



User Guide

Updated: 9 november 1999

INDEX

LAGO does shareware?!?	4
Active Scenery	6
The Active Scenery menu	6
Introduction	7
Differences between the shareware and the registered versions	7
How to register	7
Cost of registration	7
FST is an “ASP-compliant” product	8
Distributing the shareware version	8
Copyright	8
Credits	9
System requirements	9
Installation	9
Uninstalling FSTraffic	10
How to contact Technical support	10
About this manual	10
Conventions used in this manual	11
Abbreviations used in this manual	11
What’s new in this version?	11
YOUR FIRST LOOK!	12
Converting aeroplanes	14
Adding aeroplanes to the library	14
Tips about converting aeroplanes	15
Removing aeroplanes from the library	15
Technical Note: The converted aeroplanes library	16
Technical Note: Conventions for converted aeroplanes file names	16
Technical Note: Conventions on converted aeroplanes	17
Technical Note: Converting aeroplanes enhanced with Abacus Aircraft Animator	17
Technical Note: Aeroplanes height on the ground	18
Technical Note: Aeroplanes lights (FS2000 only)	18
Playing traffic	19
How the traffic player works	19
Aeroplanes	20
Winds	20
Knowing about wind when approaching an airport	21
Player turn	22
The “Traffic Parameters...” dialog box	22
Things you need to know	23
Technical Note: Collision check	24
Technical Note: FST and the default dynamic scenery	25

ILS Traffic Database Generator	26
How tracks are generated.....	26
ILS database maintenance	28
Recording traffic	29
Recording a track: a step-by-step guide.....	30
Recording a track: a deeper look	34
Runways, channels and tracks	34
Recording dialog box.....	36
FSTraffic menu items – Selectable only when the recording is in progress.....	38
Setting the Airport Reference Coordinates	40
Tips about how to record tracks.....	41
Tips about mixing ILS and USER tracks	42
Recorder timer	43
Sharing tracks with other users	44
To export tracks.....	44
To Import tracks	45
Note on ILS tracks.....	46
Warning.....	46
Exchanging tracks at FSTraffic official web site.....	46
Definitions	47
Frequently Asked Questions.....	48
Files installed on your system.....	50
Recorded tracks included in the shareware version	51
Aeroplanes	51

LAGO does shareware?!?

Once upon a time, in a winter rainy night, I was sitting together with Miguel Blaufuks (owner and publisher of simflight.com) having a nice dinner here in Italy. It that period we – at LAGO – were working on Active Scenery technology for THE TRIANGLE and Miguel was looking for a shareware product to be published under his label.

At a certain moment, more or less at the same moment a huge chocolate cake was brought on the table, we were talking about how boring can be flying in empty skies...

In the blur caused by the copious amounts of wine we consumed that evening the idea that must have been right below the surface was not seen.

Then, out of the blue, Mike Clark (editor of the on-line newsletter TheMag@simFlight.com and PC Pilot Magazine) came up with the idea of making flying “as busy as it gets”. He suggested an utility that would add realistic moving aircraft to any airport thus making the emptiness of Microsoft Flight Simulator a thing of the past FOREVER. Mike didn't want any aircraft, he wanted dozens of them taking off, taxiing and landing all at the same time! He also wanted to use aircraft that were already installed in the Microsoft Flight Simulator aircraft folder and to be able to record and playback his own flights as moving aircraft.

«What?» – we thought – «he doesn't want much, does he?».

Well, there was a good reason for that. He suggested this utility following months of e-mails from his newsletter readers who really, really wanted this kind of product developed.

Miguel and I thought that this was a great idea and would be a perfect opportunity to give simmers what they really needed and looked into the possibility of producing such a utility.

I then asked Maurizio Gavioli and Mathijs Kok to look into what would be required for such a program. As time flew by we discovered that this was going to be a massive and complicated project for a simple “Shareware” release. However, after MONTHS of genius programming by Maurizio and testing by Mathijs, we proudly present what you see before you now: **FSTraffic**.

FSTraffic (FST from now on) is a powerful utility for Microsoft Flight Simulator allowing you to generate traffic around any airport in the world! Comparing it with the standard dynamic traffic you are used until now, you will find out that FST is much more powerful, customizable and will add a new dimension to your flights.

As you know, the standard dynamic traffic is scenery based, meaning you can get it only on airports for which it was designed. The big drop in frame rate, the repeated pattern flown by aeroplanes, the lack of real-world liveries and ATC controllers made the standard dynamic aeroplanes unattractive to most simmers.

With FST you can easily replicate the real world and fill it with realistic moving aeroplanes. You will be able to:

- Automatically generate landing and departing traffic at every airport equipped with an ILS system;

- Create customized traffic around your preferred airport by simply flying! And, if you feel lazy, you can also download customized traffic patterns at <http://fstraffic.com> for FREE;
- Exchange traffic patterns with your friends;
- See any aircraft installed in your system as traffic around every airport;
- Hear pilots asking for clearances and ATC releasing them.

All the beta testers went crazy when they saw it running on their systems, I hope you will enjoy it!

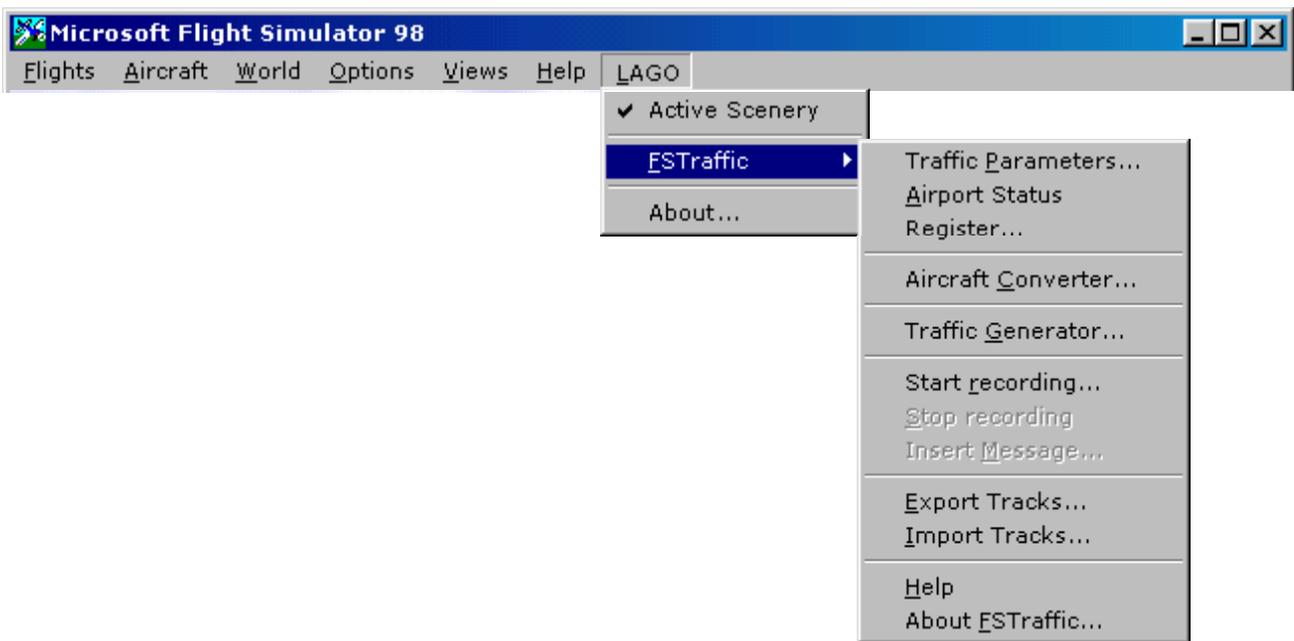
Ugo Grandolini
CEO
LAGO

Active Scenery

This product is based on LAGO Active Scenery technology. The difference with features incorporated into Active Scenery is that each one can be seen as a separate program, and each can independently interact with Flight Simulator. For example, Mat (our ground crew included in the MAD DOG pushback) is aware of what you are doing in the cockpit: If you try and turn your aircraft engines on without authorization, you risk your pilot license!

The Active Scenery menu

The first thing you will notice after installing FST and launching Microsoft Flight Simulator, is a new entry in the Flight Simulator menu:



Note: Items shown in the LAGO menu can be different, depending on other Active Scenery based product(s) you installed in your system.

As you can see, the new menu includes its own sub-menus. From there is a sub-menus that contains several grayed-out items: These items will turn to black in due course. This simply means that you can only operate them under certain conditions.

Active Scenery Use this menu entry to enable or disable ALL the Active Scenery products you have installed. These can include, The Triangle, MAD DOG and FSTraffic depending on what you have installed. (*In Japan we have also released Blue Impulse and Haneda 2000*). More products based on Active Scenery Technology will be released in due course. When a checkmark is shown on this menu item, you can make full use of the Active Scenery technology (ON). When the checkmark is not shown Active Scenery is disabled (OFF).

FSTraffic This is the FSTraffic main menu.

About... Displays the Active Scenery Credits screen.

Introduction

Basically, FST can create two different kinds of traffic:

ILS Traffic, the first one, is automatic and takes advantage of the ILS systems. After you install FST and convert some aeroplanes, you will be able to see traffic, both landing and take-off, on any runway equipped with an ILS.

The advantage of ILS Traffic is that you will automatically get traffic on ALL the ILS-equipped runways on your system if they are listed in the Airport Facility Directory.

USER Traffic, the second kind of traffic. This will need a little work from you before it can appear. You can record any flight you are undertaking and FST will display 1-30 aeroplanes flying on the exact same path you have just flown.

The advantage of using USER Traffic is that you can customize traffic at your preferred airport. Moreover you can exchange *tracks* with other users through the <http://fstraffic.com> web site or by sending the data files via email!

Differences between the shareware and the registered versions

The only limitation of the shareware version is that, after 30 minutes of usage, the traffic will be automatically stopped. To see more traffic you must restart Microsoft Flight Simulator or register the product!

How to register

To register fill and send in the License Registration Form available at: <http://fstraffic.com>

Most popular credit cards are accepted and do not forget that our web site is secure.

Please note that due to the high colletcion cost, we DO NOT accept personal checks anymore! However we accept EuroCheques and/or cash, in EURO or US Dollars. Please send your payment in an envelope to:

SIMFLIGHT.COM, M.Blaufuks, PO BOX 421310, D-55079 Mainz, GERMANY.

When we have received your payment, we will e-mail you the Registration Code and instructions on how to unlock the program. Then you will be able to take full advantage of the features found in FSTraffic by not having a time limitation placed on you.

Please note that we charge your credit card the day we send you the Registration Code, and NOT the day you send the License Registration Form.

Cost of registration

Registration fee is **19,99 EURO** (or **21,50 US Dollars**), it includes:

- The Registration Code allowing full use of FST;
- 90 days FREE technical support – starting the day we emailed you the Registration Code;
- FREE patches;
- FREE subscription to FST@ENEWS: you will automatically receive an email every time a patch, update or FAQ document is released;
- A 25% discount voucher for your next purchase of a LAGO product – valid only for orders directly shipped by LAGO.

MARCELINO PANY VINO

Part of the registration fee will be sent to an organization in Perú helping children. For details please visit <http://www.marcelino.org>

FST is an “ASP-compliant” product

LAGO is a member of the Association of Shareware Professionals (ASP). ASP wants to make sure that the shareware principle works for you. If you are unable to resolve a shareware-related problem with an ASP member by contacting the member directly, ASP may be able to help. The ASP Ombudsman can help you resolve a dispute or problem with an ASP member, but does not provide technical support for members' products. Please write to the ASP Ombudsman at 157-F Love Ave, Greenwood, IN 46142 USA, FAX 317-888-2195, or send email to omb@asp-shareware.org.



<http://www.asp-shareware.org>

Distributing the shareware version

Please see the DISTRIBUTION.TXT file located in the [FS]\LAGO\FSTRAFFIC directory.

Copyright

This manual, the documentation, the video images, the software and all the related material are copyrighted and may not be copied, photocopied, translated or reduced to any electronic medium or machine legible form, neither completely nor in part, without the previous written consent of LAGO SNC and SIMFLIGHT.COM. THE SOFTWARE IS FURNISHED «AS IS» AND IT DOES NOT COME FURNISHED WITH ANY GUARANTEE IMPLICIT OR EXPRESS. THE AUTHOR DECLINES EVERY RESPONSIBILITY FOR CONTINGENT MALFUNCTIONS, DECELERATION AND ANY DRAWBACK THAT SHOULD ARISE, USING THIS SOFTWARE.

Copyright © 1999, 2000 LAGO SNC, SIMFLIGHT.COM. All rights reserved.

FSTraffic is a trademark of LAGO and SIMFLIGHT.COM. Microsoft, MS-DOS, Windows, Windows® 95 and Windows® 98 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other Countries.

All trademarks and brand names are trademarks or registered trademarks of the respective owners.

Credits

Conceived by Miguel Blaufuks, Michael Clark, Maurizio Gavioli,
Ugo Grandolini, Mathijs Kok.
Programmed by Maurizio Gavioli.
Simflight.com Glastair courtesy by Matt Dell and Captain Slug.
Beta Testers..... Michael Clark, Maurizio Gavioli, Ugo Grandolini,
Mathijs Kok, Geoffrey Campbell.

A special thank you to Captain Slug that allowed us to include his special «aircraft» CS Sky Diver. Be sure to convert the CS Sky Diver (Free Fall version) and assigning it to the "Sailplane" class to get some special effects at Chicago Meigs.

You can also use the CS Sky Diver to fly enjoying the experience of parachute flying!

For more paint schemes for the Sky Diving Set OR more aircraft by Captain Slug, check out at:

<http://www.simflight.com/cs>

System requirements

- Pentium 233
- 32 Mb RAM
- Free available space on the hard disk:
 - ⇒ FS98: 4 Mb to install system files, 2 Mb to convert ILS Tracks, 3 Mb to convert the supplied aeroplanes
 - ⇒ FS2000: 5 Mb to install system files, 4 Mb to convert ILS Tracks, 3 Mb to convert the supplied aeroplanes
- Sound card
- Microsoft Flight Simulator 98 with: Flight Shop Converter 98 patch and FS98PAT1.EXE installed ⁽¹⁾ or Microsoft Flight Simulator 2000 (Standard or Professional edition)
- Windows 95 or Windows 98 or Windows NT (SP-3)
- Adobe Acrobat® Reader 4 to read and print the manual ⁽²⁾

⁽¹⁾ Both patches are available for free download at: <http://fstraffic.com>

⁽²⁾ Available for free download at: <http://www.adobe.com/prodindex/acrobat/readstep.html>

A 3D video board is highly recommended.

Installation

Depending on the method you used to get the FST_*.EXE file ⁽³⁾ – most probably by downloading it from the Internet – you should now located it on your hard disk.

BE SURE TO CLOSE ANY OTHER APPLICATION BEFORE PROCEEDING!

- Double click on the FST_*.EXE ⁽³⁾ icon.
- Follow on-line instructions.

NOTE: If you need to reinstall FST be sure to uninstall it first.

(³) The installation file name reflects the version number of the product. For example: FST_100.EXE is the initial release of the product (version 1.00).

Uninstalling FSTraffic

Do NOT manually remove this product !! To uninstall it:

1. Exit from the simulator.
2. Open the "Control Panel".
3. Double-click on <Install applications> and select "FSTraffic 98" or "FSTraffic 2000" – depending on the version you installed.
4. Click on <Add/Remove...>.

You will be asked to confirm the operation: click on <Yes>.

The uninstall program will take care to remove all the converted ILS tracks as well as all the converted aeroplanes and their relative textures.

At the end of the uninstall, you may be told that one or more files/directories cannot be removed; these are all files you have created by yourself in the original FSTraffic directories. For example all the voice files and manually registered tracks.

We feel it is better if you to manually remove these files/directories after the uninstall is completed to avoid removing your own creative and valuable data!

How to contact Technical support

Before contacting FST technical support be sure to visit **both** the FAQ and Download pages at:

<http://fstraffic.com>

There you will find the latest version and/or patch for FSTraffic. Moreover, in the FAQ (Frequently Asked Questions) page, you will find a list of general problems and solutions. Print the FAQ page and read it carefully: **it may already include the answer you are looking for!**

To receive support without spending a lot of money on the phone, you can send a description of your problem by e-mail to the following address: support@fstraffic.com

Describe your problem in as much detail as you can: our programmers must be able to follow your instructions step-by-step in order to recreate the same problem on their PCs!

NOTE: Technical support is available in English and Italian only!

About this manual

The first time a special term, related to FST, is presented in the manual it is shown as *italic/underlined*: you will find an explanation of such terms in the "Definitions" chapter.

Conventions used in this manual

- All references to file names, extensions and directories are shown as follow:
FILENAME.EXT, .EXT, \DIRECTORY
- If you have to type some text with the keyboard, the text is shown in courier:
text typed by you
- If you have to press a key, that key will be represented within square brackets. For example:
[B] mean that you must press the B key on the keyboard.
[ALT][F4] mean you should press [F4] key while holding down the [ALT] key at the same time.
- All references to menu – and submenu – items are shown as follow: “Option | Preferences...”
- Buttons are shown as follow: <Cancel>

This manual contains a lot of technical information that’s is NOT needed for day to day operation. We included this information to facilitate the more experienced user. Titles for these paragraphs are shown as follow: **Technical Note** and can be skipped if you only want to use the product.

Abbreviations used in this manual

- FS: Microsoft Flight Simulator (regardless of any specific version)
- FS98: Microsoft Flight Simulator 98
- FS2000: Microsoft Flight Simulator 2000 (Standard or Professional edition)
- FST: FSTraffic
- [FS]: is the main Microsoft Flight Simulator directory (regardless of any specific version). Default values are:
FS98: C:\PROGRAM FILES\MICROSOFT GAMES\FLIGHT SIMULATOR
FS2000: C:\PROGRAM FILES\MICROSOFT GAMES\FS2000
- m: meters
- FSFS: BAO’s Flight Shop

What’s new in this version?

First of all FSTraffic is now compatible with FS2000 (both Standard and Professional editions)!

Problems solved:

- 1) ILS Tracks for airports in the Southern emisphere were not shown at all;
- 2) ILS Tracks are now generated reading the scenery library in the correct order. Doing this, if you have the same ILS on layer 1 and on layer 23, the generated track for that ILS will reflect the position of the scenery in layer 1;
- 3) Traffic was not shown at airports with an ICAO ID including a number (for example: 40N, Chester Co Carlson).

New features:

- 1) Aeroplanes height on the ground – see also chapter “Converting aeroplanes”, paragraph “Technical Note: Aeroplanes height on the ground”;
- 2) Importing an STX file, if the STX is missing one or more WAV files already installed on your system, the import routine will not show any warning message.

YOUR FIRST LOOK!

Before you study this manual, you may want to have a quick look at the product. To do so:

1. Load FS.
2. Convert all the simFlight.com aeroplanes (see “The Converted Aeroplanes Library” chapter for details) assigning the following classes:
 - simFlight.com ATR 72 => Small Liner
 - simFlight.com A-300 => Medium Liner
 - simFlight.com B737-300 => Medium Liner
 - simFlight.com B747-400 => Large Liner
 - simFlight.com Glastair => Tourism
 - simFlight.com Bell 206L LongRanger II => Helicopter
3. Open the “Flights | Select Flight...” menu.
In the “Available Flights:” list, highlight “FST - KORD”, then click on the <OK> button.
You will be located at Chicago O’Hare airport (KORD), in slew mode, just over the tower.
4. Open the “LAGO | FSTraffic | Traffic Generator...” menu.
5. Click on the <Yes> button to automatically generate traffic on all ILS-equipped runways.
Be patient, this operation may require some time – depending on the number of installed scenery files.
6. Open the “LAGO | FSTraffic | Traffic Parameters...” menu.
7. Click on the “Activate FSTraffic” box – be sure the checkmark is shown.
8. Set parameters as follow:
 - Channel delay: 1
 - Radius activity: 35
 - Max number of objects: 20
 - Min frame rate: 1
9. Click on the <Done> button.
If you are using the shareware version, a dialog box will remind you about the limitations of this version: click on the <OK> button to proceed.

A long series of messages will let you know about what runways are in use within a selected radius– in this area there are a lot of airports!

After a short time, the airport will start to display traffic. Deactivate NumLock – lamp on the keyboard should go off – then use the [1], [3] and [5] keys on the numeric keypad to look around.

After about 10 minutes the airport will become really crowded: we used a channel delay of 1 minute as an example to show you the traffic immediately. Usually you will set this parameter to 5. For further information, see chapter "Playing Traffic", paragraph "The Traffic Parameters dialog box".

To see aeroplanes more effectively in the distance you can set the local time to night: Note that traffic now has flashing strobes and lights!!

Before proceeding it is a good idea to restore all items in the "Traffic Parameters..." dialog to their default values:

Channel delay: 5
Radius activity: 25
Max number of objects: 25
Min frame rate: 10

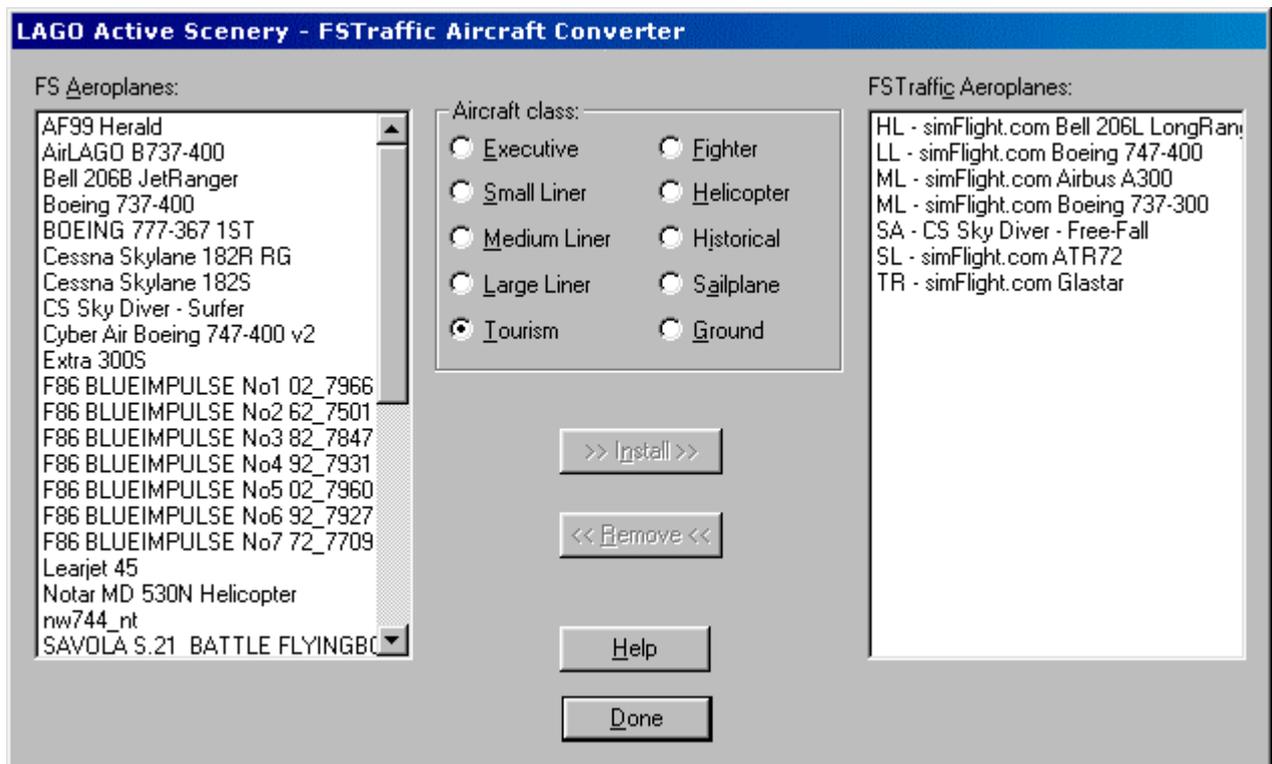
Converting aeroplanes

Adding aeroplanes to the library

You will need to convert some aeroplanes before you can use FST. Without converted aeroplanes you will see the simplified shapes of traffic aeroplanes (when they are more than 1 NM away from your present position), but these will disappear when they get closer because of the lack of converted aeroplanes. For further information, see paragraph “Aeroplanes” in the “Playing Traffic” chapter.

All aeroplanes created with BAO Flight Shop can be converted. However, if an aircraft includes animated moving parts you will **not** be able to convert those for the time being. We are working on a special system that will allow you to correctly convert ALL aircraft with moving parts in a future release of FST.

1. Open the “LAGO | FSTraffic | Aircraft Converter...” menu.
The aircraft converter dialog box will pop up on the screen. The dialog box is divided in two lists.
FS Aeroplanes: This list, shows all the installed aircrafts – WHICH HAVE NOT BEEN CONVERTED YET!
FSTraffic Aeroplanes: This list, shows all the aircrafts already converted for FST usage.
NOTE: Both lists allow multiple selection.



NOTE: To exit the converter dialog box at any time, click on the <Done> button.

2. In the “FS Aeroplanes:” list select the airplane(s) you want to convert.
You do NOT need to use the [SHIFT] or [CTRL] keys for multiple selections: just select

more than one aircraft by clicking on each aircraft you want to convert. If you select an aircraft by error, click on its entry again to deselect it.

3. In the "Aircraft class:" area, located in the middle of the screen, click on the class you want to assign ALL the selected aeroplanes.
4. Click on the <Install> button to start the conversion.
A progress bar will be shown during the conversion progress. Once the conversion process is started, it will not be possible to stop it.
Every aircraft you convert will need some hard disk space – the space will vary from aircraft to aircraft. For further information, see "Technical note: The converted aeroplanes library" here below.

If one or more aircrafts are not suitable for the conversion, they will not be converted and a message will be shown on the screen. In this case, the aircraft will be removed from the "FS Aeroplanes:" list, but it will NOT appear on the "FSTraffic Aeroplanes:" list.

As soon as the conversion of aeroplanes is completed both lists are updated.

WARNING !!

FS98: The FST player is immediately notified of newly installed aeroplanes, so they will start to appear in the area without the need to restart FST nor FS.

FS2000: **After having converted one or more aeroplanes, you must restart FS2000.** If you do not restart FS2000 newly converted aeroplanes will NOT be shown; moreover you may get a message reporting that one or more library objects are missing.

Tips about converting aeroplanes

After you have converted an aircraft – if do not plan to fly it! – you can remove it from the [FS]\AIRCRAFT directory. The FST version of the plane will still be available.

You should convert the plane for use with FST BEFORE adding moving parts. Moving parts can be added with utilities like Abacus Aircraft Animator.

If you exchange tracks with friends you do NOT need to send your converted aeroplanes; they will see the aeroplanes they converted themselves.

Removing aeroplanes from the library

1. Open the "LAGO | FSTraffic | Aircraft Converter..." menu.
2. In the "FSTraffic Aeroplanes:" list select the airplane(s) you want to remove.
You do NOT need to use the [SHIFT] or [CTRL] keys for multiple selections: just select more than one aircraft by clicking on each aircraft you want to convert. If you select an aircraft by error, click on its entry again to deselect it.
3. Click on the <Remove> button.
A progress bar will be shown. Once the removing process is started, it will not be possible to stop it. Every aircraft you remove will free up some hard disk space – varying from aircraft to airplane.

Technical Note: The converted aeroplanes library

Any aircraft designed with BAO Flight Shop and installed in your [FS]\AIRCRAFT directory can be converted!

Aeroplanes are converted to standard scenery code and placed in the [FS]\SCENERY directory as .BGL files, their textures are placed in the [FS]\TEXTURE directory as .LGO files.

Each aircraft you convert will require additional 40/50 Kb free on your hard disk for the 3D representation and a variable amount of space for the textures (depending on the number of textures used in the original airplane). For this reason, if you have a large collection of airplanes, you may consider to convert only a few aircraft in each category. The aeroplanes you convert will still be available for normal flight.

Technical Note: Conventions for converted aeroplanes file names

There is one single BGL file for all the aircrafts of EACH class. Aeroplanes can be assigned to the following classes:

Class (code)	Aeroplanes to be assigned	Low resolution
		<u>See chapter "Playing Traffic"</u>
Executive (00)	Business airplanes (LearJet, etc.)	Similar to a LearJet
Small liner (01)	ATR 42, Fokkers, etc.	Similar to an ATR
Medium liner (02)	B737, MD-82, A320, etc.	Similar to a B737
Large liner (03)	B747, MD-11, etc.	Similar to a B747
Tourism (04)	Cessna 1xx, Piper Archers, etc.	Similar to a Cessna (low wings)
Fighter (05)	Any military modern plane	Fantasy plane
Helicopter (06)	Every helicopter	Fantasy helicopter
Historical (07)	Spitfire, Sopwith Camel, etc.	Biplane
Sailplanes (08)	Every sailplane	Fantasy sailplane
Ground (14)	Use this class when converting special objects for ground traffic (like towtrucks, buses, etc.)	Kind of rectangular box.

Classes are used to match recorded tracks with aircrafts in a sensible manner. You can assign both aeroplanes and recorded tracks to classes; however each track can be qualified with several classes in any combination. This is to add variety when there are few aircrafts representing each class: when a track is about to be played back, an aircraft is randomly chosen among all the aircrafts of all the classes assigned to the track.

The file name for the 3D representation, is coded as follows: LAGOTr[Class Code].BGL
 For example, all aeroplanes assigned to the medium liner class, will be saved in the LAGOTR02.BGL file.

Original textures are copied and renamed as follow:

77888899.LGO, where: 77 - is the class number;
 8888 - is a consecutive number within each class – you can convert up to 256 airplanes for each class;
 99 - is a consecutive number for the texture.

Converted aircraft (together with their names and classes) are also recorded in a private aircraft registry ([FS]\LTA\COMMON\AIRCRAFT.REG).

Technical Note: Conventions on converted aeroplanes

Aeroplanes in the "FS Aeroplanes:" and in the "FSTraffic Aeroplanes:" lists are matched according to a simple ASCII (case sensitive) comparison of the names used in the AIRCRAFT.CFG files related to each plane; for this reason, if there are several aircrafts – even different ones – but with EXACTLY the same name, it is not possible to convert all of them (the first converted one will hide the others).

Example: You installed two B747s. The first one is placed in the [FS]\AIRCRAFT\B747_1 directory and the second one in the [FS]\AIRCRAFT\B747_2 directory. Both AIRCRAFT.CFG files call their aircraft with the same name – see the "title=" line:

[FS]\AIRCRAFT\B747_1\AIRCRAFT.CFG	[FS]\AIRCRAFT\B747_2\AIRCRAFT.CFG
[fltsim.0]	[fltsim.0]
title=simFlight.com B747-400	title=simFlight.com B747-400
...	...

In such case only the first aircraft will be converted!

Technical Note: Converting aeroplanes enhanced with Abacus Aircraft Animator

When adding moving parts, Abacus Aircraft Animator saves a non-moving parts version of the aircraft in the [PLANE]\MODEL directory. This file is saved as [PLANE]\MODEL\[PLANE].MDL.NMP, where:

- [PLANE] is the name/type of the aircraft;
- NMP extension (Non Moving Parts) is added to the original MDL extension.

If the aircraft author supplied the non-moving model (NMP) as part of the distribution file, you can convert the aircraft as follow:

1. Quit FS
2. Rename [PLANE].MDL to [PLANE].MDL.MP
3. Rename [PLANE].MDL.NMP to [PLANE].MDL
4. Load FS
5. Convert the plane
6. Quit FS
7. Rename [PLANE].MDL to [PLANE].MDL.NMP
8. Rename [PLANE].MDL.MP to [PLANE].MDL

WARNING: We found out that, sometimes, even moving parts versions are converted by FST Aircraft Converter. In these cases, the code will NOT be properly converted, thus the result may look really strange as shown in the following image.



In such situation FS may freeze! For this reason we warmly suggest to remove any moving parts converted aircraft from the converted aeroplanes library as soon as possible.

Technical Note: Aeroplanes height on the ground

Some users reported that it may happen to see aeroplanes floating on the ground during taxiing. Starting from version 1.03 and above, FST is able to determine the aircraft height on the ground. Each aircraft height is saved in a separate file within the [FS]\LTA\COMMON directory.

File name convention is:

778888.STA, where: 77 - is the class number;
 8888 - is a consecutive number within each class.

If you have already converted one or more aeroplanes with a previous release, you only need to open and close the "LAGO | FSTraffic | Aircraft Converter..." menu. If the original FSFS aircraft is still installed in your [FS]\AIRCRAFT directory, the proper STA file will be generated. If the original FSFS aircraft is missing you may get strange results, like seeing aeroplanes taxiing below the ground.

To adapt ILS Tracks to this new mechanism all you have to do is to regenerate them. Unfortunately, User Tracks need to be recorded again in order to see aeroplanes at the correct height on the ground. We are sorry for any inconvenience but there was no way for us to automatically correct your old tracks.

NOTE: User Tracks generated with previous versions of FST are compatible even with this version. The only limitation is that, aeroplanes on the ground maybe represented with a wrong height.

Technical Note: Aeroplanes lights (FS2000 only)

During night, when aeroplanes changes their visual representation to the high resolution one, it may happen that their lights disappear. This problem depends on how aeroplanes were designed and NOT on FSTraffic converter.

Playing traffic

Playing traffic is an easy task: in the “Your first look!” chapter you have already discovered the fundamentals about how to get traffic at KORD.

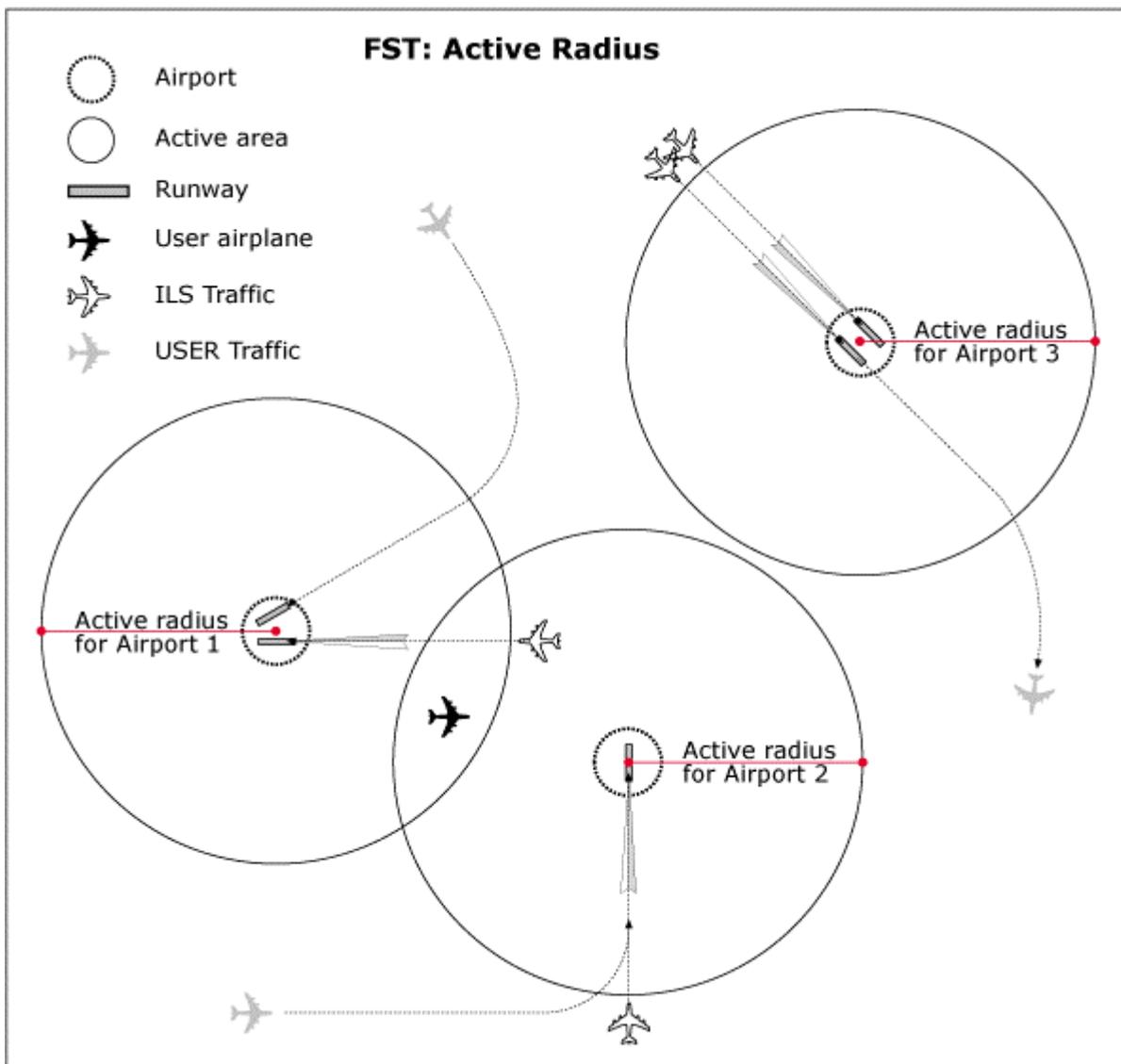
In this chapter you will find a description about how the player works and a detailed explanation on how to use the parameters in the “Traffic Parameters” dialog box.

How the traffic player works

Once you activate the traffic, FST will check your position against airports that are close enough. If you are flying within one or more Active Area(s) FST will start showing both ILS Traffic and USER traffic for these airports.

Each Active Area is defined by the Active Radius, positioned in the center of an airport.

The player will constantly track your position, starting and/or stopping traffic as you enter or leave an active area. This means that there is no traffic outside the area you are in, meaning that the workload on your system is always optimized.



As your aircraft can be within the active area of more than one airport, traffic will be shown within ALL the active airports (Airports 1 and 2 in the figure). The maximum allowed number of active areas is 10.

Aeroplanes

Aeroplanes displayed by the player are randomly chosen from the library of converted aircraft.

USER Traffic aeroplanes are filtered depending on the track-class – assigned when the track was recorded. This means that you will never see a Tourism aircraft landing on a track defined for Medium and Large liners.

ILS Traffic is filtered depending the runway size. See “ILS Traffic Database Generator” chapter for further information.

To leave processor power as much as possible free to FS, there are two different representations for each class of airplanes. When aeroplanes are more than 1 NM far from you, FST player will represent them with a simplified version (see the table in paragraph “Technical note: Conventions for converted aeroplanes file names”, chapter “Converting aeroplanes”). Once aeroplanes get closer than 1 NM the converted version (with the same detail and textures included in the original plane) is used.

For this reason all aeroplanes in each class will look the same when the low resolution version is used.

Both simplified version and converted aeroplanes will show strobe lights – even if the track was recorded with strobe lights OFF. Have a look at a busy pattern at night, you will like what you see!

Converted aeroplanes will show the position of the gear, flaps, spoilers and navigation lights depending on what you did during the recording. See also chapter “Recording Traffic”.

On ILS Traffic tracks gear, flaps, spoilers and navigation lights are handled in a predefined pattern. See also paragraph “How tracks are generated” in chapter “ILS Traffic database generator”.

Winds

Tracks are played taking into account the **surface wind** setting.

When a surface wind it is set, runways of the current airport are filtered and only channels relative to runways against the wind are played. If the surface wind is not set, a random wind direction is assumed and runways are filtered according to it.

To set surface wind

FS98: see the “Winds” tab in the “World | Weather...” menu.

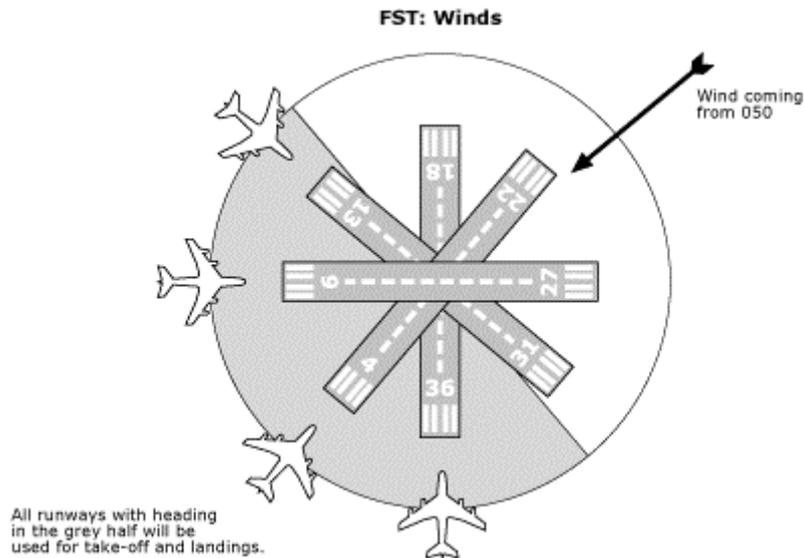
FS2000: select the “World | Weather...” menu; click on the <Advanced Weather...> button; click on the “Wind” tab; select the wind area closer to the ground (in the wind setting area on the right the title must read “Surface winds”).

NOTES:

(1) Do not forget that, the ‘Direction’ value you insert in this dialog, is the direction wind is coming from;

(2) 'Local' wind has an higher priority over the 'Global' wind. For example, if you set the 'Global' wind to 50°/5 Kts and the 'Local' wind to 90°/10 Kts, FST will use 90°/10 Kts to filter the traffic.

Given a wind direction, runways are filtered out in a range of 90° on each side; for example, if the wind is coming from 050°, runways from 230° - 90° = 140° (included) to 230° + 90° = 320° (excluded) are filtered out.



When the wind changes, channels are re-filtered and new aircraft will be generated only in the active channels. Aircraft already generated for channels pertinent to the previous wind are no longer valid and will be immediately removed if out of the visible range. Aircraft still within the visible range will complete their track.

NOTE: Winds generated by FST will not change while winds generated by the random weather generator of FS – or any add-on program or adventure – CAN change and will influence the generation of FST tracks.

Knowing about wind when approaching an airport

Actually, random generated wind, does NOT generate any wind! FST simply calculates a wind direction, then it filters the traffic pattern accordingly. However it will be better for you to know about wind (FS or FST one) when approaching an airport: with FST, in fact, we suggest that you do not land on the first runway you see... Never forget that other aeroplanes are in your vicinity. You do not want to destroy your brand new plane, do you?

Every time you enter within an active airport area, a message will inform you about the runways in use. The messages will depend on the kind of wind (FS or FST) set and tracks recordered for the airport. Sample messages are:

FSTraffic: no active airport.

No active airports are available in this moment. In case of doubt check that traffic is activated in the "Traffic Parameters..." dialog.

FSTraffic – KORD: runways in use 4L. Ground wind 140 degrees at 5 Kts.

KORD airport is active and surface wind is set through FS.

FSTraffic – KORD: runways in use 18, 22L, 27, 31R.

KORD airport is active and a randomly calculated surface wind is used by FST to filter traffic.

FSTraffic – KORD: no runways in use.

KORD airport is active but there is no valid track for current winds setting.

NOTE: Only runways for which tracks are recorded will be shown in these messages.

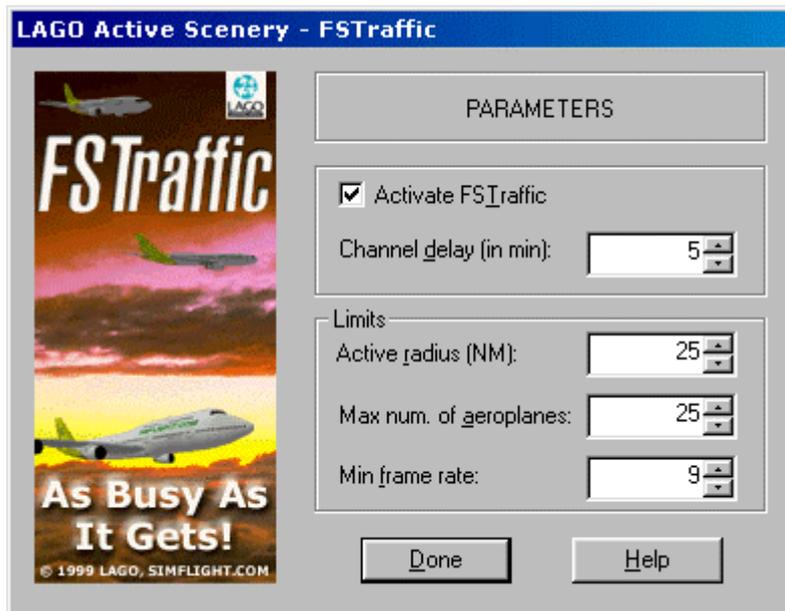
If you need to see the messages again for ALL the active airports, select the “LAGO | FSTraffic | Airport Status” menu.

Player turn

When a new track is started, the player position is checked and any track that starts very close to the player position is skipped if the player is in the *immediate surroundings*. This will leave you a place in the landing or taking-off queue.

The “Traffic Parameters...” dialog box

This is the ‘control center’ for traffic!



The following fields are used to configure traffic:

Activate FSTraffic: Check this field to start the traffic player.

Channel delay (min.): The delay, in minutes, between two consecutive aircrafts ON THE SAME CHANNEL. If, as it usually would be the case, there are several channels, the player will ‘interleave’ them. So, for a channel delay of 1 min and 4 channels available, a new aircraft will be started every 15 sec. Set a small value to increase the traffic – and the possibility of traffic jam!; a bigger value will produce less traffic. Recommended value is: 5.

- Active radius (NM):** The distance (in nautical miles) from an airport where traffic is active. Beyond this distance the traffic is not active. When flying **outside** the active radius the traffic is not removed abruptly: all active tracks are left to complete their natural paths, but new ones are simply not generated. Eventually, all traffic at this airport will stop.
Set a small value to reduce the area around each airport from where you may see traffic.
Recommended value is: 25.
- Max # of aeroplanes:** The maximum number of aircrafts played at the same time. When this limit is reached, new tracks will not be started until some of the old ones ends.
This value includes ALL the active airports: if there are 2 or more active airports, some aeroplanes will be shown on the first one and others on the second one. This limitation includes both USER Traffic and ILS Traffic.
Set a small value to reduce the traffic; a bigger value will produce more traffic. Recommended value is: 25.
- Min frame rate:** The minimum acceptable frame rate. When this limit is reached, new tracks will not be started until some of the old ones end AND the frame rate raises above the minimum.
Whatever values you enter in the previous fields this is your 'warranty policy' you will be always able to fly!
Recommended value: 9~12.
It mainly depends on the computer power and on the scenery detail: with a small computer and/or a very detailed scenery, the frame rate can easily drop below this limit even **without any traffic** and therefore no traffic will be shown at all!

Once you have set all the parameters click on the <Done> button to return to the simulator.

Any change will be immediately taken into account by the FST player module. After having recorded your own tracks, you can experiment by changing the Traffic Parameters settings to find out the best values for your airport: be sure to include these findings in your pilots documentation if you are going to exchange tracks with friends.

If you change your scenery configuration, by installing/removing and activating/deactivating a scenery, you may want to generate the ILS tracks again. For this reason, in such cases, the traffic player will issue a reminder dialog after you activate the traffic.

Things you need to know

Traffic is not shown?: If you generate ILS traffic or create your own tracks **AFTER** having activated traffic, in order to see the traffic you **MUST**:

* Position your aircraft at a different airport (flying, slewing, loading a situation or through the "World | Go to" menu).

OR

* Deactivate and then reactivate traffic;

If the traffic is still not shown:

* You may have set a too small value in the “Max number of aeroplanes” field (“LAGO | FSTraffic | Traffic Parameters...” menu): traffic may be too far, then out of view;

OR

* You may have set a too high value in the “Min fram rate” field (“LAGO | FSTraffic | Traffic Parameters...” menu): FSTraffic will not display aeroplanes if your actual frame rate — you can see its value (FRAMES/SEC=) by pressing [SHIFT][Z] a couple of times — is equal or less the value set in this field!;

OR

* Traffic depends on wind: if you did not set any wind value, FST may generated a value that does not allow traffic on the runway you are looking to. See chapter “Winds” for further info;

OR

* Do not forget that, after having installed FST, you must use the “LAGO | FSTraffic | Traffic Generator...” menu item at least once; also, while traffic is shown in SLEW mode, you will not be able to see it if you are in PAUSE mode!

After having created the ILS database, the airport registry will be recreated every time you load FS. This is needed to ensure that the airport registry is always aligned with track files.

Technical Note: Collision check

When tracks are being played, the collision check prevents aircraft from crashing into one another. Collision check may put your processor under deep stress! To give you an idea, with 20 aircrafts being moved around, there should be $20 \times 20 = 400$ tests. Each test should calculate the hypotenuse of a triangle (i.e. 2 square powers and 1 squared root) to get the distance between the aeroplanes and several trigonometric functions to determine which one is ahead and which is behind. And this for **each frame!**

We tried to be effective reducing the number of calculations as much as possible. However, we were forced to come to a compromise. We feel that the current mechanism has little effect on the frame rate and can still give reasonable results.

Here are the fundamental rules followed by the FST collision check routines:

- a) Objects which are far away enough to be drawn with the simplified model are not checked – at at these distances you cannot spot if two simplified models are colliding or sliding one behind the other;
- b) Objects which are not on the ground are not checked;
- c) An object which is “on the ground” is checked only against other on-ground objects, in which case the distance between them is computed. If this distance is below a minimum, the object behind is slowed down.

There are two levels of “on the ground” objects: objects *simply on-ground* (vs. airborne) and objects *on-ground and slow* (25 kts or below). Two entries in the [FS]\LTA\LTA.INI file allows to customize the collision check as follow:

- 1) The collision check level: none, simply on-ground, on-ground and slow;
- 2) The threshold distance under which starting to slow down the object.

You can change these values by editing the _LTA.INI file (with any text editor). Open the file then look for the following lines:

```
[CollisionCheck]
MainSwitch=2
Radius=90
```

Where:

MainSwitch turns on/off the collision check. You can enter the following values:

- 1 = large check: all on-ground objects are checked;
- 2 = strict check: only on-ground AND slow objects are checked;
- 3 = no check.

Radius is the minimum distance between two objects under which collision check starts slowing one of the two. The value you insert here is expressed in meters. You can enter any value between 20 and 500.

Make sure you save it as clean ASCII file and be sure to restart FS.

NOTE: The *on-ground and slow* status of an object is recognized and recorded during track recording. When in slew, FS98 does not update the on-ground and the speed internal variables: therefore, tracks recorded in slew will never be taken into account by the collision check routine.

Please note that, in order to keep the number of calculations as low as possible, the collision check is not perfect: you may occasionally see an aircraft taxiing into another one.

Technical Note: FST and the default dynamic scenery

The default dynamic scenery is automatically turned off when the traffic starts and restored to the original status when the traffic is closed. However this only happens once, when the traffic is activated or de-activated, NOT while the traffic is running. If you turn on some kinds of dynamic scenery WHILE the traffic is active, FST will NOT insist on turning it off.

There is an item in the [FS]\LTA\FSTRAF\FSTRAF.INI file which controls this behaviour:

```
DynamicsOff=1
```

Where you can enter the following values:

- 0 = DO NOT turn off default dynamic scenery when starting showing traffic;
- 1 = DO turn off default dynamic scenery when starting showing traffic.

ILS Traffic Database Generator

The ILS Traffic Database Generator (ITDG) allows you to easily generate a database that is used by the FST player to display traffic on any runway that includes an ILS system.

ITDG works with scenery expressly created for FS98 and/or FS2000, meaning that it must show an entry in:

- FS98: the Airport Facility Directory - see "World | Airport/Facility Directory..." menu.
- FS2000: the "World | Go to Airport..." menu.

NOTE: If you are using a scenery that uses the default values in such menu but moves the runway(s)/ILS(s) to a different location, you may see traffic landing and taking-off outside the runway(s).

To open the ITDG dialog box select the "LAGO | FSTraffic | Traffic generator..." menu. You will be presented with a dialog box. Click on:

- <Yes> to proceed with the generation of the database;
- <No> to cancel the operation.

The database creation process create ILS Tracks for ALL installed airports thus it can take some minutes, depending on the size of your scenery collection, please be patient.

How tracks are generated

ITDG will write calculated tracks in a separate file for each airport. Tracks are saved in the LTA\COMMON directory; the format used for the file name is: [ICAO-ID]_ST – where ICAO-ID is the ICAO identifier for the airport.

If the airport has more than one runway with the same orientation, i.e. 14L and 14R, ITDG will create LANDING tracks on the LEFT runway and TAKE-OFF tracks on the RIGHT one. Traffic for all other runways – CENTRAL ones and unique runways, like 36 – will be generated for BOTH LANDING and TAKE-OFF.

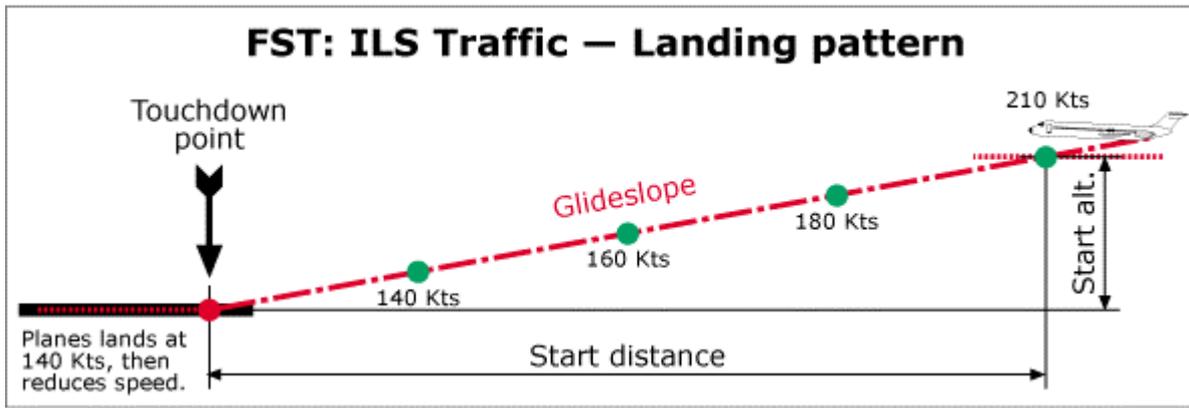
ILS tracks for each airport are generated ONLY if there are NO USER tracks for that airport.

ITDG calculates tracks as follow:

LANDING

The aircraft is positioned at the Start Distance (20 NM) and Start Altitude (4000 ft/AGL). It will proceed in level flight until crossing the glideslope, then it will start to descent to the touchdown point whilst at the same time reducing its speed.

At 1200 ft/AGL full flaps are extended, then the gear is lowered.



The approach speed is always the same and starts at 210 kts, then is gradually reduced to landing speed (140 Kts.)

After touchdown speedbrakes are extended and, at 60 kts, they are retracted. At 25 kts also flaps are retracted.

After the aircraft lands it will reduce speed until a complete stop. Once stopped it will disappear.

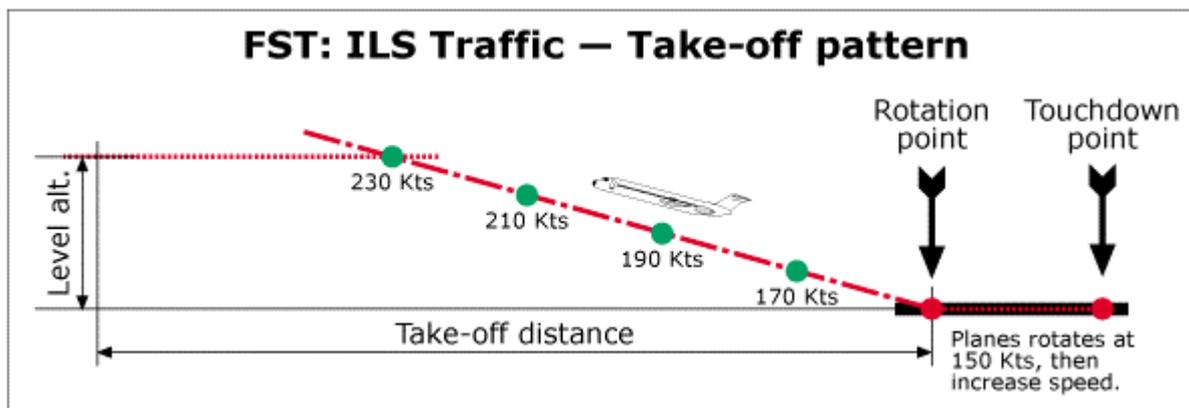
TAKE-OFF

The aircraft is positioned at the touchdown point. It will then start to gain speed, at the rotation point it will take-off climbing at 2000 ft/min.

At 300 ft/AGL it will retract the gear.

Once it reaches the Level Altitude (5000 ft/AGL), it will level and continue the flight until it reaches the Take-off distance (20 NM). Then it will disappear.

Speeds during take-off are shown on the following image:



Classes

Only the following classes are shown on the ILS Traffic tracks: Medium Liners and Large liners.

ILS database maintenance

Only activated sceneries will be converted by ITDG. For details about how to activate/deactivate scenery areas, see FS menu “World | Scenery Library...”.

If – after having created the database – you activate/deactivate or install/uninstall a scenery area, the first time you open the “Traffic Parameters...” menu, FST will remind you that the scenery configuration is changed: run the ITDG utility again to be sure that ILS Traffic will show on every newly installed airport.

If you have installed THE TRIANGLE, the first time you activate traffic in a new FS session, a dialog will remind you that the scenery configuration has been changed. This is due to the fact that THE TRIANGLE checks your WORLD.VIS file while FS loads. If you have not changed the scenery configuration you can ignore the message.

Recording traffic

If you are able to fly, recording traffic is a simple operation. FST is able to sample the following information at regular intervals:

- Position (latitude and longitude)
- Altitude
- Heading, pitch and bank
- Speed
- Gear, flaps, spoilers and navigation light settings
- Ground/airborne status
- Above/below collision check speed status

If you activate the recorder every time you take-off or land (you can even record complete short flights) you will soon have a sizable collection of FST tracks to liven up your surroundings.

Recording a new track will in no way interfere with your flying or any instrumentation. FSTraffic allows you to “get on with the job at hand”.

Recording a track: a step-by-step guide

Basically you must fly: let me now show you how to record your first track at Chicago O'Hare!
It will be a take-off, on the simFlight.com 737-300, from runway 14R.

1. Load FS.
2. Open the "Flights | Select Flight..." menu.
In the "Available Flights:" list, highlight "FST – MY FIRST RECORDING", and then click on the <OK> button: you will find yourself in the simFlight.com Boeing 737-300 positioned at the holding point for runway 14R at Chicago O'Hare Intl.
3. Press [S] to enter in the cockpit.
4. Switch NAV LIGHTS to ON.
5. Set flaps to 15 by pressing [F7] five times.
6. Open the "LAGO | FSTraffic | Start Recording..." menu.
The RECORD DATA dialog box appears.



Here you must instruct the recorder about what you are going to do. The dialog box is divided in four areas: "Airport", "Class", "Record Type" and "Sampling Interval".

First of all, let's fill in the area related to airport data ("Airport"):

- ICAO ID: Type the ID of the relevant airport – KORD – for Chicago O'Hare in this example.
- Press [TAB] to move to the next field: as soon as the the cursor leaves the field, FST retrieves from the relevant file the Airport name and the list of runways already used in previous recordings.

Airport Name: For the moment do not change this field, press [TAB] to move to the next field.
Runway ID: Type: 14 in this field, then click on the "3 (R)ight" field to select the runway you will use to take-off.

Now check any combination of classes in the "Class" area. This track will be played back by aircrafts randomly chosen among all aircrafts belonging to all checked classes: in this example check only the "Medium Liner" class and uncheck all the other classes.

Then, we define the "Record Type" area:
Record Type: Click on "Take-off" – we are about to record a take-off.

Finally we decide about the "Sampling Interval":
Sampling Interval: Click on "2 secs" – a sample every 2 seconds is fine in most cases.

When you are ready to go:

7. Click on the <Start!> button.
8. Open the "LAGO | FSTraffic" menu: the recorder will NOT record when you open a menu!

Note that the "FSTraffic" menu is changed. The following items are now available on the menu: Abort Recording, Stop Recording and Insert Message...

Select the "Insert Message..." menu, the MESSAGE dialog box appears on the screen. We will use this dialog box to simulate the take-off clearance to the ATC and get its authorization. Fill the fields as shown here below:

Message Text: Type: Chicago Tower, 737 requesting take-off clearance...
WAV File name: Type: LTA\WAV\737TOC
COM Frequency: Type: 119.10

9. Click on the <Insert> button.
FST will present a dialog box stating that the WAV file you chose does not exist: click on <Yes> to proceed anyway.
Wait about 20~30 seconds – to calculate time look at FST recording window.

10. Open the "LAGO | FSTraffic | Insert Message..." menu again.
We now need to record a message for the clearance. Fill the MESSAGE dialog fields as shown here below:

Message Text: Type: 737, cleared for take-off...
WAV File name: Type: LTA\WAV\737CTO
COM Frequency: Type: 119.10

11. Click on the <Insert> button.
Ignore the warning message and – when you are ready to take-off – click on <Yes>.

12. Take-off: you already know how to do it, don't you?

Feel free to pause the simulation (using the [P] key) when needed: the recorder will NOT record pauses!

13. Retract flaps pressing [F6] five times – do NOT forget the landing gear!

Once you reach 1500 ft:

14. Open the "Aircraft | Autopilot..." menu and set the autopilot as follow:

- Autopilot: ACTIVE
- HDG: ACTIVE and set to 140
- ALT: ACTIVE and set to 5000 ft (set also +2000 as your vertical speed)
- AAT: ACTIVE
- ASH: 250 Kts

15. Click on the <OK> button: the aircraft will continue the flight heading 140.

When you are about to reach 5000 ft:

16. Open the "Aircraft | Autopilot..." menu and set the autopilot as follow:

- HDG: set to 210

17. Click on the <OK> button: The aircraft will turn to the right.

In a few minutes your aircraft will be stabilized at 5000 ft flying heading 210.

Once the aircraft is stabilized:

18. Open the "LAGO | FSTraffic | Stop Recording" menu.

A dialog box will ask you to confirm your choice.

19. Click on the <Yes> button to stop the recording and save your track on the hard disk.

NOTE: Press the [ESC] key if you want to continue the recording.

Congratulations: you just recorded your first track with FST!

It is now time to see the results of your effort.

20. Open the "LAGO | FSTraffic | Traffic Parameters..." menu.

21. Click on "Activate FSTraffic": be sure a checkmark is present! Then set parameters as follow:

- Channel delay: 3
- Radius activity: 20
- Max number of objects: 20
- Min frame rate: 1

22. Click on the <Done> button.

Remember... your aircraft is still flying!

23. Open the "Flights | Select Flight..." menu.

In the "Available Flights:" list, highlight "FST – CHECKING MY FIRST RECORDING", and then click on the <OK> button. You will see a map view of the airport. You are positioned at the beginning of runway 32L.

24. Set your COM radio to "119.10" to see the ATC messages.

In a while you will see an aircraft at the top of runway 14R, then an ATC message appears: "Chicago Tower, 737 requesting take-off clearance..."; in 20~30 seconds another ATC message: "737, cleared for take-off...": this is a replica of your flight!

25. Press [CTRL][SHIFT][S] to set the cockpit view.

In the distance a shape resembling a medium class liner is getting on the runway and coming closer...

Follow the aircraft using the [+] and [-] keys to set the proper zoom level. Use [SHIFT][ENTER] to lower the view and [SHIFT][BACKSPACE] to raise it.

You will notice that, once the aircraft comes to a closer distance, it will change shape to reflect the medium class aeroplanes you converted. It can be either the simFlight.com B737 or the A300, taking-off from runway 14R and following the track you just flown: exited?!?

Before proceeding it is a good idea to restore all items in the "Traffic Parameters..." dialog to their default values:

Channel delay: 5
Radius activity: 25
Max number of objects: 25
Min frame rate: 10

I just realized that we forgot to record the ATC voices. No problem, FST keeps a list of voices to be recorded. Open the [FS]\LTA\WAV_LOG.TXT file with a text editor.

The file listing will look something similar to:

```
Missing WAV: KORD 14R C:\PROGRAM FILES\MICROSOFT GAMES\FLIGHT
SIMULATOR\LTA\WAV\737TOC.WAV "Chicago Tower, 737 requesting take-off clearance..."
Missing WAV: KORD 14R C:\PROGRAM FILES\MICROSOFT GAMES\FLIGHT
SIMULATOR\LTA\WAV\737CTO.WAV "737, cleared for take-off..."
```

This list is basically a reminder about which WAV files needs to be prepared.

Record the voice files with your preferred sound recorder (Windows comes with its own one; if you want to go professional, we suggest to have a look at Cool Edit 96 – <http://www.syntrillium.com>) taking care to save the files in the proper directory and with the proper name.

You will not need to restart FS neither the traffic: FST player will look for voices files every time it needs them.

Recording a track: a deeper look

Now that you have a clearer idea on how to record a track, we will explain some details about tracks and tips about how to record them.

Runways, channels and tracks

To get the best results, you should understand some concepts.

FST Runway:

Well, we all know what a runway is, don't we? However, it is better to make clear that – in FST – a runway is defined as **each of the two directions in which a landing strip can be used**.

For example: 9L and 27R are **two** different runways (on the same strip).

FST allows a maximum of 16 FST runways – 15 if there is a ground track – for each airport.

Channel:

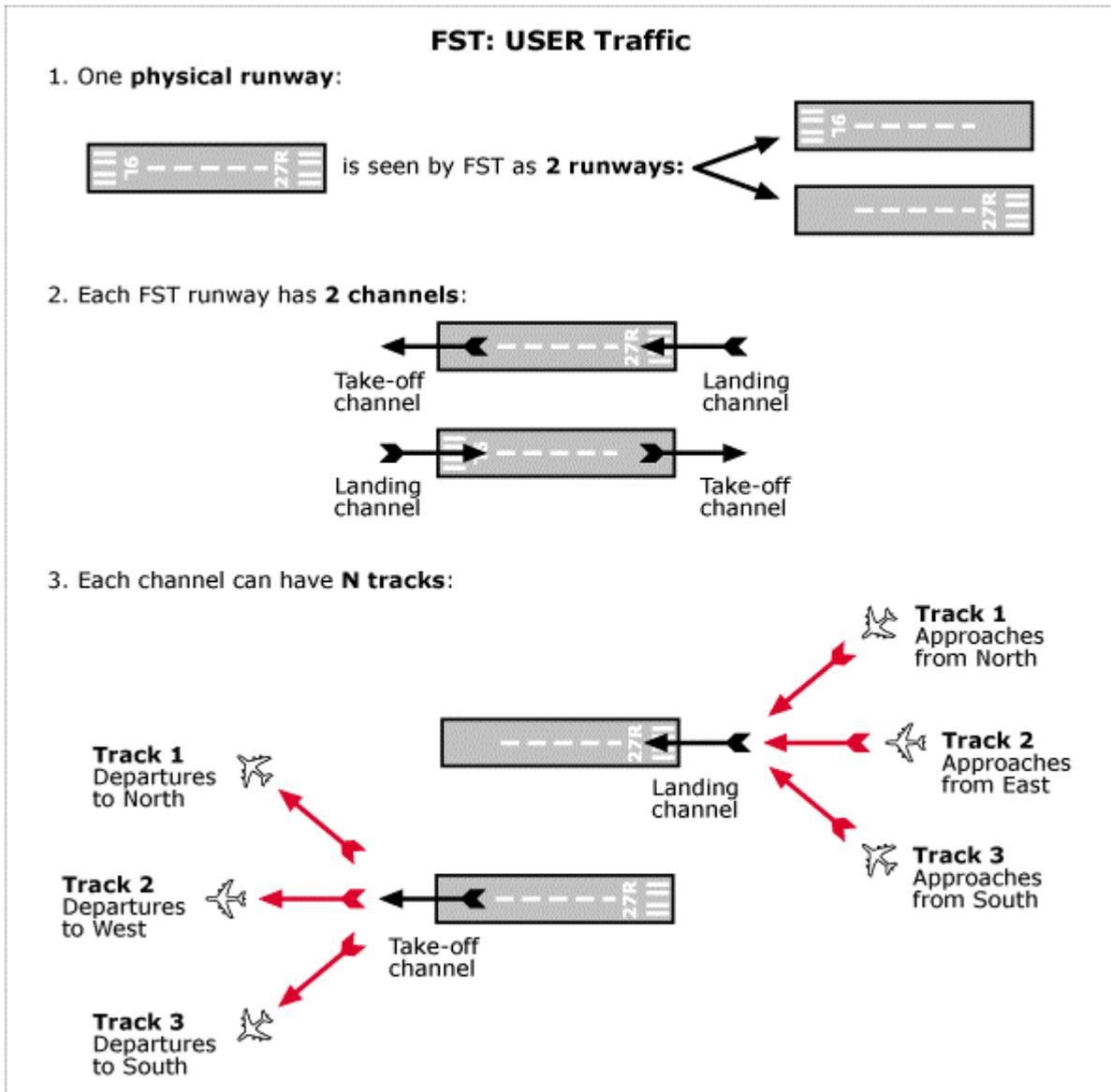
Each runway can be used for landing and/or for take-off. Landings and take-offs are structurally different for FST, each of them being a **channel**. So, an airport with just one strip (like Meigs) has **two** FST runways (36 and 18) and **four** channels (landing on 36, taking-off from 36, landing on 18, taking off from 18).

FST recognizes 2 channels for each FST runway of each airport.

Track:

A track is a (recorded) path that an aircraft will follow during playback. A track belongs to a channel.

You can record an UNLIMITED number of tracks for each channel.



Tracks are played as they have been recorded. The only intervention is that a final 10 sec resting period/pause is added to the landing tracks.

Aircrafts suddenly appear at the track start and suddenly disappear at track end.

There can be several tracks for a channel, i.e. several recorded paths all landing to (or taking-off from) the same runway, but following different paths (for example: different SIDs or STARs, landings to/take-off from different gates). If you record more than one track in a channel, each aircraft of that channel will follow a different track when played back. After FST has used all the tracks, it will start again with the first track of the channel.

You do not need to restart FS or the FST player to be able to see a newly recorded track.

Recording dialog box

ICAO ID: Enter the ICAO ID of the relevant airport (i.e. "KORD"). The ID will be used to form the file name under which all tracks for this airport are saved.

Each track belongs to an airport and to a runway. All tracks for an airport are kept together in a single airport file. Airports are matched according to their ICAO ID and their files are named:

[FS]\LTA\COMMON\[ICAO-ID]_.ST

For example, tracks for Chicago O'Hare are saved to KORD_.ST.

There is no limit to the number of airport files. Each airport can have up to 16 FST runways and any number of approaches or take-offs for each runway.

NOTE: If you do not know the ICAO code for an airport, FS98 can help you.

Open the "World | Airport/Facility Directory..." menu; select the area where your airport is; scroll the list until you see the needed airport (in the following example London City):

London, United Kingdom - London City				
ID	Elevation	Latitude	Longitude	ATIS Freq.
EGLC	+17	N51° 30.30'0	E0° 3.40'	***

Right below the ID field you can read the ICAO code of that airport.

If you are using FS2000, download the ICAOCODES.ZIP file at the following address: <http://fstraffic.com/fst/downloads/icaocodes.zip>

Airport Name: Enter the descriptive airport name. We suggest the "Airport – City" format (for example: "O'Hare Intl. – Chicago").
NOTE: Up to 32 chars are allowed in this field.

Runway ID: Enter the runway identification number (i.e. "36").
This field accepts only numbers from 0 to 36; 0 is silently converted to 36. If a value greater than 36 is entered FST issues an error message. Click on the runway identification class (i.e. "3 (R)ight").

NOTES:

Use "0 (N)one" when there are not duplicated runways of the same orientation.

Use "4 (H)eli" when recording traffic using helicopters.

Linking a track to a runway is necessary to filter active runways (and traffic!) according to the wind and for future implementations.

The combo box on the right of the "Runway ID" field, lists all the runways already known to FST for this airport. To select one of these runways – for example when adding a new track – you may simply

select it in the combo box: doing so, the "Runway ID" fields will be automatically set.

Record Type:

Pay attention when defining the track type! Use the following values accordingly to the kind of track you are about to record:
Approach/Any => For tracks approaching and/or landing on the airport.
Take Off => For tracks taking-off from the airport.

We found out that, if your track includes a take-off, it is better to set it as a Take-Off track.

Ground => If you want to record ground traffic (buses, follow-me trucks, etc.).

As Ground tracks are shown regardless wind setting, you may use them to place static aeroplanes within the airport. In such cases be sure to select the proper classes AFTER you clicked on the <Ground> button. If you use FST for this purpose try to make your recordings quit long (10 minutes or so).

NOTE: There is only ONE ground channel per airport (with as many tracks as you want), which takes over one runway slot. This means that:

- a) if an airport has ground tracks, it has room for only 15 FST runways;
- b) all ground tracks are played as a single channel.

NOTE: FST pre-sets this choice to a reasonable value whether you are on ground or airborne when entering the dialogue: in the first case (on ground) a take off track is assumed, otherwise (airborne) a landing track is assumed.

You should always check to see if the default value set by FST is correct. If it is wrong then change it to your preferred value.

Class:

Check any combination of classes in this area. The track will be played back by aircrafts randomly chosen among all aircrafts belonging to all checked classes.

Sampling interval:

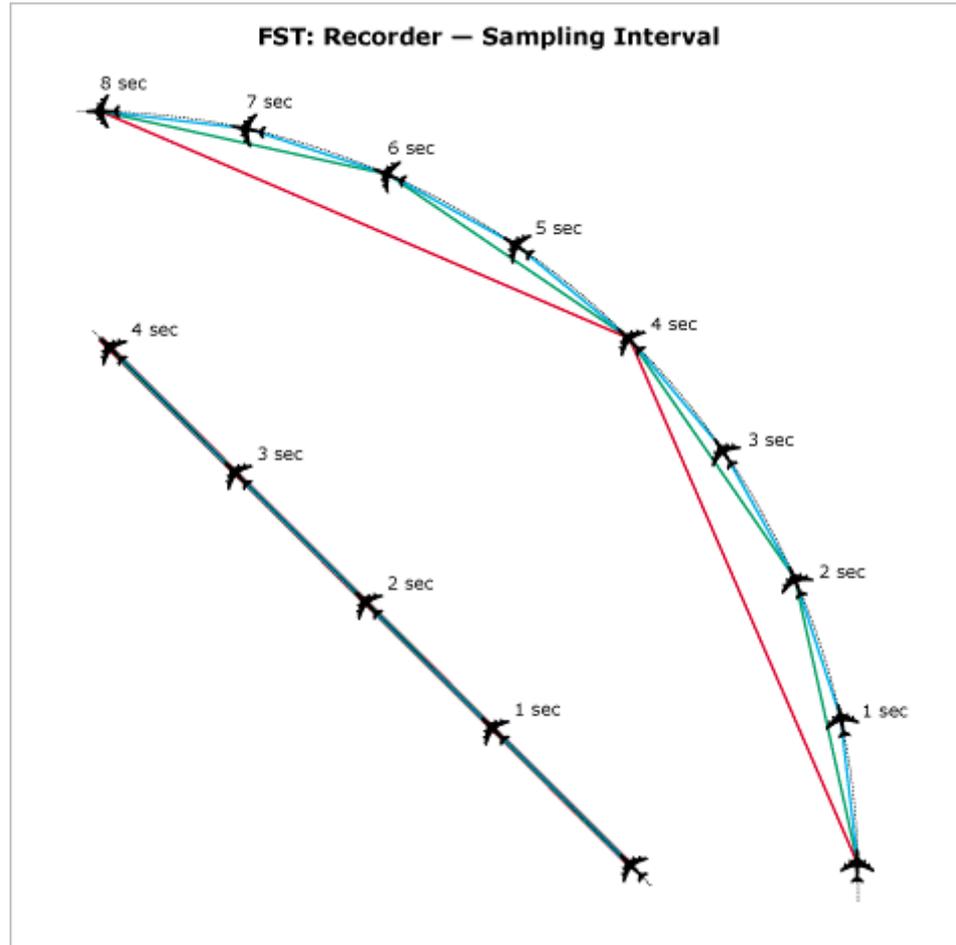
There are 3 possible sampling intervals: 1 sec, 2 sec, and 4 sec.

In the following picture you can have a better idea of the sampling interval.

There are two examples: the first one shows a aircraft turning left on a 90° turn; the second one shows a aircraft flying straight.

Paths flown by the aircraft are shown with a black, dotted, line.

Curved path: setting the Sampling Interval to 4 seconds (red line) tends to make FST approximate the path of the aircraft and is less accurate when it's displayed; By using a 2 seconds sampling frequency (green) the path is much closer to the original flown by the plane; with a 1 second (light blue) interval you can reproduce almost exactly the same path!



As you can see, a small sampling interval will make the track much more precise; the drawback is that the resulting recorded file (*_.ST) will be bigger than the one recorded with a lower sampling interval. The length of a 4 second interval record is almost ¼ of the length of the same record at 1 second – as only ¼ of the points are saved to disk. Moreover, when the track is played back, it will be loaded into memory, thus, using the proper sampling interval you will optimize RAM usage.

Straight path: there is practically no difference at all in using different sampling intervals apart a bigger file and more need for RAM memory.

We experimented with different settings and found out that, in most cases, the best setting for the sampling interval is 2 seconds.

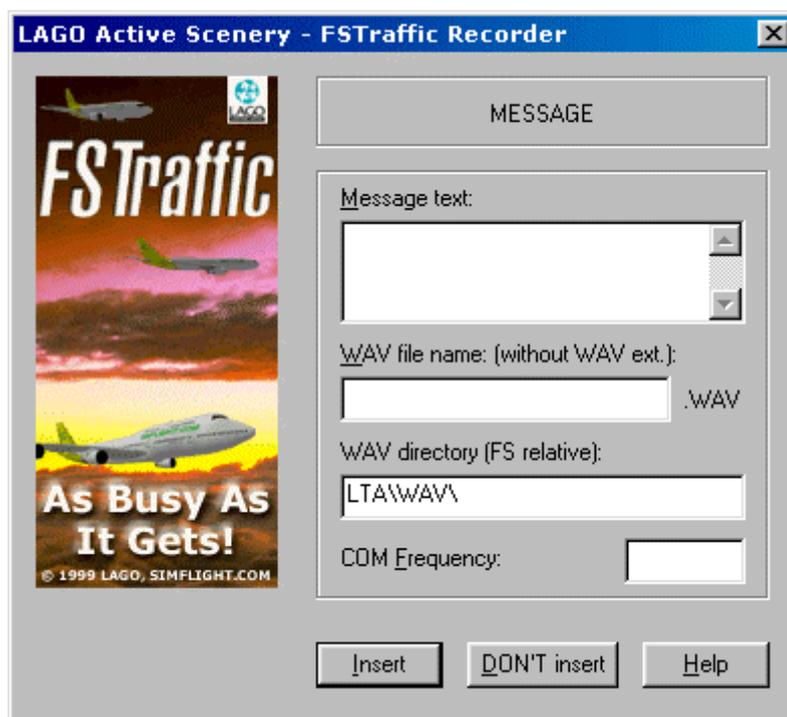
Don't Record: Click on this button if you want to exit the dialog without starting the recording.

FSTraffic menu items – Selectable only when the recording is in progress

Abort Recording: Exit the recording session WITHOUT saving the track.
NOTE: Press the [ESC] key if you want to continue the recording after you selected this item.

Stop Recording: Exit the recording session SAVING the track to the hard disk.
 NOTE: Press the [ESC] key if you want to continue the recording after you selected this item.

Insert Message... : This item can be used to insert a message at any stage of the flight. During track playback, when the *played* aircraft reaches the position where you inserted the message, the text message will be shown on the screen (just like an ATC or adventure message) and the WAV file will be played.
 By selecting this menu item, you will be presented with a dialog box including the following fields: "Message Text", "WAV File Name", "COM Frequency".



In the "Message Text" field, type the message you want to see. If you only want to play a WAV file do NOT insert anything here (not even a space!).

In the "WAV File Name" field, type the full path of the WAV file.
 NOTE: The path must follow FS standards, meaning it must be relative to FS main directory. You do not need to type the .WAV extension.

For example, if you want to play a sound which path is: [FS]\ADV\WAV\AUTHREQ.WAV you should enter: ADV\WAV\AUTHREQ

If the file is not present, a warning dialogue appears allowing you to:

- a) Correct the file name;
- b) Proceed with the chosen file name;
- c) Cancel the insert message operation.

If a non-existent WAV is wrongly inserted, FST will automatically generate an entry in the [FS]\LTA\WAV_LOG.TXT file. The entry

includes: airport ID, runway ID, WAV file name (its complete path) and the text of the message.

The WAV_LOG.TXT file can be used as a reminder to implement missing WAV files later.

NOTE: This log file is never resetted: you have to manually remove its entries as soon as you implement the missing WAV(s) file(s)!

In the "COM Frequency" field, you MAY type the radio frequency on which the message will be played. When the track is played you will see/hear the message only if your COM radio is set to this frequency. If the field is left empty, the message will be played no matter how your COM radio is set.

The ability to add sound files can be used to simulate the radio messages between the ATC and the aeroplanes flying along recorded tracks.

For example, supposing you are recording a landing track, you may insert the following message: "Authorization request to land on runway 34L" at the beginning of the track; after a couple of minutes you can insert the following message: "Runway 34L cleared to land". When inserting messages, keep in mind that they will be played for several (different!) aeroplanes: so we suggest you be as "generic" as possible by adding words like Golf Lima Romeo instead of British Airways for example.

NOTE: In slew mode you will NOT be able to hear any message!

Once you finished to fill the fields in this message box click on the <Insert> button to add the message to the track.

If you open the "Insert Message" dialog accidentally, click on <DON'T Insert> to return to the simulation.

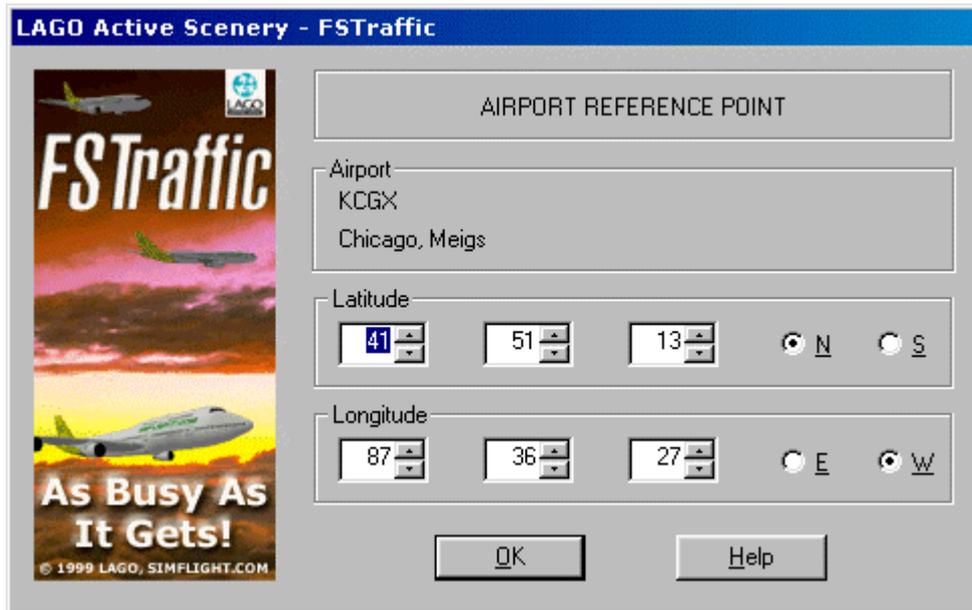
Setting the Airport Reference Coordinates

To be able to determine if you are flying within the active radius of an airport and thus start showing the traffic, FST keeps the LAT/LON coordinates of each airport in its relative *_ST file.

Now the coordinates are either:

- a) Taken from the ILS-generated ST file – if present;
- b) The starting point of the first USER Traffic track, if this is a take-off track;
- c) The ending point of the first USER Traffic track, if this is a landing track.

In the last two cases, at the right moment (i.e. the starting or the ending point of the first recorded track within a new airport), you will be presented with a dialog box showing the current coordinates and asking for a confirmation.



You may choose to edit these coordinates. After you confirm the coordinates, by clicking on the <OK> button, these will become the reference coordinates for that airport.

WARNING: The dialog box is presented only ONCE for each airport; after the coordinates are acquired, they are kept throughout the life of the ST file.

NOTE: If the traffic is activated while you are recording your FIRST track at an airport, you will need to deactivate and reactivate the traffic before you can see the newly added airport.

Tips about how to record tracks

* To easily create landing tracks, you may consider recording few tracks using the “Land Me” feature (see FS98 menu “Aircraft | Land Me” – NOTE: FS2000 does not include this feature anymore).

* The minimum delay between the aircraft of a track can be set at low as 1 minute. For this reason, it is advisable, particularly when recording take-off tracks, to move the aircraft away from the starting point soon, in order to have it at least 100~150 meters far from it after one minute. Otherwise, with the 1 minute delay setting, there is the risk that the next generated aircraft will collide with the previous one of the same track.

Conversely, while recording the **end** of a **landing** track, it is advisable to keep the final rest short too, well under 1 minute. Otherwise, the next aircraft on the same track will find its destination point occupied and will queue. After some time, a very long queue of aircraft may build up (even 10-15 aircraft) and the entire ground traffic of this airport will go bananas.

* It is wise to keep the starting point of different take-off and ground tracks far enough one from another so that the collision check routine will not discard any track. The minimum distance is defined in the [FS]\LTA\COMMON\PLAYINTF.INI file.

* To avoid collisions you should try to plan all your tracks in advance and try to get as many maps and charts for the airport you are going to record for. On real airports they have a huge fear for collisions and they plan all procedures to minimize these risks. Use their work to plan

your tracks! Many taxiways are one-way traffic only: you should use all this information when you record your tracks.

* Document your work well if you plan to exchange it with others. Make notes for each track that includes the procedure flown. Document what scenery you used for your traffic pattern. Save the documentation for each ST file in the same directory, as the ST file is located and use the ICAO code as the name (for example KORD.TXT).

* Always record with the scenery at full density, if you do not so, you risk having the played back track driving through objects that are only visible in higher density settings!

* To record departing tracks, include pushbacks – a feature included in our recently released MAD DOG.

* Use the audio feature extensively to make the airport come to life even more. Remember that the WAV files you record will be included when you exchange tracks with others; so keep them short and use low quality settings (8.000 or 11.025 Hz, 8 bit, mono) while you record to avoid the files becoming too large. Please remember NOT to distribute copyrighted material.

* Generally speaking, when recording traffic, you should avoid to record long tracks. This is due to several different reasons, longer tracks in fact: (1) need more space, both on the hard disk and in RAM memory; (2) take more time to show, the further they are from the airport the longer time will be needed to reach the airport.

We suggest to start your landing tracks and to stop your take-off tracks about 20~30 NM off the airport.

* When recording a track, while the aircraft is on ground, try to keep the speed of the aircraft below 25 kts as long as possible: the collision check will get better results no matter of its settings.

* Using a fixed gear aircraft to record tracks will always show the played back aeroplanes with gear down.

* Avoid recording tracks with a tail-dragger aircraft: as the recorder takes into account your pitch, you will get strange results with non tail-dragger aeroplanes at playback time!

Tips about mixing ILS and USER tracks

* To better fit the ILS tracks, record landings on 'L' runways and take-offs on 'R' runways. Central and spare runways can be used to record both take-offs and landings.

* You may want to get ONLY YOUR recorded traffic at a specific airport. If the airport is equipped with an ILS, after you generated ILS traffic for such airport, simply delete its [ICAO-ID]_ST file. Then start record your tracks: ITDG will not add ILS tracks in an ST file if it finds out that it contains one or more USER tracks.

NOTE: If you find additional tips for other users please email them to suggestions@fsttraffic.com: we will take care to include them in future versions of this manual.

Recorder timer

After you start the FST recorder, a small window showing the elapsed recording time (in mm:ss) is placed on the top-left part of the screen. With some video card arrangements, this window flickers: click once anywhere on the FS window to make it steady.



NOTE: You can drag the recorder timer window anywhere within the FS window.

Sharing tracks with other users

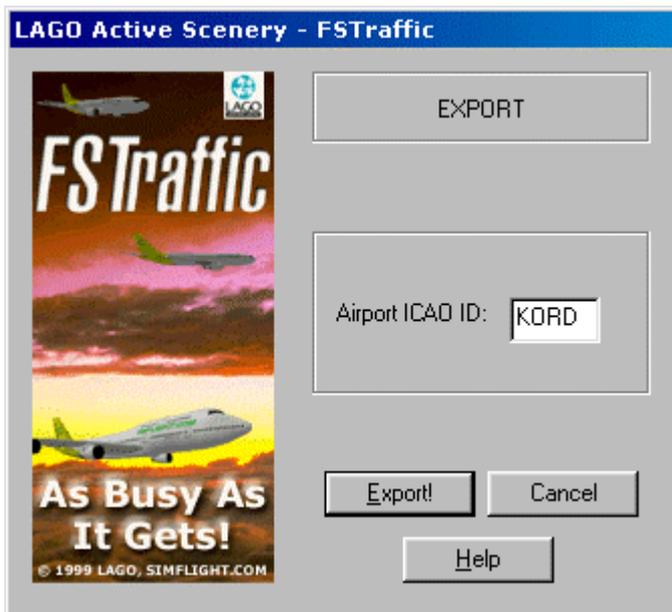
As explained in the “RECORDING TRACKS” chapter, tracks are saved in a file identified by the ICAO ID of the airport for which the track was recorded.

Supposing you are recording some landing tracks at New York JFK. In the mean time, a friend of yours, is recording take-off tracks for the same airport. Once you finished your recordings, each of you guys have a KJFK_*.ST: if you use your file you will only get landings and, installing your friend's one, you will only have take-off's.

To be able to share your tracks with friends do NOT send the *_*.ST files but use FST Import and Export utilities instead!

To export tracks

1. Open the “LAGO | FSTraffic | Export Tracks...” menu.
You will be presented with the EXPORT TRACKS dialog box.



NOTE: To exit the dialog at any time click on the <Cancel> button.

2. In the “Airport ICAO ID:” type the ICAO ID of the airport for which you want to export the tracks.

NOTE: Do NOT type the underscore “_” character used in all *_*.ST and *_*.STX file names; it will be automatically added by FST.

3. Click on the <Export!> button to export the tracks.

FST will generate a file including ALL your USER recorded tracks AND WAV files for the selected airport. The file will be placed in the [FS]\LTA\EXPORT directory. The file name will be saved with the ICAO ID of the airport with the _*.STX extension.

Example: if you export tracks for Chicago O'Hare, the exported tracks will be saved in a file called: “KORD_*.STX”.

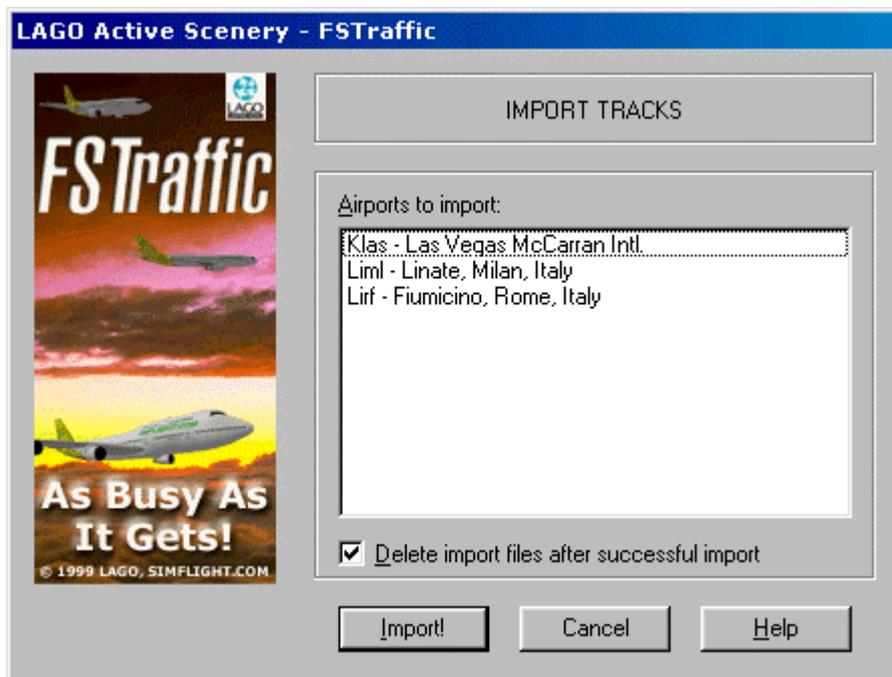
4. Use a WinZip (you can download it at <http://www.winzip.com>) to create a compressed file (ZIP). Be sure to add all the needed documentation in the ZIP file.
5. Open the e-mail program of your choice.
6. Create a new e-mail.
7. Attach the ZIP file to the e-mail.
8. Send the e-mail!

NOTE: When exporting tracks, you will copy them from the selected .ST file to the .STX file.

To Import tracks

Once you have one or more *_STX file(s) – either received by e-mail, downloaded at <http://fsttraffic.com>, found on a CD-ROM compilation, etc. – copy it in your [FS]\LTA\IMPORT directory, then:

1. Load FS.
2. Open the “LAGO | FSTraffic | Import Tracks...” menu.
You will be presented with the IMPORT TRACKS dialog box. The “Airports to import:” list will show all the importable airports files (*.STX) present on your hard disk in the [FS]\LTA\IMPORT directory.



NOTE: To exit the dialog at any time click on the <Cancel> button.

5. Select the airport(s) for which you want to import the tracks.
You do NOT need to use the [SHIFT] or [CTRL] keys for multiple selections: just select

more than one airport by clicking on each airport you want to import. If you select an airport by error, click on its entry again to deselect it.

3. Check the "Delete import files after successful import" field if you want to automatically delete the import (*.STX) file(s) when the import process is completed with no errors.
4. Click on the <Import!> button to import the tracks.
FST will import ALL the tracks for the selected airport(s). Tracks for new airport(s) will generate one or more new *.ST file(s) in the [FS]\LTA\COMMON directory; tracks for existing airports are added in the relevant file(s).
Needed WAV files will be placed in the proper directory.

Note on ILS tracks

Tracks created by the ITDG are marked with a special signature; this will assure that the Export and Import utilities never handle these kinds of tracks.

Warning

- (1) This version does not allow selecting a single track, we may add this feature in a future version.
- (2) Once tracks are imported to an existing file there is NO way to remove them. If you are not sure about the contents of the file you are importing, it is better you make a backup copy of the *.ST file BEFORE importing data into it.

Exchanging tracks at FSTraffic official web site

If you have created tracks that you wish to share with others you can upload them to <http://fstraffic.com>. In the download area you will find, ordered by geographical region, a growing collection of tracks that you can use in your setup.

Definitions

Channel:	Each FST runway has TWO channels: take-off and landing.
Class:	Classification of converted airplanes based on their size.
FST Runway:	Each physical runway is seen by FST as two separate ones.
ILS Traffic:	Traffic automatically generated on every runway equipped with an ILS system.
Immediate surroundings:	<p>Default values are: 85 m. for take-off tracks and 1500 m. for landing tracks, distances are measured from the user plane.</p> <p>If a new aircraft would appear closer than these limits, it will simply not be generated to avoid disturbing the user manoeuvre and to leave him a place in the take-off or landing queue.</p> <p>Two entries in the [FS]\LTA\COMMON\PLAYINTF.INI file allows a customization of these limits. For details, please refer to comments within the file itself.</p>
Track:	Is the path flown by the user when recording a track.
USER Traffic:	Traffic generated from tracks recorded by the user.
Visible range:	If aeroplanes are closer to the view point more than 2,048 m. (ca. 1 NM), they are shown with the fully detailed Flight Shop model (the limit of 2,048 m. depends upon Flight Shop aircraft internal architecture), from 2,048 m. up they are shown with a simplified model, generic for each aircraft class, provided by FST.

Frequently Asked Questions

Question: I have created several tracks at KSFO, but would like to remove one. Can this be done?

Answer: Actually there is no way to remove a track. However, we already have a list of features that will be implemented in the future months. The list include a track editor allowing you to edit, add and remove single tracks at any airport.

Question: I went to the "LAGO | FSTraffic" menu and it was all greyed out? Am I doing something wrong?

Answer: You must make sure that "Active Scenery" is enabled (checked on) in the LAGO menu to be able to use any Active Scenery product.

Question: On certain areas the traffic is not shown at all.

Answer: FSTraffic generates automatic traffic in any scenery supplied with an AFD entry, the default positioning system for FS98/FS2000 sceneries. AFD files are supplied for all the default FS98/FS2000 airports as well as all LAGO sceneries.

Of course you can record and see traffic in airports that does not come with an AFD entry. Moreover, FST does not generate ILSs tracks if the glideslope is not aligned with the runway. However you can set a tolerance value for the glideslope disalignment in the [FS]\LTA\FSTRAF\FSTRAF.INI – see comments within the file for further details.

Question: I activated FST but can only see aeroplanes if the far distance. As soon as they get close they disappear!

Answer:

- (a) Either the LAGOTrxx.BGL's have been removed from the [FS]\SCENERY directory; OR
- (b) The [FS]\SCENERY has been removed from the active scenery library – see the "World | Scenery Library..." menu; OR
- (c) You did NOT convert any plane!

Question: It takes some time before I can see traffic.

Answer:

- (a) If tracks start far from the airport you are located, it will take some time before they can reach you; OR
- (b) Are you sure you recorded tracks for the wind that is set when played back?
For further information see chapter "Playing Traffic", paragraph "Wind".

Question: When aeroplanes reach a certain distance from my plane, all of a sudden, they change shape! It looks like they get smaller around the edges and they appear to become just lights and a grey blurred surround... For a second it looked like the plane changed from a 747 to a A310.

Answer: For information about aeroplanes representation, see chapter "Playing Traffic", paragraph "Aeroplanes".

If your 747 changed to an A320 it means that you converted the 747 assigning it to the medium liners class. See chapter "Converting aeroplanes", paragraph "Technical note: Conventions for converted aeroplanes file names".

THE TRIANGLE/FS98 USERS ONLY!

If you install THE TRIANGLE AFTER having installed FSTraffic, some files are wrongly replaced. In this case, download the IZONESYS.ZIP file (<http://fstraffic.com/downloads/IZONESYS.ZIP>) and unzip it in the [FS98] directory.

NOTE: This is due to a problem within THE TRIANGLE installation utility that installs the Active Scenery system files without checking first for installed files date and version. This will be fixed with the next duplication of THE TRIANGLE CD-ROMs.

Files installed on your system

PATH\FILE NAME	NOTES
[FS]\LAGO*.URL	Links to FSTraffic related web sites.
[FS]\LAGO\FSTRAFFIC\DISTRIBUTION.TXT	Information on how to distribute FSTraffic.
[FS]\LAGO\FSTRAFFIC\OMBUDSMAN.TXT	"Ombudsman Policy" file as required by ASP agreement.
[FS]\LAGO\FSTRAFFIC\LICENSE.TXT	User License for FSTraffic.
[FS]\LAGO\FSTRAFFIC\FST_MANUAL.PDF	User Manual.
[FS]\LAGO\FSTRAFFIC\FSTRAFFIC.ISU	Uninstall data file, FS2000: FSTraffic 2000.ISU
[FS]\LAGO\FSTRAFFIC\FTUNINST.DLL	Uninstall data file, FS2000: F2Uninst.DLL
[FS]\LAGO\FSTRAFFIC\README.DOC	Latest information on FSTraffic.
[FS]\MODULES\LAGOINTF.DLL	Active Scenery system file.
[FS]\LTA_LTA.INI	Active Scenery system file.
[FS]\LTA\BAHR.SUR	Active Scenery system file.
[FS]\LTA\HASH.WAV	Active Scenery system file.
[FS]\LTA\MENU.WAV	Active Scenery system file.
[FS]\LTA\NEWSCORE.WAV	Active Scenery system file.
[FS]\LTA\NOSCORE.WAV	Active Scenery system file.
[FS]\LTA\FSTRAF.LTA	FST system file.
[FS]\LTA\FSTRAF\FSTRAF.CNT	FST system file.
[FS]\LTA\FSTRAF\FSTRAF.DLL	FST system file.
[FS]\LTA\FSTRAF\FSTRAF.HLP	FST system file.
[FS]\LTA\FSTRAF\FSTRAF.BMP	FST system file.
[FS]\LTA\FSTRAF\FSTRAF.INI	You can customize FST by changing some values in this file by using NotePad. Full description of the various parameters can be found within the file. Restart FS after you modify this file.
[FS]\LTA\FSTRAF\FTGEN.DLL	FST system file.
[FS]\LTA\FSTRAF\FTGEN.LTA	FST system file.
[FS]\LTA\FSTRAF\FTIMPEXP.DLL	FST system file.
[FS]\LTA\FSTRAF\FTIMPEXP.LTA	FST system file.
[FS]\LTA\FSTRAF\FTPLAY.DLL	FST system file.
[FS]\LTA\FSTRAF\FTPLAY.LTA	FST system file.
[FS]\LTA\FSTRAF\FTREC.DLL	FST system file.
[FS]\LTA\FSTRAF\FTREC.LTA	FST system file.
[FS]\LTA\FSTRAF\MDLCONV.DLL	FST system file.
[FS]\LTA\FSTRAF\MDLCONV.LTA	FST system file.
[FS]\LTA\COMMON\AIRCRAFT.REG	FST system file.
[FS]\LTA\COMMON\AIRPORT.REG	FST system file.
[FS]\LTA\COMMON\PLAYINTF.DLL	FST system file.
[FS]\LTA\COMMON\PLAYINTF.INI	You can customize FST by changing some values in this file by using NotePad. Full description of the various parameters can be found within the file. Restart FS after you modify this file.
[FS]\LTA\COMMON\SIMPOBJ.BIN	FST system file.
[FS]\LTA\EXPORT	Empty directory.
[FS]\LTA\IMPORT\KCGX_.STX	Sample of some User Tracks at Chicago Meigs.
[FS]\LTA\WAV	Empty directory.
[FS]\PILOTS\FST*.STN	Situations for the tutorials.

Recorded tracks included in the shareware version

We have included some USER Tracks recorded at Chicago Meigs (KCGX). To see them you will need to import the KCGX_.STX file. See paragraph "To import tracks", chapter "Sharing tracks with other users".

Then convert the the CS Sky Diver (Free Fall version) 'airplane' and assigning it to the "Sailplane" class.

For best results, we suggest that you set a minimum delay of 5 minutes in the "Traffic Parameters..." dialog.

Tracks in KCGX_.STX include landings, take-offs from helicopters and aircraft touring around downtown Chicago. Parachute jumps from the highest skyscrapers are also included. Tracks can be viewed with winds set from the north or south.

Aeroplanes

SimFlight.com aeroplanes are included ONLY to demonstrate the aircraft conversion utility, for this reason, flight models may NOT be accurate. They all use default panels.

[FS]\AIRCRAFT\FST_A300*.*	simFlight.com Airbus 300.
[FS]\AIRCRAFT\FST_ATR72*.*	simFlight.com ATR 72.
[FS]\AIRCRAFT\FST_B737*.*	simFlight.com Boeing 737.
[FS]\AIRCRAFT\FST_B747*.*	simFlight.com Boeing 747.
[FS]\AIRCRAFT\FST_GLAST*.*	simFlight.com Glastair.
[FS]\AIRCRAFT\FST_BELL*.*	simFlight.com Bell 206L LongRanger II.
[FS]\AIRCRAFT\SKYDIVING_CS*.*	CS Sky Diver by Captain Slug.

END OF DOCUMENT