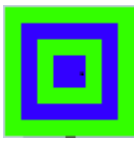
AIL

(AILGenerator)

Manual



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1 Introduction

AILGenerator generates a list of your AI aircraft in the file **AI_Liveries.xml** to be used by PSXT (PSXseeconTraffic).

1.1 Technical information

AILGenerator is a 64bit Windows application, written in C++, for Windows 7 and higher.

AILGenerator reads text files coded in ANSI, UTF8 with BOM, UTF8 without BOM and UTF16. It writes ANSI or UTF8 without BOM files.

It reads and -upon your request- re-writes your aircraft.cfg or sim.cfg files. In this Manual aircraft.cfg also stands for sim.cfg.

1.2 System Requirements

In order to run it, you need Microsoft Visual C++ Redistributable for Visual Studio 2015. The standalone installer for x64 can be downloaded here at Microsoft. Install the **x64** one.

1.3 Forum

For questions & answers and discussions use my Support Forum at AVSIM.

2 Installation

This Chapter describes how to install, update, remove and start AILGenerator.

2.1 Download and install

Download the setup zip file from my site. Unzip and run the installer. You should install AILGenerator at the PC running your Flight Simulator. You better not install in the C:\Program Files (x86) folder.

After installation, you will have a AILGenerator folder and a sub folder docs.

AILGenerator.exe is the application.

The **docs** folder contains documentation by means of the files AILGenerator Manual and Release Notes. The EULA is the End-User License Agreement. This is a legally enforceable contract between you and the Author. By accepting the installation you agree to be bound by the terms of this EULA.

2.2 Update to new version and removal

Download the setup file, unzip and run the installer. It will first uninstall your previous version and then install the new one.

Removing AILGenerator from your PC can be done running the uninstaller from the Programs list or the apps list, just like any other Windows program.

2.3 Version Check

At each start-up, but not more than once a day, AILGenerator will check if there is a new version available. If so the –normally- green version message in the main window will turn yellow, and the new version number will be indicated.

This is only an indication. It is up to you when you download and install the new version. It is recommend to always update. Thus it will be easier for me to answer any questions.

It may also happen that you get the message **"error 99: This version has expired"**. In that situation you cannot go further. You have to upgrade to a new version.

2.4 Input files

Subfolder **data** contains two files with information needed by AILGenerator.

- **Aircraft.xml**
  Contains ICAO aircraft type codes.

- **Airlines.xml**
  The most important section of this file is about the ICAO airline codes. Next to that you will also find smaller sections with Virtual airline codes, Private airline codes (3.6.1) and Government airline codes (3.6.2).

You can and may add missing codes to these files yourself, but do make backup's because these files will be overwritten with each new version.

I would appreciate if you post a message in my Forum about additions you have made, so I can add these in a new release (but at a slower paste then currently).

3 Searching for AI aircraft

The main task of AILGenerator is to find the titles, airline codes and aircraft types of AI Aircraft (liveries) in your Simulator. They will be put in a file to be used by PSXseeconTraffic in the matching process with live aircraft.

You should specify the folder(-s) at your PC where your AI aircraft are and then AILGenerator will check the aircraft.cfg files and if there are no errors it will copy the livery information.

3.1 Checkboxes

AILGenerator comes with a number of checkboxes. The default values of all check boxes is not checked. With the checkboxes you can enable or disable a function used in the search process.

3.1.1 Include checkboxes

By default AILGenerator only accepts valid ICAO aircraft type codes. However, you may extend this with one or more of these include functions.

- country specific PVT/GA
  If checked, private aircraft liveries with a country specific private airline code (instead of PVT) will be included too. These codes can (only) be used in airport files such that you can define the right version of a private aircraft suited to the airport. Read more in section 3.6.1.

- country specific GOV/MIL
  If checked, Government/Military aircraft liveries with a country specific airline code (instead of GOV) will be included too. These codes can (only) be used in airport files such that you can define the right version of a military aircraft suited to the airport. Read more in section 3.6.2

- Virtual Airlines
  If checked, virtual airlines available in AILGenerator will be taken into account too. In the log file you can see what VA's are present. If you want yours to be added post a message in my Forum. The current list of VA's is shown in the log file.

3.1.2 Repair aircraft.cfg checkbox

With this checkbox you give AILGenerator permission to make changes to your aircraft.cfg files. The following changes will be made if necessary:

- [fltsim.x] numbering
  If the aircraft.cfg file is not coded in UTF16, AILGenerator will repair an in-consecutive [fltsim.x] section numbering in your aircraft.cfg file(-s).

- Formatting
  AILGenerator will format all your valid (*without errors*) aircraft.cfg files.
  Formatting implies:
  The file starts with the [fltsim.x] sections followed by other sections.
  The [fltsim.x] sections will be in alphabetical order of the atc_parking_codes key (= the airline code); if they are equal the ordering will be done on the registration code.
  Between [fltsim.x] sections one empty line will be inserted, extra empty lines will be removed.
  White space surrounding the title of a livery will be removed.

- registration code added to title
  AILGenerator will add the registration code of the livery, defined with **atc_id=regcode**, to the title of the livery (if not already present).

This will only take place for exactly defined liveries (with one registration code), so not with more than one registration codes or with a registration code with a wild card. Another pre-condition is that the repair format option (see above) must be checked.
This does not work for IVAO liveries.

*Note: if the registration code is in the title, PSXseeconTraffic will be able to detect an **exact** livery match*.

If there are changes due to the repair action a new aircraft.cfg file will be written after the following backups were made:
A backup file named **aircraft0.cfg** is written in the same folder as aircraft.cfg. An already existing aircraft0.cfg file is renamed to **aircraft00.cfg**.

3.2 Push buttons

AILGenerator has a number of push buttons.

- Change button
  With this button you enable the folders area for editing.
  Add a folder with AI aircraft by typing the full-path name into a text box, e.g.

  D:\AI\FSPXAI

  The higher the folder in this area, the higher its priority. If the same livery appears in two folders, the livery of the lower priority folder will be skipped, see 5.1.

  When you are finished editing, push the change button again in order to make the change effective. AILGenerator will check immediately if the folder exists.

- Swap button
  You can re-order the folders contents with the Swap buttons (S). The higher the position of the folder, the higher its priority. If an airline-aircraft type is available in two or more folders, only the highest priority one will be put in the AI_liveries.xml file.

- Delete button
  You can delete a folder entry with the X button.

- Save and Restore buttons
  When you push the Save button, paths (not yet saved) will be saved. When you push the Restore button, all your paths will be put back in the user interface (up to 10 of course) for editing and or selecting. This is just for convenience.
  Note that these buttons will only be enabled if there is anything new to save or restore.

- Go! Button
  If all path names exist, the Go! button in the right bottom corner will be enabled. The paths to your AI folders will be saved in AILGenerator.xml.
  Push this button, if you're ready with the folders. AILGenerator then searches for aircraft.cfg files in the folders specified.

3.3 Output folder

The list with liveries (AI_liveries.xml) is generated in the Output folder. The default value is subfolder **liveries** of AILGenerator.
You may change the Output folder to any folder that you have created first. Push the **change** button and type in the Output folder text box either a the name of a subfolder of AILGenerator or a full path to another folder. Then push the change button again to make it active. You may also enter a path to a share at a networked PC, for instance at the PC running PSXT.

3.4 How are liveries detected?

AILGenerator detects a livery based on information it finds in the aircraft.cfg file. It searches in the [General] section for:

parameter	is used as
atc_model	ICAO aircraft type code

and it searches in (each) [fltsim.x] section for:

parameter	is used as
atc_id	Registration code(-s)
title	Title of livery
atc_parking_codes	ICAO Airline code(-s)

3.4.1 IVAO MTL

For **IVAO members** AILGenerator is able to process their MTL so **they (and only they)** can use their liveries **locally** in PSXseeconTraffic too.

The structure of the MTL is different from usual (described in the previous section). Here are the differences with the normal liveries:

- The aircraft type is taken from the subfolder name.
- The airline code is taken from the title in the [fltsim.x] section.

Note that the folder with the MTL should be named **IVAO_MTL** otherwise AILGenerator will scan the files as if they were normal liveries.

3.5 Registration codes

Normally a livery has of course only one unique Registration code. However, you may fill in multiple Registration codes separated by comma's. Thus it is easier to separate different groups of liveries for a single type without having to install all liveries. For example to differ between Normal BAW 744 liveries and BAW One World 744 liveries. Or to distinguish all freighter liveries of a certain type from the Pax liveries of that same type, or 773–ER versions from 773 versions. Another major advantage is that if the callsign is missing an aircraft may be matched upon its registration code.

The registration codes for lots of airlines in the format needed by PSXseeconTraffic can be found here.

3.5.1 Wild cards in registration codes

You may use **one** wildcard (the Asterisk sign **'*'**) in a registration code at either the fourth position (first position is 1) or the last position.

3.5.1.1 Last character wild card:

Instead of

atc_id=A6-EBA,A6-EBF,A6-EBH,A6-EBK,A6-EBL,A6-EBM,A6-EBP,A6-EBR,A6-EBS,A6-EBT,A6-EBU,A6-EBV,A6-EBX,A6-EBZ,A6-ECB,A6-ECE,A6-ECF,A6-ECG,A6-ECH,A6-ECI,A6-ECJ,A6-ECK,A6-ECQ,A6-ECR,A6-ECS,A6-ECT,A6-ECU,A6-ECV,A6-ECW,A6-ECX,A6-ECY,A6-ECZ,A6-EGA,A6-EGB,A6-EGC,A6-EGD,A6-EGE,A6-EGF,A6-EGG,A6-EGH,A6-EGI,A6-EGJ,A6-EGK,A6-EGL,A6-EGM,A6-EGN,A6-EGO,A6-EGP,A6-EGQ,A6-EGR,A6-EGS,A6-EGT,A6-EGU,A6-EGV,A6-EGW,A6-EGY,A6-EGZ,A6-ENA,A6-ENB,A6-ENC,A6-END,A6-ENE,A6-ENF,A6-ENG,A6-ENH,A6-ENI,A6-ENJ

you may specify

atc_id=A6-EB*,A6-EC*,A6-EG*,A6-EN*

This is a lot less work, saves data in PSXseeconTraffic, speeds up livery search and is future proof while when Emirates adds a new 777 (A6-ENK), it will be recognised immediately without you having to change your aircraft.cfg file.

3.5.1.2 Fourth character wild card:

You may also use a wildcard for the fourth character (start counting with 1); this is handy for US carriers.

For example:

atc_id=N72*AN

3.5.1.3 Special German Helicopters "wild card":

You may use code D-H to match all German Helicopters (with registration codes D-H***).

atc_id=D-H

3.6 Non-standard (additional) ICAO airline codes

3.6.1 Private aircraft

Private (GA) aircraft often do not have an airline code. I recommend to use a non (ICAO) existing airline code **PVT** (for Private) for these type of aircraft. So change the atc_parking_codes lines to

"atc_parking_codes=PVT" or for IVAO_MTL: "title=<aircrafttypecode>PVT"

in aircraft.cfg files that define a private aircraft livery. You can use this code for parking positions in an Airport file (ICAO.txt) of PSXseeconTraffic in order to see a PVT aircraft at a certain gate.

For the perfectionists there is also an option to use country specific private airline (General Aviation) codes, see checkbox 3.1.1. These codes are defined by Brian van Hout. If you want to add some, please contact him.

In this document GA Aircraft per country you will find the current set (73 codes).

3.6.2 Government aircraft

Government aircraft sometimes do not have an ICAO airline code. I recommend to use a non (ICAO) existing airline code **GOV** for these type of aircraft. So change the atc_parking_codes line to

"atc_parking_codes=GOV" or for IVAO_MTL: "title=<aircrafttypecode>GOV"

in aircraft.cfg files that define a government aircraft livery. You can use this code for parking positions in an Airport file (ICAO.txt) of PSXseeconTraffic in order to see a GOV aircraft at a certain gate.

For the perfectionists there is also an option to use country specific GOV/Military airline codes, see checkbox 3.1.1. These codes are defined by Brian van Hout. If you want to add some, please contact him.

In this document Military and Govt Aircraft per Country v6 you will find all military airlines including 93 new non-ICAO codes (in red colour).

4 Search results

AILGenerator reports next to each folder how many valid liveries were found. Below the folders area the search results are shown.

Note that even if AILGenerator does not show any errors there still can be problems with your AI aircraft. For P3D users I recommend to add the following line to the [MAIN] section of the file C:\Users\<your name>\AppData\Roaming\Lockheed Martin\Prepar3D v4\Prepar3D.cfg:

ContentErrorReporting=1

Start P3Dv4, wait till it has completed the start-up, then exit P3D. The file with content errors will be written to your Documents\Prepar3D v4 Files folder.

4.1 Invalid airline codes

The number of invalid airlines codes found. See also section 6.4

4.2 Fixed aircraft type codes

Some obviously wrong Aircraft type codes will be fixed automatically. A complete list is of possible fixes is given in chapter 7. In the log file you will find "Fix" messages.

The fix is applied to the information that is stored in AI_Liveries.xml, your aircraft.cfg file remains untouched.

4.3 Invalid aicraft type codes

The number of invalid aircraft type codes found. See also section ☐

4.4 Invalid aircraft.cfg

The number of aircraft.cfg files that could not be processed, for instance because of non-consecutive numbered [fltsim.x] sections. See the log file for details.

4.5 Empty aircraft.cfg

The number of aircraft.cfg files that did not contain a [fltsim.x] section. See the log file for details.

4.6 Invalid [fltsim.x]

The number of [fltsim.x] sections that could not be processed, most often because of a missing **atc_parking_codes** value. See this file (section ☐) for detailed info.

4.7 Total valid found

The total number of liveries that were valid for use in PSXseeconTraffic.

5 Finalizing the search results

AILGenerator continuous with executing a number of extra functions of which the results are shown below the horizontal white line.

5.1 Skipped on priority

A livery of the same type and the same airline in a lower priority folder will be skipped if it has no registration code or a registration code that is already present at a higher priority folder. Liveries that were ignored are written to a file, see section ☐.

5.2 Skipped on reg

A livery with a registration code that is already present will be skipped. Liveries that were ignored are written to a file, see section ☐.

5.3 Cargo types added

Gives the number of cargo type liveries that were added.

If a livery with type B744 is found with the strings "cargo", "Cargo", "400F" or "400(F)" in the title a copy of that livery is added with type B74F.
If a livery with type B748 is found with the strings "cargo", "Cargo" or "747-8F" in the title a copy of that livery is added with type B74F.
If a livery with type MD11 is found with the strings "Cargo", "CRG" or "Freighter" in the title a copy of that livery is added with type MD1F.

These cargo liveries can then be used by PSXseeconTraffic as static cargo aircraft at cargo parking positions of airports. For live aircraft these liveries have no application, while in live traffic these cargo type codes are not used.

5.4 % without reg

The percentage of liveries that have no registration code. Note that for optimal livery matching in PSXseeconTraffic a registration code is a great help.

The liveries that have no registration code are written to a file, see section ☐).

5.5 added types are

Gives the types that were added, see also section 5.3.

5.6 Unique airlines and unique types

Just for information.

5.7 Number of liveries written to AI_liveries.xml

At the end all valid liveries will be written to the file **AI_liveries.xml**, see section 6.1.

6 Output files

The **AI_liveries.xml** file is of course the **primary output** of this application.

With the other files it will be easier for you to track/pinpoint, and manually repair errors in your AI packages. You should do that if you want to make the best out of your AI package, otherwise you can also choose to go on without paying attention to it.
Even with red lines in the UI you can just go on and start PSXseeconTraffic!

6.1 AI_liveries.xml in the Output folder

The file AI_liveries.xml is to be used by PSXT. You should not make any changes in it.

Make the liveries accessible in PSXT:
Change the Liveries folder parameter in the PSXT UI (see PSXT Manual section 4.2.1) into a path to the Output folder of AIL. If PSXT and AIL are at the same PC, you can just push the **connect button** *(also see the FAQ).*

6.2 Log.txt

The file log.txt, in the AILGenerator folder, logs the last session(-s). The log file of the previous session will be renamed to Log0.log.

6.3 Files with more information about your liveries

- **info\AirlineData.txt**
  Gives an overview by Airline, Type and Folder of the liveries by their Registration code(-s). This may help you to see what you miss. It also helps in organising the Registration codes, by introducing wild cards (see section 3.5).
- **info\AircraftCfgWithNoFltsimSection.txt**
  This file gives all the aircraft.cfg file(-s) that are "empty", having no [fltsim.x] section.
- **info\EmptyRegistrations.txt**
  This file gives all the [fltsim.x] sections that have no (valid) atc_id key.
- **info\LiveriesSkippedOnPriority.txt**
  It shows the livery that was skipped and the livery that was already in (at a higher priority).

6.4 Files with information about errors in your liveries

- **errors\InvalidAirlineCodes.txt**
  This file contains invalid airline codes.
- **errors\InvalidAircraftCodes.txt**
  This file contains invalid aircraft type codes.
- **errors\IncompleteFltsimSections.txt**
  The file contains the incomplete [fltsim.x] sections; a section is incomplete: if the title key is not unique, if the texture key is invalid, if the model key is invalid, if the sim key is invalid, if there is no or an invalid value for the atc_parking_codes key, if there is more than one title key, if there is more than one atc_id key, if there is more than one atc_parking_codes key.
  If incomplete the livery is skipped.
- **errors\LiveriesSkippedOnRegistration.txt**
  It shows the Registration code and the livery that was skipped, and the Title of the livery that was already in.

7 Aircraft type fixes

AILGenerator will automatically change the following wrong aircraft types into correct types:

717 = B712
154 = T154
212 = B212
328 = D328
A36Bonanza = BE36
A36 Bonanza = BE36
A380 = A388
An12 = AN12
An-124 = A124
An24 = AN24
An26 = AN26
An30 = AN30
An32 = AN32
An-74 = A743
AS350 = AS50
ATR42 = AT43
ATR72 = AT72
B717 = B712
B748 = A748
B74SP = B74S
B787 = B788
C-160 = C160
Caravelle = S210
CARJ1000 = CRJ1
CARJ200 = CRJ2
CARJ 200 = CRJ2
CARJ700 = CRJ7
CARJ 700 = CRJ7
CARJ900 = CRJ9
CARJ 900 = CRJ9
CARJ 1000 = CRJX
CARJ1000 = CRJX
CH47 = H47
CH53 = H53
CHALLENGER300 = CL30
CHALLENGER600 = CL60
CHALLENGER 300 = CL30
CHALLENGER 600 = CL60
CHALLENGER 850 = CRJ2
Concorde = CONC
CRJ200 = CRJ2
DC9-10 = DC91
DC9-30 = DC93
DC9-40 = DC94
DC9-50 = DC95
Dimona = DIMO
E175 = E170
E195 = E190
Eagle = F15
EC135 = EC35
ERJ 135 = E135
ERJ 145 = E145
ERJ135 = E135
ERJ140 = E135
ERJ145 = E145
F 100 = F100

F 70 = F70
Falcon50 = FA50
Falcon 50 = FA50
Global Express = GLEX
Goshawk = HAWK
GULF3 = GLF3
GULF4 = GLF4
GulfstreamV = GLF5
Gulfstream V = GLF5
Harrier = HAR
HERCULES = C130
Il-62 = IL62
Il-76 = IL76
Il-86 = IL86
Il-96 = IL96
J31 = JS31
J41 = JS41
KA90 = BE9L
Katana = DV20
KC10 = DC10
KC137 = B703
Lance = P32R
L-1011 = L101
LEAR40 = LJ40
LEARJET45 = LJ45
MB339 = M339
Metro = SW4
Metroliner = SW4
Mirage = MIRA
MIG29 = MG29
Nighthawk = F117
Nimrod = NIM
PA32R = P32R
PA32T = P32T
Phantom = F4
Rafaele = RFAL
Raptor = F22
RV6a = RV6
Setendard = ETAR
S2000 = STAR
SF340 = SF34
Spirit = B2
Super Dimona = DIMO
Super Etendard = ETAR
SuperEtendard = ETAR
TORNADO = TOR
Tu-134 = T134
Tu-134 = T134
TU154 = T154
Tu-154 = T154
TU204 = T204
Tu-204 = T204
Typhoon = EUFI
Viscount = VISC
Vulcan = VULC
YAK-40 = YK40
Yak-40 = YK40
Yak-42 = YK42
Yak-52 = YK52