

# PSXseeconTraffic (PSXT) Manual

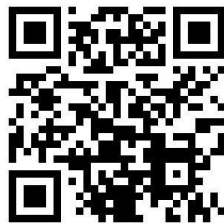


**Version 12.15**

for Windows 10 (only)

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by Nico W. Kaan



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# 1 Introduction

With PSXseeconTraffic (PSXT) you can fly with real live traffic in P3D and FSX. PSXT injects the aircraft within range of your aircraft in your Flight Simulator. For these aircraft the liveries are created by PSXseeconTraffic in your Simulator as real as possible, depending on how many different AI aircraft you have installed in P3D/FSX.

PSXseeconTraffic makes the AI traffic look very smooth. It calculates a position for each live AI aircraft a number of times per second by computing latitude, longitude, height, bank and pitch. It also takes care of setting the throttles, strobes, lights, flaps and it handles the landing gear at take-off and landing.

PSXT also able to put AI aircraft at parking positions at your origin and destination airports. By self-learning it will know what airlines with what types park at what gates.

The traffic information is provided by a **data provider**, in this case [RealTraffic](#). The open protocol used between PSXT and a data provider is described in a [separate document](#).

The data is based on ADS-B transponder data of aircraft. When airborne this gives very good results, on the ground it depends on airport policy. At some airports pilots must have their transponder on, while on other airports they have to switch off their transponder after landing. At those airports there will be not much taxiing traffic to see. But on the other airports you may follow the aircraft after landing taxiing to the gate or from the gate to the take-off runway.

You may also notice a difference in quality of their ADS-B equipment, the newest aircraft have the best while older ones need replacement. The good news is that these replacements will take place soon (within a few years).

## ***ATC programs***

The live aircraft of PSXT are controlled by real live ATC. Flight Simulator ATC programs do not detect and or control PSXT's aircraft.

## ***Co-existence with 3d party traffic, such as VATSIM, IVAO, MyTraffic***

PSXT can coexist with other third party traffic. There is collision avoidance between third party aircraft and parked aircraft, but not with live aircraft.

It is possible to switch off injection of live aircraft and only use the parked aircraft at your origin and destination airports. This may be handy when flying alone or on-line (VATSIM), so you will not land at an almost deserted airport.

## ***FSUIPC Traffic limiter***

Do not use the FSUIPC Traffic Limiter! It will cause SimConnect exceptions. There is really no need to, use the Max function, see section 4.5.3.

This Manual is rather thick. If you are new to PSXT and you want to see if you like it or not then you should follow the instructions in the [Quick Start Guide](#) and you will see live aircraft in your Simulator within 15 minutes... 😊

## 1.1 System Requirements

### 1.1.1 Windows 10

PSXT is a C++, 32 or 64bit Windows application for **Windows 10** (only). If you try to run the setup\_PSXseeconTraffic.exe on a non-Windows 10 PC you will get an error message like *"This program does not support the version of Windows your computer is running"*.

### 1.1.2 Microsoft Visual C++ Redistributable for Visual Studio 2015

You need Microsoft Visual C++ Redistributable for Visual Studio 2015. The standalone installers for x86 (vc\_redist.x86.exe) and x64 (vc\_redist.x64.exe) can be [downloaded here at Microsoft](#).

### 1.1.3 Microsoft SimConnect Client (for the 32bit PSXseeconTraffic only)

The 64bit version has no side-by-side dependencies, there is no need to install a SimConnect Client.

The 32bit version of PSXT depends on (side-by-side-configuration) the Microsoft SimConnect Client version 10.0.61259.

If you have **not** installed the SimConnect Client you will see a message like this when you start the 32bit PSXseeconTraffic.exe: *"This application has failed to start because its side-by-side configuration is incorrect, etc.."*

The installation file **SimConnect.msi** can be found in  
..\Prepar3D v3\redist\interface\FSX-SP2-XPACK\retail\lib\SimConnect.msi

and in FSX at a similar location. Install the SimConnect Client at the PC running PSXT.

## 1.2 Disclaimer

The RealTraffic stream gives position updates of all aircraft around you every nine seconds. In order to correct for internet transmission lags, and to be able to vectorise the traffic, PSXT buffers the input for thirty seconds. The traffic you see is therefore **thirty seconds behind real time**. If you would consult apps such as [FlightRadar24](#), or would listen to a real ATC channel, this has to be taken into account.

The data coming from RealTraffic is not always correct. This may lead to the following issues:

- Sometimes aircraft do not land at the runway but in the fields ...
- Some airlines/aircraft-types always seem to land besides the runway; as-if their ADS\_B equipment is not sending the right info.
- Sometimes aircraft disappear from the RealTraffic stream for more than 30 seconds which will lead to disappearance from your Flight Simulator while popping up again (a little) later.
- Runways that lay higher than the surroundings, such as KFSO and LPMA (with the sea) may cause problems with landings at certain QNHs. They may come in too low, due to the incorrect height above ground measurements, just before the runway.
- Some airlines perform much better than other airlines.

Some add-on airports have runways that are not at the exact spot. For example EHAM of Aerosoft. Aircraft land and take-off way off the centre line.

### **1.3 Forum and FAQ**

For questions & answers and discussions use my [Support Forum at AVSIM](#) or search the [FAQ](#).

For new users this [Quick Start Guide](#) will be useful.

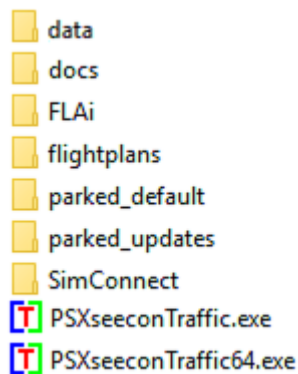
## 2 Installation

### 2.1 Download and install PSXseeconTraffic

Download from [www.lekseecon.nl/PSXseeconTraffic.html](http://www.lekseecon.nl/PSXseeconTraffic.html). Unzip and run the installer.

You may install PSXT at any Windows 10 PC in your local network. However, do not install it in the C:\Program Files\ folder!

After installation, you will have a PSXseeconTraffic folder containing the following files and folders:



**PSXseeconTraffic.exe** is the 32bit application to be used with FSX or P3D (v3 or v4).  
**PSXseeconTraffic64.exe** is the 64bit application to be used with Prepar3D **v4.4+ only**.

The **data** folder contains three files with input data for PSXT.

- **airport.xml** has the latitude/longitude coordinates of 9991 ICAO airports.
- **types.xml** sums up ICAO aircraft types of heavy and middle aircraft, helicopters and gilders. It also defines similar types.
- **wingspan.xml** gives the wingspan (in meters) of aircraft types.



You may make changes/additios to these files. However, if you do, make a backup copy because these files will be overwritten with every new version. You better also report your changes in my Forum, so I can put them in.

The **docs** folder contains the Manual, Release Notes, FAQ, Quick Start Guide and EULA. 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.

The **FLAi** folder contains the AI\_liveries.xml file for the Fly AI-aircraft package. For the use of this file see section 2.3.1.



Do not make changes to the file in the FLAi folder, it will be overwritten with every new version of PSXT.

The **parked\_default** folder contains **4965** airport files (generated in P3Dv4 with ORBX) with at least 1 parking position (see section 4.4). The files in parked\_default are good to start with. Later you could generate all files for your Simulator/airports with the [ParkPosGenerator](#) tool. Download ParkPosGenerator from my website and unzip it to your

Flight Simulator PC. See the ParkPosGenerator Manual for further instructions. Put your files in a folder with a different name than parked\_default and change the airport files parameter in the PSXT user interface.

The **parked\_updates** folder is initially empty except for a ReadMe.txt file. PSXT will put here airport files for which it has automatically added real live data about what airline is parking at what gate with what type (see section 4.4.2).

The **SimConnect** folder contains two files: SimConnect.cfg and SimConnect.xml. For the use of these files see the next section.

## 2.2 Configure SimConnect [networked use of PSXseeconTraffic only]

If you run PSXT and your Flight Simulator at different computers in your local area network you have to configure SimConnect. If so perform the following two steps:

### 2.2.1 Configure SimConnect.cfg

Open the file SimConnect.cfg with Notepad and change the IP address in the line **Address=192.168.1.105** to show the IP address of the computer running your Flight Simulator and put the file in the PSXseeconTraffic folder!

### 2.2.2 Configure SimConnect.xml

Open the file SimConnect.xml, that comes with PSXT, with *NotePad* and change the IP address in the line `<Address>192.168.1.105</Address>` to show the IP address of the computer running your Flight Simulator.

If you have no other applications using SimConnect with P3D/FSX you will need to install SimConnect.xml as follows:

P3D: Copy SimConnect.xml to the computer running P3D and place it in the folder C:\Users\\AppData\Roaming\Lockheed Martin\Prepar3D v4

FSX: similar

Otherwise, if you do have other applications using SimConnect with P3D such as AS16, you will need to **append** the lines starting with `<SimConnect.Comm>` and ending with `</SimConnect.Comm>`, to your **existing Simconnect.xml** (its location is given above) above the line `</SimBase.Document>`. So add this block of code, with of course the IP address of your Flight Simulator PC:

```
<SimConnect.Comm>
  <Disabled>False</Disabled>
  <Protocol>IPv4</Protocol>
  <Scope>global</Scope>
  <MaxClients>64</MaxClients>
  <Address>192.168.1.105</Address>
  <Port>29764</Port>
  <MaxRecvSize>8192</MaxRecvSize>
  <DisableNagle>False</DisableNagle>
</SimConnect.Comm>
```



## 2.3 Install AI aircraft in your simulator

PSXT does not come with AI aircraft, you must install these yourself.



New users are recommended to use the EASY way!

### 2.3.1 The EASY way!

The easiest and cheapest way to start with is to install the [FLAi aircraft package](#), a free download from VATSIM/Boston Virtual ARTCC. Install the package with the **FLAi Operations Center application**.

PSXT sets the AI\_liveries.xml parameter to FLAi by default.

This will do to start with. Later you can always move to or add other AI aircraft as described in the next section, but you can skip that now.

### 2.3.2 The advanced way

There is a lot of freeware and pay-ware AI aircraft to choose from. I find the liveries from FSPXAI and FAIB the best you can get, the only drawback being that it is time consuming to install liveries one by one.

You can of course also use complete packages such as from UTL, MT6, FLAi and what have you. IVAO members may use their MTL liveries.

Make sure that the liveries are compatible with your Simulator. P3Dv4 for instance does not work with FS9 based liveries.

Don't forget to activate the installed AI aircraft in your Simulator. If not you will find lots of "**cannot create messages**" in the log of PSXT. At the end of the day this may result in **error 81** and PSXT will stop.

When you're satisfied with the number and diversity of the AI aircraft in your Flight Simulator, you should create a file with all the AI liveries that you have installed. You have to do that with my tool [AILGenerator](#). How AILGenerator detects a livery is described in the AILGenerator Manual.

How you should treat private aircraft (PVT) and government aircraft (GOV) is described in the AILGenerator Manual too.

AILGenerator will create a file **AI\_liveries.xml**. Either copy that file into your PSXseeconTraffic folder and make the AI\_liveries folder parameter empty **or do not copy but** enter a path to your AILGenerator **folder**.

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

## 3 Operations

### 3.1 Start and configure Flight Simulator

- Prepar3D versions 2.5 or later or Microsoft FSX SP2
- Set the day/time to system time, and fly in 1x mode (no acceleration).

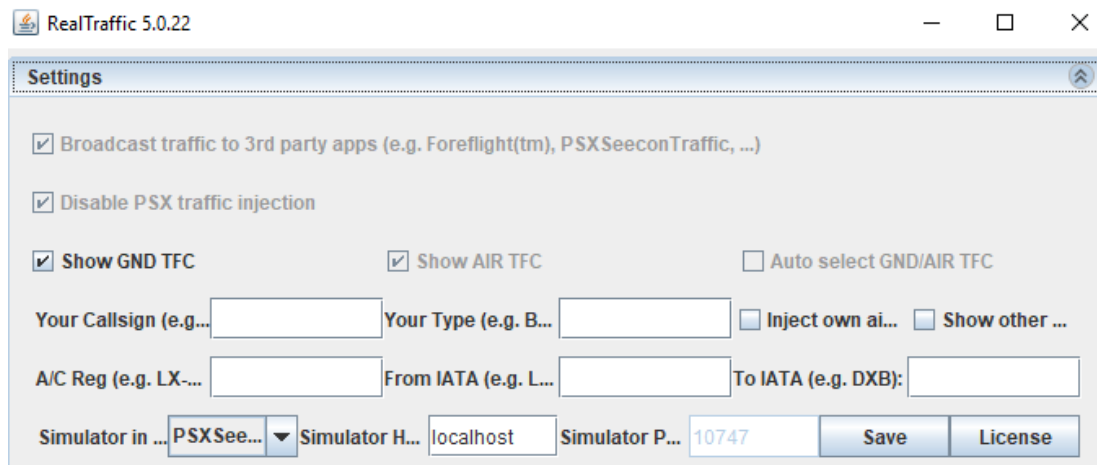
**Important!**

- Make sure the Airline Traffic density and General aviation traffic density is set at **0%**

- FSX: Do not select "Aircraft cast shadows on the ground"
- P3D: Select an aircraft as vehicle (Pedestrians, Avatars, are not allowed)

### 3.2 Start and configure data provider RealTraffic

Make sure you are using **Windows** version **5.0.24** or later.



Select **PSXseeconTraffic** for Simulator in use, **it will set all the necessary parameters.**

**Important!**

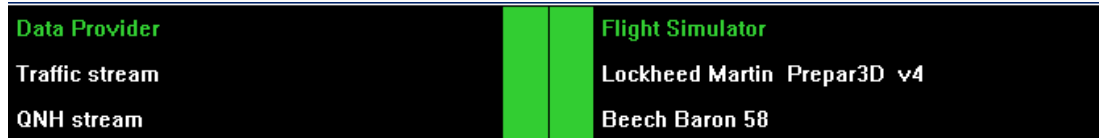
*Just to be sure: Broadcast traffic ..., Disable PSX ..., Show GND TFC and Show AIR TFC should all be checked. Auto select GND/AIR TFC should be unchecked. Keep **localhost** as Simulator Host, or fill in the IP-address of the PC running RealTraffic.*

### 3.3 Start PSXseeconTraffic

At each start-up, but not more than once a day, PSXT 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 just a reminder, you should download and install the new version yourself. It is recommend to always update. Hence 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.

The black box below the header is divided into two sections. The right section is about your Flight Simulator (P3D or FSX). The left section is about your data provider. In the middle of that black section there are two adjacent coloured vertical status bars. The left one indicates the status of the data provider, the right one indicates the status of your Flight Simulator.



If the right bar is red Flight Simulator is not connected, if it is yellow Flight Simulator is connected but not running, maybe you are loading a flight or browsing in the menu items. If it is green it is connected and running. The right section shows the name of your Flight Simulator and the title of the user aircraft. This title is shown in yellow if the wing span is not known (please report that in my Forum).

If the left bar is red your data provider is not connected. If it is yellow it is connected but PSXT is not yet connected to the traffic messages stream. If it is green the data provider and the traffic message stream and the QNH stream are connected

The left section gives info about the data provider. It shows the words "Traffic stream" if the stream with traffic messages is connected. It shows the words "QNH stream" if the stream with QNH messages is connected. If no data is being received for 30 seconds these words will light up in yellow colour.

PSXT does not consume much cpu time (<1% ). However, it is important it runs at **high priority**. One of the ways to accomplish this goes as follows. Create a file PSXseeconTraffic.txt in the PSXseeconTraffic folder with this line:



**start /high PSXseeconTraffic.exe**  
or  
**start /high PSXseeconTraffic64.exe**

Rename PSXseeconTraffic.txt to PSXseeconTraffic.bat. Start by double clicking the PSXseeconTraffic.bat icon.

### 3.4 Injection of AI aircraft in FSX/P3D

PSXT regularly sends its position to the data provider upon which the data provider generates the positions of live aircraft in a bubble with a radius of 100 nm around the user aircraft (see the [PSXseeconTraffic protocol](#) document).

Depending on your parameter settings (see chapter 4), PSXT will create and update AI aircraft representing live aircraft from the bubble in your Simulator. AI aircraft are created in FSX/P3D with the SimConnect call **SimConnect\_AICreateNonATCAircraft**, with the **title** of the livery, taken from a [fltsim.x] section of the aircraft.cfg file, as parameter.

A second parameter, the **tail number** is not filled in with the Registration code of the real live aircraft but with the **callsign** of the flight. This way the callsign will show up in the Views - Change view - Aircraft menu.

And it will be displayed above each aircraft in your Sim if you have ticked tail number in the Vehicle labels options.

A callsign gives more info then a registration code, that's why.



## 4 Parameters

The light blue area in the middle contains the check- and text boxes for parameters that can be set. All parameters will be described in the following sections. For each parameter the default value is given.

Always stay on top:	<input type="checkbox"/>		
Live aircraft:	<input checked="" type="checkbox"/>	<input type="checkbox"/> Only if user aircraft airborne	<input type="checkbox"/> Log livery matching
Updates/second:	[ 25 ]		<input type="checkbox"/> Log 3rd party ac
AI_liveries.xml folder:	[ FLAi ]		
Include aircraft types:	<input checked="" type="checkbox"/> Heavy	<input checked="" type="checkbox"/> Middle	<input type="checkbox"/> Light <input type="checkbox"/> Helicopters
Airport files folder:	[ parked_default ]		<input type="button" value="Lock"/>
Parking percentage:	[ 35 ]		<input type="checkbox"/> Log park <input type="checkbox"/> Log XML
Flight plans folder:	[ flightplans ]		
Destination airport:	[ ]	<input type="checkbox"/> Add <from> <to> flight plan to live aircraft	
Lateral range (nm):	[ 40 ]	<input type="checkbox"/> Automatic	
Gnd traffic orig/dest only:	<input type="checkbox"/>		
Maximum live aircraft:	[ ]		
Block callsign:	[ ]		
Collisions ground:	<input checked="" type="checkbox"/> User X Live	<input checked="" type="checkbox"/> User X Parked	<input checked="" type="checkbox"/> Live X Parked <input type="checkbox"/> 3rdp X Parked

In the C:\Users\<>you>\AppData\Roaming\PSXseeconTraffic folder a file **parameters.xml** will be created and updated. It contains the last version check date, x and y coordinates of the last PSXT session and parameter values that are different from their defaults.

You can always go back to all default settings by exiting PSXT, deleting the parameters.xml file and restart PSXT.



### How to enter a new value in a textbox:

Put the cursor in the textbox (indicated by the light square brackets) edit the value, and after editing **press** the **Enter** key in order to make the new value active!

In the green information line (see section 5.2) feedback will be given about your new value.

### 4.1 Always stay on top and Status line

Always stay on top:	<input type="checkbox"/>
---------------------	--------------------------

If checked the application will always stay on top of your screen.

### 4.2 Live aircraft section

Live aircraft:	<input checked="" type="checkbox"/>	<input type="checkbox"/> Only if user aircraft airborne	<input type="checkbox"/> Log livery matching
Updates/second:	[ 25 ]		<input type="checkbox"/> Log 3rd party ac

#### 4.2.1 Live aircraft (default on)

If checked PSXT will let the data provider connect and inject live aircraft. This is the default and normal mode!

If unchecked it switches to a mode in which no connection to a data provider is needed, no live aircraft will be injected, but your origin and destination airports may be populated with parked aircraft just as in the normal mode. This can be handy when flying on VATSIM or any other on-line network and you do not like almost deserted airports.

As a bonus the near collision avoidance function on ground (see 4.7) will remove a parked aircraft from a parking position if a 3<sup>rd</sup> party aircraft (from VATSIM for instance) comes too close.

If you have changed the value of the Live aircraft checkbox PSXT will exit.

#### 4.2.2 Only if user airborne (default off)

Some pilots want live aircraft only if they are airborne (with their aircraft), that's possible by checking this checkbox.

#### 4.2.3 Log livery matching (default off)

If checked each match of a livery for a new live aircraft will result in a message in the log specifying how (good) the match was, for instance this registration code based match:

```
SAS6001 EI-SIB ARN->AGP A20N === r FAIB SAS Scandinavian Airlines Eirland Airbus A320
```

[Callsign Registration code From->To Type matching result (see chapter 7) Title of livery]

#### 4.2.4 Updates per second (default 25)

The value in this text box is the number of times per second that live aircraft get a position update in your Simulator. The possible range is 20 .. 30. This gives you the option to synchronise the ups with your Sim. For instance if you have locked your Sim at an fps of 20, it is of no use and a waist of cpu time, both for PSXT as your Simulator, to let PSXT update with higher values then 20.

If you fly in (virtual) cockpit view all aircraft further away from you (laterally) than 10 nm will be updated with 10% of the UPS frequency. These aircraft are not visual from your cockpit and for your TCAS 2 times per second will do. This saves a lot of SimConnect calls and thus less cpu cycles needed by your Simulator.

Note that you cannot change the UPS value dynamically. After you have made a change PSXT will exit and you will have to re-start it to make the new value active. Restart PSXT to let this new mode become active.

#### 4.2.5 Log 3d party ac (default off)

If checked the log will write messages about third party aircraft that are detected. The status line will show their numbers.

### 4.3 AI liveries section

AI_liveries.xml folder:	FLAi
Include aircraft types:	<input checked="" type="checkbox"/> Heavy <input checked="" type="checkbox"/> Middle <input type="checkbox"/> Light <input type="checkbox"/> Helicopters

#### 4.3.1 AI\_liveries folder (default FLAi)

In this textbox you can enter (the path to) the folder that contains the **AI\_liveries.xml** file.

Enter either a subfolder of PSXseeconTraffic or a full path. It may be a full path at the same PC or at a networked PC. In case of networked, use two slashes followed by the PC name followed by a slash and then the name of the share.

If you have entered a new path PSXseeconTraffic will exit. Restart PSXT to let this new path become active.

The value **FLAi** is default, to support new users that start with the Fly Ai package of VATSIM.



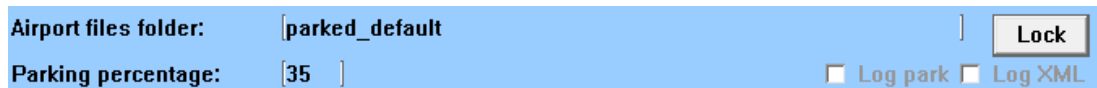
If you have created an AI\_liveries.xml file yourself with the AILGenerator, you should change this parameter such that it contains a path to the folder where **your** AI\_liveries.xml resides. That can be either in the AILGenerator folder or in a new folder under PSXseeconTraffic or wherever you like in which you copy your AI\_liveries.xml file.

Do not put your AI\_liverties.xml file in the FLAi folder while this file will be overwritten with every new version of PSXT!

#### 4.3.2 Include ac types:

Here you can select what aircraft types you want to see in your Simulator. If you do not have liveries of one of these categories, their checkbox will be disabled. Gliders and Ground Vehicles are never generated in your sim, they will be skipped if they are available in the traffic stream.

### 4.4 Parked aircraft section



#### 4.4.1 Airport files folder (default parked\_default)

In this text box you can enter (the path to) the folder that contains the **<ICAO airport>.xml** files with parking positions. Enter either a subfolder of PSXseeconTraffic or a full path. It may be a full path at the same PC or at a networked PC. In case of networked, use two slashes followed by the PC name followed by a slash and then the name of the share. The default value is the **parked\_default** subfolder of PSXseeconTraffic.

If you have entered a new path PSXT will exit. Restart PSXT to let this new path become active.

When you start a session at the ground at an airport for which there exists an airport file with parking positions, PSXT will generate parked aircraft. It will use the options defined in the .xml file (see chapter 8).

If **hours** information is available it will try to match the options with the current (utc) hour as much as possible. It will gradually change the parked aircraft to the situation of the next hour by removing and adding aircraft. This process starts half past the hour and runs continuously.

The call sign of a parked aircraft is "ICAO Airline code + sequence number + \_"

When you fly away from the origin airport, the parked aircraft will be removed when you are more than 5 nm from the airport.

When a destination airport comes into sight (40 nm or closer), PSXT will place aircraft at the specified parking positions of the new airport.

Having parking positions defined for an airport makes it possible to put departing live traffic at gates at the right position with the right heading. Even so, a live aircraft ending its session at a gate can be placed right and "promoted" to a parked aircraft instead of disappearing. The radius info for each parking position is being used to check whether the wing span of the aircraft fits the position or not.

#### 4.4.2 Lock / Unlock button (default on)

Default an airport file is unlocked (see section 8.2). This is indicated by the text "**Lock**" on this **command** button. (Note: an exception are old format airport.txt file converted to xml, they are default locked).

In this unlocked state PSXT will update the airport file with parking positions it finds in real time. If an aircraft positions at a gate or an aircraft parks at a gate the Airline -Type combination is added as a new option to the airport file and the parameter **num\_real\_live\_options** is incremented..

As soon as a parking position has got a real live option the non real option(-s) from that parking position (from the ParkPosGenerator) will be **removed!**, and the parameter **num\_real\_live\_parkpos** is incremented.

In the unlocked mode the status line will show the actual numbers of these two parameters, see section 5.1.

The updated airport file will be stored in the subfolder **parked\_updates**. PSXT will always look in subfolder first and if there is no file for the airport where you are, then it will search in the folder indicated by Airport files folder (see above).

#### *Disclaimer*

Sometimes an arriving aircraft disappears from the traffic stream before it is at its gate, halting close to another gate. If that gate fits, PSXT will park it at that gate and update the airport file. This may be wrong. However, with real time updates you at least have airlines and types at gates that really fly at/from that airport! You can always make corrections manually when you have enough real live positions and lock the file for further updates.

#### 4.4.3 Percentage parked (default 35)

The percentage of the total number of parking positions (with or without options) in an airport file that will be get a parked aircraft. Note that this will take place the next time an airport.xml file is read, and when hourly updating of parked aircraft takes place.

#### 4.4.4 Log park (default off)

If selected (un)parking of static aircraft is logged.

Also messages about live aircraft that end their flight at a gate or start their flight at a gate (called positioned) will be logged.

#### 4.4.5 Log XML (default off)

If selected all updates to the airport.xml file are logged.



## 4.5 Flight plans section

Flight plans folder:	<input type="text" value="flightplans"/>	
Destination airport:	<input type="text"/>	<input type="checkbox"/> Add <from> <to> flight plan to live aircraft

### 4.5.1 Flight plans folder: (default flightplans)

In this textbox you can enter (the path to) to the folder with .pln files. Enter either a subfolder of PSXseeconTraffic or a full path. It may be a full path at the same PC or at a networked PC. In case of networked, use two slashes followed by the PC name followed by a slash and then the name of the share.

The default value is PSXseeconTraffic subfolder **flightplans**.

PSXT may automatically detect your Destination airport from a .pln file exported by a Flight Planner (such as PFPX and ProATC)) in the flight plans folder. It will take the latest created **.pln** file with a **DepartureID** equal to your actual origin airport (where you are at the ground). The destination airport will be taken from the **DestinationID** entry in the Flight Plan. This search process takes (once) place as soon as you have taken-off from your origin airport and the Destination airport parameter (see below) is empty.

### 4.5.2 Destination airport (default empty)

This is where to manually fill in the ICAO code of your destination airport, if you are not using a flight plan. Only destinations that are present in your Airport Files folder (section 4.4) are allowed.

If your destination is within 40 NM, parked aircraft will be placed on your destination airport, if percentage parked > 0.

If you fill in a new destination while you are still at your origin, the number of parking positions and percentage parked values of your destination will be shown as soon as your origin airport is out of sight and parked aircraft have been removed.



If you fly to an airport without filling in the destination, you will get parked aircraft (if there is a parking position file) at that airport automatically, but only after you have landed ... So it is always better to fill in your destination; the parking then starts when you are within 40 nm from the airport, so the airport does not look deserted when you descend.

### 4.5.3 Add <from <to> flight plan to live ac (default off)

If checked PSXT adds a simple flight plan with DepartureId and DestinationId to the AI objects in your Simulator. In P3D you can then tick Flight Plan in the options for vehicle labels (see also 3.4).

You will see **from -> to** displayed above each live aircraft, if you select TailNumber in Vehicle Labels.

Note that this simple flight plan is just added information, it has no meaning for automated flights. PSXT still controls each AI object.

## 4.6 Number of live aircraft section

Lateral range (nm):	[ 40 ]	] <input type="checkbox"/> Automatic
Gnd traffic orig/dest only:	<input type="checkbox"/>	
Maximum live aircraft:	[ ]	
Block callsign:	[ ]	

### 4.6.1 Lateral range (nm, default 40)

All live aircraft within the lateral range will be injected. You can change the range in the text box between 5 and 100 nm.



If you are using FSUIPC make sure that the settings for "Limit TCAS range" on the misc tab are equal to the value in PSXT.  
**And don't use the FSUIPC Traffic limiter!**

### 4.6.2 Ground traffic original/destination only (default off)

If selected, only live aircraft on the ground at your origin or destination airport and within your lateral range and when the IATA code of the origin/destination airport has been received from the QNH stream, will be injected.

If not selected (default) all ground traffic in your lateral range will be injected.

This control helps you to suppress aircraft on the ground while you are in cruise.

### 4.6.3 Max live aircraft (default 200)

In the Max aircraft text box you can specify the maximum number of live aircraft you would like to see. The aircraft are selected based on their lateral distance to the user aircraft.

You can fill in a number between 1 and 200. 200 is default and it is not shown in the text-box to indicate that there is no (real) maximum. You can also clear the entry, the maximum will then be set back to the default value of 200.

After about 30 seconds the live aircraft counter will go to your target value.

Note for efficiency reasons: first set lateral range and ground traffic and then specify a max number of aircraft.

### 4.6.4 Automatic (default off)

This checkbox is meant for pilots making a flight in (virtual) cockpit view from origin to destination with an airliner with TCAS. If selected PSXseeconTraffic sets the lateral range, ground traffic origin/destination only and max aircraft according to the stage of your flight. This will have the effect that only the aircraft that may be of interest to you as a pilot flying will be injected in your simulator and at your TCAS, resulting in a as small as possible drop on your fps.

### 4.6.5 Block callsign (default empty)

If a callsign is entered, PSXT will block a live aircraft with that callsign from appearing in your Simulator, or, if it is already in your sim, it will be removed immediately. This makes it possible to fly the real live flight instead of the real aircraft (while listening to live ATC) or in finals to take the place of a real aircraft in front of you.

## 4.7 Collision avoidance section

Collisions ground:  User X Live  User X Parked  Live X Parked  3rdp X Parked

PSXT detects a (near) collision on the ground if two aircraft are at a distance from each other less than the sum of their wingspans divided by 2. If so, the live aircraft will be removed for at least 30 seconds; it will return if there is no longer a near collision. Parked aircraft will be removed and a new parked aircraft may turn up later at the same gate if possible.

4.7.1 User X Live (default on)

4.7.2 User X Parked (default on)

4.7.3 Live X Parked (default on)

4.7.4 Third party aircraft X Parked (default off)

Since PSXT does not keep an administration of 3<sup>rd</sup> party aircraft their wingspans are unknown, the max possible wingspan is taken instead.

## 5 Information

### 5.1 Status line

The black box, below the parameters section is called the status line. It can be switched on/off with the Status line control (see section 4.1).

The status line provides the following information:

#### 5.1.1 live: <number>

Shown is the number of live aircraft injected and controlled by PSXT in your Flight Simulator

#### 5.1.2 buffer: <number>

Shown is the number of new live aircraft that are in range and are in the 30 seconds buffer, waiting to be injected.

Note that if Max aircraft (section 4.5.3) has been reached the number of aircraft in the buffer will increase, while new aircraft will have to wait there till they are one of the max aircraft.

#### 5.1.3 <ICAO airport code><Airport name><IATA airport code><supplier>

The ICAO and IATA codes of your origin or destination airport and the airport name and supplier from the airport file with parking positions.

#### 5.1.4 park: <number> <(n:m)> or no positions

Shown is the number of parked aircraft at the airport where you are.

This value may decrease while PSXT removes a parked aircraft when a collision with the user aircraft or a live aircraft is about to happen.

This value may increase when a live aircraft disappears from the Traffic stream while it is at a parking position (probably arriving at this position). PSXT will position it correctly at the parking position and it'll stay there as a parked aircraft, until another live aircraft claims this position.

(n:m) n=# of real live options, m=# of real live parking positions, see section 4.4.2.  
*Unlocked mode only.*

No positions is shown if there is no ICAO airport.xml file in your airport files folder.

#### 5.1.5 3p: <number>

If logging of 3<sup>rd</sup> party ac (section 4.2.5) is checked:

The number of third party aircraft detected in your Simulator by PSXT. Note that this also depends on the value of the Lateral range parameter (section 4.5.3).

If flying with live traffic this number is displayed in red or not shown when number is 0.

If not flying with live traffic this number is shown in green (>0) or yellow (0).

### 5.2 Information messages line

In the green box below the parameters, information messages in yellow font, may appear.

### 5.3 Warning / Error messages line

In the dark blue (bottom) box of the window, **warning** messages, in red font, may appear.

The dark blue box turns red if an **error** messages in yellow appear. Error messages are always severe. You have to exit PSXT yourself with the Windows X button.

The error messages (*and what to do*) are:

#	Error Message ( <i>and what to do</i> )
41	PSXT should be run from the PSXseeconTraffic folder!  <i>Do not run an .exe outside the PSXseeconTraffic folder. Do not remove the PSXseeconTraffic docs subfolder.</i>
51	File AI_liveries.xml not found  <i>Set the parameter to one of the FLAi folder, or create this file yourself.</i>
52	AI_liveries.xml does not contain liveries  <i>Make sure you have AI aircraft installed.</i>
53	AI_liveries.xml in folder FLAi has got additions  <i>You should not make changes to the default AI_liveries.xml files in the FLAi folder. If you have created an AI_liveries.xml file yourself with AILGenerator change the AI_liveries.xml parameter in the interface.</i>
71	atc_model= in [General] section of your aircraft.cfg is empty or missing  <i>Add that line to the aircraft.cfg file of your user selected user aircraft. For instance for the Quality Wings 787 it should read atc_model=B788 or atc_model=B789. The type should be a valid ICAO aircraft type.</i>
72	Pedestrians are not allowed, select an aircraft ...  <i>Select an aircraft to fly with or stand somewhere.</i>
73	It looks like you have not selected an aircraft as user vehicle ....  <i>Select an aircraft to fly with or stand somewhere.</i>
81	There are too many liveries that could not be created, see the log  <i>Activate your AI-aircraft in your Simulator and/or check that the AI_liveries.xml file in use reflects the AI aircraft currently installed in your Simulator.</i>  <i>For P3D users I recommend to add the following key to the [MAIN] section of the file C:\Users\&lt;&lt;your name&gt;\AppData\Roaming\Lockheed Martin\Prepar3D v4\Prepar3D.cfg:</i>  <i>ContentErrorReporting=1</i>  <i>Start P3D, 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. Fix each error related to AI.</i>
91	The file airport.xml or types.xml or wingspan.xml was not found, or some parts were missing  <i>Re-install PSXseeconTraffic</i>
95	Simconnect Version Mismatch exception

	<i>Make sure that you are using PSXseeconTraffic64 with the latest 64 bit version of P3D.</i>
99	<p>This version has expired, download &lt;num&gt;.0</p> <p><i>Update to a new version. This error has been introduced to force users to upgrade, for instance because a nasty bug was detected or changes in the environment demand a new version. See my website for the new version.</i></p>

## 6 Aircraft animations

PSXT controls landing gear, throttles, spoilers, flaps and all lights of live aircraft. Of course only for those aircraft that support the respective SimConnect events!

### 6.1 Parked aircraft

Cabin lights and logo lights are on (if not parked at a ramp), engines are shut down, spoilers set to normal and flaps are up.

### 6.2 Live aircraft

#### 6.2.1 Landing gear

The landing gear is retracted about three seconds after lift-off. The landing gear is extended if the aircraft is landing (lowering in height) and less than 2000 feet above the ground for airliners and lower than 600 feet above the ground for light aircraft.

#### 6.2.2 Throttles

The engines are switched off when positioned at a gate. The throttles are set to idle at the ground, to full when taking off and in the air, and to half when landing. This has effect on the sound coming from the AI aircraft (if sound is configured for the AI aircraft in your Sim).

#### 6.2.3 Spoilers

The spoilers will go up at touch down; the spoilers go back to normal when speed is low enough or the aircraft has vacated the runway.

#### 6.2.4 Flaps

The flaps are set to take-off position (twenty) at the ground (at pushback) for departing aircraft and to up for arriving aircraft and when in the air. During the landing phase the flaps will go gradually to flaps down. Flaps will go up when the aircraft vacates the landing runway.

#### 6.2.5 Strobes

The strobes are set to on if an aircraft is taking-off; the strobes are set back to normal when the aircraft has landed and vacated the runway.

#### 6.2.6 Landing Lights

Landing lights are on below 10.000 feet, and off when the aircraft has landed and vacated the runway.

#### 6.2.7 Navigation Lights and Beacon

Navigation lights and Beacon are always on, except when parked at a gate.

#### 6.2.8 Cabin Lights

Cabin lights are always on, except when parked at a ramp.

#### 6.2.9 Taxi, Logo and Recognition Lights

Taxi lights are on at the ground.

Logo lights are always on below 10.000 feet (although lots of AI aircraft also put Logo Lights on if cabin lights are on ...), except when parked at a ramp.  
Recognition lights are always on below 10.000 feet, except when parked at a ramp.



## 7 Livery matching process for live aircraft

From the information coming from the traffic the following items are important for livery matching:

From the **call sign** the three letter ICAO airline code will be derived (if available, else the airline code will remain empty). The airline code determines the "paint" of the livery.

The **type** determines the ICAO aircraft type of the livery. If this field is empty, the aircraft will be skipped/ignored.

The **registration code** uniquely identifies a livery (type + paint).

With this information a livery for a live aircraft is searched in a best effort matching process in –up to- **eight** steps:

Step	Match	Indicated with
1	If an if an aircraft shows up in the traffic stream for the second or more time in the same session then the livery is retrieved from an archive.	ARCHV
2	Registration code or Registration code with wildcard  If the registration code of the real aircraft is in the title of the livery, we have a perfect match: the livery you see is exactly what the livery in real live looks like including tail-number. This is indicated with capital R instead of r.  <i>Note that in order for PSXT to be able to detect this you have to add the registration code of the livery to the title of the livery in the [fltsim.x] section too!</i>  <b>AILGenerator has a repair option to help you to make a good start with that ... !</b>  <i>The use of the atc_id= key remains unchanged.</i>	=== r  or  === R
3	ICAO airline code and ICAO aircraft type	===
4	airline and similar type(-s)	=s=
5	Generic Boeing, Airbus, Embraer, Bombardier or ATR livery and type. Generic (fabric) livery without an airline paint. In order to get these liveries found, use BOE, AIB, EMB, BBA or AED as airline code in your [fltsim.x] section as parking_codes= value.	=g=
6	random airline livery and type	=x=
7	random airline livery and similar type(-s)	=X=
8	a default aircraft livery, chosen out of a number of liveries from the same aircraft category (Heavy, Middle, Light or Helicopter)	=d=

## 8 Airport file format

Airport files are **xml** files. They are generated by **ParkPosGenerator** and read and updated by PSXT.

First a simple example, the first file **AGGA.xml** from the **parked\_default** folder

```
<?xml version="1.0"?>
<meta>
  <info name="author" value="ParkPosGenerator" />
  <info name="version" value="7.0" />
  <info name="date" value="Wed Oct 24" />
</meta>
<parameters>
  <parameter name="ICAO" value="AGGA" />
  <parameter name="airport_name" value="Auki" />
  <parameter name="supplier" value="P3D stock airport" />
  <parameter name="num_real_live_options" value="0" />
  <parameter name="num_real_live_parkpos" value="0" />
  <parameter name="last_update" value="" />
  <parameter name="locked" value="false" />
</parameters>
<parkpositions>
  <parkpos id="r1" latitude="-8.705342" longitude="160.682004" heading="98.8" radius="14.0">
    <aircraft>
      <option airlines="GIA,CPA,THA" types="GLF3" real="false" />
    </aircraft>
  </parkpos>
  <parkpos id="r2" latitude="-8.705577" longitude="160.681984" heading="98.8" radius="10.0">
    <aircraft>
      <option airlines="PVT" types="LJ40,C172" real="false" />
    </aircraft>
  </parkpos>
  <parkpos id="r3" latitude="-8.705793" longitude="160.681950" heading="98.8" radius="10.0">
    <aircraft>
      <option airlines="PVT" types="LJ40,C172" real="false" />
    </aircraft>
  </parkpos>
</parkpositions>
```

### 8.1 Meta

Looks obvious to me.

### 8.2 Parameters

The first three parameters, ICAO, airport\_name and supplier, are all taken from the BGL file in your simulator.

The last four parameters are used by PSXT. If the file is unlocked (parameter locked=false) PSXT may update the file with real live information.

### 8.3 Parkpositions

There should be at least one parking position (**parkpos**) in the file. Each parkpos has four attributes and n (**n >= 0**) aircraft options. The heading is in degrees and the radius is in meters.

An option has three attributes. The **airlines** attribute is a string with either one ICAO airline code or more airline codes separated by comma's. The **types** attribute is a string with one ICAO aircraft type code or more type codes separated by comma's. The **real**

attribute is a boolean indicating whether it was generated by the ParkPosGenerator (false) or by PSXT during a real live update (true).

If it is a live update there may be an **hours** attribute. The value is an (utc) hour, or more hours separated by comma's. The hours indicates at what time(-s) that aircraft was positioned or parked at the parking position. The hour is rounded such that 9:29 remains 9 while 9:30 becomes 10. (24 becomes 0).

When heavy aircraft park, not only the current hour will be added to the option but also the next hour, assuming that heavy aircraft normally stay at a gate more than an hour.

When non-heavy aircraft park between 30 and 45 minutes after the hour nothing changes but outside that range the next hour will be added to the option too, assuming they have a turnaround time of about 40 minutes.

Here a more advanced example, a snippet of the file EHAM.xml from my **parked\_updates** folder that was updated by PSXT **with real live** information:

```
<?xml version="1.0"?>
<meta>
  <info name="author" value="ParkPosGenerator" />
  <info name="version" value="7.1" />
  <info name="date" value="Sat Oct 27" />
</meta>
<parameters>
  <parameter name="ICAO" value="EHAM" />
  <parameter name="airport_name" value="Schiphol" />
  <parameter name="supplier" value="Fly Tampa" />
  <parameter name="num_real_live_options" value="242" />
  <parameter name="num_real_live_parkpos" value="107" />
  <parameter name="last_update" value="Sat Oct 27" />
  <parameter name="locked" value="false" />
</parameters>
<parkpositions>
  <parkpos id="B15" latitude="52.305077" longitude="4.762512" heading="238.0" radius="19.1">
    <aircraft>
      <option airlines="SWR" types="A320" real="true" hours="12" />
      <option airlines="CSA" types="A319" real="true" hours="7,14" />
    </aircraft>
  </parkpos>
  <parkpos id="G73" latitude="52.312088" longitude="4.753360" heading="267.0" radius="33.1">
    <aircraft>
      <option airlines="MAC,PGT,RAM,TCV,TFL" types="B744,B772,B763,B789,MD11,A332"
real="false" />
    </aircraft>
  </parkpos>
  ...
</parkpositions>
```

This **unlocked** file has 242 real live options (in this snippet 2) and 107 real live parking positions (in this example B15 ). The CSA A319 has visited B15 around 7 and around 14 hours.

The option for G73 is still the one generated by ParkPosGenerator while its real attribute is false

This file shows that a parking position may have more than one option.

## 9 Log file

During each session a file **Log.txt** will be written in the PSXseeconTraffic folder. The previous version will be renamed to **Log0.txt**.

**Always post your log file if you post a problem in my forum, please!**

After a header and a log of your parameter values it shows the process of how all programs connect (or not ...)

Also a summary of your AI\_liveries.xml is given.

After all programs are connected the QNH is logged.

Of particular interest are the warning messages about liveries that could not be created in your Flight Simulator. You should remove the respective AI aircraft in your Flight Simulator, by changing the aircraft.cfg file.

Every five minutes the number of live and parked aircraft in your sim are logged.

More info can be logged depending on the logging controls described in sections 4.2.3, 4.2.5 and 4.4.4.

At the end of the log file, and every 24 hour, a summary is given about the liveries used for live traffic.

The matching results give you an idea how real it was what you saw in your simulator during that session.