Aircraft Definition

Aircraft Folder

All individual aircraft are located in a folder called 'aircraft' which, for all default aircraft, is located in the installation folder of the Aerofly FS 2 and for custom made user aircraft it is located in the user folder. Inside that 'aircraft' folder there are individual sub-folders for each aircraft. These sub-folders, (e.g. `aircraft\a320`) contain all the files needed for an aircraft. They can be divided into two groups:

- 3D model, textures and sounds files converted into the engine format
- Aircraft definition as plain text files

The folder's name is the internal aircraft name. In the following, we will use xxxx for this internal name. There are no sub-folders except for the repaints.

Aircraft Files

An Aerofly FS 2 aircraft is described in few plain text files, more specifically a description .tmc file and several definition .tmd files. They can be edited with the recommended text editors and have a certain syntax. The 'aircraftname.tmd' file is the main definition of an aircraft and is referred to as 'THE' tmd file. This file is split into several sections: The dynamic sections defines the physical behavior of the aircraft, system logic, inputs and controls of the aircraft; the graphics section animates the visual 3D model of the aircraft and the sound section defines the way the aircraft sound files should be played.

File Types

Let us break down what each file in an Aerofly FS 2 aircraft folder does:

Intermediate folder	Aerofly FS 2 aircraft folder	Description
xxxx.tgi		Binary 3D model file created by the export plugins for 3D Studio Max or Cinema 4D.
	xxxx.tmb	Binary 3D model that contains information like the vertex positions, texture coordinates, and material/texture assignments. Generated by the converter from the .tgi file.

xxxx.tmc	xxxx.tmc	Description file of the aircraft that contains the text shown in the aircraft menu next to the preview image in several languages, the overall size, weight and performance data as well as parameters to define the initialization of the aircraft: the orientation how the aircraft is placed on the runway, the maximum and minimum allowed airspeed, approach speed and maximum altitude.
xxxx.tmd	xxxx.tmd	Defines camera positions, the complete physics definition of the aircraft including airframe, engine and aerodynamic parameters, logic circuits, electrical systems, fuel systems and so on, as well as the graphics animation and sound definition.
xxxx_takeoff.tmd xxxx_clean.tmd xxxx_landing.tmd	xxxx_takeoff.tmd xxxx_clean.tmd xxxx_landing.tmd	Used to set certain dynamics parameters that should be different from the standard values in the 'xxxx.tmd' for different aircraft configurations. When placed on the runway the takeoff configuration is set. Landing configuration is set when an approach location is selected, clean configuration otherwise.
	controls.tmd	Defines positions and sizes where interaction with the mouse or VR controllers is possible.
.bmp .tif .png		Source texture files. Must be square power-of-two bitmaps. BMPs 24 bit RGB only. TIF and PNG RGB or RGBA. Bump maps can use 16 / 48 bit to avoid terracing.
	.ttx	Converted and compressed texture files
preview_xxxx.png		Preview file rendered by the converter
	preview.ttx	Compressed preview texture for aircraft menu
repaint.tmr	repaint.tmr	Repaint or livery description file defining the repaint's name in the user interface.
.wav		Source sound file. Must be PCM 22050 Hz mono
	.tsb	Converted sound files that are created from .wav files by the converter tool.
model.tmc		Configuration file for aircraft conversion. Used to set non-default values for texture sizes, bump map strength and texture parameters if necessary.

Note

The '.tgi', '.tmc' and '.tmd' files must have the same name as the folder / must use the aircraft's internal name, in our case 'xxxx.tgi', 'xxxx.tmc' and 'xxxx.tmd'.