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.
- **Source_EXPAND_BLOCKS** – By default the Universal Translator expands blocks in AutoCAD files (Yes or No) – Default is Yes.
- **Source_ATTR** – "autocad_attributes" – handles AutoCAD attributes
- **Source_ATTRKIND** – "extended_entity_data" – handles extended entities in AutoCAD files.
- **LAYERBASENAME** – Optional prefix added to all resulting .TAB filenames.

 The LAYERBASENAME argument is a prefix which is added to all resulting MapInfo table names, and is optional. Typically it is the root name of the source DWG file.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "D:\test.dwg" --  
DestDataset "C:\output" --_EXPAND_BLOCKS yes --_ATTRKIND  
extended_entity_data --_EXTENSION dwg --_BASENAME test --_FULLBASENAME  
test MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection 10, 104, \"m\",  
0"
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "D:\test.dwg"** – Path and filename of the input file to be translated.
- **DestDataset "C:\output"** – Path and folder name of the output to be generated.

- **_EXPAND_BLOCKS** – Same as --Source_EXPAND_BLOCKS above – (Yes or No).
- **_ATTRKIND** – Same as --Source_ATTRKIND above – (extended_entity_data).
- **_EXTENSION** – Input format extension (DWG or DXF are valid AutoCAD format extensions) – Case insensitive.
- **_BASENAME** – Name of output file to be generated – can be same as LAYERBASENAME.
- **_FULLBASENAME** – Can be same as LAYERBASENAME
- **MAPINFO_COORDSYS_STATEMENT** – Optional parameter – The CoordSys Clause applied to result TAB\MIF\MID file. IMUT will not re-project data being translated into a different coordinate system\projection, it applies the CoordSys clause passed to the result TAB\MIF file. Make sure the CoordSys used is appropriate for the data being translated. The output TAB\MIF file will default to the projection specified in the Shape file's *.prj file (if it exists in same directory) or to Non-Earth/meters if no CoordSys clause is passed and no .SHP file *.prj file exists.

Importing Data from the MicroStation DGN Format

Step 1) Generating the Mapping File

```
Imut.exe Generate design .MIF "C:\test.dgn" "C:\Temp\mapping.fme"  
LOG_STANDARDOUT YES --Source_IGDS_MSLINKS "no" --Source_XPNDCELL "yes" --  
Source_PRESERVE_CELL_INSERTS "no" --SourceSPLIT_MULTITEXT "yes" --  
Source_PROPAGATE "no" --Source_DROP_COMPLEX "no" --Source_TEXTTAGS "yes" -  
-Source_IN_UNITS "IGDS_MASTER_UNITS" --Source_USE_LEVEL_NAMES "no"  
+MERGE_SCHEMAS YES
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.
- **Generate** – Universal Translator command that generates a semantic control file.
- **design** – Input format set to MicroStation.
- **DGNMAPINFO** – Output format set to MapInfo .TAB. If .MIF\MID output needed, then use ".MIF".
- **"C:\test.dgn"** – Path and filename of input MicroStation DGN file.
- **"C:\Temp\mapping.fme"** – Path and name of the semantic mapping\control file.
- **LOG_STANDARDOUT** – Output a text logfile of translation (Yes or No) – use with LOG_FILENAME parameter to create the file.
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.
- **Source_IGDS_MSLINKS** – Supports MSLINKS in DGN files (Yes or No).
- **Source_XPNDCELL** – Expands Cell Elements (Yes or No)
- **Source_PRESERVE_CELL_INSERTS** – Preserves cell insert points (Yes or No) – if Cell Elements are expanded only.
- **SourceSPLIT_MULTITEXT** – Splits multi Text (Yes or No) – Default is Yes.
- **Source_PROPAGATE** – Propagates the chain member linkages (Yes or No) – applied when not dropping complex elements.
- **Source_DROP_COMPLEX** – Drops complex chains while reading (Yes or No) – Default is No.
- **Source_TEXTTAGS** – Tags elements output as text when reading source file (Yes or No) - Default is Yes.

- **Source_IN_UNITS** – Controls how all the FME coordinates read from the design file are interpreted.

Valid values are:

- **IGDS_MASTER_UNITS** – FME coordinates are treated as Master Units – DEFAULT.
- **IGDS_SUB_UNITS** – FME coordinates are treated as Sub Units.
- **IGDS_UORS** – FME coordinates are treated as UORs.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe C:\Temp\mapping.fme --SourceDataset "C:\test.dgn" --DestDataset "C:\output" --XPNDCELL yes --_IN_UNITS IGDS_MASTER_UNITS --_EXTENSION dgn --_BASENAME filename --_FULLBASENAME filename MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection 11, 104, \"m\", 0"
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "D:\test.dgn"** – Path and filename of the input file to be translated.
- **DestDataset "C:\output"** – Path and folder name of the output to be generated.
- **_XPNDCELL** – Same as --Source_XPNDCELL parameter in Step 1. (Yes or No).
- **_IN_UNITS** – Same as --Source_IN_UNITS parameter in step 1. (Default is IGDS_MASTER_UNITS).
- **_EXTENSION** – Format extension of the input file (DGN)
- **_BASENAME** – Name of the output file to be generated – can be same as LAYERBASENAME.
- **_FULLBASENAME** – Can be same as LAYERBASENAME
- **MAPINFO_COORDSYS_STATEMENT** – Optional parameter – The CoordSys Clause applied to the resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection, it applies the CoordSys clause passed to the resulting .TAB\MIF file, so make sure the coordinate system you use is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

Importing Data from the E00 Format

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate E00 MAPINFO "C:\temp\polygon.e00" "C:\Temp\mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from DOS prompt, so path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **E00** – Input format set to ArcInfo Export Format
- **MAPINFO** – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF".
- **"C:\temp\polygon.e00"** – Path and filename of the input ArcInfo .E00 file.
- **"C:\Temp\mapping.fme"** – Path and name of the semantic mapping\control file.

- **LOG_STANDARDOUT** – Outputs a text logfile of translation (Yes or No) – use with LOG_FILENAME parameter to create a file.
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\temp\polygon.e00" --  
DestDataset "C:\temp" --_EXTENSION e00 --_BASENAME polygon --_FULLBASENAME  
polygon MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection 1, 104"
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
 - **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
 - **SourceDataset "c:\temp\polygon. e00"** – Path and filename of the input file to be translated.
 - **DestDataset "C:\temp"** – Path and folder name of the output to be generated.
 - **_EXTENSION** – Format extension of the input file (.E00)
 - **_BASENAME** – Name of the output file to be generated – can be same as LAYERBASENAME.
 - **_FULLBASENAME** – Can be same as LAYERBASENAME
- MAPINFO_COORDSYS_STATEMENT – Optional parameter – The CoordSys Clause applied to the resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection. It applies the CoordSys clause passed to the resulting .TAB\MIF file, so make sure the CoordSys used is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

Importing Data from the Shapefile Format

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate SHAPE MAPINFO "C:\temp\poly.shp"  
"C:\Temp\mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME  
"C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **SHAPE** – Input format set to ESRI Shapefile format.
- **MAPINFO** – Output format set to MapInfo .TAB. If .MIF\MID output needed, then use ".MIF".
- **"C:\temp\poly.shp"** – Path and filename of the input ESRI Shapefile.
- **"C:\temp\mapping.fme"** – Path and name of the semantic mapping/control file.
- **LOG_STANDARDOUT** – Outputs a text logfile of translation (Yes or No) – use with LOG_FILENAME parameter to create the file.
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of the logfiles in subsequent translations – (Yes or No) – Default is No.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\temp\poly.shp" --  
DestDataset "C:\temp" --_EXTENSION shp --_BASENAME filename--  
_FULLBASENAME filename
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "c:\temp\poly.shp"** – Path and filename of the input file to be translated.
- **DestDataset "C:\temp"** – Path and folder name of output to be generated.
- **_EXTENSION** – Format extension of input file (Shapefile)
- **_BASENAME** – Name of output file to be generated – can be same as LAYERBASENAME.
- **_FULLBASENAME** – Can be same as LAYERBASENAME
- **MAPINFO_COORDSYS_STATEMENT** – Optional parameter – The CoordSys Clause applied to resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection. The output TAB\MIF file will default to the projection specified in the Shape file's *.prj file (if it exists in same directory) or to Non-Earth/meters if no CoordSys clause is passed and no SHP file *.prj file exists.

Importing Data from the SDTS Format

Step 1) Generating the Mapping File

```
Imut.exe Generate SDTS MAPINFO "C:\Temp\TR01CATD.DDF"  
"C:\Temp\mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME  
"C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.
- **Generate** – Command that generates a semantic control file
- **SHAPE** – Input format set to Spatial Data Transfer Standard (SDTS).
- **MAPINFO** – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF".
- **"C:\temp\TR01CATD.DDF"** – Path and filename of the SDTS archive to be translated (***CATD.DDF).
- **"C:\temp\mapping.fme"** – Path and name of the semantic mapping\control file.
- **LOG_STANDARDOUT** – Outputs a text logfile of translation (Yes or No) – use with LOG_FILENAME parameter to pump it out to a file.
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.


Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\Temp\TR01CATD.DDF" --  
DestDataset "C:\Temp"
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.

- "**C:\Temp\mapping.fme**" – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "C:\Temp\TR01CATD.DDF"** – Path and filename of the input file from SDTS archive to be translated.
- **DestDataset "C:\temp"** – Path and folder name of the output to be generated.

 **MAPINFO_COORDSYS_STATEMENT** is not used, the CoordSys is read directly from input SDTS file.

Importing Data from the VPF Format

Step 1) Generating the Mapping File

```
Imut.exe Generate VPF MAPINFO "C:\input\NAV" "C:\Temp\mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\Mutlog.txt" LOG_APPEND "NO" +ID  
"BUOYBCNP"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from DOS prompt, so the path to it should be set.
- **Generate** – Command that generates a semantic control file
- **VPF** – Input format set to Vector Product format (VPF).
- **MAPINFO** – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF"
- **"C:\input\NAV"** – Path and folder of the VPF archive to be translated.
- **"C:\temp\mapping.fme"** – Path and name of the semantic mapping/control file.
- **LOG_STANDARDOUT** – Outputs a text logfile of translation (Yes or No) – use with LOG_FILENAME parameter to create a file.
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.
- **+ID "BUOYBCNP"** – Layer Name (ID) of the VPF archive to be translated.


Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\input\NAV" --  
DestDataset "C:\output" MAPINFO_COORDSYS_STATEMENT "CoordSys Earth  
Projection 1, 104"
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "C:\input\NAV"** – Path and folder name of the VPF archive to be translated.
- **DestDataset "C:\output"** – Path and folder name of the output to be generated.
- **MAPINFO_COORDSYS_STATEMENT** – Optional parameter – The CoordSys Clause applied to resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system/projection. It applies the CoordSys clause passed to

the resulting .TAB\MIF file, so make sure the CoordSys used is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

 VPF data is typically created in Longitude\Latitude (WGS84).

Exporting Data Using the Command Line

This section provides details for exporting data from MapInfo Professional to other data formats.


Exporting Data to DWG or DXF Format


Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO DWG "D:\MapInfo\Regions.tab"  
"C:\temp\mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME  
"C:\temp\mutlog.txt" LOG_APPEND "NO" --Dest_ATTR "autocad_attributes" --  
Dest_ATTRKIND "extended_entity_data" --Dest_REL "Release2000"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **MAPINFO** – Input format is MapInfo .TAB. If the input file has a .MIF\MID extension, then use “.MIF”.
- **DWG** – Output format is AutoCAD DWG format. If an AutoCAD DXF format is needed use "DXF".
- **"D:\MapInfo\Regions.tab"** – Path and filename of the input MapInfo .TAB or .MIF\MID file.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file – can be prefixed any name.
- **LOG_STANDARDOUT** – Generates a text log file during the translation (Yes or No).
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of the logfiles in subsequent translations – (Yes or No) – Default is No.
- **Dest_ATTR "autocad_attributes"** – Creates AutoCAD attributes in the output file.
- **Dest_ATTRKIND "extended_entity_data"** – Creates extended entities in AutoCAD files.
- **Dest_REL "Release2000"** – Release version of the AutoCAD file to be created.

 The Dest_REL parameter may be any one of these: Release11, Release12, Release13, Release14, Release2000, or Release2004.

 AutoCAD Release 2002 format is same as Release 2000, and AutoCAD Release 2005 and 2006 is same as Release 2004.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" SourceDataset "D:\MapInfo\Regions.tab" --  
DestDataset "C:\temp\output.dwg" --_ATTRKIND extended_entity_data --_REL  
Release2000 --_EXTENSION TAB --_BASENAME Regions --_FULLBASENAME Regions
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "D:\MapInfo\Regions.tab"** – Path and filename of the MapInfo .TAB file to be translated.
- **DestDataset "C:\temp\output.dwg"** – Path and folder name of the output AutoCAD file to be generated.
- **_ATTRKIND extended_entity_data** – Creates the extended entities in AutoCAD files.
- **_REL Release2000** – Creates a release 2000 AutoCAD file. See notes above on valid release versions.
- **_EXTENSION TAB** – Input format extension (TAB or .MIF only).
- **_BASENAME** – Name of the output file to be generated. Can be the same as input filename.
- **_FULLBASENAME** – Can be the same as input filename



MapInfo CoordSys is not needed because the CoordSys is read directly from .TAB or .MIF file.

Exporting Data to the E00 Format

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO E00 "D:\MapInfo\Regions.tab"  
"C:\Temp\Mapping.fme" LOG_STANDARDOUT YES LOG_FILENAME  
"C:\Temp\mutlog.txt" LOG_APPEND "NO" --Dest_PRECISION "Double" --  
Dest_COMPRESSION "NONE"
```

Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **MAPINFO** – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use ".MIF".
- **E00** – Output format is the ArcInfo Export format.
- **"D:\MapInfo\Regions.tab"** – Path and filename of the input MapInfo .TAB or .MIF\MID file.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file. Can be prefixed by any name.
- **LOG_STANDARDOUT** – Generates a text log file during the translation (Yes or No).
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of logs in subsequent translations – (Yes or No) – Default is No.
- **Dest_PRECISION** – Precision of the .E00 file produced, may be "Single" or "Double" – Default is "Double".

- **Dest_COMPRESSION** – Compression of the .E00 file - can be "FULL", "PARTIAL", or "NONE". Default is "NONE".

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "D:\MapInfo\Regions.tab" -  
-DestDataset "C:\Temp\output" --_PRECISION Double --_COMPRESSION NONE --  
_EXTENSION TAB --_BASENAME Regions --_FULLBASENAME Regions
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\TEMP\MAPPING.FME"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "D:\MapInfo\Regions.tab"** – Path and filename of the MapInfo .TAB file to be translated.
- **DestDataset "C:\Temp\output"** – Path and folder name of the output .E00 file to be generated.
- **_PRECISION** – Internal precision of the export file, can be "Single" or "Double". Default is "Double".
- **_COMPRESSION** – Compression factor of the resulting .E00 file, can be "FULL", "PARTIAL", or "NONE". Default is "NONE".
- **_EXTENSION** – Input extension set to MapInfo .TAB. If the input extension is .MIF\MID use ".MIF"
- **_BASENAME** – Name of the output file to be generated – can be the same as input filename
- **_FULLBASENAME** – Can be same as the input filename



MapInfo CoordSys is not needed - The CoordSys is read directly from .TAB or .MIF file.

Exporting Data to a Shapefile Format

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO SHAPE "D:\MapInfo\Regions.tab"  
"C:\Temp\Mapping.fme" LOG_STANDARDOUT YES LOG_FILEN
```

Understanding the Mapping File Parameters


- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from the DOS prompt, so path to it should be set.
- **CFGenerate** – Command that generates a semantic control file
- **MAPINFO** – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use ".MIF".
- **SHAPE** – Output format is the ESRI Shapefile format.
- **"D:\MapInfo\Regions.tab"** – Path and filename of the input MapInfo .TAB or .MIF\MID file.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file – can be prefixed any filename.
- **LOG_STANDARDOUT** – Generates a text log file during the translation (Yes or No).
- **LOG_FILENAME** – Path and filename of the logfile to be generated.
- **LOG_APPEND** – Appends the results of the logfiles in subsequent translations – (Yes or No), Default is No.

Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --HOMOGENOUS_GEOMETRY yes --  
_SHAPE_FILE_TYPE 2d --SourceDataset "D:\MapInfo\Regions.tab" --  
DestDataset "C:\Temp\output" --_EXTENSION TAB --_BASENAME Regions --  
_FULLBASENAME Regions
```

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **HOMOGENOUS_GEOMETRY** – Sets the homogenous geometry setting to Yes – Default. (Can be Yes or No). MapInfo .TAB\MIF files can have mixed object types whereas Shapefiles cannot. Setting this option to Yes creates a separate Shapefile containing each supported different object type found in .TAB file.
- **_SHAPE_FILE_TYPE** – Sets the Shapefile type to a 2D, which is the Default. Can also be "2dm" (2 Dimensional with measures) or "3dm" (3 Dimensional with measures).
- **SourceDataset "D:\MapInfo\Regions.tab"** – Path and filename of the MapInfo .TAB file to be translated.
- **DestDataset "C:\Temp\output"** – Path and folder name of the output .E00 file to be generated.
- **_EXTENSION** – Input extension set to MapInfo .TAB. If the input file is in .MIF\MID format, use ".MIF"
- **_BASENAME** – Name of the output file to be generated – can be the same as input filename
- **_FULLBASENAME** – Can be the same as input filename

 MapInfo CoordSys is not needed because the coordinate system is read directly from the .TAB or .MIF file.

Exporting Data to the DGN Format

Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO IGDS "D:\MapInfo\cy.tab"  
"C:\Temp\mapping.fme" LOG_STANDARDOUT YES LOG_STANDARDOUT YES  
LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO" --Dest_TYPE3 "yes" --  
Dest_OUT_UNITS "IGDS_MASTER_UNITS" --Dest_SEED "C:\Program  
Files\MapInfo\Professional\Ut\design\seed2d_m_v8.dgn"
```


Understanding the Mapping File Parameters

- **Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.
- **CFGenerate** – Command that generates the semantic control file
- **MAPINFO** – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use ".MIF".
- **IGDS** – Output format is MicroStation Design (DGN) file format.
- **"D:\MapInfo\Regions.tab"** – Path and filename of the input MapInfo .TAB or .MIF\MID file.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file – can be prefixed with any filename.
- **LOG_STANDARDOUT** – Generates a text log file during the translation (Yes or No).
- **LOG_FILENAME** – Path and filename of the logfile to be generated.

- **LOG_APPEND** – Appends the results of logfiles in subsequent translations – (Yes or No), Default is No.
- **Dest_TYPE3** – Allows type 3 elements to be created for 2 point lines (Yes or No), Default is Yes.
- **Dest_OUT_UNITS** – How the Universal Translator treats resulting coordinates in a Design file.

Valid values are:

- **IGDS_MASTER_UNITS** – Coordinates are treated as Master Units by default.
- **IGDS_SUB_UNITS** – Coordinates are treated as Sub Units.
- **IGDS_UORS** – Coordinates are treated as UORs.
- **Dest_SEED** – Path and filename of the seed file used by the Universal Translator

 The MapInfo Universal Translator uses the seed2d_m_v8.dgn seed file set by default to output MicroStation version 8 DGN files. If MicroStation version 7 DGN files are needed, set the seed file to use "seed2d_m.dgn". To create output using other seed files, look in the \design folder supplied by SAFE. However, Pitney Bowes Software Inc. has not tested these other files so the results are unknown and unsupported. Contact SAFE for any issues arising out of their use.

The MapInfo Universal Translator is shipped with the following MicroStation Seed files listed in \UT\design folder:

- bcutm3d.dgn
- bcutm2d.dgn
- seed2d_ft.dgn
- seed2d_ft_v8.dgn
- seed2d_m_v8.dgn
- seed2d_m.dgn
- seed3d_ft.dgn
- seed3d_ft_v8.dgn
- seed3d_m.dgn
- seed3d_m_v8.dgn
- seed_ll.dgn.

Step 2) Running the Mapping File to Perform the Translation


```
Imut.exe "C:\Temp\mapping.fme" - SourceDataset "D:\MapInfo\Regions.tab" -  
DestDataset "C:\Temp\output.dgn" --_TYPE3 YES
```

- **_OUT_UNITS IGDS_MASTER_UNITS – _SEED** "C:\Program Files\MapInfo\Professional\Ut\design\seed2d_m_v8.dgn"
- **_EXTENSION .TAB – _BASENAME** Regions --_FULLBASENAME Regions

Understanding the Translation Parameters

- **Imut.exe** – Name of the MapInfo Universal Translator executable.
- **"C:\Temp\mapping.fme"** – Path and filename of the semantic control file generated in step 1.
- **SourceDataset "D:\MapInfo\Regions.tab"** – Path and filename of the MapInfo .TAB file to be translated.

- **DestDataset “C:\Temp\output.dgn”** – Path and filename of the output DGN file to be generated.
- **_TYPE3** – Allows type 3 elements to be created for 2 point lines (Yes or No), Default is Yes.
- **_OUT_UNITS** – How the Universal Translator handles output DGN file units – Default is IGDS_MASTER_UNITS. See Dest_OUT_UNITS parameter in step 1.
- **_SEED** – Path and filename of the seed file used by the Universal Translator. See Note for Dest_SEED parameter in step 1.
- **_EXTENSION** – Input extension set to MapInfo .TAB. If the input extension is .MIF\MID use “.MIF”
- **_BASENAME** – Name of the output file to be generated – can be the same as input filename
- **_FULLBASENAME** – Can be the same as the input filename

 MapInfo CoordSys is not needed because the coordinate system is read directly from .TAB or .MIF file.
