*AWE Communications GmbH*
*Moltkestraße 28a*
*D-71116 Gärtringen*
*Germany*
*Tel.: +49 (0) 7034 / 92 99 52*
*Fax: +49 (0) 7034 / 92 99 81*
*mail@awe-communications.com*
*http://www.awe-communications.com*

# Urban Database Import Filter

# MapInfo MIF/MID Format Description

## 1. General

The MapInfo Format (MapInfo Data Interchange Format - MIF) is a global format for the description of vector data. The format definition allows the consideration of different attributes for graphical objects (e.g. heights for polygonal buildings). Due to its ASCII-format it can be modified easily.

MapInfo data are generally distributed among two files. The graphical data is stored within a file with extension *.mif and the attributes are stored in a file with extension *.mid. The attributes are separated by a delimiter character, while each data set is separated by a carriage return.

## 2. MIF-Format Description

The MIF-Format has two different parts: the file header followed by the data itself, which describes the graphical objects.

### 2.1. File Header

In the following there is a description of the file header. Optional definitions are in brackets.

```
VERSION n
CHARSET "Char-set"
[DELIMITER "<c>"]
[INDEX n,n..]
[COORDSYS...]
COLUMNS n
<Name><Type>
```

The different keywords have the following meaning:

- **Version**: The version number distinguishes between version 1, version 2 and version 3.

- **Charset**: After the keyword CHARSET follows the name of the char-set, which was used for the generation of the MIF/MID-files, e.g. "WindowsLatin1".

- **Delimiter**: After the keyword DELIMITER follows the character used for separation, e.g. DELIMITER ";" As a default the tabulator is used. In this case there is no need for the definition of the delimiter.

- **Index**: In this section the number(s) of the column(s) is (are) defined which should be indexed. Each number represents one specific column of this relation, e.g. 3 is the third column, …

- **CoordSys**: In the section COORDSYS can be defined, if the data is not given in geographical coordinates which is the default setting.

- **Columns**: The keyword COLUMNS defines the number of columns in the mid-file. After this follows for each column one line including title and type of the data set within this column.

## 2.2. Data Section

The data section of the mif-file follows directly after the file header and starts with the keyword DATA in one line. The data section can comprise an arbitrary number of parts, whereas each part describes one graphical object. The attributes given in the mid-file are assigned to the graphical objects in the following manner: the attributes of the first object defined in the mif-file are given in the first line of the mid-file, the attributes of the second object are defined in the second line of the mid-file, and so on.

The only graphical object which is supported by the WallMan MIF-Import filter is the REGION which can consist out of an arbitrary number of polygons. After the keyword REGION the number of polygons described in this object is defined. For each polygon the number of corners is defined and then follows the x- and y-coordinates of these corners line by line, i.e. one corner per line.
As an option the visualization of the graphical object can be defined by using the keywords PEN and BRUSH. The keyword CENTER defines the centroid of the object. However these options are not interpreted by WallMan.

```
REGION number of polygons
    number1
  X1 Y1
  X2 Y2
  ...
[number 2
  X1 Y1
  XZ Y2
  ...]
[PEN (thickness, shape, colour)]
[BRUSH (texture, foreground-colour, background-colour)]
[CENTER X Y)]
```

## 3. MID-Format Description

The MID-Format stores the attributes of the graphical objects defined in the mif-file. The data in the MID-file is given line by line, within each line separated by the DELIMITER character (tabulator is used as default). Each line of the MID-file corresponds to one graphical object of the MIF-file.

However the MID-file is optional, i.e. if there is no MIF-file all buildings will have the same attributes, e.g. building height.

## 4. MIF/MID-Format Example

### *4.1  MIF-File*

```
Version 300
Charset "WindowsLatin1"
Delimiter ","
Index 1,2,3
CoordSys Earth Projection 8, 28, "m", 9, 0, 0.9996, 500000, 0 Bounds . . .
              . . . (-7746230.6469, -9998287.38389) (8746230.6469, 9998287.38389)
Columns 1
Height Integer

Data

Region 1
11
512000.00 5034315.00
512017.74 5034316.79
512017.74 5034312.50
512043.19 5034311.66
512043.19 5034316.55
512054.06 5034316.55
512054.06 5034300.46
512049.84 5034300.46
512050.35 5034259.99
512000.00 5034259.00
512000.00 5034315.00
     Pen (1,2,65280)
     Brush (1,0,16777215)
     Center 463117.61 5087126.99
Region 1
5
513945.09 5032105.74
513985.48 5032103.92
513985.48 5032094.43
513945.37 5032097.46
513945.09 5032105.74
     Pen (1,2,65280)
     Brush (1,0,16777215)
     Center 463117.61 5087126.91
```

### *4.2  MID-File*

```
29
6
```