

# **MH's AI Traffic Pack V2.0**

User Manual

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## Contents

Package description.....	3
General reference.....	3
1. Installation instructions.....	3
2. Requirements.....	3
3. Running the programs.....	3
4. INI files.....	4
5. Report files.....	4
6. Troubleshooting.....	4
7. Performance.....	5
Common INI file settings.....	6
MH's AI Traffic Check V3.0.....	7
0. Version History.....	7
1. Program Description & Operating Instructions.....	7
2. INI file settings.....	8
3. Explanation of AITChk messages.....	9
3.1 Common messages.....	9
3.2 General sim object configuration file error messages.....	10
3.3 [fltsim.n] related error messages.....	10
MH's SimObject Config Repair V1.0.....	12
0. Version History.....	12
1. Program Description & Operating Instructions.....	12
2. INI file settings.....	12
MH's SimObject Config Modifier V2.0.....	13
0. Version History.....	13
1. Program Description & Operating Instructions.....	13
2. INI file settings.....	13
MH's SimObject Config Backup Manager V1.0.....	16
0. Version History.....	16
1. Program Description & Operating Instructions.....	16
2. INI file settings.....	16
MH's AI Traffic Merger V2.0.....	17
0. Version History.....	17
1. Program Description & Operating Instructions.....	17
2. INI file settings.....	18
MH's AI Traffic To FSX Converter V1.1.....	19
0. Version History.....	19
1. Program Description & Operating Instructions.....	19
2. INI file settings.....	19
2.1. Comments on TrafficDatabaseBuilder.....	20
License Agreement.....	22

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## Package description

This freeware package „MH's AI Traffic Pack V2.0“ is a toolbox consisting of six programs which all deal with sim object configuration files (aircraft.cfg, sim.cfg) and AI traffic files (traffic\*.bgl) of Microsoft Flight Simulator.

The first one is “AI Traffic Check” (aitchk.exe) which checks for missing sim objects required by the traffic BGLs and reports possible errors in sim object configuration files. “SimObject Config Repair” (aitrep.exe) is a novel program designed to find errors in the sim object files and try to repair them. The most common are probably fltsim sequence errors but there are lots of others. “SimObject Config Backup Manager” (aitbkup.exe) is a new backup manager which will restore, create and delete sim object file backups created by the other programs in this package.

“SimObject Config Modifier” (aitmod.exe) can be used to modify aircraft configuration files of Microsoft Flight Simulator to update them to the FSX standards. “AI Traffic Merger” (aitmrg.exe) is an installer for new AI aircraft and traffic BGL files. Still contained in the new version of AI Traffic Pack, but not updated anymore, is “AI Traffic To FSX Converter” (ait2x.exe), a converter for AI traffic files in FS9 format to FSX format.

All the programs of the current version have been restructured internally to speed up the reading process of the sim object configuration files, resulting in a reduction of scanning time by about 50% for AITChk.

## General reference

### 1. Installation instructions

Just unpack the ZIP-file into a folder of your choice. Older versions of the software may be completely overwritten, unless you prefer to keep the old INI file with your personal settings.

No further installation is required, everything you will need are the executable files, and additionally for AIT2X the file "ICAO\_dc.lst".

### 2. Requirements

The programs contained in this package are intended for use with Microsoft Flight Simulators, Version 9 or 10 (FSX). For AIT2X, deluxe version of FSX including FSX SDK with TrafficDatabaseBuilder is required.

Development operating system was Windows XP Home, but even a Windows 2000 system should work. Windows Vista could not be tested. In previous versions I got information that administrator rights were required to run the programs. At least your account will need write access rights for the program executable path to create the log files.

The programs will try to use the most up-to-date version of FS (FS9, FSX) they will find on your system, unless otherwise instructed by the "ForceVersion" setting in the INI files.

### 3. Running the programs

Before running the programs, you should take a look at the INI files provided with this package. Make sure that the [SimObjects] and [Traffic] sections contain the correct path names, even if I have tried to use standard settings which should work with most installations.

All programs can be started by double-clicking their icon in the explorer or via the command line interface ("cmd", DOS box). If any parameters are required the programs will use default settings if started by double-clicking. In case of unexpected behaviour it is strongly recommended to use the command line interface to be able to see any error messages.

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Each program prints out a copyright message and the current executable path directly at the beginning. The progress can be seen in most cases from more and more dots (".") on the screen or some other messages. Sometimes you will be asked to confirm changes etc. by pressing "y" (yes) or "n" (no).

#### 4. INI files

The provided INI files will not be created by the programs (if deleted accidentally), but the programs will use standard settings instead if the files do not exist.

Should an old "aitchk.ini" file exist (from AITChk V1.0, V1.09) the new version of AITChk will convert it when it is started for the first time.

If anything goes wrong with these INI files, the folder "INIBackups" contains a set of INI files with standard settings.

A new feature is the "aitpack.ini" file which unites and controls the settings for all five programs. It will be used if one of the individual INI files is missing (e.g. renamed).

#### 5. Report files

All programs can write report files – and will do so according standard INI file settings – provided you have write access to the program executable folder. The report file usually has the same name as the respective program, just the file extension is ".txt" (e.g. "aitchk.exe" produces "aitchk.txt").

Therefore you can easily open these files with the editor. Contained are information on performed program steps, occurred errors and so on.

If an report file already exists its extension will be changed to ".~txt" which allows to compare the previous and the newly generated report file.

#### 6. Troubleshooting

In case of an error message check your registry for the existence of the following keys:

HKCU\Software\Microsoft\Microsoft Games\Flight Simulator\10.0\AppPath

HKCU\Software\Microsoft\Microsoft Games\Flight Simulator\9.0\AppPath

HKLM\Software\Microsoft\microsoft games\flight simulator\9.0\EXE Path

HKCU stands for the HKEY\_CURRENT\_USER tree (existence of entries may depend on the account you use to log in), and HKLM stands for the HKEY\_LOCAL\_MACHINE tree.

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## 7. Performance

All programs were tested on a computer system with WinXP Home and AMD Athlon X2 3800+ processor with 2GB RAM. On my system currently are installed about 580 "aircraft.cfg" (415 of them AI aircraft) and 200 "sim.cfg", 683 traffic BGLs are placed in the world scenery folder. Please consider that the first run of one of the programs before FS has been run that day may take up to 60% longer than indicated here.

AITChk	Reading of the traffic BGL takes 5 seconds, checking of the "aircraft.cfg" and "sim.cfg" files lasts about 40 seconds and determination of missing aircraft will need about 30 seconds.
AITRep	Reading of sim object configurations with about 85 repaired took 4 seconds.
AITMod	Takes about 18 seconds to read and modify most of the AI aircraft files.
AITMrg	Reading of the currently installed configuration files takes about 40 seconds. The time used for installation of new sim objects will depend on the number and size of the new sim object files.
AITBkup	Creation, deletion or restorage of backups for all sim object config files lasts about 3 seconds.
AIT2X	Reading of the "aircraft.cfg" files lasts about 30 seconds, conversion of the traffic BGL files will take about 10 minutes.

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## Common INI file settings

This sections describes the INI file settings which are common for several or all the programs in this package. The entries may be set individually in each program related INI file or for all programs together in the file aitpack.ini.

### - Section [Main]

ForceVersion	-1	standard, determine most up-to-date FS version automatically
	9	use FS9 application path
	10	use FSX application path
OutputFile	(empty)	do not output report to file
	(not empty)	filename to write report to, usually executable program name plus extension ".txt"
WaitAtEnd	0	standard, do nothing special
	1	wait for about 2 seconds at the end before terminating the program
UseLastRun	0	default, do read all files independent of last change or last program run
	1	use the date saved in LastRun to determine if a sim object file has changed recently
LastRun	Contains the date and time of last program run (saved automatically). Set this to 0 if all sim object files shall be checked.	
IgnoreTextureFolders	contains a comma-separated list of keywords which will be considered to indicate "common" texture folders; if texture folders match one of these they will not result in "lost texture folder" message; each keyword has to be placed in double-quotes!	

### - Section [SimObjects]

Contains a list of sequentially numbered "Path." entries. All these paths will be scanned for aircraft and other sim objects. Entries beginning with ";", "/" or "#" will be ignored. The user may add any number of new entries.

### - Section [Traffic]

Contains a list of sequentially numbered "Path." entries. All these paths will be scanned for traffic BGL files (traffic\*.bgl). Entries beginning with ";", "/" or "#" will be ignored. The user may add any number of new entries.

Within the [SimObjects] and [Traffic] sections absolute or relative paths may be used. Relative paths will be interpreted to be located within the FS main application folder. If a path does not exist this will produce an error message and stop the program.

### - Section [SortModes]

This section applies to the programs which will modify sim object configuration files, namely AITRep, AITMod, and AITMrg.

FltSimPosition	0	move all fltsim sections to beginning of file (MS style)
	1	move all fltsim sections to end of file (WOAI style)
SortFltSim	0	do not sort entries in the fltsim sections
	1	sort entries alphabetically
	2	sort entries by type

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# MH's AI Traffic Check V3.0

## 0. Version History

3.0 – 04.03.2009:

- internal reorganisation to speed up reading process
- test if FSX.cfg SimObjectPath entries are valid and will be checked
- test for comments in section header lines
- test model/sound/soundai/panel.cfg alias
- test “fallback.1” path name in texture.cfg
- test for missing effect files
- test for undefined entries (e.g. "checklist")
- test for empty sections
- report sequence/category/lost texture only once per sim object file
- log file: sort not referenced sim objects by path name
- exchanged meaning of ReportCFGLevels “3” and “4”, shifts file intensive operations to level “4”
- ignore surplus texture folders if “common” keyword is contained in the path name
- introduce LastRun variable in INI-file to prevent checking of unchanged files

2.0 – 19.12.2007:

- changed INI file format, an (almost) arbitrary number of paths for scanning can be added now, single lines may be commented out
- various variables in the ini file can be used to control the amount of data output
- boat traffic files will be scanned now
- while reading traffic files the required aircraft names may be printed to file
- aircraft or sim-objects not referenced by any traffic file may be listed
- fltsim sequence errors will be reported

1.09 - 21.09.2007:

- bug fix release for errors with FS9 search due to missing registry entries

1.0 - 10.07.2007:

- initial program release

## 1. Program Description & Operating Instructions

The first program in this package is intended to find errors within your FS installation related to AI traffic, e.g. missing aircraft, wrong aircraft titles etc. It will only read data contained in traffic BGL files, as well as the aircraft and simobject configuration files (“aircraft.cfg”, “sim.cfg”), but it will not modify or delete any data.

First, all AI traffic containing files named “traffic\*.bgl” within the specified scenery folders will be scanned for required aircraft. Since V2.0, this includes also boat traffic files, which can, for example, be created with the “AI Boat Traffic Compiler” (by Lamont Clark). Then, all sim object

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configuration files "aircraft.cfg" and "sim.cfg" will be checked for errors like missing ".air" files, missing "title" entries, texture paths and so on. Other configuration files ("sound.cfg", "model.cfg"...) will be read since V3.0 to check for correct alias definitions.

All aircraft titles will be tested if each identifier is unique or contains "forbidden" characters.

The last step is to check the list of required aircraft against the list of installed aircraft. Missing aircraft or sim objects will be reported. You should be careful if you have reports of fltsim sequence errors as this might result in missing sim objects in FS which are not listed in the report! A further list will be given on sim objects which are not used in any flightplan. This list will mainly contain flyable aircraft, but also missing sim objects with a wrong title (typing errors) may be found. To get a better overview, the list is now sorted by path name and not by title anymore.

All reported data will be usually written to the file "aitchk.txt" located in the program folder.

## 2. INI file settings

The program operation may be controlled through specific settings in the "aitchk.ini" file. For common settings see the section above. The following variables can be set:

### - Section [Main]

ReportCFGLevel	0	only check for missing ".air" file and "fltsim.n" sequence errors
	1	report non-existing paths
	2	additionally report missing model/panel/sound configuration files
	3	additionally report missing FSX specific entries like "ui_createdby", "ui_typerole", and "category", and undefined entries like e.g. "checklist"
	4	same as "3", as well as checking of alias and fallback entries, plus report if no mdl file or no texture files exist, plus report on unused textures (file intensive operations)
ReportBGLLevel	0	report only missing sim objects
	1	print out all sim objects used by each traffic file
	2	list non-referenced sim objects, too
	3	additionally give information on traffic file version (FS9/FSX)
ReportATNames	0	do not report information on aircraft names with critical characters for AutoThumbnail
	1	standard, report this kind of information
ReportMissingEffects	0	do not report missing effect files
	1	do report all missing effect files in an extra list

### - Section [Paths]

Obsolete since V2.0, will be converted to new sections and deleted afterwards.









### 3. Explanation of AITChk messages

The following tables contain information on all the possible error or other messages which can be output to the report file of AITChk. The color in the last column indicates how critical that error might be for FS or other programs operation (red = most likely critical; yellow = might lead to unwanted, annoying or undefined behaviour; green = not critical).









#### 3.1 Common messages













Validating SimObjectPaths in FSX.cfg...	The FSX.cfg is read and the entries of SimObjectPaths are validated.
All SimObjectPaths in FSX.cfg existing and will be checked.	Everything is okay with the FSX.cfg, all listed paths are found and will be checked.
<PathName> ...does not exist!	A path in FSX.cfg does not exist.
<PathName> ...will not be checked!	A path in FSX.cfg will not be checked by AITChk due to current INI file settings. This might produce false missing sim objects.
Reading traffic BGL files...	self-explaining
No FS9 traffic files found.	No FS9 traffic BGL files have been found which means that FSX should have no problems with displaying AI traffic.
Checking aircraft.cfg and sim.cfg files...	After that message follows the list of errors found for sim object configuration files.
No sim object changed since last run. Nothing checked.	This message indicates that the UseLastRun setting is active and since nothing has changed there was nothing to do.
Missing sim objects:	This is the beginning of the list of missing sim objects, namely the list of titles.
No missing sim objects.	This is a good sign, all required sim objects were found. But be careful: if there were any fltsim sequence errors, FS could have problems to find certain sim objects!
Sim objects not referenced by any flight plan (possibly flyables!):	The following list contains sim objects which may be flyables or which are of no use at the moment. Sometimes mistyped sim object titles will produce an entry here.
Sim object titles with ""forbidden"" characters (for AutoThumbnail):	Certain characters within sim object titles might lead to problems with the program AutoThumbnail. Therefore the critical ones are listed.
No sim object titles with forbidden characters found.	No problem.
Missing effect files:	This indicates the beginning of the list of missing effect files.
No missing effect files.	A rare case...

### 3.2 General sim object configuration file error messages

fltsim.n sequence error!	FS will not be able to find sim objects in the respective sections. Run AITRep to fix this.	
section header with comment found!	Sometimes comments (indicated by e.g. "//") directly after a [fltsim.n] entry can be found. This seems to be a problem for the WOA! installer programm. Can be removed with AITRep.	
empty sections found!	No problem usually, but a waste of your precious disk space.	
FSX "category" entry missing!	Most likely no problem. Possibly sim object will not show up in the FS aircraft selection window. AITMod will help.	
unused texture paths found!	Maybe a texture entry was mistyped or a fltsim section was accidentally deleted. AITRep will add these folders into new fltsim sections.	
one or more effects not found!	This will affect the visual appearance of sim objects in FS. Have a look at the "missing effects" list at the end of the file and crosscheck with your effects folder.	

### 3.3 [fltsim.n] related error messages

sim entry not specified or air-file not found!	The flight dynamics of an aircraft could not be found. Try AITRep.	
title entry missing!	A sim object without title entry can not be used for AI traffic.	
<Title> is not a unique sim object identifier!	You have multiple sim objects with the same title definition. Maybe you have installed the same thing twice?	
model entry not specified or model path not found!	The fltsim section links to model path which does not exist. E.g. reflective and non-reflective definitions are mixed up etc.	
no model.cfg found!	The indicated model path does not contain a model.cfg file.	
no mdl-file found. alias definition?	There is no mdl file in the model path. Usually there is at least one, defining the visual 3D model.	
model-alias path not valid!	A specified alias path in the model.cfg does not exist.	
panel path not found!	The panel path does not exist. Most likely for an AI aircraft an empty "panel=" entry is specified. A case for AITRep or AITMod.	

no panel.cfg found!	The valid panel path does not contain a panel.cfg file.	
panel-alias path not valid!	The alias path specified in the panel.cfg does not exist.	
sound path not found!	The respective sim object will be quiet as there is no sound path.	
no sound.cfg found!	The valid sound path does not contain a sound.cfg file with definitions.	
sound-alias path not valid!	The alias path specified in the sound.cfg does not exist.	
soundai path not found!	The respective sim object will be quiet im used as AI object as there is no soundai path.	
no soundai.cfg found!	The valid soundai path does not contain a soundai.cfg file with definitions.	
soundai-alias path not valid!	The alias path specified in the soundai.cfg does not exist. Use AITMod to fix.	
texture entry not specified or texture path not found!	A sim object without texture does not make much sense.	
texture fallback.1 path not valid!	The first fallback path in the texture.cfg does not exist or cannot be found. Some missing textures might not display.	
no texture files (dds, bmp) found!	The indicated texture path does not contain any DDS or BMP files.	
FSX "ui_createdby" entry missing!	There is no "ui_createdby" entry in the respective fltsim section. Use AITMod.	
FSX "ui_typerole" entry missing!	There is no "ui_typerole" entry in the respective fltsim section. Use AITMod.	
unknown fltsim entry found!	There is a unknown fltsim entry. In most cases "checklist". AITRep can help with some of them.	

# MH's SimObject Config Repair V1.0

## 0. Version History

1.0 – 04.03.2009:

- initial program release

## 1. Program Description & Operating Instructions

A program to automatically repair sim object files is a logic consequence if you have a program for checking which reveals errors or distinctive features for almost all of about 700 configuration files. Currently the program can be used to repair the following frequent errors:

- repair fltsim.n sequence errors like voids, duplicates, non-numeric definitions
- create missing title entry
- delete comments in section header lines
- repair invalid sim/model/panel/sound/soundai entries
- repair undefined entries where possible or delete them (e.g. "checklist" will be changed to "kb\_checklist" or "atc\_parking\_code" will be changed to "atc\_parking\_codes")
- repair model.cfg file
- delete spaces or tabs before and after "="
- find lost textures folders (but not those with "common" textures) and embed them

## 2. INI file settings

The [Main] and the [SimObjects] sections work like in the other programs.

- Section [RepairSettings]

RepairBrokenLinks	0	do not repair broken links (model/sim/panel/sound... entries)
	1	try to repair, never delete
	2	try to repair, delete panel/sound/soundai if not possible
RepairModelCfg	0	do not repair
	1	try to repair (be careful: changes cannot be undone with AITBkup!)
RepairUndefinedEntries	0	do not change undefined entries
	1	try to repair, never delete
	2	try to repair, delete only if value is empty
	3	try to repair, delete if repair failed
AddLostTextures	4	delete always
	0	do not add lost textures
	1	do add lost texture paths into new fltsim sections

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# MH's SimObject Config Modifier V2.0

## 0. Version History

2.0 – 04.03.2009:

- internal reorganisation to speed up reading process
- function "DeleteInvalidFltSimEntries" removed, this job is done by AITRep now
- introduce "UseLastRun", "LastRun" into INI file
- write linefeeds between sections for better readability
- numbered backups of sim object config files
- save fltsim sections at beginning or end
- sort fltsim section contents
- delete sound entry for AI sim objects
- new option for "soundai" (just add, no update)
- ui\_typerole may take varying values for different fltsim sections, allows e.g. military and commercial airplane within one file
- prevent duplicate insertion of soundai
- ui\_createdby value will not begin with ","
- maintain empty ui\_createdby entries

1.0 - 19.12.2007:

- initial program release

## 1. Program Description & Operating Instructions

Most AI traffic packages you can find on the net have been made for FS9, which does of course not mean that they won't work with FSX. But FSX introduces some new entries in the [fltsim.n] sections of the simobject configuration files, e.g. ui\_createdby. The AI traffic packages often use the ui\_manufacturer to state the creator of the package or repaints, and this new possibility is not chosen. If you have installed hundreds of aircraft you can imagine that it would take some time to change all these entries manually. Then, FSX has the new feature of "soundai" defining the sound files and configuration which will be used for AI aircraft – another feature which could be missing in aircraft.cfg designed for FS9.

AI Traffic Modifier is able to automatically change all of the aircraft.cfg and sim.cfg files by using a set of rules defined in the INI file. Needless entries can be deleted, "soundai" entries and sound.cfg files can be added. A backup of a sim object configuration file will be created before changes are made.

## 2. INI file settings

AI Traffic Modifier has the most complex INI file settings within this package. The [Main] and the [SimObjects] sections work like in the other programs. The section [Rules] defines the way AI Traffic Modifier determines the new values and which entries in aircraft.cfg will be changed. The four sections [ui\_manufacturer], [ui\_type], [ui\_typerole] and [ui\_createdby] define lists of search terms.

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- Section [Rules]

AskBeforeChange	0	do not ask
	1	accept or discard changes
	2	let the user enter data if proposed changes are rejected

The following entries define the order in which aircraft.cfg data is searched to determine AI status, manufacturer, aircraft type etc. The order of the list entries may be changed, but the keywords themselves must not be modified!

det_AI	=	panel,sim,title,general
det_manufacturer	=	ui_manufacturer,ui_type,general,title,sim,description
det_type	=	ui_manufacturer,ui_type,title
det_createdby	=	ui_createdby,ui_manufacturer,title,sim,description
det_category	=	helicopter,generalenginedata

Be careful! If any of the below settings will delete entries, this will not be influenced by the AskBeforeChange setting - with other words, respective aircraft.cfg entries will be deleted without notice!

sound	0	unchanged
	1	add soundai entry and folder/file if AI (and not existent)
	2	add soundai entry identical to sound entry if AI
	3	add/update soundai entry and folder/file if AI and delete sound entry
	4	delete sound entry if AI
	5	only add (no update) soundai entry and folder/file if AI
panel	0	unchanged
	1	delete entry if AI
kb_checklists	0	unchanged
	1	delete entry if AI
	2	delete if entry is empty
kb_reference	0	unchanged
	1	delete entry if AI
	2	delete if entry is empty
ui_manufacturer	0	unchanged
	1	auto-determine if AI
	2	auto-determine all
ui_type	0	unchanged
	1	auto-determine if AI
	2	auto-determine all
ui_typerole	0	unchanged
	1	use AI identifier if AI
	2	auto-determine all
	3	delete entry (for FS9)
ui_createdby	0	unchanged
	1	auto-determine if AI
	2	auto-determine all
	3	delete entry for FS9

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category	0	unchanged
	1	auto-determine if AI
	2	auto-determine all
	3	delete entry (for FS9)

#### - Section [ui\_manufacturer]

The entries in this section are built according to this pattern:

manufacturerID=replaceStr<idStr#1,idStr#2,...

“idStr#n” is a list of strings separated by comma, used to identify the aircraft manufacturer. Each string should have a length of at least three letters – if possible – to avoid false recognition. “replaceStr” is the string to replace “idStr#n” with if one within the list is found. If “<” (and the replace string) are missing the identified manufacturer will not be changed. “replaceStr” and each single “idStr#n” MUST be set in double quotes (“”)!

Example:

Airbus="Airbus"<"Airbus","Airbus Industries"

The Airbus Company will be identified by Airbus or Airbus Industries during search, the ui\_manufacturer entry in aircraft.cfg will be changed to Airbus

#### - Section [ui\_type]

Describes patterns to name aircraft types by a certain manufacturer, the format works as in [ui\_manufacturer] section data. manufacturerID must match the entries from the [ui\_manufacturer] section for correct recognition of types.

If no changes should be made for a special manufacturer do not include it in this list (e.g. Bell). An empty entry means that the manufacturer's name will be deleted from ui\_type in aircraft.cfg.

#### - Section [ui\_typerole]

Adding and deleting entries is not possible, or at least not recommended – do so at your own risk! You can only change the right side of the entries as you like, e.g. for translation purpose and to replace the chosen soundai-alias with a more appropriate sound. I have added two sections named [ui\_typerole\_ENGLISH] and [ui\_typerole\_GERMAN] which can be renamed to [ui\_typerole] to simplify the translation for you. The algorithm relies on entries found in the aircraft.cfg to determine the correct ui\_typerole:

```
[generalenginedata]/engine.n,engine_type
[helicopter]
[fltsim.n]/atc_parking_types,atc_airline
[refspeeds]/max_mach
[weight_and_balance]/max_gross_weight
```

#### - Section [ui\_createdby]

These entries work similar to the ones in [ui\_manufacturer] section data.

CreatorID=replaceStr<idStr#1,idStr#2...

As before, “replaceStr” and each single “idStr#n” MUST be set in double quotes (“”)! Each “idStr#n” MUST contain at least 3 letters to avoid confusion. If more than one creator is identified during the search the new “ui\_createdby” entry will contain a comma separated list. Creators found in existing “ui\_createdby” entries, but not recognized through the INI file list, will not be changed.

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# MH's SimObject Config Backup Manager V1.0

## 0. Version History

1.0 – 04.03.2009:

- initial program release

## 1. Program Description & Operating Instructions

This program will manage the numerous backups which may be created by AITRep or AITMod. If something went wrong, e.g. you have chosen the wrong parameters, then you can revert to the previous version of any changed sim object configuration file. If you do not trust the programs or you intend to manually change some files you could also run the backup manager to create backups. And if you do not need previously created backups and want to gain some free disk space you will be able to delete all backup files automatically.

The program takes two commandline parameters, one is mandatory, the second one is optional:

```
aitbkup < -r | -d | -c > [ path filter ]
```

The first parameter determines the function which will be performed:

- r      restore sim object configuration files to last backup status
- d      delete all backup files
- c      create new backup files

To ease operation three batch files have been included which include these three possible parameters.

With the path filter parameter you can confine the program operation to certain sim object folders. Only folders will be considered which contain the characters specified by "filter". E.g. if filter is set to "WoA\_" (without quotes!) then only folders with that specific string will be scanned, which would mean that only your current WorldOfAI airplanes will be considered.

## 2. INI file settings

The only sections in this INI file are [Main] and [SimObjects] which have been described above.

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# MH's AI Traffic Merger V2.0

## 0. Version History

2.0 – 04.03.2009:

- internal reorganisation to speed up reading process
- removed repair function and adding of lost texture paths
- expand operation to sim.cfg files

1.0 – 19.12.2007:

- initial program release

## 1. Program Description & Operating Instructions

AI Traffic Merger is now only used to install new aircraft or sim objects together with traffic BGL files. Detection of lost texture sets is done by AI Traffic Repair.

The new aircraft which should be installed have to be contained in one folder and its sub-folders. The name of this main source folder must be given as a parameter in the command-line:

aitmrg < main source folder >

If nothing is specified, the program executable folder is supposed to hold the new aircrafts. The sub-folders have to be arranged in a certain way:

Main source folder

Sim object folder 1	e.g. "PAI B738"
aircraft configuration file 1	e.g. AddToAircraft AIRLINE X.cfg
texture.1	
texture.AIRLINE X	
texture.AIRLINE Y	
Sim object folder 2	e.g. "WoA_AIA_B717"
aircraft configuration file 2	e.g. fltsim.txt
texture.xyz	
model	
Sim object folder 3	e.g. "SampleBoat"
sim object configuration file 3	e.g. AddToSimCfg Boat.txt
...	

This means, that the sim object folders must have names matching the names of already installed sim object folders. Otherwise this folder will be interpreted to contain a completely new aircraft and therefore will be copied to the folder specified in StdNewAircraftPath. All files and sub-folders within such a sim object folder – i.e. mainly the texture folders – will be copied to the corresponding sim object folder. Each sim object folder needs to have a configuration file and at least one texture folder to be installed. The sim object configuration files may have varying naming patterns (see INI file settings) and have to contain one or more [fltsim.n] sections. Data from this new configuration file is added to the existing sim object configuration files. If a sim object title already exists the user is asked before the old data is overwritten. A backup of a sim object configuration file will be

created before changes are made. During file copying previously existing files will only be overwritten if they are older.

## **2. INI file settings**

### **- Section [Main]**

StdNewAircraftPath	if empty, completely new aircraft will be added into the standard aircraft folder of FS9 (FS9\Aircraft) or FSX (FSX\SimObjects)
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### **- Section [CfgFiles]**

This section contains a list of sequentially numbered "Pattern." entries. Files matching one of this patterns will be read and any [fltsim.n] section found will be added to existing "aircraft.cfg" or "sim.cfg" files. User may add entries here, but it is not recommended as it might reduce program speed. Adding "aircraft.cfg" or "sim.cfg" to this list will have no effect.

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# MH's AI Traffic To FSX Converter V1.1

## 0. Version History

1.1 – 04.03.2009:

- internal reorganisation to speed up reading process
- consider LastRun entry for conversion of new traffic BGL files only

1.0 – 19.12.2007:

- initial program release

## 1. Program Description & Operating Instructions

**Please be aware that I do not develop AIT2X any further as there are other free programs available which do the same job without being subject to the restrictions of TrafficDatabaseBuilder. The new compiled executable is contained for the sake of completeness only.**

The AI Traffic To FSX Converter will automatically convert all traffic BGL files in certain folders from FS9 to FSX format. The old FS9 files will be renamed and therefore will be disabled.

All reported data will be written to the file "ait2x.txt" located in the program folder. In standard configuration, AI Traffic To FSX Converter will make use of the TrafficDatabaseBuilder program which belongs to the FSX SDK. Therefore it is subject to the same restrictions as TrafficDatabaseBuilder (see below). Other traffic compilers may be used if you edit the INI file, but none have been tested.

Because some of the ICAO codes have changed in FSX and some airports have been deleted, the converter needs the text file "icao\_dc.lst". You can amend this file if you wish, e.g. to compile special redirections. Just add a line in the [ICAOChg] section stating the old ICAO followed by "=" and the new ICAO code.

## 2. INI file settings

The program operation may be controlled through settings in the "ait2x.ini" file. The following variables can be set:

- Section [Main]

RenameExtension	standard is ".~bgl", extension of disabled FS9 traffic files including "."
AutoDisable	1     automatically disable FS9 traffic files by renaming them 0     standard, do not rename files
TrafficDestPath	destination path where to write log and FSX traffic files, standard (if left empty) is the AIT2X program path
AddAirportList	additional list of airport data (see FSX SDK) to include – should contain updated parking information, works only with TDBB!

---

The following pair of entries is used to control TDBB, but changing them may allow other flightplan compilers capable of command line parameters to be used:

TDBBPath	path of TrafficDatabaseBuilder.exe (including program name!)
TDBBParams	parameter list for TrafficDatabaseBuilder, must be placed within quote signs (!) The parameters should contain the following variables which will be replaced with current values:  %b current traffic BGL output filename %a airport list files %t temporary aircraft file (deleted automatically) %c country files %f temporary flightplan file (deleted automatically) %l current log file name

### **2.1. Comments on TrafficDatabaseBuilder**

As several users of the TrafficDatabaseBuilder (TDBB) have already mentioned in FS related internet forums, the functionality of the TDBB is subject to certain restrictions. As I have decided to use this standard program instead of programming an own compiler I will mention what to expect when using TDBB and give some hints to work-around some of the problems.

- **Parking radius**  
The most problematic parameter is the parking radius. An aircraft will only be allocated to a available parking spot if the aircraft radius specified in the aircraft file is not more than 10m less than the parking spot radius.
  - **Parking types**  
The standard airport list file provided with the FSX SDK does not define any military parking spots. And even if you define parking spots of type "MIL\_COMBAT" or "MIL\_CARGO" it would be rather useless, as TrafficDatabaseBuilder is not able to allocate any aircraft to this type of parking. Therefore AIT2X changes parking spot types internally to "RAMP" and "CARGO".
  - **Minimum route length**  
TrafficDatabaseBuilder requires a minimum route length of 10 nm. Unfortunately, there is no work-around available at the moment. Shorter routes will simply be omitted during conversion.
  - **Leg time / aircraft speed**  
If aircraft speed is too low to finish a route leg within a given time, TrafficDatabaseBuilder will fail to complete the flight plan. Use the [AIT2X] section described below to modify the aircraft cruise speed.
-

- [AIT2X]  
I have introduced this new section which can be added to any aircraft.cfg or sim.cfg file if necessary. The entries in this section will be used by AI Traffic To FSX Converter instead of automatically determining the values for the aircraft list file. The following entries may be used: cruise\_speed, min\_alt, max\_alt, min\_range, max\_range, min\_rwy\_len, rwy\_types, parking\_radius, parking\_types, ifr\_perc. Data will be used in the aircraft description file.  
For example:  
    [AIT2X]  
    cruise\_speed=500 ; set cruise speed to 500kn for this aircraft in any flightplan  
    ifr\_perc=100 ; set IFR% to 100% in any compiled flightplan  
    parking\_radius=1 ; set minimum required parking radius to 1m
-

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The software contains six executable files which have the following intended usage:

- |             |  |
|-------------|--|
| aitchk.exe  | The program can be used to scan files of Microsoft Flight Simulator to determine missing sim objects or find errors in sim object configuration files. |
| aitrep.exe  | The program can be used to repair certain errors within sim object configuration files of Microsoft Flight Simulator.                                  |
| aitmod.exe  | The program can be used to modify aircraft configuration files of Microsoft Flight Simulator to update them to FSX standards.                          |
| aitmrg.exe  | The program can be used to install new AI sim objects and BGL traffic files from a given source folder.  |
| aitbkup.exe | The program can be used to restore, create and delete sim object configuration backups.  |
| ait2x.exe   | The program can be used to convert AI traffic files of Microsoft Flight Simulator from old format (FS9) to new format (FSX).                           |

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