

MIRGen

MIR MSS Symbol Generator

Version 1.9

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Document versions

Document version	1.0
Date / Creator	09.02.2012 / T. Müller
Changes	Initial version
Document version	1.1
Date / Creator	23.02.2012 / T. Müller
Changes	3.6 New Paste from Clipboard feature in chapter "Replace a rendered symbol graphic" 3.9 New Report grouping in chapter "Create Word-Reports" 4.2 Correction structure of the MIRGen Table (br_ent_ix was br_ent)
Document version	1.2
Date / Creator	14.03.2012 / T. Müller
Changes	3.93.10 New annex report definitions, new annex reports 4.2 new MIRGen table, 3.8 new batch rendering
Document version	1.3
Date / Creator	03.04.2012 / T. Müller
Changes	3.10 New sorting of annex reports
Document version	1.4
Date / Creator	17.04.2012 / T. Müller
Changes	3.10 Warning Word-Application 4.2 Description of graphic formats in "MIRGen Table"
Document version	1.5
Date / Creator	18.04.2012 / T. Müller
Changes	3.10 Rename alphabetic sort for Annex Reports 3.10 Category Delimiter for Annex Reports changed to "I" 4.2 Fields br_id, br_end_ix, dom_id and dom_val_ix removed from MIRGen data model,
Document version	1.6
Date / Creator	23.04.2012 / T. Müller
Changes	4.2 New fields mig_guidlines_xxxxx in table Annex_Report_Definitions
Document version	1.7
Date / Creator	11.05.2012 / T. Müller
Changes	3.10 New option to add description
Document version	1.8
Date / Creator	23.01.2013 / T. Müller
Changes	3.9 New tool to test symbol replacements 3.10 New sort option (hierarchy abbreviated) 4.2 New fields "hierarchy_abbreviated_APP6a", ".._2525b" and "..._25425c"
Document version	1.9
Date / Creator	24.01.2013 / T. Müller
Changes	3.10 New Annex report option

1 Introduction

MIRGen is a tool to generate military symbol reports from an Access database. The structure of the database is described in chapter "Database Structure"

2 Installation

MIRGen is delivered in a file archive called MIRGen_xx_yy_zz.7z where xx_yy_zz is the version number of the product.

To uncompress the file you need the 7zip archive manager (free download at www.7-zip.org)

Unpack the file into a directory of your choice. It contains the following folder structure:

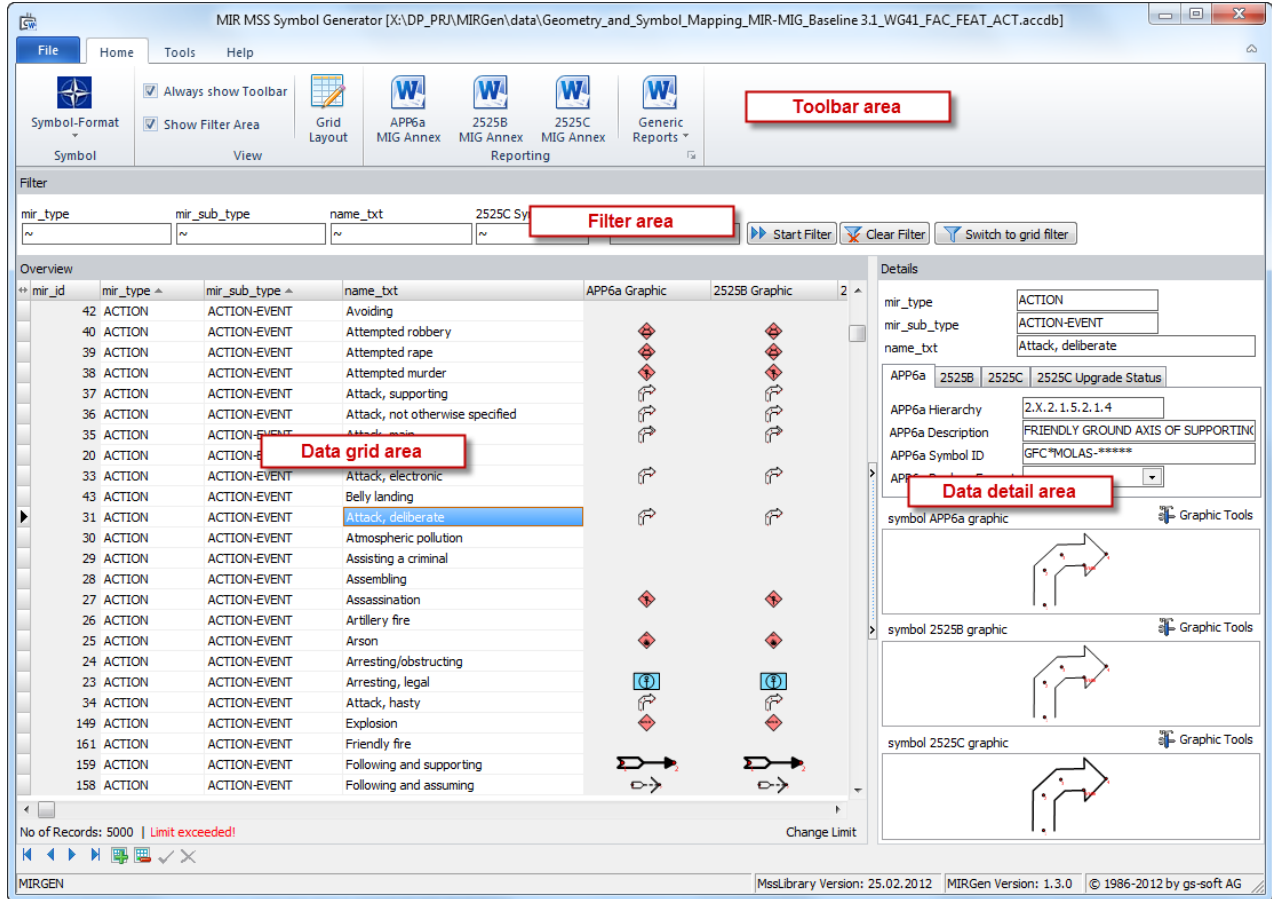
	<p><u>Data</u> Contains a default Access database. You can use this folder for your additional database files. To use different database files please make sure you read chapter "Database structure"</p> <p><u>Help</u> Contains this manual</p> <p><u>MssLibrary</u> Contains the Mss Library that is used to render the symbol ids to the corresponding symbol image.</p> <p><u>Prog</u> Contains the two MIRGen program files (MIRGen.exe, MIRGen.mta) and the configuration file that defines the location of the MssLibrary.</p>
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Start MIRGen by double-clicking the MIRGen.exe file in the Prog folder.

3 MIRGEN overview

The first time you start MIRGen a file open dialog will appear where you can select an Access database to work with.

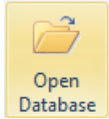
The main window contains the following areas:



Area	Description
Toolbar area	The toolbar area contains functions to open databases, define the symbol rendering format and produce the final Word Reports.
Filter area	With the filter area the selection of the records in the table can be defined.
Data grid area	The data grid contains all selected data from the table. The data can be edited directly in the grid.
Data detail area	In this area the details of the selected record are displayed. Also the three graphics are displayed. APP6a and 2525B shows the graphic rendered for the 2525C symbol id. You can replace these two graphics with your own graphics.

3.1 Open a database

An Access database file can be opened with “Open Database” function in the “File” toolbar.



MIRGen tests the required format before it opens and will show an error message if the format is not compatible. Please refer chapter “Database Structure”.

3.2 Upgrade symbol id's from 2525B to 2525C standard

MIRGen can render a symbol graphic only from a symbol id defined in the symbol_2525C_id field. If you work with 2525B symbol id's you must upgrade it to the 2525C standard. MIRGen supports this task in the “Tools” toolbar.

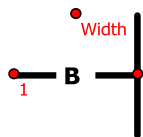
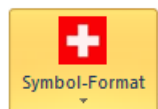


This function upgrades the symbol_2525B_id of the current selection of records in the data grid and writes it to the symbol_2525C_id field. The upgrade process writes an upgrade status and an upgrade message into the table. For the upgrade version see chapter “Setting MIRGen Options”

2525B Hierarchy	2525B Description	2525B Symbol ID	2525C Symbol ID	2525C Update Status	2525C Update Message
2.X.2.1.1.8.1	Chico points	G*G*GPPK-----X	G*G*GPPK-----X	Ok	(Memo)
2.X.5.1.4	Civilian Collection Point.	G*S*PT-----X	G*S*PT-----X	Ok	(Memo)
2.X.2.4.1.2.1	Combat outpost.	G*G*DPOC-----X	G*G*DPOC-----X	Ok	(Memo)
2.X.3.2.2.2	Bridge or gap.	G*M*BCB-----X	G*M*BCB-----X	Ok	(Memo)
2.X.2.2.4.11.5	Ground	G*C*BWDS-----X	G*.*-----X	Modified with dataloss	(Memo) +
2.X.5.1.14.6	Class V.	G*S*PSE-----X	G*S*PSE-----X	Ok	(Memo)
1.X.3.3.1.3.1	Biological	S*G*TRNB-----H	S*G*TRNB-----H	Ok	(Memo)
1.X.3.3.1.3.2	Chemical	S*G*TRNC-----H	S*G*TRNC-----H	Ok	(Memo)
2.X.5.1.14.5	Class IV.	G*S*PSD-----X	G*S*PSD-----X	Ok	(Memo)
2.X.5.1.14.9	Class VIII.	G*S*PSH-----X	G*S*PSH-----X	Ok	(Memo)
2.X.5.1.14.6	Class V.	G*S*PSE-----X	G*S*PSE-----X	Ok	(Memo)
1.X.3.3.1.3	NBC	S*G*TRN-----H	S*G*TRN-----H	Ok	(Memo)
1.X.3.3.1	Raw Material Production / Storage	S*G*TR-----H	S*G*TR-----H	Ok	(Memo)
1.X.3.3.1.3.3	Nuclear	S*G*TRNN-----H	S*G*TRNN-----H	Ok	(Memo)
1.X.3.3.1.2	Petroleum / Gas / Oil	S*G*TRP-----H	S*G*TRP-----H	Ok	(Memo)
2.X.5.1.5	Detainee Collection Point.	G*S*PD-----X	G*S*PD-----X	Ok	(Memo)
2.X.5.3.1	Detainee Holding Area.	G*S*AD-----X	G*S*AD-----X	Ok	(Memo)
1.X.3.3.4.3	Electric Power Facility	S*G*TLUE-----H	S*G*TLUE-----H	Ok	(Memo)
2.X.3.3.4	Foxhole, Emplacement, or Weapon	G*M*SW-----X	G*M*SW-----X	Ok	(Memo)
1.X.3.3.3	Equipment Manufacture	S*G*TE-----H	S*G*TE-----H	Ok	(Memo)
2.X.3.2.2.3	Ferry.	G*M*BCF-----X	G*M*BCF-----X	Ok	(Memo)
2.X.3.3.2	Fort.	G*M*SF-----X	G*M*SF-----X	Ok	(Memo)
2.X.3.3.1	Earthwork, Small Trench or Fortification	G*M*SE-----X	G*M*SE-----X	Ok	(Memo)

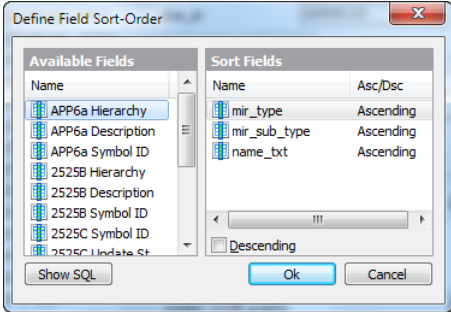

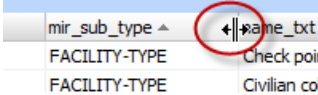
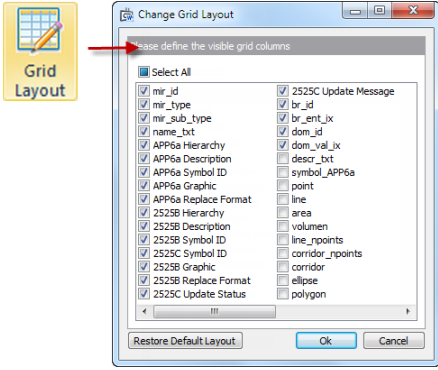

3.3 Choose the format for symbol rendering

MIRGen can render the symbol graphics for two standards - MIL STD-2525B (Nato) and Regl. 52.2 (Swiss). Select the desired standard in with the “Symbol-Format” in the “Home” toolbar. In addition MIRGen can show control points for n-point tactical graphics



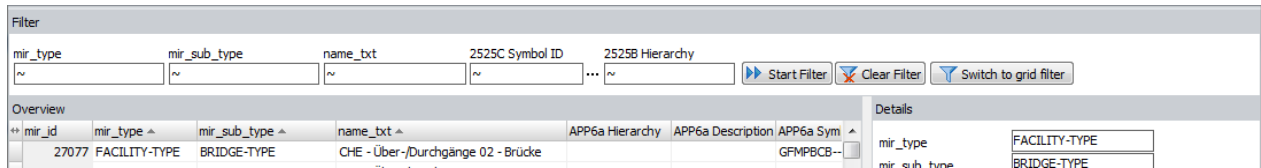
3.4 Work with the data grid

The data grid displays the data of the opened database. There are several functions that can be performed with this grid:

Function	Description
<p>Sorting</p>	<p>By clicking in a column header the table will be sorted by this column. The sort direction is indicated with a small arrow right of the column title. A second click will sort it in the opposite direction.</p> <p><code>name_txt ▲</code></p> <p>Right clicking in the grid header will show you a popup menu where you can do a custom sort:</p> 
<p>Columns arranging</p>	<ul style="list-style-type: none"> <p>Column width</p> <p>By clicking on the double arrow in the upper left grid corner  the grid automatically set an optimal width of all visible columns. It is also possible to resize the width of each column manually by clicking at the spacer at the end of the column header.</p>  <p>Column order</p> <p>Each column can be moved by drag and drop.</p> <p>Column visibility</p> <p>To hide or to show different columns you can use the “Grid Layout” function in the “Home” toolbar.</p>  <p>With “Select All” all fields from the table are displayed (including the fields that are not required for MIRGen).</p>
<p>Modify data</p>	<p>MIRGen allows editing the Access data directly in the grid. At the bottom of the grid there is the data navigator to add or delete record and to save or to cancel modifications.</p> 

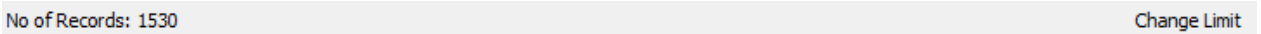
3.5 Filter data

You can filter the table with the so called QBE fields (Query By Example). Enter a text and use wildcard (*, ?) to define the filter. With the left button of the QBE-field you can also define the compare operator.

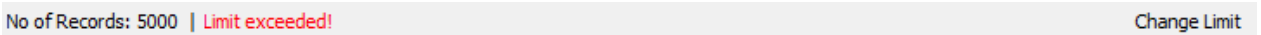


Click the “Start Filter” button to apply the filter to the table. To filter the table with other fields you can use the “Switch to grid filter” button.

At the bottom of the grid you always see how many records are selected.



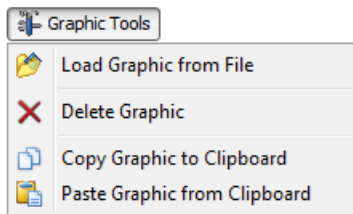
By default only the first 5000 records will be displayed. If there are more records in the database it will be indicated as follows:



If you want to see more records you can use the “Change Limit” button right below the grid. Set the value to 0 to show all records (be careful with very large databases – it could take some time to load all records).

3.6 Replace a rendered symbol graphic

By default the symbol graphics for APP6a and 2525B are rendered with the 2525C symbol id. If you need a different symbol you can replace it with the “Graphic Tools” button above the symbol graphic, either by loading a graphic from a file or from the windows clipboard.

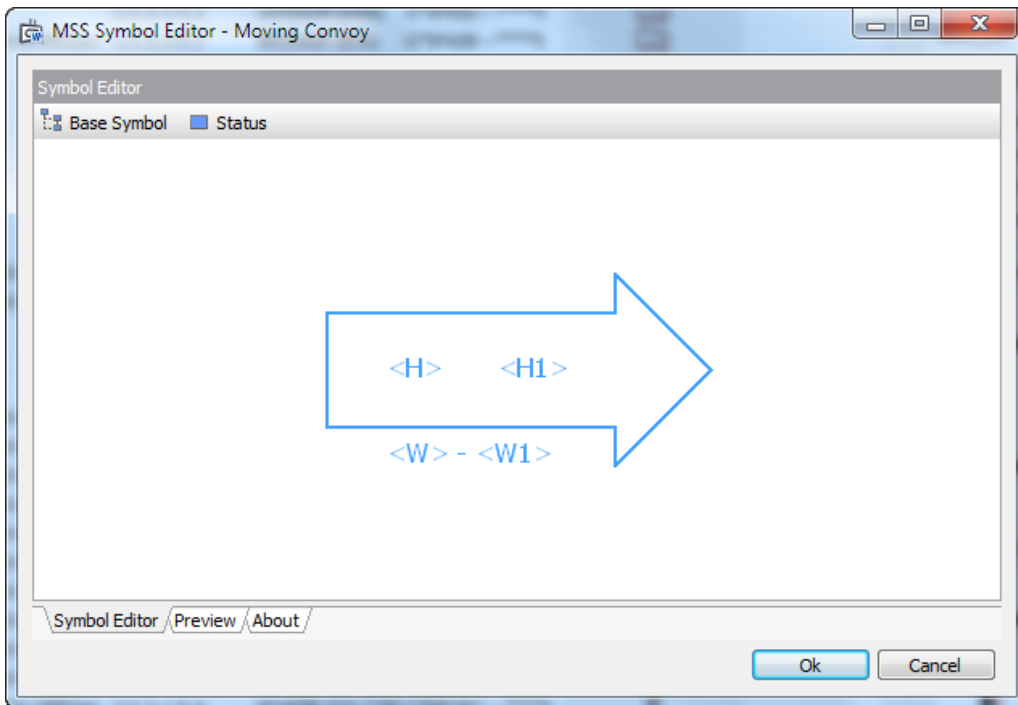
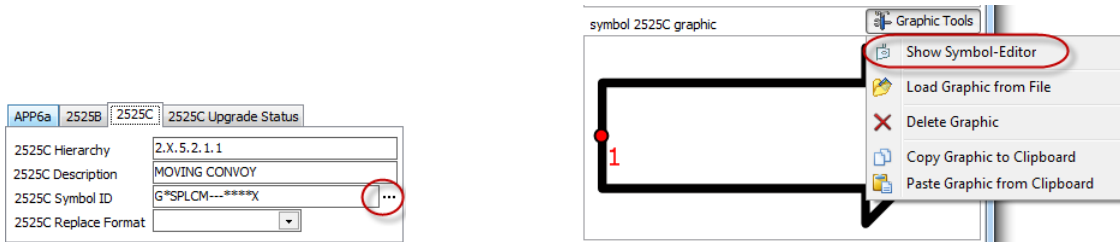


The following graphic file or clipboard formats are supported:

Format	Description
BPM	Bitmap
JPG	JPEG - Joint Photographic Experts Group
GIF	Graphics Interchange Format
PNG	Portable Network Graphic files
TIF	TIFF - Tagged Image File Format
WMF	Windows Metafiles
EMF	Windows Enhanced Metafiles
EMF-R	Windows Enhanced Metafiles – rendered by MIRGen This is a standard EMF format. The “R” only indicates that MIRGen rendered and stored the graphic during the “Batch-Rendering” process

3.7 Modify the 2525C symbol ID with the MSS Symbol Editor

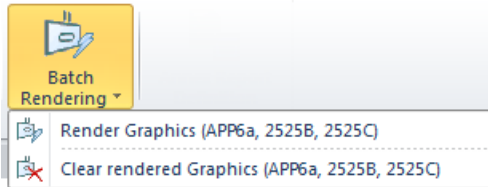
The 2525C Symbol ID can be modified with the MSS Symbol Editor. You can start the editor either with the button on the right side of the field or with context menu of the 2525C symbol graphic.



3.8 Batch render 2525C symbols

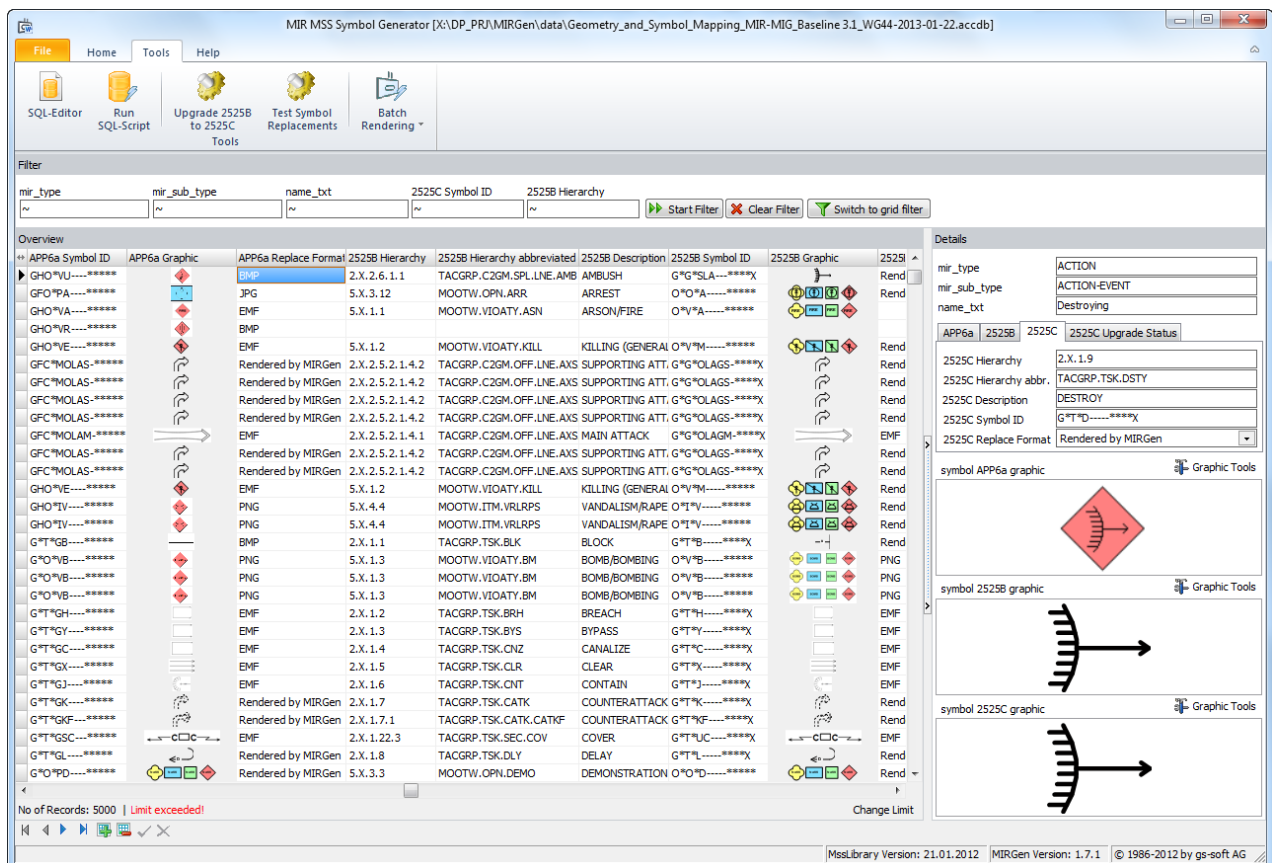
By default MIRGen renders the symbols 'on the fly'. The rendered symbols graphics are therefore not stored in the database.

If you need to use the rendered graphics in other application you can use the "Render Graphics" function to store it in the database.



The following rules are applied:

- MIRGen uses the symbol_2525C_id to render the graphic
- The rendered graphic is stored as an enhanced metafile (emf) in the database.
- The field "Replace Format" is filled with the value "rendered by MIRGen"
- The rendered graphic is stored for empty APP6a, 2525B and 2525C fields.
- The rendered graphic is only stored if the corresponding symbol_xxxx_id field has a value.
- The rendered graphic is only stored if the corresponding graphic field is empty ("Replace Format" is empty of "Rendered by MIRGen")

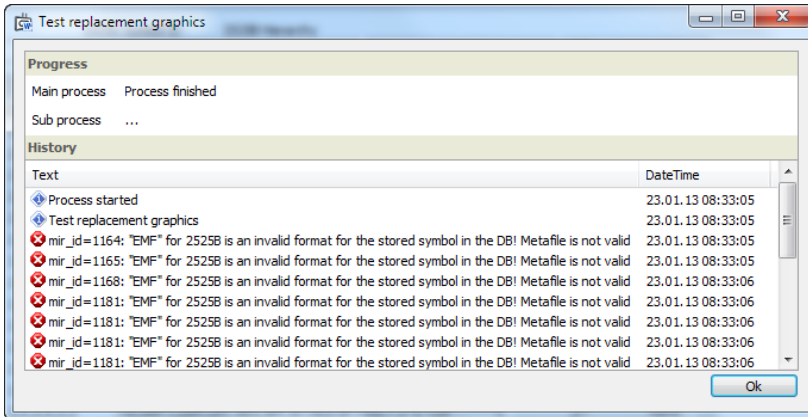


3.9 Test symbol replacements



This function tests if the replaced symbol graphics in the database are valid.

The test takes the currently selected records. MIRGen will show you a list of all invalid graphics stored in the database for the selected records.



Please correct these invalid graphics by either enter the correct replacement format, deleting the graphic or inserting a valid graphic. Otherwise the Word-reporting function will fail.





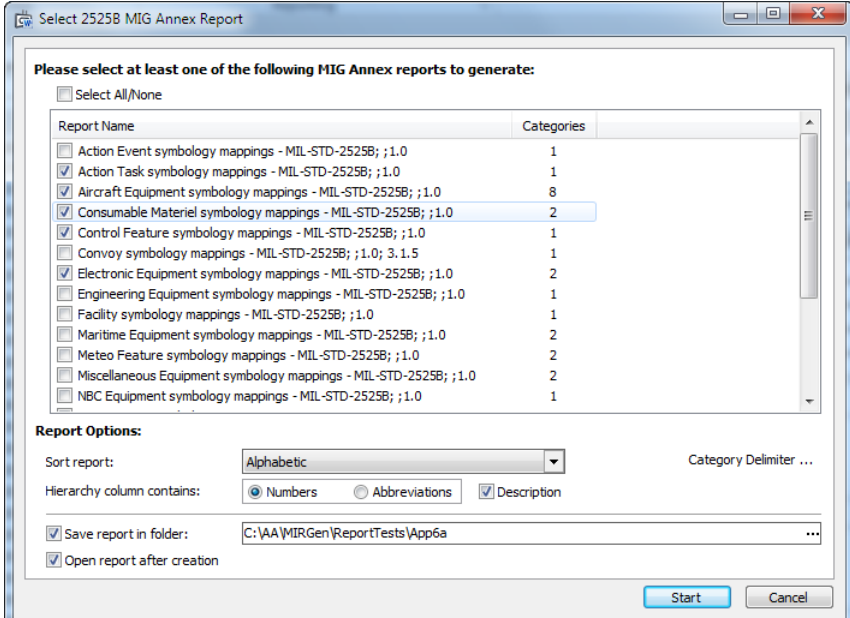
3.10 Create Word-Reports

You can start a Word report with the report buttons in the “Home” toolbar.



Please don't work with the Word-Application while MIRGen is generating a Word-Report.

The following Word-Reports can be created:

Report	Description
 APP6a MIG Annex	This will produce the base reports for MIG Annex B Symbology APP6a, 2525B or 2525C. All possible reports are defined in the “Annex Report Definition” table, that you can edit either with the button  in the lower right corner of the „Reporting” group or with the “Annex Report Definition” button on the “Tools” toolbar.
 2525B MIG Annex	You can select one or more reports to generate at once (use the right mouse button or the “Select All/None” checkbox to select / unselect all reports at once).
 2525C MIG Annex	<div style="border: 1px solid gray; padding: 10px; margin-bottom: 10px;">  </div> You can sort the report alphabetic, hierarchic by number or hierarchic by abbreviation. For 2525B and 2525C alphabetically sorted reports you can define the content of the hierarchy column (either the number-hierarchy or the abbreviated-hierarchy). You also can add the description field to the hierarchy column. With the “Category Delimiter” button you can define the delimiter character that is used to separate the categories in the name_txt field (default is “[”). By clicking the “Save report in folder” option you can define the folder where the generated reports are automatically stored in. With the “Open report after creation” option, the word report will be displayed after creation.

MIG Annex B
Appendix 3-2 Control Feature symbology mappings - APP-6A
Edition 3.1.5

CONTROL-FEATURE

JC3IEDM Domain	APP-6A, October 1998		
control-feature-type-category-code	Hierarchy	SYM-ID	Example Symbol
Aim point	2.X.2.5.1.4.1	G*C*OKWA-*****	
Air axis of advance	2.X.2.1.5.2.1.1	GFC*MOLAF-*****	
Air control point	2.X.2.1.2.1.1	G*C*MAAP-*****	

APP6a, 2525B, 2525C Report

This report lists all three symbol graphics in landscape format. The current selection of the data grid is used (including sort order).

Object	SYM-ID 2525C	Graphic 2525C	SYM-ID APP6a	Graphic APP6a	SYM-ID 2525B	Graphic 2525B
FEATURE CONTROL-FEATURE Airspace coordination area	G**ACAL-*****X		G**FAC-***** 2.X.2.9.9.2		G**ACAL-*****X 2.X.4.3.2.2.1	
FACILITY FACILITY-TYPE Alternate decontamination facility	G**NDA-*****X		G**BWDA-***** 2.X.2.2.4.11.2		G**NDA-*****X 2.X.3.4.8.2	
FEATURE ROUTE Alternate supply route	G**LRA-*****X		G**SLRA-***** 2.X.2.4.2.2.2		G**LRA-*****X 2.X.5.2.2.2	
MATERIEL VEHICLE Ambulance	S**EV-*****		S**EV-***** 1.X.3.2.2		S**EV-*****	
MATERIEL SURFACE-VESSEL Ambulance boat	S**NM-*****		S**NM-***** 1.X.4.2.5		S**NM-*****	
FEATURE CONTROL-FEATURE Ambulance exchange point	G**PX-*****X		G**SPA-***** 2.X.2.4.1.1		G**PX-*****X 2.X.5.1.1	

2525C Swiss/Nato-Format Compare

This report compares two 2525C symbol graphics one rendered with the Swiss the other with the Nato format. The current selection of the data grid is used (including sort order).

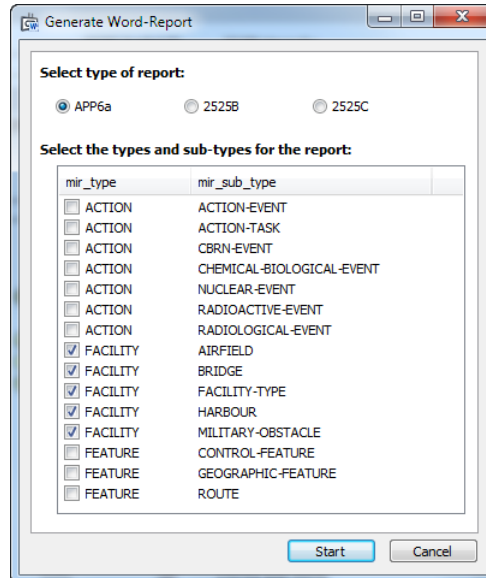
2525C	Graphic 2525C Nato				Graphic 2525C Swiss			
Ambush S**U-*****								
Arresting, legal O**A-*****								
Arson O**A-*****								
Assassination O**M-*****								
Attack, deliberate G**OLAGS-*****X								

Generic Annex Report

The generic Annex Report is independent of "Annex Report Definitions". It always shows 4 columns with dom_id, name_txt, hierarchy, symbol_id and symbol_graphic.

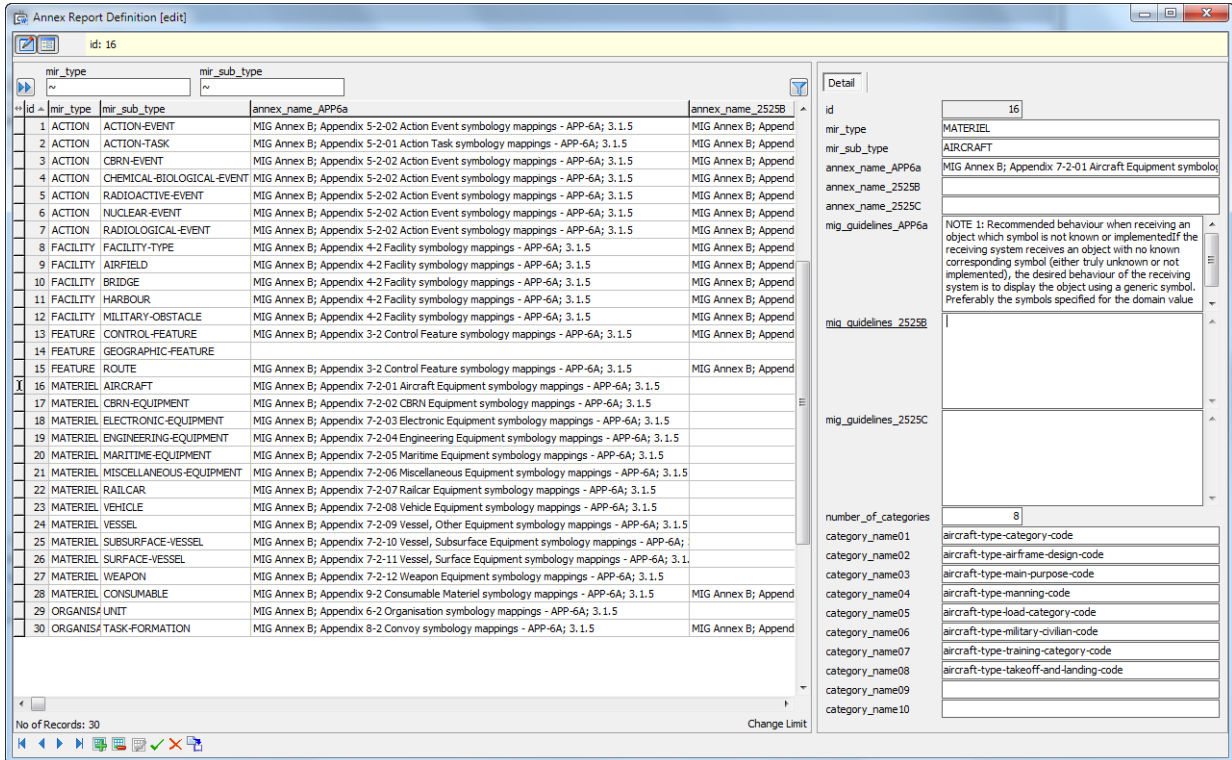
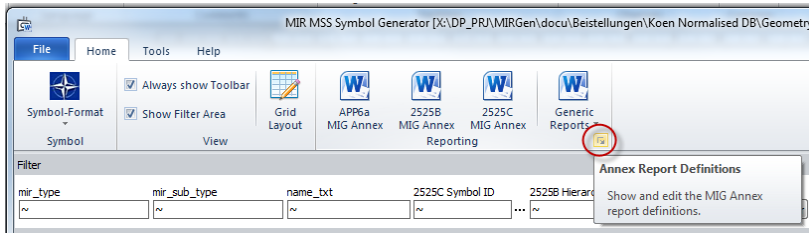
JC3IEDM Domain	Hierarchy	SYM-ID	Example Symbol
100000133			APP-6A, October 1998
Depot, chemicals	1.X.3.3.1.3.2	S*G*IRNC-H****	
Depot, not otherwise specified	1.X.3.3.1	S*G*IR---H****	
Depot, engineer	2.X.2.4.1.14.5	G*C*SPQD-*****	
Depot, medical	2.X.2.4.1.14.9	G*C*SPQH-*****	
Depot, missile ammunition	2.X.2.4.1.14.6	G*C*SPQE-*****	

You can define the mir_type and mir_sub_types that should be used for the report.



3.11 Define of MIG Annex Reports

The Access table “Annex_Report_Definition” contains all possible MIG Annex Reports. The definitions can be edited with the button “Annex Report Definitions” from the “Reporting” group in in the “Home” toolbar.



For each type and subtype you can define if a report for a certain standard (APP61, 2525B or 2525C) is available by setting the corresponding annex_name_xxx field.

Further data in this table define the type and the layout of the report. the

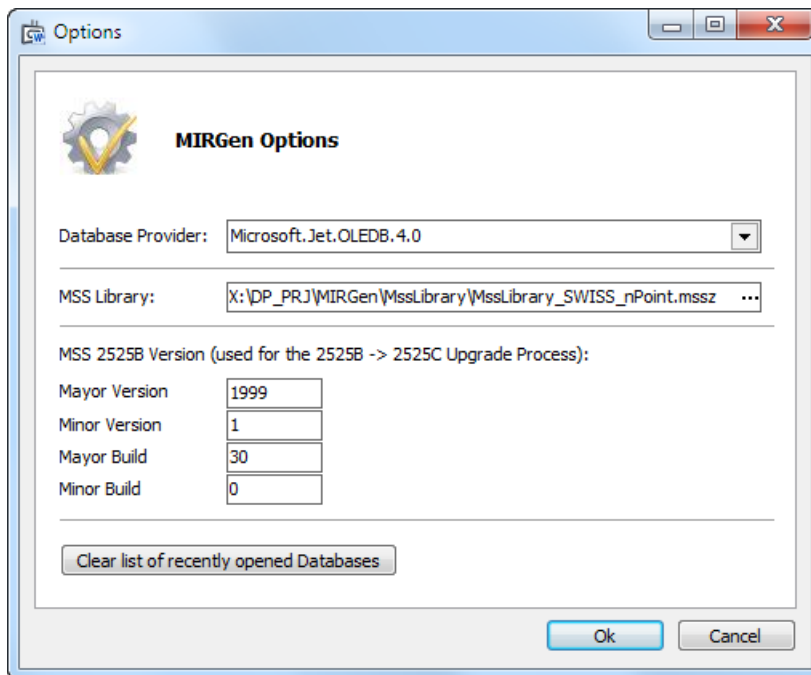
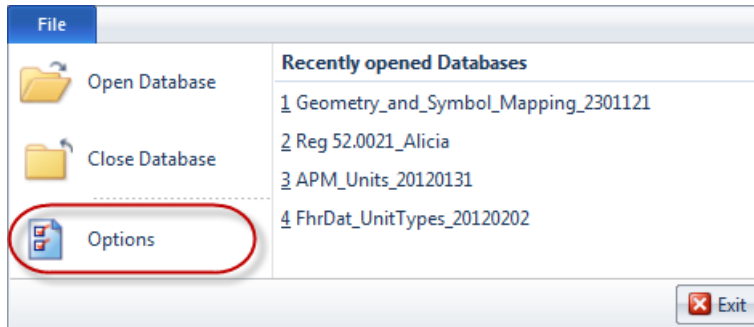
MIG Annex B Appendix 7-2-01 Aircraft Equipment symbology mappings - APP-6A										
Edition 3.1.5										
MATERIEL - AIRCRAFT										
JC3IEDM Domain								APP-6A, October 1998		
aircraft-type-category-code	aircraft-type-airframe-design-code	aircraft-type-main-purpose-code	aircraft-type-manning-code	aircraft-type-load-category-code	aircraft-type-military-civilian-code	aircraft-type-training-category-code	aircraft-type-takeoff-and-landing-code	Hierarchy	SYM-ID	Example Symbol

Field	Description
mir_type	Defines the type
mir_sub_type	Defines the subtype
annex_name_APP6a	Defines the name of the APP6a report. This name is used for 1. the texts in the page header of the report divided by a semicolon. 2. the file name of the word document.
annex_name_2525B	Defines the name of the 2525B report.
annex_name_2525C	Defines the name of the 2525C report.
mig_guidelines_APP6a	Defines the guidelines for the APP6a report. The guidelines are printed at the beginning of the report.

mig_guidelines_2525B	Defines the guidelines for the APP6a report. The guidelines are printed at the beginning of the report.
mig_guidelines_2525C	Defines the guidelines for the APP6a report. The guidelines are printed at the beginning of the report.
number_of_categories	This field contains the number of categories defined in the name_txt. The categories in the name_txt field must be separated by the delimiter defined in the print dialog of the Annex reports (default is " "). Up to 10 categories are possible.
category_nameXX	Contains the name of the category printed in the report JC3IEDM domain column headers.

3.12 Set MIRGen Options

You can start the MIRGen Options dialog from the "File" toolbars "Options" button.



Area	Description
Database Provider	Defines the provider string for the Access Database connection.
MSS Library	Defines the MssLibrary that is used to render the symbol_2525C_id graphics. The current version of the loaded MssLibrary is indicated in the status bar of MIRGen. The Library is written to the MIRGen.ini file.
MSS 2525B Version	The MSS 2525B version information is used to define the contents of the symbol_2525B_id fields. This information is used for the 2525B -2525C upgrade process. The version numbers are written to the MIRGen.ini file.
Clear List of recently opened Databases	The "File" toolbar contains a list of recently opened Database files. With this button you can clear the list.

4 Database structure

4.1 MIRGen Database

The database name can be chosen freely.

The connection to the database can be made inside of MIRGen (function "Open Database").

4.2 MIRGen Table

MIRGen uses two tables inside the database.

The first table must be named "**Geom_Symbol_APP6a_2525B**" and must contain at least the following fields (additional fields are allowed).

<i>Fieldname</i>	<i>Access data type</i>	<i>Remarks</i>
mir_id	AutoNumber Long Integer	Primary Key, Indexed (No Duplicates)
mir_type	Text 60	
mir_sub_type	Text 60	
name_txt	Text 255	
hierarchy_APP6a	Text 60	Hierarchy numeric
hierarchy_abbreviated_APP6a	Text 255	Hierarchy with abbreviations
description_APP6a	Text 255	
symbol_APP6a_id	Text 255	
symbol_APP6a_replace_graphic	Ole Object	Contains the binary graphic
symbol_APP6a_replace_format	Text 5	BMP, JPG, PNG, GIF, TIF,WMF, EMF or EMF-R=rendered EMF by MIRGen
hierarchy_2525b	Text 60	Hierarchy numeric
hierarchy_abbreviated_2525b	Text 255	Hierarchy with abbreviations
description_2525b	Text 255	
symbol_2525b_id	Text 255	
symbol_2525b_replace_graphic	Ole Object	Contains the binary graphic
symbol_2525b_replace_format	Text 5	BMP, JPG, PNG, GIF, TIF,WMF, EMF or EMF-R=rendered EMF by MIRGen
hierarchy_2525c	Text 60	Hierarchy numeric
hierarchy_abbreviated_2525c	Text 255	Hierarchy with abbreviations
description_2525c	Text 255	
symbol_2525c_id	Text 255	
symbol_2525c_replace_graphic	Ole Object	Contains the binary graphic
symbol_2525c_replace_format	Text 5	BMP, JPG, PNG, GIF, TIF,WMF, EMF or EMF-R=rendered EMF by MIRGen
symbol_2525c_update_status	Text 1	
symbol_2525c_update_msg	Memo	

The second table must be named “**Annex_Report_Definition**” and contains the following fields:

<i>Fieldname</i>	<i>Access data type</i>	<i>Remarks</i>
id	AutoNumber Long Integer	Primary Key, Indexed (No Duplicates)
mir_type	Text 60	
mir_sub_type	Text 60	
annex_name_APP6a	Text 255	
annex_name_2525B	Text 255	
annex_name_2525C	Text 255	
mig_guidelines_APP6a	Memo	
mig_guidelines_2525B	Memo	
mig_guidelines_2525B	Memo	
number_of_categories	Long Integer	
category_name01	Text 60	
category_name02	Text 60	
category_name03	Text 60	
category_name04	Text 60	
category_name05	Text 60	
category_name06	Text 60	
category_name07	Text 60	
category_name08	Text 60	
category_name09	Text 60	
category_name10	Text 60	