

FS Flight Keeper

by Thomas Molitor

Add-On for Microsoft Flight Simulator 2000, 2002, 2004 and X

"To design a flying machine is nothing. To build one is something. But to fly is everything."

by Ferdinand Ferber dedicated to Otto Lilienthal (1898)

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Overview

FS Flight Keeper (FSFK) combines seven programs in one: A Logbook, an Aircraft Black Box, a Flight Weather planning tool, a Flight Information System (ACARS Device), a Ground Proximity Warning System (GPWS), a Cockpit Sound Environment enhancement and last but not least Air TV. The logbook keeps track of the flights you made. It stores flight times (also day and night times), fuel used, pilot, aircraft used, etc. Whilst the black box logs all aircraft events like autopilot settings, engine settings, weather, etc. (check out the full list below). FSFK also features flight weather planning (METARs, TAFs and ALOFTs), data export, configurable flight critique, moving map display, instant messaging, screenshot manager and much more.

FS Flight Keeper contains many features for Virtual Airlines (VA), which need a standardized way of logging, transmitting flights and even want to upload actual flight reporting maps. FS Flight Keeper can transmit fully customizable flight reports via Email or any available Web Service (page). FSFK also offers realtime (live) ACARS. This means that ACARS messages are created in realtime and automatically transmitted to an Virtual Airline web service. The service can then store and process the received messages. Virtual Airline (live ACARS) Traffic can be displayed on the world map. With the Virtual Airline Software Development Kit (SDK) and the contained example services and databases any VA can develop FSFK compatible web service in a really short time.

The Cockpit Sound Environment brings your cockpit to life. Easily add crew announcements, which will be played automatically on different flight situations (e.g. pushback, pax security information, crew prepare for landing, etc.). You can also add a virtual copilot that gives you aural information for different aircraft status changes (e.g. gear down and locked, glideslope active/captured, etc.). Cabin ambient sounds with full 3-D surround sound support will give you the feeling as if the passengers were really in your aircraft. But sounds can not only be played automatically, you can also play pre configured sounds manually by pressing a configurable hotkey. Last but not least you can add an aural GPWS/TCAS, which can be used for every aircraft even if it does not have one installed by default.

FSFK Air TV creates screen and/or video (webcam) captures and uploads them at a regular interval as JPEG image files to a FTP or HTTP server. Additionally you can add picture in picture (PIP) and text overlays to the captures. A great feature for your Virtual Airline or your personal web site allowing your visitors to visually track your flights.

Last but not least you can access all this information directly from your cockpit without the need to switch any application during your flight. The ACARS Device (Gauge) allows the pilot to easily view all important information and even control FS Flight Keeper while sitting in the cockpit. The ACARS Device offers a detailed text based view on the current weather conditions (e.g. wind and cloud layers with icing, turbulence and wind shear warnings), gives access to all important in-flight states and also contains a detailed airport and navaid information database. Additionally it has a map mode, which displays airports, navaids, traffic and also a detailed elevation overlay.



Features

- Multiple Logbook and Pilot management
- Supports all types of Aircraft
- Logs many Aircraft condition or setting changes
- Full Flight Simulator Scenery (automatic detection of Airports / Gates / Runways), Navaid (VORs, NDBs and Markers), Airway and Airspace support
- Support for VFR and IFR flights
- ACARS ([A]ircraft [C]ommunication [A]ddressing and [R]eporting [S]ystem) generation support
- Multi functional ACARS Device (Gauge) that displays a Moving Map, Logs, Status, Weather conditions and much more directly on your aircraft panel
- Full colored World (Moving) Map display that can display planned/flight, taxiway route, weather, flight events, AI, Multiplayer and Virtual Airline Traffic
- World Map can also display Airport details (taxiways, runways, parking, etc.), Nav aids (VOR, NDB and Marker), Airways, Airspaces, Cities and a detailed terrain map
- Black Box flight playback on the world map
- Approach, ILS and vertical flight profile charts
- Cockpit (3-D) Sound Environment
- Air TV (create screen and video/webcam captures with overlays and upload them to your web site)
- Ground Proximity Warning System (GPWS)
- Traffic Alert and Collision Avoidance System (TCAS)
- Optional FS Support/Core Module
- Realtime (live) ACARS reporting via Web Service
- Virtual Airline PIREP/FREP transmission (via Email, any available Web Service or file based)
- Integrated (automatic or manual) METAR, TAF and Winds ALOFT download (offline or online) and decoder for easier reading
- Complete Flight weather planning and storing
- Display world wide weather (METAR/ALOFT) on the World Map
- Native support for the Aerosoft Airbus X Extended (Autopilot modes, signs, etc.)
- Native support for the PMDG 737 NGX (Autopilot modes, signs, etc.)
- Native support for the iFly 737 (Autopilot modes, signs, etc.)
- Flight Simulator 2000/2002/2004/X Flight Plan support
- FSNavigator 4.x Flight Plan support
- PMDG Flight Plan support
- PIC 767 Flight Plan support
- Wilco Flight Plan support
- Transition Altitude (TA) database
- Pause your Flights at any point in your Flight Plan



- Instant Messaging Service with File transfer feature (send Maps, Screenshots, etc.)
- Customizable HTML/Text Reports/Exports for Logbooks, Pilots, Flights, Aircraft, Airlines, Map, etc.
- Customizable Flight critique and scoring
- Flight export to Google Earth™ (KML)
- Screenshot Manager, that allows to take screenshots during your flight and lets you manage them later after finishing your flight
- Automatically start and connect FS Flight Keeper when you start the Flight Simulator
- FS2004 and FSX advanced weather support
- WideFS support
- System wide Hotkeys (also available through WideFS)
- Pax and cargo weight and pre-calculated v-speeds can be directly read from TOPCAT
- Radar Contact v3 and v4 support (automatically reads alternate airport, transition altitudes and gates)
- Active Sky 2012, Active Sky Evolution, Active Sky Advanced, Active Sky X, Active Sky Version 6.x, Active Sky Version 5, Active Sky 2004 and Active Sky wxRE V1.6+ support (online or offline)
- FS Meteo v5.2+ and v6.0+ support (online or offline)
- Weather Center 2 support (online or offline)
- My Traffic and Ultimate Traffic Scenery (Airport Facility Data - AFD) support
- IVAO and VATSIM support (weather download, traffic, controller, FIR and active zone display)
- Save and resume flights
- Highly customizable
- and much more ...



Information recorded by the Logbook and the Black Box

- Aircraft information (Title, Tail number, Airline, Type, etc.)
- Times: OUT / OFF / ON / IN / Flight Time / Block Time / Day and Night Flight Time
- Weights: ZFW / TAW / TOW / LAW / RAW
- Fuels: OUT / OFF / ON / IN / Flight Fuel / Block Fuel
- Origin, Destination, Alternate Airport information (ICAO code, Gate, Runway, SID/STAR, Weather, Time Zone, etc.)
- Flight distance
- Pushback
- Rejected Takeoff
- Touch'N'Go and Go Arounds
- Takeoff and Landing IAS
- Maximum taxi speeds
- Maximum IAS below FL100 during departure and approach
- Autopilot
- Flight Director
- Flaps
- Gear
- Spoilers
- Parking Brake
- Autobrakes
- Autothrottle
- Engine
- APU
- Tank Selector
- Engine Fuel Pumps
- Engine Anti-Ice
- Pitot Heat
- Propeller De-Ice
- Lights
- Yaw damper
- Master Battery/Avionics switches
- Propeller Synchronization
- Auto-Feather Arm switch
- Pressure / Altimeter
- Altitude changes
- Heading



- Aircraft speeds (also vertical) during takeoff and landing
- Flight plan reports or Position reports (every 15 minutes, but this can be changed)
- Taxiway route
- Weather conditions (Temperature, Visibility, Wind Direction/Speed, Turbulence, Gust, etc.)
- Runway surface conditions
- Aircraft failures (Engine, Electric, etc.)
- Over Speed warnings
- Stall warnings
- Markers (Inner, Middle, Outer)
- Glideslope events (Active / Captured)
- Localizer events (Active / Captured)
- Transponder
- Radio frequencies (COM, NAV and ADF)
- Pause mode
- Slew mode
- Simulation Rate
- TCAS (FS2002/2004/X AI or Multiplayer Traffic)
- Cowl Flaps
- Reverse Thrust)
- Average, Minimum and Maximum values for
 - True Air Speed (TAS)
 - Speed below FL100 for departure and approach
 - Climb speeds
 - Descent speeds
 - G-Force
 - Pitch
 - Bank
 - Engine Temperature (EGT)
 - Engine settings
 - Engine vibration
 - Oil temperature and pressure
 - Hydraulic pressure
 - Cylinder head temperature (CHT)
 - Manifold pressure



System requirements

Software

- Windows 8/8.1™, Windows 7™, Windows Vista™ or Windows XP™
- Microsoft Flight Simulator 2000/2002/2004/X™
Note: for FS2000™ the automatic Aircraft position detection of Airports/Gates/Runways is not available
- FSUIPC 3.93+ for FS2000/2002/2004™ and 4.52+ for FSX™
- Internet Explorer™4.01+
- Microsoft MDAC/ADO 2.5+ and MS Jet 4.0
- Microsoft XML 4.0+

Hardware

- Pentium 2+ GHz (3GHz Dual Core recommended)
- 1GB RAM (4GB recommended)
- Minimum screen resolution 1024x768 (1280x1024 recommended) with 32bit colors
- Around 650MB of hard disk space



Quick Start Tutorial

This little tutorial will help you to create your first flight with FS Flight Keeper. For this purpose we will create a new flight in FS. We will fly from Frankfurt/Germany (EDDF) to Milan/Italy (LIMC). The estimated flight time should be around 60-90 minutes. But before we can start you'll need to know how FS Flight Keeper works. A complete flight is divided into several steps called 'Flight Modes':

Flight Mode	Condition
Parking Origin	Parking Brake set at the Origin Airport
Taxiing Origin	Parking Brake released
Takeoff	Aircraft becomes airborne (all wheels up)
Climbing	Aircraft is climbing and at least 150ft above the last altitude
Level Off	Aircraft levels off and keeps the altitude at least 45 seconds (+/- 150ft)
Descending	Aircraft is descending and at least 150ft below the last altitude
Landing	Aircrafts is landing (all wheels on the ground)
Rollout	Difference between LA IAS and current IAS is above 30 or ground speed is below 50kts
Taxiing Destination	Aircraft ground speed gets under 20kts
Parking Destination	Depends on the selected option (e.g. Parking Brake set / Taxi lights off / Parking Brake set and Taxi lights off at the Destination Airport etc.)
End of Flight	Depends on the selected option (e.g. Parking Brake set / Engines off / Parking Brake set and Engines off etc.)
Crash	Aircraft crashed

If you have turned on the message display (see below) FS Flight Keeper will display a short message for each mode change (similar to the ATIS report). But now let us start our short trip to Milan.

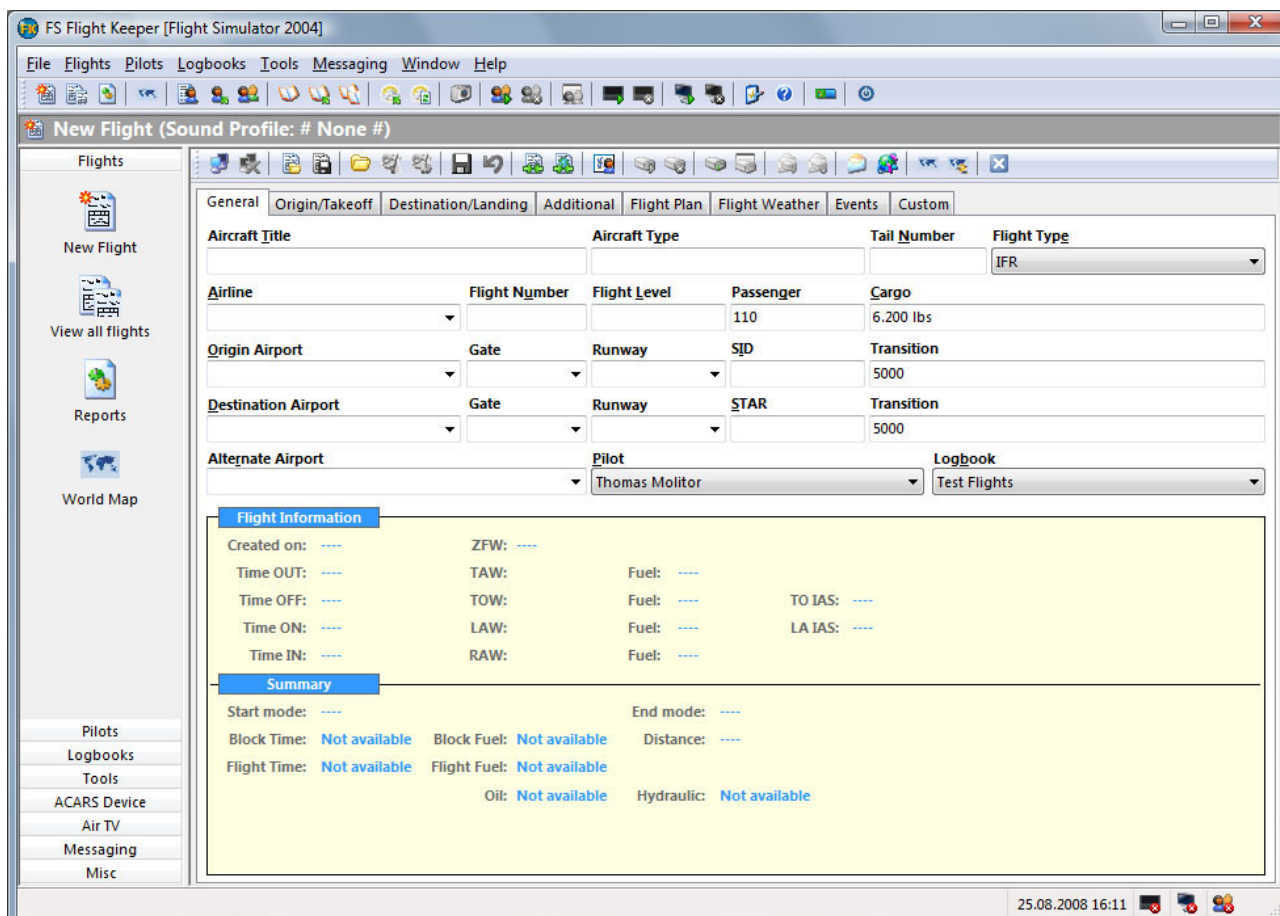
1. Start FS Flight Keeper

If that's the first time you start FS Flight Keeper you will be prompted to register FSFK and then create a new pilot and logbook. Fill in the required information and click 'OK' on each dialog. Now the Options dialog will pop up.

For this flight we will use the log mode 'Full Plus' to demonstrate the powerful features of FS Flight Keeper. You can now also select the units you would like to use. Select a message display time of at least '10 seconds', so you will see all Flight Keeper related messages during your flight. Also check the option 'Use Flight Simulator Scenery'. This feature allows FS Flight Keeper to automatically detect where your aircraft is located (Airports / Gates / Runways). Click 'OK' to continue.



2. On the left toolbar click on 'New Flight'. If the option 'Use Flight Simulator Scenery' is enabled, FS Flight Keeper will analyze your installed sceneries and create a database that stores the airports, gates and runways you have currently installed in FS. The process can take several minutes depending on the amount of sceneries. Note: You'll need to refresh the database every time you install or update a scenery (menu 'Tools' - 'Rebuild Navigation Database').



3. Start Flight Simulator.

4. Create a new flight from EDDF to LIMC and choose any gate available at EDDF for your initial position.

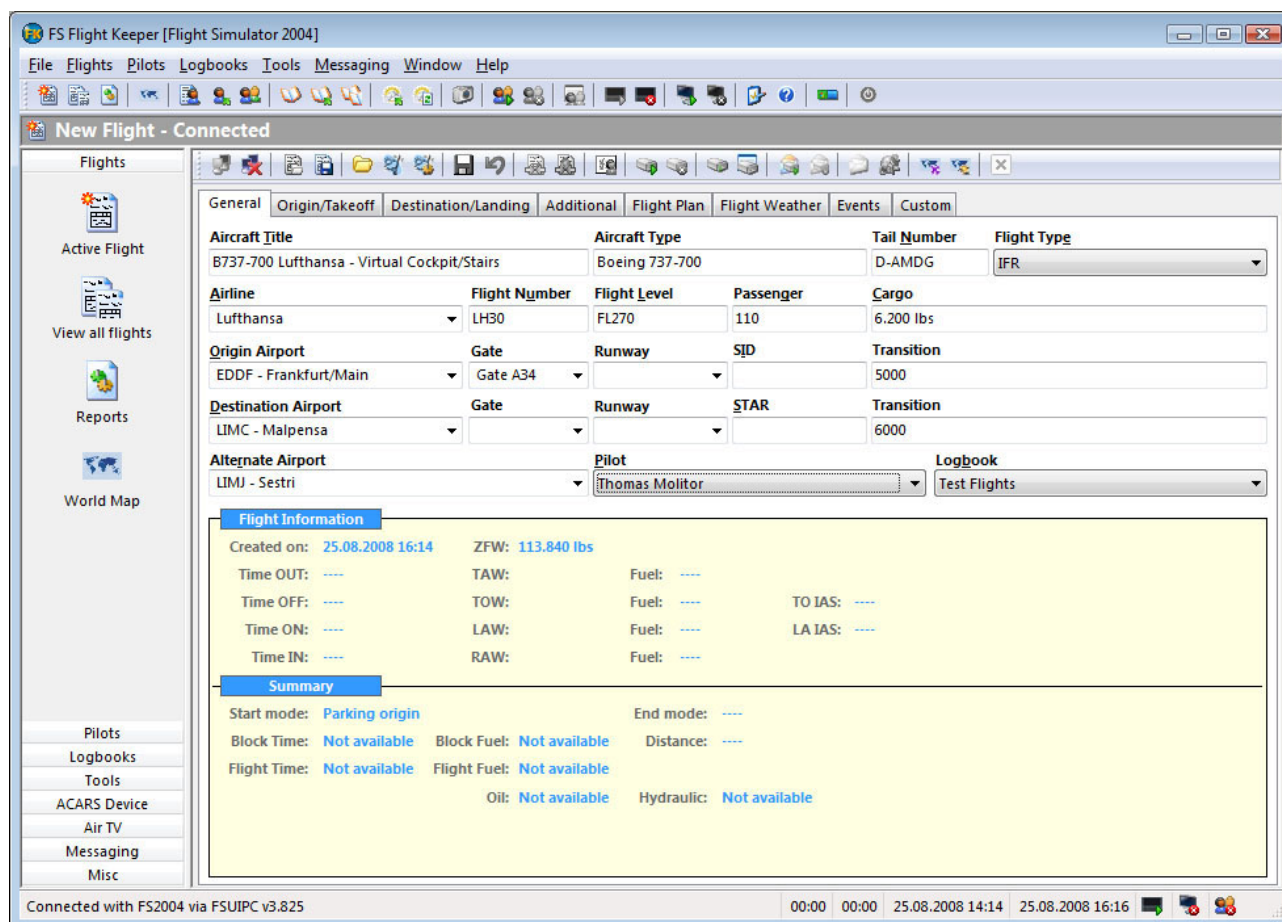
5. Let FS generate a flight plan for you and save the new plan.

Please note that it is required to load or create a flight plan prior to starting a flight in FS, if you want that Flight Keeper automatically loads your assigned plan. Otherwise you will need to load the plan manually later.

6. Start your new flight and wait until FS has finished loading.



7. Now you'll need to connect FS Flight Keeper with FS. To do this just click on the first button on the toolbar [img alt="Connect button icon" data-bbox="125 82 145 98" style="vertical-align: middle;"/>]. FS Flight Keeper now tries to establish a connection with FS. After connecting the status bar at the bottom of the main window will display your system time and the FS time.



8. Enter ‚LIMJ‘ in the combo box ‚Alternate Airport‘ as this is our alternate airport for this flight. You might also wish to enter some values for the values ‚Passenger‘ and ‚Cargo‘. All other values will be automatically filled by FS Flight Keeper. Logging can not be easier!

9. Before we switch back to FS to begin our cockpit preparations, we need to know how the weather will be during our flight. To create a weather report click on the button [img alt="Weather report button icon" data-bbox="665 633 685 649" style="vertical-align: middle;"/>] on the toolbar. Note: An active Internet connection and IE4.01 or higher is required to use this feature.

For each waypoint FS Flight Keeper will lookup the nearest weather station and will download the current weather. After downloading the METARs/TAFs/ALOFTs you can click on the button [img alt="Decode weather button icon" data-bbox="825 692 845 708" style="vertical-align: middle;"/>] to automatically decode the reports and display the estimated average enroute conditions. Now you can easily read them without the need to know what each METAR/TAF/ALOFT token means. To change the weather server go to the Options dialog and select one of the available servers. The button ‚Copy‘ will copy the report to the ‚Comment‘ field. So the decoded report will be stored in the logbook. Click ‚Close‘ to return to the ‚New Flight‘ window.

10. You can now minimize FS Flight Keeper or move it to the system tray by clicking the icon [img alt="Minimize button icon" data-bbox="900 800 920 816" style="vertical-align: middle;"/>] on the main toolbar. Switch to FS and continue with your flight as you would normally do. FS Flight Keeper will stay in the background and watch your flight! ;)

11. During your flight some message will be displayed by FS Flight Keeper, when the flight mode has been changed or a navigation event has occurred. So you always know the current state of FS Flight Keeper.



12. After landing your aircraft at Milan/Malpensa airport and reaching your assigned Gate set the parking brake. FS Flight Keeper will automatically finish the flight and a final disconnect message will be shown in FS. You can now close FS or just switch back to FS Flight Keeper.

FS Flight Keeper [Flight Simulator 2004]

File Flights Pilots Logbooks Tools Messaging Window Help

Edit Flight - EDDF to LIMC (19.08.2008 23:25)

Flights

New Flight

View all flights

Reports

World Map

Pilots

Logbooks

Tools

ACARS Device

Air TV

Messaging

Misc

General | Origin/Takeoff | Destination/Landing | Additional | Flight Plan | Flight Weather | Events | Custom

Aircraft Title B737-700 Lufthansa - Virtual Cockpit/Stairs **Aircraft Type** Boeing 737-700 **Tail Number** D-AMDG **Flight Type** IFR

Airline Lufthansa **Flight Number** LH30 **Flight Level** FL270 **Passenger** 110 **Cargo** 6.200 lbs

Origin Airport EDDF - Frankfurt/Main **Gate** Gate A 34 **Runway** 25R **SID** ANEK6G **Transition** 5000

Destination Airport LIMC - Malpensa **Gate** Gate A 3 **Runway** 35R **STAR** AKAS3K <RIGON> **Transition** 6000

Alternate Airport LIMJ - Sestri **Pilot** Thomas Molitor **Logbook** Eurofly

Flight Information

Created on: 19.08.2008 23:29 ZFW: 109.000 lbs

Time OUT: 19.08.2008 13:50 TAW: 125.008 lbs Fuel: 16.008 lbs

Time OFF: 19.08.2008 14:04 TOW: 124.183 lbs Fuel: 15.183 lbs TO IAS: 136kts

Time ON: 19.08.2008 15:04 LAW: 118.334 lbs Fuel: 9.334 lbs LA IAS: 124kts

Time IN: 19.08.2008 15:15 RAW: 117.788 lbs Fuel: 8.788 lbs

Summary

Start mode: Parking origin End mode: Parking destination

Block Time: 01:25 Block Fuel: 7.220 lbs Distance: 330 / 270nm

Flight Time: 01:00 Flight Fuel: 5.849 lbs

Oil: 0,00 Hydraulic: 0,00

25.08.2008 15:33

FS Flight Keeper should look similar to the screenshot above (of course with other values). All fields should be filled and you can now review your flight. After saving your flight you can close the window and you'll see that the welcome has been updated.

That's it for this short tutorial. You just saw that FS Flight Keeper is really easy to use and that it has some really powerful features that make it easy to improve your flight experience and skills. You should now continue to read all other sections of this manual to get a deeper look into FS Flight Keeper.

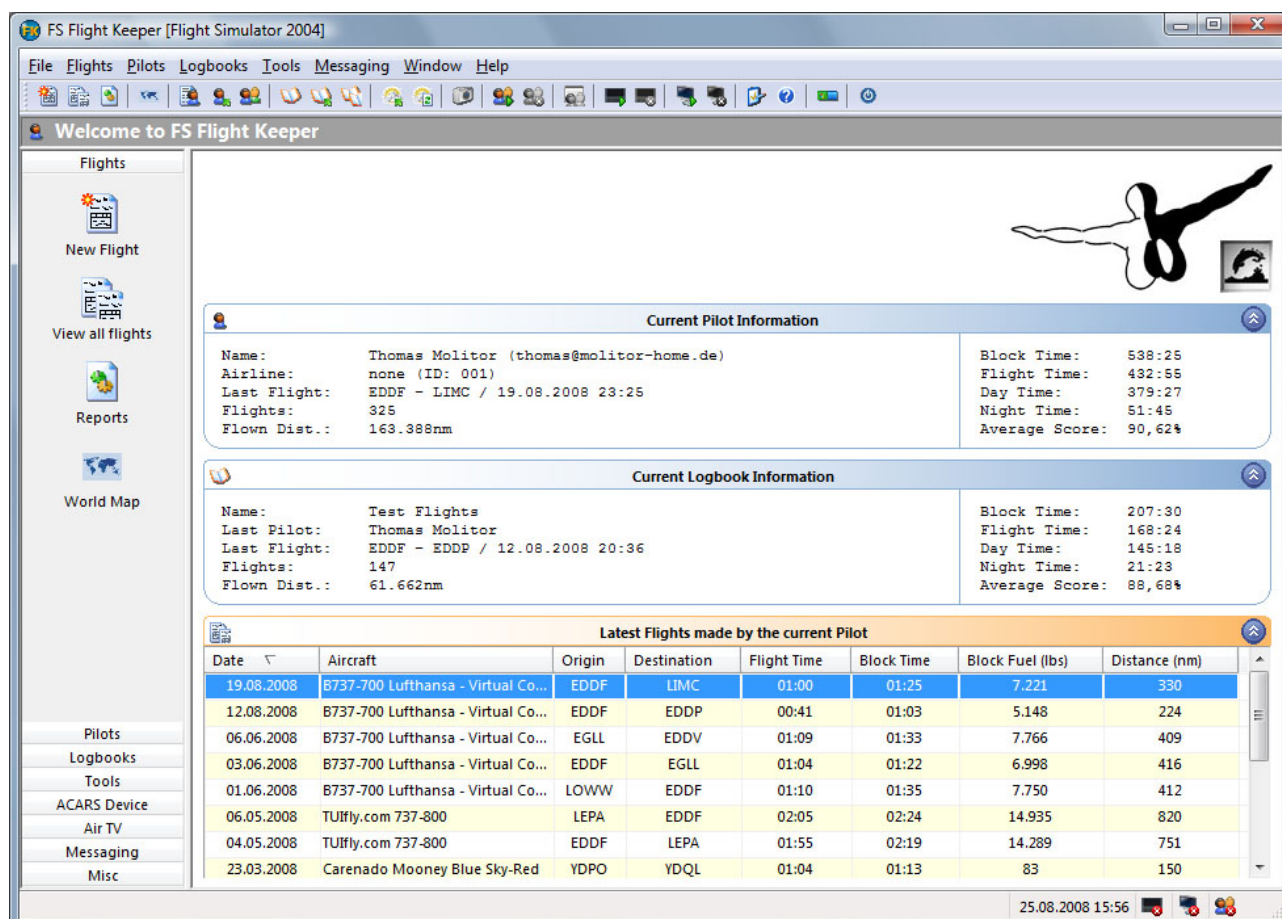


How it works

The Database

FS Flight Keeper is based on a Microsoft Access™ database. This database stores all information logged by FS Flight Keeper. This includes Logbooks, Pilots and Flights (their Events and assigned Flight Plan). Each flight is assigned to exactly one logbook and one pilot. Therefore it is necessary to create a new logbook and pilot during the first start of this addon. The database itself is located in a sub folder of your Documents folder named 'FS Flight Keeper\Database'. You can easily copy the database to any other computer. You just need to copy the file 'Flights.mdb' to any other Flight Keeper installation. If you need more information on the database structure, then don't wait and contact us. FS Flight Keeper will run a database maintenance every 25 startups. This prevents the database from growing too fast and will also reorganize the indexes. So the database keeps running as fast as possible.

Main Window



























The main window allows you to easily navigate through every feature of this product. Every function can be accessed in different ways. On the left side you have a toolbar that should be familiar for all Microsoft Outlook™ users. If you don't want to use it, you can permanently hide this bar by double clicking on the right border of the bar. Double click to show this bar again. The main toolbar, right below the main menu, enables access to all main features.

If you start FS Flight Keeper the only window shown is the welcome screen. Here you have quick access to the last flights made by the selected pilot or logbook. Above this grid you'll see flight summaries for the current logbook and pilot. To change between the latest pilot or logbook flights double click on the corresponding summaries (rounded area) or use the context menu of the flights grid.



Main Toolbar

Button/Function	Description
New Flight 	Opens the New Flight dialog
View Flights in the Database 	Opens an overview over all flights currently stored in the database
Open Reports 	Opens the Report dialog
World Map 	Opens the World Map
Edit the current Pilot 	Opens the Edit Pilot dialog
Select Pilot 	Opens the Select Pilot dialog
View Pilots in the Database 	Opens an overview over all pilots currently stored in the database
Edit the current Logbook 	Opens the Edit Logbook dialog
Select Pilot 	Opens the Select Logbook dialog
View Pilots in the Database 	Opens an overview over all logbooks currently stored in the database
Request Weather 	Download and decode the current METAR/TAF for the given stations
Refresh Weather 	Reloads the Offline, Active Sky, FS Meteo or Weather Center weather - In Live mode only the world weather, if loaded, will be cleared
Sign In 	Connects to the selected Messaging service
Sign Off 	Disconnects from the Messaging Service
Messaging Center 	Opens the Messaging Center dialog
Screenshot Manager 	Opens the Screenshot Manager
Connect ACARS Device 	Connects to the ACARS Device
Disconnect ACARS Device 	Disconnects from the ACARS Device
Start Air TV 	Starts Air TV
Stop Air TV 	Stops Air TV
Options 	Opens the Options dialog
Help 	Opens the FS Flight Keeper manual
Minimize to System Tray 	This will minimize FS Flight Keeper to the so called System Tray - To restore FSFK double click the Flight Keeper icon or use the context menu
Close FS Flight Keeper 	Exits FS Flight Keeper



Main Menu

Only those functions are listed that have not been described above.

Menu/Button/Function	Description
Menu - File	
Select Language [🌐]	Changes the default display language - The following items will remain in English: - ACARS Device gauge display - Flight event values
Assigned CPU/Core [🖥️]	Defines the CPU/Core that executes Flight Keeper - This might help in case of performance problems
JPG Qualität [🖼️]	Sets the quality used when saving JPG images - Higher values will result in larger files, but less graphic corruptions
Create new Database [🗄️]	Creates a new FSFK database
Backup Database [💾]	This function will create a backup of your Database - This backup will be stored in the ‚Backups‘ sub folder
Menu - Pilots	
New Pilot [👤]	Opens the New Pilot dialog
Menu - Logbooks	
New Logbook [📅]	Opens the New Logbook dialog
Menu - Tools	
Clean Weather Folder [🗑️]	Removes all previously download weather data files to free some disk space
ACARS Device -> Start Installer [🔧]	Starts the ACARS Device Installer, that will help you to install the gauge to your favorite aircraft.
FSFK Core Module -> Install/Update [🔄]	Installs the FS Core Module to the currently selected Flight Simulator installation
FSFK Core Module -> Uninstall [🗑️]	Uninstalls the FS Core Module
Rebuild Scenery Cache [🗑️]	Rebuilds the navigation database used by FSFK
Menu - Messaging	
Online [👤]	Sets your service status back to online.
Set Away [👤]	Sets your service status to being away. Chat and File upload request will be blocked. Only short messages will go through.
Set Busy [👤]	Sets your service status to being busy doing something. Chat and File upload request will be blocked. Only short messages will go through.
Appear Offline [🚫]	This will completely remove you from the list of online users. You will not be able to send anything and no one can send you anything.



The Grids

In FS Flight Keeper most of the information is displayed in so called grids. These grids have column headers, which can be used to sort the grid depending on the value type displayed in this column. A triangle will show you, if the sorting is ascending or descending. The columns will be automatically sized to fit the current window size, but you are still able to resize the columns as needed (the auto-sizing will be turned off then).


The Logging

How does FS Flight Keeper get all the information from Microsoft's Flight Simulator™ during a flight?

Flight Keeper uses a third party software called FSUIPC written by Pete Dowson. This tool allows any other software to read and write information available in FS. Without this tool FS Flight Keeper would not be possible. So here is the place to say THANK YOU PETE! Back to business. Now that we are able to read all necessary information, how does this addon work? This tool divides a flight into several small steps so called 'Flight Modes'.

Currently Flight Keeper has the following modes:

Flight Mode	Condition
Parking Origin	Parking Brake set at the Origin Airport
Taxiing Origin	Parking Brake released
Takeoff	Aircraft becomes airborne (all wheels up)
Climbing	Aircraft is climbing and at least 150ft above the last altitude
Level Off	Aircraft levels off and keeps the altitude at least 45 seconds (+/- 150ft)
Descending	Aircraft is descending and at least 150ft below the last altitude
Landing	Aircrafts is landing (all wheels on the ground)
Rollout	Difference between LA IAS and current IAS is above 30 or ground speed is below 50kts
Taxiing Destination	Aircraft ground speed gets under 20kts
Parking Destination	Depends on the selected option (e.g. Parking Brake set / Taxi lights off / Parking Brake set and Taxi lights off at the Destination Airport etc.)
End of Flight	Depends on the selected option (e.g. Parking Brake set / Engines off / Parking Brake set and Engines off etc.)
Crash	Aircraft crashed

After a connection has been successfully established with FS Flight Keeper automatically detects the current flight mode. So if you start this tool after you already takeoff from an airport, you will get into any mode above 'Takeoff'. Or when you start your flight in a cold and dark cockpit the mode will be automatically set to 'Parking Origin', if the parking brake is set. After you reached a mode there is no possibility to get into a flight mode which is below the current mode. Except for the modes 'Climbing', 'Level Off' and 'Descending'. If you want FS Flight Keeper can inform you about any mode change that occur during your flight (see manual section Options). But lets get back to the beginning and let us simulate a typical flight (you should also check out the Quick Start Tutorial). You open FS and then you will start a new flight. After loading the flight in FS you will need to tell FS Flight Keeper that FS is ready and logging should be started. The function 'New Flight' will open a new instance of the Flight Editor and the only thing you will have to do is to click on the button . Flight Keeper will now try to connect to FS via FSUIPC and collect all information available at this time. After this startup process has been finished you will see that all aircraft related fields and some other fields are filled and a start message will be displayed in FS (similar to the ATIS report). But FS Flight Keeper does one extra



clue for you: It will automatically detect at which airport and gate your aircraft is positioned. So you'll never need to manually enter a value for those fields. If there is a flight plan available you can see the current flight plan in the section 'Flight Plan'. Now it is also possible to download the current weather conditions for the plan. For further information you should read the manual section Flight Editor.

	Name	Type	Time	Fuel (lbs)	IAS (kts)	Altitude (ft)	Heading	Wind	OAT (C)
1	EDDF	Airport	14:04	15.182	135	367	249	191/7	15
2	ANEKI	Intersection	14:13	13.258	309	24853	190	219/59	-31
3	BADLI	Intersection	14:15	12.958	309	26997	194	224/54	-35
4	PABLA	Intersection	14:18	12.705	310	26987	198	225/55	-35
5	HERBI	Intersection	14:21	12.434	310	26989	185	225/63	-35
6	NATOR	Intersection	14:23	12.145	310	26998	178	226/55	-35
7	TITIX	Intersection	14:26	11.872	309	26993	178	226/55	-35
8	TRA	VOR	14:28	11.722	308	27012	176	225/50	-34
9	RIPUS	Intersection	14:31	11.410	306	24957	180	223/44	-31
10	GERSA	Intersection	14:33	11.275	306	22907	180	223/44	-28
11	MALUS	Intersection	14:35	11.142	306	20904	180	223/44	-23
12	DEGAD	Intersection	14:39	10.882	307	17129	200	232/35	-15
13	BASGO	Intersection	14:41	10.759	301	15193	194	231/29	-11
14	AKASU	Intersection	14:43	10.684	292	12866	166	246/25	-6
15	LIMC	Airport	15:04	9.334	124	769	353	11/3	21

At this point FS Flight Keeper is already keeping an eye on your aircraft and all changes to the aircraft condition or settings will be recorded. Every change is a so called Event. All events detected by FS Flight Keeper are shown in a grid available in the 'Events' tab of the Flight Editor. A list of logged information is available on the Overview page.



FS Flight Keeper [Flight Simulator 2004]

File Flights Pilots Logbooks Tools Messaging Window Help

Edit Flight - EDDF to LIMC (19.08.2008 23:25)

Flights

New Flight

View all flights

Reports

World Map

Pilots

Logbooks

Tools

ACARS Device

Air TV

Messaging

Misc

#	Type	Event	Time	Fuel (lbs)	IAS (kts)	Altitude (ft)
1	Route	Flight Plan loaded	13:32	16.008	0	371
2	Master Battery	On	13:33	16.008	0	371
3	Master Avionics	On	13:33	16.008	0	371
4	Lights	NAV	13:33	16.008	0	371
5	Altimeter	29,88	13:34	16.008	0	371
6	COM2	121.670	13:34	16.008	0	371
7	COM1	118.020 - EDDF ATIS	13:35	16.008	0	371
8	COM1	122.600	13:35	16.008	0	371
9	Transponder	3315	13:36	16.008	0	371
10	NAV1	112.200 - RID (RIED)	13:41	16.008	0	371
11	NAV2	114.300 - OSN (OSNABRUCK)	13:42	16.008	0	371
12	Exits	All closed	13:47	16.008	0	371
13	COM1	121.700 - FRANKFURT APRON CLEARANCE	13:47	16.008	0	371
14	Parking brake	Off	13:50	16.008	0	371
15	OUT	OUT 13:50 /ZFW 109.000 lbs /FOB 16.008 lbs /TAW 125.008 lbs	13:50	16.008	0	371
16	Lights	NAV/BCN/TAXI	13:50	16.008	0	371
17	Engine	On	13:50	16.008	0	371
18	Engine Starter	/E1 Off /E2 Start	13:50	16.008	0	371
19	Engine Starter	/E1 Start /E2 Off	13:51	16.003	0	371
20	Parking brake	On	13:51	16.002	0	371
21	Engine Starter	/E1 Gen /E2 Gen	13:52	15.983	0	371
22	Alternator	On	13:52	15.983	0	371
23	Pitot Heat	On	13:52	15.977	0	371

25.08.2008 15:44

For each event the time, fuel, IAS and altitude are displayed, as you can see in the screenshot above. You can decide which events will be recorded by changing the Log Mode property or turn them off manually. For more information check the manual section Options.

Lets assume you have parked your aircraft at the assigned destination gate - parking brake not yet set and engines are still running. Now the mode 'End of Flight' is the only thing missing to end your flight. In the Options you can choose between many different ways to signal the end of your flight:

- Parking brake set
- Engines off
- Engines off and parking brake set
- Taxi lights off
- Taxi lights off and parking brake set
- Beacon lights off
- Beacon lights off and parking brake set
- Master Battery off
- Master Battery off and parking brake set

This option is necessary, because some aircraft do not have any parking brake (e.g. Helicopters) or the engine information might not be available (see note below). Depending on your selection Flight Keeper will check if the aircraft condition meets the selected criteria and if the condition is fulfilled the flight will be automatically finished. A short message will be displayed to let you know that Flight Keeper has finished recording the flight. But you can, at any time, abort the recording by clicking on the button [X]. Switch back to the main window and you will see that most of the fields have been filled automatically.




But the flight has not been saved in the Database yet. To do that right now press the icon  and the flight will be stored in the Database.

Important Note:

It might happen that FS Flight Keeper is unable to retrieve some aircraft information and therefore some fields are not filled automatically. This can happen, if for example a third party aircraft Add-On is not reporting this information to FS. For example the Phoenix Airbus series does not transmit any information for the Autopilot. This is by design and can not be changed by FS Flight Keeper. But for all standard FS aircraft everything will be logged as expected

If the Flight Simulator crashes

Even Microsoft Flight Simulator can crash from time to time. To prevent a flight from not being logged, caused by a crash of FS, FS Flight Keeper will suspend the logging until you restarted FS. After you are back flying, FS Flight Keeper will automatically continue recording your flight. If you don't want to continue the flight, but you still want to log the flight with FS Flight Keeper, you can abort the recording process by clicking on the icon  and the connection with FS will be closed. Now you can save the flight to the database as you would normally do.


Bug Reports

This product has been tested over a long period by several different users, but as usual there might be some bugs (errors) left in the product. To make it easier for us to sort out the problem, we have included a report dialog, so you can easily enter the information we might need to find a solution for your problem.

Field / Button	Description
Where did the bug occur?	Select the area in FS Flight Keeper where the bug occurred
When	When did the bug occur - Can not be changed
Steps to reproduce the bug	Enter a detailed step by step description, how the bug can be reproduced - If you can not reproduce the error, then leave this field blank
Description	Enter a detailed description of the error - Please be sure that it is not something like: 'Error message popped up ...'. The more detailed your text is, the easier it will be for us to locate the problem.
System Information	FS Flight Keeper collects some very important information from your system - This information is needed to analyze your current system configuration. No personal information will be stored.
Send	Sends the report to us - A mail client that supports MAPI is required. Clients that support MAPI are for example: Outlook, Thunderbird, etc. If you don't have any MAPI client, then save the report and send us the file with your preferred mail software.
Save	Saves the bug report in a text file for later use or if you don't have MAPI installed
Cancel	This will abort and close this dialog



Logbooks


FS Flight Keeper supports the management of multiple logbooks. This means that you can have more than one logbook in the database and assign flights to it. So it is possible for you to have one for your test flights, one for your Virtual Airline flights and one for all other flights. You can easily switch between each logbook by clicking on the button  on the main toolbar. A dialog will popup and you can choose between one of the available logbooks.

To edit the current Logbook click on the button . The following window will be shown:

The only required field for a logbook is the name. Each logbook has ten customizable fields. These fields will be used later in the Flight Editor. As you can see in the screenshot above, it is possible to enter some predefined values for all custom fields. To do this you will need to add the desired values after the field caption delimited by the character ,~'. In this example the custom field 1 will get the name ,ATC Type' and can have the values ,FS ATC' and ,RC3'. If you now open the Flight Editor you will see that FSFK will display a combo box (with two values) instead of a simple text box. Default values can be configured in the following ways:

- Text Fields: Add the char '*' followed by the default value. Example: "Countries*Germany"
- Selectable Fields: Place the char '*' in front of one of the values. Example: "ATC Type~FS~*RC4"


Additionally you can force specific Templates to be used when selecting this logbook for a flight. Please note that Pilot template settings are overwriting logbook settings.

Use the comment field to enter any remarks for this logbook. To keep track of the logbooks FS Flight Keeper offers a handy overview. Click on the icon  to open this view.

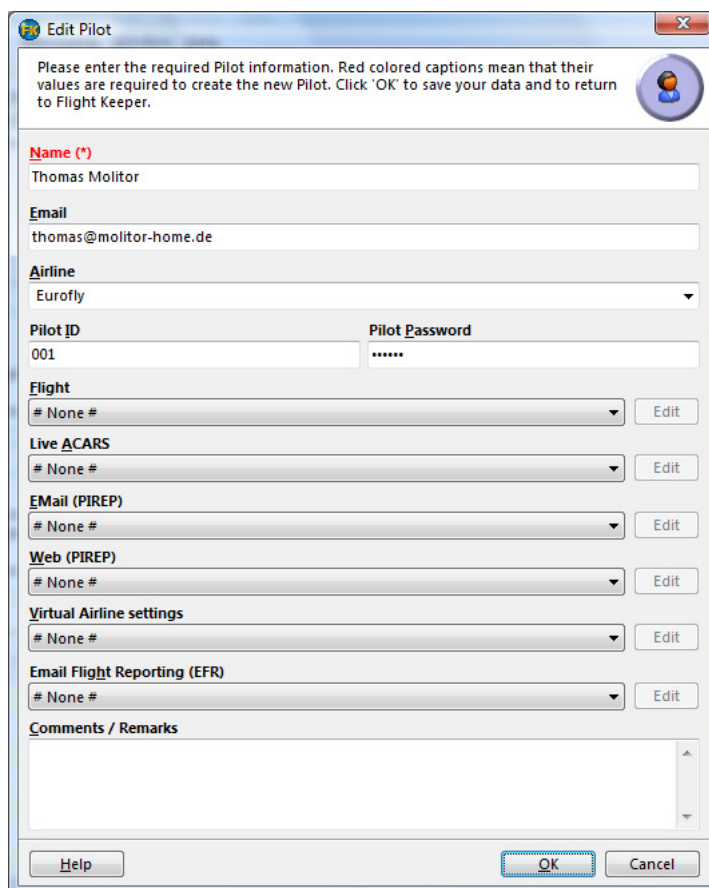
The new window will display a summary for each Logbook. So one can easily see how many flights have been recorded, etc. Double clicking an entry in the grid will open the Logbook Editor (see above).



Pilots


FS Flight Keeper supports the management of multiple pilots. This means that you can have more than one pilot in the database and assign flights. So it is possible for you to have one for your test flights, one for your Virtual Airline flights and one for all other flights. You can easily switch between each pilot by clicking on the button [] on the main toolbar. A dialog pops up and you can choose between one of the available pilots.

To edit the current pilot click on the button []. The following window will be shown.



The only required field for a pilot is the name. The airlines available in the combo box can be extended by editing the airline configuration file 'Airlines.cfg' in the folder 'Documents\Fly\FS Flight Keeper'. Each airline must be placed in a separate line. The first field is the IATA code for the airline followed by the ICAO code, the name and the callsign of the airline. Each field must be delimited by the character ','. It is not possible to use this character in the name or any other field. The ID and password fields are used in conjunction with Virtual Airline Services (e.g. PIREPs, live ACARS, etc.).

Additionally you can force specific Templates to be used when selecting this pilot for a flight. Please note that pilot template settings are overwriting Logbook settings.

To keep track of your pilots in the database FS Flight Keeper offers a handy overview. Click on the icon [] to open this view:

The new window will display a flight summary for each pilot. So one can easily see how many flights have been recorded, etc. Double clicking an entry in the grid will open the editor (see above).










Flight Editor

The Flight Editor will be your most frequently used dialog in FS Flight Keeper. This editor lets you create and edit stored flights. The editor itself is divided into several sections (called tabs). These sections are:

















- General - This section displays the most common flight information
- Origin/Takeoff - Here you will find all Origin/Takeoff related information
- Destination/Landing - Here you will find all Destination/Landing related information
- Additional - Airport weather information and average/minimum/maximum calculations (FPS, Climb, Engine, etc.) are located here
- Flight Plan - If a flight plan is available, a grid lists all navigation points
- Flight Weather - Displays the forecast and actual flight weather
- Events - The event grid displays all events, that have been recorded during the flight
- Custom - All custom fields can be edited here (including a remark field)

Most of the fields available in the editor can be edited, but as usual there are exceptions. For example some of the values on the additional tab can not be edited. Depending on the value type the editor will display a text box or a combo box to edit the current value.



Toolbar

Button/Function	Description
Connect 	Connects FS Flight Keeper with FS - Only available if you create a new flight Note: If connected this button allows to pause and resume the flight logging.
Disconnect 	Disconnects FS Flight Keeper from FS - Only available if you create a new flight and you are connect with FS
Open saved Flight 	Opens a previously saved flight - Only available if you create a new flight
Save Flight 	Saves the current flight, so that you can resume the flight later on - Only available if you create a new flight
Open Flight Plan 	Opens a FS 2000/2002/2004/X, FSNavigator 4.x, PMDG or PIC 767 Flight Plan
Get Flight Plan Weather 	Gets the current weather for all navigation points in the current plan - This function will look up the nearest weather station (stored in the file 'WeatherStations.cfg' in the main program folder. This file should not be changed or it can cause some unexpected behavior) for the given point and download the current weather from this station. If the METAR has been already downloaded for this station, the report will not repeated again.
Decode Weather 	Displays a weather summary with estimated/actual average enroute conditions and decodes all available METARs, TAFs and ALOFTs for your flight plan



Save Flight 	Saves changes made to the database - Only available if you are not connected to FS
Undo changes 	Restores all values to the last saved state - Only available if you are not connected to FS
Export Flight 	Exports the current flight - The template used for this report can be selected in the Options dialog. The reports will be saved by default in the sub folder 'Reports' located in the main program folder. Only available if you are not connected with FS
Export Flight to KML 	Exports the flight to KML used in Google Earth™
Flight Critique 	This will create a flight critique and will score your flight - For more information check the end of this section
Connect with the ACARS Server 	Tries to establish a connection with the ACARS server - Only available if you are connected with FS. For further information see the Live ACARS section in this manual.
Resume live ACARS 	Resumes a suspended live ACARS connection - FSFK will automatically suspend an active ACARS connection whenever an error occurs during sending an ACARS message. Clicking on this toolbar button will try to resend the pending ACARS messages.
Disconnect from the ACARS Server 	Closes the connection with the live ACARS server - Only available if you are connected with FS and the ACARS server
Create ACARS Report 	Creates a basic ACARS report - Can be saved, printed or copied to the comment field
Add ACARS Comment 	Creates a comment block in your ACARS log - If you are connected to a live ACARS server, this comment will be send to the server
Start Email Flight Reporting 	Starts the automatic flight reporting via email - These emails contain all important flight information, so that, if you have left your cockpit for a break, you are informed about the current flight progress
Stop Email Flight Reporting 	Stops the automatic flight reporting
Transmit Flight via Email 	Creates an email and a new dialog will popup - Only available if you are not connected with FS. Note that all values are exported in standard units (kts, lbs, ft, etc.)
Transmit Flight via Web 	Sends the flight through an existing Web Service - Useful for any Virtual Airline. Only available if you are not connected with FS. Note that all values are exported in standard units (kts, lbs, ft, etc.). If the flight has been sent, the icon will change to  and the sent date will be placed in the button tooltip.
View Flight on Map 	Display the current flight on the FSFK World Map



View Flight Weather Map 	<p>Display the current flight on the FSFK World Map showing the planned/actual flight weather - FSFK will change the map display options automatically, so that the weather (METARs, TAFs and ALOFTs) is displayed. Note: You will not loose your current map settings. They will be restored automatically, if the World Map is displayed again or you view another flight. So there is no need for you to reset your favorite options after checking your weather.</p> <p>Note: You will not loose your current map settings. They will be restored automatically, if the World Map is displayed again or you view another flight. So there is no need for you to reset your favorite options after checking your weather.</p>
Close Window 	Closes the dialog - Only available if you are not connected with FS

General Tab

Field	Description	FS Value	Required
Aircraft Title	Automatically filled with the FS value from the ,Aircraft.cfg' property ,title'	Yes	Yes
Aircraft Type	Automatically filled with the FS value from the ,Aircraft.cfg' property , atc_type'	Yes	No
Tail Number	Automatically filled with the FS value from the ,Aircraft.cfg' property , atc_id'	Yes	Yes
Flight Type	You can choose between Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) - Default value is IFR	No	Yes
Airline	Automatically filled with the FS value from the ,Aircraft.cfg' property ,atc_airline'	Yes	No
Flight Number	Automatically filled with the FS value from the ,Aircraft.cfg' property ,atc_flight_number'	Yes	No
Flight Level	The flight level will be automatically calculated, if you don't enter some value	Calculated	No
Passenger	Enter the amount of passengers for this flight	No	No
Cargo	Enter the amount of cargo you are taking with you	No	No
Origin Airport	ICAO code of the origin airport - Please note that only the first four characters will be saved in the database. This drop down box will be automatically filled, if you enabled the FS Scenery support.	Calculated	Yes
Origin Gate	This drop down box will be automatically filled, if you enabled the FS Scenery support	Calculated	No
Origin Runway	This drop down box will be automatically filled, if you enabled the FS Scenery support	Calculated	No



SID	Standard Instrument Departure (SID) used after takeoff	No	No
Transition	Transition Altitude (TA) for the origin airport (always in feet)	No	No
Destination Airport	ICAO code of the destination airport - Please note that only the first four characters will be saved in the database. This drop down box will be automatically filled, if you enabled the FS Scenery support.	Calculated	Yes
Destination Gate	This drop down box will be automatically filled, if you enabled the FS Scenery support	Calculated	No
Destination Runway	This drop down box will be automatically filled, if you enabled the FS Scenery support	Calculated	No
STAR	Standard Instrument Departure (SID) used after takeoff	No	No
Transition	Transition Altitude (TA) for the destination airport (always in feet)	No	No
Alternate Airport	ICAO code of the alternate airport - Please note that only the first four characters will be saved in the database.	No	No
Pilot	Select the Pilot for this Flight	No	Yes
Logbook	Select the Logbook for this Flight	No	Yes
Flight Information			
Created on	Date and time when the flight has been created	No	Yes
ZFW	Zero Fuel Weight (ZFW) for the aircraft used - Note that you can only edit other fuel values, if you have defined the ZFW	Yes	Yes
Time OUT	This time is recorded when the parking brake is first released - This time is also referred to as the 'off gate' time	Yes	Yes
TAW	Aircraft Taxi Weight (TAW) is calculated by adding the ZFW and the OUT Fuel	Calculated	Yes
OUT Fuel	Fuel left after releasing the parking brake	Yes	Yes
Time OFF	This time is recorded when the aircraft becomes airborne - This time is also referred to as the 'wheels up'	Yes	Yes
TOW	Aircraft Takeoff Weight (TOW) is calculated by adding the ZFW and the OFF Fuel	Calculated	Yes
OFF Fuel	Fuel left after taking off	Yes	Yes
TO IAS	Indicated Air Speed (IAS) during takeoff	Yes	No
Time ON	This time is recorded when the aircraft lands and all wheels are on the ground	Yes	Yes



LAW	Aircraft Landing Weight (LAW) is calculated by adding the ZFW and the ON Fuel	Calculated	Yes
ON Fuel	Fuel left after landing.	Yes	Yes
LA IAS	Indicated Air Speed (IAS) during landing	Yes	No
Time IN	This time is recorded based on your 'End of flight' selection in the Options	Yes	Yes
RAW	Aircraft Ramp Weight (RAW) is calculated by adding the ZFW and the IN Fuel	Calculated	Yes
IN Fuel	Fuel left after 'End of flight'	Yes	Yes
Summary			
Start mode	Flight mode after a connection has been established with FS - Depending on the current aircraft airborne status	Calculated	Yes
End mode	Flight mode after the flight has been finished	Calculated	Yes
Block Time	The Block Time is the difference between the OUT and IN time	Calculated	Yes
Block Fuel	The Block Fuel is the difference between the OUT and IN fuel	Calculated	Yes
Distance	The flight distance will be automatically calculated by FS Flight Keeper after the flight has been finished - The second distance shown is the planned route distance, if a plan has been loaded	Calculated	Yes
Flight Time	The Flight Time is the difference between the OFF and ON time	Calculated	Yes
Flight Fuel	The Flight Fuel is the difference between the OFF and ON fuel	Calculated	Yes
Oil	The oil used during the flight	Calculated	Yes
Hydraulic	The hydraulic used during the flight	Calculated	Yes

Origin/Takeoff Tab

Field	Description	FS Value	Required
Origin			
ZFW	Zero Fuel Weight (ZFW) for the aircraft used	Yes	Yes
Gate	The parking or gate position at the origin airport - To change the value go to the general tab and use the combo box to modify the value	Calculated	Yes
Position	Latitude and Longitude of the aircraft at the origin airport	Yes	Yes
Altitude	Altitude of the aircraft at the origin airport	Yes	Yes
Season	FS season at the origin airport - Possible values: Winter / Spring / Summer / Fall.	Yes	Yes
Daytime	FS time of the day at the origin airport - Possible values: Day / Dawn / Dusk / Night.	Yes	Yes



Transponder	Assigned Transponder code	Yes	Yes
Time OUT	This time is recorded when the parking brake is first released - This time is also referred to as the ,off gate' time	Yes	Yes
TAW	Aircraft Taxi Weight (TAW) is calculated by adding the ZFW and the OUT Fuel	Calculated	Yes
OUT Fuel	Fuel left after releasing the parking brake	Yes	Yes
Max GS	Maximum Ground Speed (GS) during taxiing at the origin airport	Calculated	Yes
Takeoff			
Time OFF	This time is recorded when the aircraft becomes airborne - This time is also referred to as the ,wheels up'.	Yes	Yes
TOW	Aircraft Takeoff Weight (TOW) is calculated by adding the ZFW and the OFF Fuel	Calculated	Yes
OFF Fuel	Fuel left after taking off	Yes	Yes
TO IAS	Indicated Air Speed (IAS) during takeoff	Yes	Yes
Engine Settings	Depending on the engine type the N1/N2 or RPM settings during takeoff of each engine is displayed	Yes	Yes
G-Force	G-Force during takeoff	Yes	Yes
Flaps	Flap setting during takeoff	Yes	Yes
VS	Vertical Speed (VS) during takeoff.	Yes	Yes
Pitch	Pitch angle during takeoff - Negative values mean nose is up, otherwise down	Yes	Yes
Bank	Bank angle during takeoff - Negative values mean aircraft is turning right, otherwise left	Yes	Yes
Runway	The runway used for takeoff - To change the value go to the general tab and use the combo box to modify the value	Calculated	Yes
Surface	Runway surface and condition - Possible values for the surface: <ul style="list-style-type: none"> • Unknown • Concrete • Grass • Water • Grass bumpy • Asphalt • Short Grass • Long Grass • Hard Turf • Snow • Ice • Urban 	Yes	Yes



	<ul style="list-style-type: none"> • Forest • Dirt • Corva • Gravel • Oil treated • Steel Mat • Bitumus • Brick • Macadam • Planks • Sand • Shale • Tarmac <p>Possible values for the surface condition:</p> <ul style="list-style-type: none"> • Normal • Wet • Icy • Snow 		
Heading	Aircraft heading during takeoff	Yes	Yes
OAT	Operating Air Temperature (OAT) during take-off	Yes	Yes
Dew Point	Dew point during takeoff	Yes	Yes
Wind	Ambient wind direction and speed during takeoff	Yes	Yes
Visibility	Visibility condition during takeoff - Contains the maximum visibility range and if rain or snow is falling	Yes	Yes
Pressure	Pressure in millibars during takeoff	Yes	Yes
Altimeter	Aircraft altimeter settings in millibars during takeoff	Yes	Yes
Daytime	FS time of the day during takeoff - Possible values: Day / Dawn / Dusk / Night	Yes	Yes
Spoilers	Spoiler setting in percent - Use the value „-1“ to indicate that the spoiler are armed	Yes	Yes
Autobrakes	Autobrake setting during takeoff - Possible values are: RTO / OFF / 1 / 2 / 3 / MAX	Yes	Yes
Anti-Ice	Engine Anti-Ice setting during takeoff	Yes	Yes
Flight Director	Flight director setting during takeoff	Yes	Yes
Lights	<p>Displays the lights turned on during takeoff - Possible values are (any combination):</p> <ul style="list-style-type: none"> • Navigation (NAV) 	Yes	Yes



	<ul style="list-style-type: none"> • Beacon (BCN) • Landing (LAND) • Taxi (TAXI) • Strobe (STROBE) • Instruments (INST) • Recognition (RECOG) • Wing (WING) • Logo (LOGO) • Cabin (CABIN) 		
Autothrottle	Autothrottle setting during takeoff - Possible values are: Armed / Off / TOGA	Yes	Yes
Gear up	This field indicates when the gear up event occurred	Yes	Yes
Flaps up	This field indicates when the flaps up event occurred	Yes	Yes
Autopilot	This field indicates when the autopilot was turned on	Yes	Yes

Destination/Landing Tab

Field	Description	FS Value	Required
	Destination		
ZFW	Zero Fuel Weight (ZFW) for the aircraft used	Yes	Yes
Gate	The parking or gate position at the destination airport - To change the value go to the general tab and use the combo box to modify the value	Calculated	Yes
Position	Latitude and Longitude of the aircraft at the destination airport	Yes	Yes
Altitude	Altitude of the aircraft at the destination airport	Yes	Yes
Season	FS season at the destination airport - Possible values: Winter / Spring / Summer / Fall	Yes	Yes
Daytime	FS time of the day at the destination airport - Possible values: Day / Dawn / Dusk / Night	Yes	Yes
Transponder	Assigned Transponder code	Yes	Yes
Time IN	This time is recorded based on your „End of flight“ selection in the options	Yes	Yes
RAW	Aircraft Ramp Weight (RAW) is calculated by adding the ZFW and the IN Fuel	Calculated	Yes
IN Fuel	Fuel left after „End of flight“	Yes	Yes
Max GS	Maximum Ground Speed (GS) during taxiing at the destination airport	Calculated	Yes



	Landing		
Time ON	This time is recorded when the aircraft lands and all wheels are on the ground	Yes	Yes
LAW	Aircraft Landing Weight (LAW) is calculated by adding the ZFW and the ON Fuel	Calculated	Yes
ON Fuel	Fuel left after landing	Yes	Yes
LA IAS	Indicated Air Speed (IAS) during landing	Yes	Yes
Engine Settings	Depending on the engine type the N1/N2 or RPM settings during landing of each engine is displayed	Yes	Yes
G-Force	G-Force during takeoff	Yes	Yes
Flaps	Flap setting during landing.	Yes	Yes
VS	Vertical Speed (VS) during landing	Yes	Yes
Pitch	Pitch angle during landing - Negative values mean nose is up, otherwise down	Yes	Yes
Bank	Bank angle during landing - Negative values mean aircraft is turning right, otherwise left	Yes	Yes
Runway	The runway used for landing - To change the value go to the general tab and use the combo box to modify the value	Calculated	Yes
Surface	Runway surface and condition - Possible values for the surface: <ul style="list-style-type: none"> • Unknown • Concrete • Grass • Water • Grass bumpy • Asphalt • Short Grass • Long Grass • Hard Turf • Snow • Ice • Urban • Forest • Dirt • Corva • Gravel • Oil treated • Steel Mat • Bitumus • Brick • Macadam 	Yes	Yes



	<ul style="list-style-type: none"> • Planks • Sand • Shale • Tarmac <p>Possible values for the surface condition:</p> <ul style="list-style-type: none"> • Normal • Wet • Icy • Snow 	Yes	Yes
Heading	Aircraft heading during landing and the maximum heading difference during rollout - Negative values mean heading to the left, right otherwise	Yes	Yes
OAT	Operating Air Temperature (OAT) during landing	Yes	Yes
Dew Point	Dew point during landing	Yes	Yes
Wind	Ambient wind direction and speed during landing	Yes	Yes
Visibility	Visibility condition during landing. Contains the maximum visibility range and if rain or snow is falling	Yes	Yes
Pressure	Pressure in millibars during landing	Yes	Yes
Altimeter	Aircraft altimeter settings in millibars during landing	Yes	Yes
Daytime	FS time of the day during landing - Possible values: Day / Dawn / Dusk / Night	Yes	Yes
Spoilers	Spoiler setting in percent. Use the value „-1“ to indicate that the spoiler are armed.	Yes	Yes
Autobrakes	Autobrake setting during landing - Possible values are: RTO / OFF / 1 / 2 / 3 / MAX	Yes	Yes
Anti-Ice	Engine Anti-Ice setting during landing	Yes	Yes
Flight Director	Flight director setting during landing	Yes	Yes
Lights	<p>Displays the lights turned on during landing - Possible values are (any combination):</p> <ul style="list-style-type: none"> • Navigation (NAV) • Beacon (BCN) • Landing (LAND) • Taxi (TAXI) • Strobe (STROBE) • Instruments (INST) • Recognition (RECOG) • Wing (WING) 	Yes	Yes



	<ul style="list-style-type: none"> • Logo (LOGO) • Cabin (CABIN) 		
Autothrottle	Autothrottle setting during landing - Possible values are: Armed / Off / TOGA	Yes	Yes
Gear down	This field indicates when the gear down event occurred	Yes	Yes
Flaps down	This field indicates when the flaps down event occurred	Yes	Yes
Autopilot	This field indicates when the autopilot was turned off	Yes	Yes

Additional Tab

Field	Description	FS Value	Required
Additional			
Avg. FPS	Average Frames Per Second (FPS) overall and during the flight and at the origin and destination airports	Calculated	No
Avg. TAS	Average True Air Speed (TAS) during takeoff and landing	Calculated	No
Max. TAS	Maximum True Air Speed (TAS) during take-off and landing	Calculated	No
Max. IAS Depart.	Maximum Indicated Air Speed (IAS) below FL100 (IFR) or below 2000ft AGL (VFR) during departure	Calculated	No
Max. IAS Approach	Maximum Indicated Air Speed (IAS) below FL100 (IFR) or below 2000ft AGL (VFR) during approach	Calculated	No
Avg. Climb	Average vertical speed during all climb modes	Calculated	No
Max. Climb	Maximum vertical speed during all climb modes	Calculated	No
Avg. Descent	Average vertical speed during all descent modes	Calculated	No
Max. Descent	Maximum vertical speed during all descent modes	Calculated	No
Avg. G-Force	Average G-Force during the flight	Calculated	No
Max. G-Force	Maximum G-Force during the flight	Calculated	No
Min. G-Force	Minimum G-Force during the flight	Calculated	No
Max. Descent	Maximum G-Force during the flight	Calculated	No
Max. Pitch	Maximum pitch angle during the flight.	Calculated	No
Max. Bank	Maximum bank angle during the flight	Calculated	No
Max. EGT	Maximum Engine Temperature (EGT) during the flight	Calculated	No



Engine setting	Maximum Engine setting during the flight	Calculated	No
Engine vibration	Maximum Engine vibration during the flight	Calculated	No
Max. Oil Temp.	Maximum oil temperature during the flight	Calculated	No
Max. CHT	Maximum cylinder head (CHT) temperature during the flight	Calculated	No
Max. Manifold Press.	Maximum manifold pressureduring the flight	Calculated	No
Min. Oil Press.	Maximum oil pressure during the flight	Calculated	No
Max. Oil Press.	Minimum oil pressure during the flight	Calculated	No
Max. Hyd. Press.	Minimum hydraulic pressure during the flight	Calculated	No
Min. Hyd. Press.	Maximum hydraulic pressure during the flight	Calculated	No
Day Flight Time	Time flown during day	Calculated	No
Night Flight Time	Time flown during night, dawn and dusk	Calculated	No
Weather			
Origin	Here you can enter or download (click on the label „Origin“) the current METAR for the airport - FS Flight Keeper will automatically decode the report for you. The decoded text will be displayed in the tooltip as you can see in the screenshot below.	No	No
Destination	Here you can enter or download (click on the label „Destination“) the current METAR for the airport - FS Flight Keeper will automatically decode the report for you. The decoded text will be displayed in the tooltip as you can see in the screenshot below.	No	No
Alternate	Here you can enter or download (click on the label „Destination“) the current METAR for the airport - FS Flight Keeper will automatically decode the report for you. The decoded text will be displayed in the tooltip as you can see in the screenshot below.	No	No


Flight Plan Tab

This grid displays the assigned flight plan. You can not edit any value in this grid, because FS Flight Keeper will automatically do that for you if you have reached a given navigation point. Waypoints that were not flown during your flight are filled with the value ‚NA‘. A waypoint counts as reached if the distance to the aircraft is getting greater. In the Options dialog you can configure the minimum range (distance) it needs to reach a navigation point. If there is no flight plan loaded, FS Flight Keeper will report the aircraft position every 15 minutes (configurable). These reports will be displayed as position events in the events tab. Another nice feature is the possibility to pause FS at any point in the flight plan. To pause FS after reaching a given waypoint, select the entry and press ‚F9‘. The entry will now be marked red. After reaching this navigation point FS Flight Keeper will automatically set the pause mode in FS. To remove the pause press ‚F9‘ again. FS Flight Keeper also offers the possibility to skip a given point and continue with the next on the plan. To skip a waypoint press ‚Shift+F9‘. If you want



to remove the current flight plan from the flight, you can use the context menu item 'Clear Plan'. Flight Keeper will remove the assigned plan and will also clear the stored weather. If the World Map is showing the flight, double clicking an entry will center the map at the waypoint position.

Flight Weather Tab

This section displays everything you will need for your flight weather planning and reviewing. If there is a flight plan loaded, you can download the current weather (METARs, TAFs and ALOFTs) for your plan. The grid will display all downloaded weather data in the standard METAR, TAF and ALOFT format. To decode the weather for easier reading, you can click on the  button and FS Flight Keeper will automatically decode and display everything for you. To decode a single station simply double click on an entry. As you can see from the screenshot above, it might be that there is no data available on a specific weather server. To limit the amount of those cases FSFK offers you to configure an additional weather server (see Weather options).

Events Tab

FS Flight Keeper uses so called Events to report any change in the aircraft condition or setting. The grid displays all events that occurred during your flight. It is not possible to change any value. If the World Map is showing the flight, double clicking an entry will center the map at the position where the event occurred.

Event (Number)	Description
Pause (1)	Pause mode on/off
Slew (2)	Slew mode on/off
Instant Replay (65)	Instant Replay on/off
Flight Mode (14)	Flight Mode change
Simulation Rate (39)	Simulation Rate changed (1x, 2x, etc.)
Crash (35)	Aircraft crashed
Over Speed Warning (17)	Over Speed on/off
Stall Warning (18)	Stall on/off
Autopilot (3)	Autopilot on/off
Autopilot Modes (29)	Autopilot mode changed - Possible values: <ul style="list-style-type: none"> • Navigation lock (NAV) - displays NAV1 frequency • Heading lock (HDG) • Altitude lock (ALT) • Altitude hold (LVL) • Speed hold (SPD) • Mach hold (MACH) • Vertical Speed hold (VS) • Rounds Per Minute hold (RPM) • Glideslope hold (GS) • Approach hold (APR) • Back Course hold (BC)



Flaps (4)	Flap setting changed
Gear (5)	Gear setting changed
Spoilers (6)	Spoiler setting changed
Autobrakes (7)	Autobrake setting changed
Anti-Ice (8)	Anti-Ice setting changed
Autothrottle (37)	Autothrottle changed
Yaw damper (41)	Yaw damper on/off
Lights (9)	Light setting changed
Altitude (10)	Altitude changed - Possible values: Climbing / Cruising / Descending
Engine (12)	Engine setting changed
Engine Starter (36)	Starter switch mode
Parking Brake (13)	Parking brake set or released
Pressure (15)	Pressure changed
Altimeter (16)	Altimeter setting changed
Weather (20)	Downloaded METAR
OUT (21)	Block OUT event
OFF (22)	Block OFF event
ON (23)	Block ON event
IN (24)	Block IN event
Flaps Up (25)	Special event after takeoff telling, when the flaps are up
Gear Up (26)	Special event after takeoff telling, when the gear is up
Gear Down (27)	Special event before landing telling, when the gear is going down
Flaps Down (40)	Special event before landing telling, when the flaps are going down
Navigation (28)	Navigation point reached
Position (11)	Aircraft position report, if no plan is assigned (loaded)
Failures (30)	Aircraft failures like Engine fire, Electric, etc.
Markers (31)	Marker active - Possible values: Inner / Middle / Outer
Glideslope (32)	Glideslope active or captured
Localizer (33)	Glideslope active or captured
Turbulence (34)	Turbulence on/off
Gust (38)	Gust on/off - Displays speed in knots
Transponder (42)	Transponder code changed
Comment (19)	ACARS Comment
TCAS (43)	Traffic Alert and Collision Avoidance System (TCAS) event (see Flight Critique section for more information)
COM1 (44)	COM1 frequency changed
COM2 (45)	COM2 frequency changed
NAV1 (46)	NAV1 frequency changed
NAV2 (47)	NAV2 frequency changed
NAV3 (78)	NAV3 frequency changed
ADF1 (48)	ADF1 frequency changed
ADF2 (51)	ADF2 frequency changed (FS2004 and higher)



Warning (50)	Indicates: <ul style="list-style-type: none"> • Change of a critical aircraft parameter (e.g. Flap count, Engine Count/Type, etc.) • Scenery reloaded or location changed • ZULU/GMT changed either by the Pilot or the Flight Simulator
RTO (52)	Rejected Takeoff
TNG (53)	Touch and Go
GA (54)	Go Around (triggered if the gear or flaps are down for landing and setting the autothrottle to TOGA below 2500ft AGL or climbing more than 150ft below 1000ft AGL)
Icing (55)	Icing on/off
Shear (56)	Wind shear on/off
Fuel Low (57)	Low fuel amount detected (can be configured in the Aircraft specific Settings) - Default values are 7.5% (Low) and 5% (Very Low)
Excessive Descent Rate (58)	Check the GPWS manual section for details
Excessive Terrain Closure Rate (59)	Check the GPWS manual section for details
Altitude Loss After Takeoff (60)	Check the GPWS manual section for details
Unsafe Terrain Clearance (61)	Check the GPWS manual section for details
Below Glideslope (62)	Check the GPWS manual section for details
Excessive Banking (63)	Check the GPWS manual section for details
Landing Bounce (64)	Amount of bounces during Landing
Pushback (66)	Pushback state changes: Stopped, Straight, Left and Right
Tank Selector (67)	Tank Selector changes
Pitot Heat (68)	Pitot Heat on/off
Master Battery (69)	Master Battery switch on/off
Master Avionics (70)	Master Avionics switch on/off
Alternator (71)	Alternators on/off
Engine Fuel Pumps (72)	Engine Fuel Pumps (1-4) on/off
Auto-Feather Arm (73)	Auto-Feather Arm switch on/off
Propeller Synchronization (74)	Propeller Synchronization switch on/off
Propeller De-Ice (75)	Propeller De-Icing on/off
Route (76)	Logs changes to the current route (e.g. Skipping of Waypoints, Flight Plan loading, Airport changes etc.)
Reheat/Afterburner (77)	Reheat/Afterburner on/off
Cowl Flaps (79)	Cowl flaps changed
Exits (80)	Exit opened or closed
No Smoking Signs (81)	No Smoking signs on/off
Seat Belt Signs (82)	Seat belt signs on/off
APU (83)	APU on/off
Speed Restriction (84)	Speed restriction under FL100 activate/inactive
Reverse Thrust (85)	Reverse thrust on/off



Custom Tab

The custom tab contains a comment/remark field, where you can enter any comment or for example save the flight plan weather report. It also displays ten customizable fields. The field names and configurable values can be edited in the Edit Logbook dialog. With these fields you can log any values you are missing in FS Flight Keeper. This is also useful for any Virtual Airline to store some VA specific values.



Flight Critique and scoring

FS Flight Keeper features a built in flight critique and scoring system. This means that Flight Keeper will check your flight for the following issues:

- Beacon not on while engines are running
- Strobe lights off during takeoff, landing and while airborne
- Landing/Recognition lights below and above FL100
- Taxi speeds ≥ 31 kts
- 250 kts speed limit below FL100 (≥ 256 kts)
- Incorrect altimeter setting
- Gusty winds over 30 minutes
- Turbulences over 30 minutes
- Stall warnings
- Overspeed warnings
- Vertical speed on touchdown
- Landing bounce
- Heading difference during rollout (≥ 4 degrees)
- Excessive pitch angle (≥ 25)
- Excessive bank angle (≥ 35)
- Excessive N1 setting ($\geq 105\%$)
- Excessive G-Force during flight ($0.5 \leq \text{G-Force} \leq 2.5$) and on touchdown
- Low Fuel
- TCAS events
- GPWS events
- Aircraft exit open while engines are running
- Excessive flaps down speed
- Excessive gear down speed
- Excessive vertical speed for gear down
- Exceeded maximum gross weight
- Reverse thrust activated under 60 knots

and of course any aircraft crash

For each issue you will lose some flight scores. After judging your flight a critique summary will be displayed which will be automatically saved with your flight. Note that a flight critique will only be made if events have been recorded.

FSFK allows you to configure each critique to fit your needs. Since Version 1.1 there is a configuration file 'FlightCritique.cfg' available. This text file contains a section for each available critique item. You can also force Flight Keeper to use a specific critique config file by setting the Aircraft specific setting.



Section/Parameter	Description/Value
General	This section tells FSFK which score gives which textual result
Excellent, Very Good, Good, Moderate, Bad, Very Bad	<p>Enter the begin and end percentage score that should be used for each result - The range should not exceed 100 and not should be below 1. Also take care that the values are descending correctly.</p> <p>Example:</p> <p>Excellent = 100,95</p> <p>VeryGood = 95,90</p> <p>Good = 90,75</p> <p>Moderate = 75,50</p> <p>Bad = 50,25</p> <p>VeryBad = 25,1</p>
Altimeter	<p>Altimeter check for correct setting according to the current pressure and for the standard altimeter value (29.92hg) above the Transition Altitude (TA). The critique allows the following:</p> <ul style="list-style-type: none"> • Standard Altimeter (29.92Hg) set prior to reaching the origin TA (when climbing) • Setting the Altimeter prior to reaching the destination TA (when descending) • Altimeter setting is only checked when the aircraft is leveled off
On	Turns the critique on (1) or off (0)
Tolerance	Allowed difference between altimeter setting and pressure (in Hg)
Variation	Altitude tolerance below and above the TA (in feet)
Delay	Maximum delay in minutes between pressure and altimeter change
Penalty	Penalty that will be subtracted from the total flight score - If you just want to display the critique without getting a penalty for it, set the value to 0. Example: 10, 7.5, etc. Please note that you will have to use the character ',' and not any other that might be valid in your country. So an exchange between the FSFK users is possible and independent to any regional language settings.
Gust	Checks if you are lasting too long in gusty wind conditions
On	See above
Delay	Maximum time allowed (in minutes)
Penalty	See above
Turbulence	Checks if you are lasting too long in any turbulence
On	See above
Delay	Maximum time allowed (in minutes)
Penalty	See above
Overspeed	Checks for any overspeed warning and their duration
On	See above



Delay	Maximum time allowed (in minutes)
Penalty	See above
Stall	Checks for any stall warning and their duration
On	See above
Delay	Maximum time allowed (in minutes)
Penalty	See above
LandingLights	This entry will check, if you turned on/off the landing lights above/below a given altitude
On	See above
Altitude	The altitude where you want to check the light condition
Variation	Allowed tolerance below and above the given altitude (in feet)
Penalty	See above
RecognitionLights	This entry will check, if you turned on/off the recognition lights above/below a given altitude
On	See above
Altitude	The altitude where you want to check the light condition
Variation	Allowed tolerance below and above the given altitude (in feet)
Penalty	See above
BeaconLights	Checks if the beacon lights are turned on while the engines are running
On	See above
Value	Minimum N2 (in percent)
Penalty	See above
StrobeLights	Checks if the strobe lights are turned on during takeoff, landing and while airborne
On	See above
Variation	Allowed altitude tolerance (in feet). Useful for the MD80 series as the strobe lights are interlocked with the gear.
Penalty	See above
Taxispeed	Checks if the maximum taxi speed at the origin and destination airport have been exceeded
On	See above
Value	Maximum speed allowed (in knots)
Penalty	See above
IASFlight	Checks if the maximum Indicated Air Speed (IAS) has been exceeded below FL100 during departure or approach
On	See above
DepartureValue1	First maximum speed limit (in knots) during departure
ApproachValue1	First maximum speed limit (in knots) during approach
Penalty1	Penalty for the first maximum value
DepartureValue2	Second maximum speed limit (in knots) during departure
ApproachValue2	Second maximum speed limit (in knots) during departure
Penalty2	Penalty for the second maximum value



Touchdown	Judges the vertical speed (in ft/min) during touchdown
On	See above
Value1	First maximum speed limit (in ft/min - should be negative!)
Penalty1	Penalty for the first maximum value
Value2	Second maximum speed limit (in ft/min - should be negative!)
Penalty2	Penalty for the second maximum value
RateValue1-7	These values define the maximum vertical speed for a landing rating (in ft/min - should be negative!)
RateText1-7	These values define the landing rating text to be shown in the critique
TouchdownGForce	Checks the G-Force on touchdown
On	See above
Value1	First maximum value
Penalty1	Penalty for the first maximum value
Value2	Second maximum value
Penalty2	Penalty for the second maximum value
Crash	Checks for any crash
On	See above
Penalty	See above
MaxPitch	Criticizes the maximum pitch angle during your flight
On	See above
Value	Maximum angle allowed (in degrees - should be positive!)
Penalty	See above
MaxBank	Criticizes the maximum bank angle during your flight.
On	See above
Value	Maximum angle allowed (should be positive!)
Penalty	See above
MaxEngineSetting	Checks the maximum engine setting (N1,N2, etc.) detected (only available for Jet aircrafts)
On	See above
Value	Maximum setting allowed
Penalty	See above
FuelLeft	Checks the fuel left at your destination airport (in percent)
Note: Turned off by default, because v2.5 introduced the FuelLow critique	
On	See above
Value	Minimum fuel that should be left
Penalty	See above
FuelLow	Checks if the minimum fuel amount has been fallen below the configured values
On	See above
Penalty1	Penalty for the first minimum value (Fuel Low)
Penalty2	Penalty for the second minimum value (Fuel Very Low)



MaxYaw	Checks the maximum yaw (difference between the heading during landing and your rollout)
On	See above
Value	Maximum angle allowed
Penalty	See above
TCAS	Checks for any TCAS event in a given range
On	See above
Value	Distance between both aircrafts (in nautical miles)
Altitude	Maximum altitude difference between both aircraft
Penalty	See above
GForce	Checks the G-Force minimum and maximum values
On	See above
Min	Minimum value allowed
Max	Maximum value allowed
Penalty	See above
ExcessiveDescentRate	Excessive descent rate (see the GPWS manual section)
On	See above
Penalty	See above
ExcessiveTerrainClosureRate	Excessive terrain closure rate (see the GPWS manual section)
On	See above
Penalty	See above
ExcessiveBanking	Excessive bank angle during landing (see the GPWS manual section).
On	See above
Penalty	See above
AltitudeLossAfterTakeoff	Descending after Takeoff (see the GPWS manual section)
On	See above
Penalty	See above
UnsafeTerrainClearance	Unsafe Terrain closure when not in landing configuration (see the GPWS manual section)
On	See above
Penalty	See above
BelowGlideslope	Below the glideslope during approach (see the GPWS manual section)
On	See above
Penalty1	Penalty for the 'Soft Alert'
Penalty2	Penalty for the 'Hard Alert'
LandingBounce	Aircraft bounced several time during landing
On	See above
Value	Amount of bounces required for a critique
Penalty	See above
ExitOpen	Exit open while engines are running
On	See above
Penalty	See above



FlapsSpeed	Checks whether speeds during flaps down have been exceeded
On	See above
Penalty1	Penalty for the first overspeed
Penalty2	Penalty for the second overspeed
GearSpeed	Checks whether speeds during gear down have been exceeded
On	See above
Penalty1	Penalty for the first overspeed
Penalty2	Penalty for the second overspeed
GearVerticalSpeed	Checks if the maximum vertical speed for the gear during landing has been exceeded
On	See above
Penalty	See above
GrossWeight	Checks whether the maximum gross weight has been exceeded or not
On	See above
Penalty	See above
ReverseThrust	Checks if the reverse thrust was active under the given speed restriction
On	See above
Value	Maximum speed
Penalty	See above



Aircraft specific Settings

Flight Keeper normally stores and displays the actual flap angle in the related database fields (ONFlaps, OFFFlaps, etc.). This can differ from the actual values displayed in your aircraft panel. A typical aircraft where this can happen is the Airbus. The flap settings used there are normally ,1', ,1+F', ,2', etc, but FSFK will display and store the actual flap angles ,8', ,16', etc. There are also some third party add-ons, where this can happen (e.g. DreamFleet's Boeing 737-400). To synchronize FSFK with the panel display, you can add some new flap properties to the aircraft configuration file ,Aircraft.cfg', which will then be used instead of the actual flap angle.

To add these new properties open the config file for an aircraft and add a new config section called ,[FSFK_General]'. The flap section for the default Microsoft Boeing 737-400 aircraft looks similar to the following example:

```
[flaps.0]
type = 1
span-outboard = 0.8
extending-time = 20
flaps-position.0 = 0
flaps-position.1 = 1
flaps-position.2 = 2
flaps-position.3 = 5
flaps-position.4 = 10
flaps-position.5 = 15
flaps-position.6 = 25
flaps-position.7 = 30
flaps-position.8 = 40
damaging-speed = 250
blowout-speed = 300
lift_scalar = 1.0
drag_scalar = 1.0
pitch_scalar = 1.0
system_type = 1
```

The angles are defined in the properties ,flaps-position.x'. To add the FSFK flap display names, simply copy all ,flaps-position.x' and rename them to ,flaps-display.x' and change the value after the equal sign. So for this example the ,[FSFK_General]' section should look similar to this:

```
[FSFK_General]
flaps-display.0 = 0
flaps-display.1 = 1
flaps-display.2 = 2
flaps-display.3 = 5
flaps-display.4 = 10
flaps-display.5 = 15
flaps-display.6 = 25
flaps-display.7 = 30
flaps-display.8 = Full
```

FS Flight Keeper will now display and store the value ,Full' instead of ,40', if you set the flaps to 40. These values can also contain any character. So you can use the value ,1+F' for an Airbus. Please note that these new properties introduced by FSFK will be ignored by FS and will not affect any aircraft behavior.



The following additional properties can be configured within this new section:

- PAX -> Automatically sets the FSFK field ,Pax' to the configured value
- Cargo -> Automatically sets the FSFK field ,Cargo' to the configured value
- Aircraft_Type-> Automatically sets the FSFK field ,Aircraft Type' to the configured value
- Flight_Type -> Automatically sets the FSFK field ,Flight Type' to the configured value
This is useful, if you use Radar Contact's ATC interface together with the standard Microsoft ATC system and your flight plans are always set to VFR to get both systems working properly. Using the value ,IFR' here will always record an IFR flight instead of VFR. So no manually change to IFR within FSFK is required.
- GPWSSystem -> A value of ,True' or ,1' turns on the Ground Proximity Warning System (all other values will turn off the system for the aircraft)
- Helicopter -> A value of ,True' or ,1' forces FSFK to handle this aircraft as a Helicopter
This is, in example, required for the Robinson Helo in FS2004, because this aircraft is using a piston engine and not a turbine. Also some other helicopters might need this setting to get them working with Flight Keeper. For all other aircraft you don't need to configure this property.
- GForceTiming -> Configures the timing in milliseconds, when the min./max. G-Force values are recorded by FSFK
Example: A value of 1000 [FSFK default] means that a G-Force value must stay at least for one second before it will be recorded as the min./max. value.
- FuelLow / FuelVeryLow -> Sets the minimum fuel amounts (in pounds [lbs]) used for the flight event FuelLow
If these values are not configured, Flight Keeper automatically calculates 7.5% and 5% of the start fuel amount.
- SoundProfile -> Forces a Sound Profile to be used with this aircraft
- FlightCritique -> Sets the Flight Critique configuration file
- Exits-Display.x -> Similar to the flap setting you can define the names of the aircraft exits
- Logevents -> Configures which event will be recorded for this aircraft (this value can only be edited with the ACARS Device Installer)

So our example section could look like this:

[illegible]



World Map

The world map display is a really amazing feature. The map allows you to view flights in the database or even view your flight while connected with FS (so called 'live watch' mode). On the map you can see the planned route and/or the actual flight route with a subset of the logged flight events. You can toggle the display, so you can see all data at once or turn them on/off as you need them. With this map you can easily compare your planned route with the actual flown one. The map will greatly improve your approach and navigation flying skills.

The World Map is also the right place for your flight weather planning. Just download the weather forecast with the Flight Editor and then you can open the map to display the weather forecasts. FS Flight Keeper will display the cloud, wind and temperature conditions for each weather station.

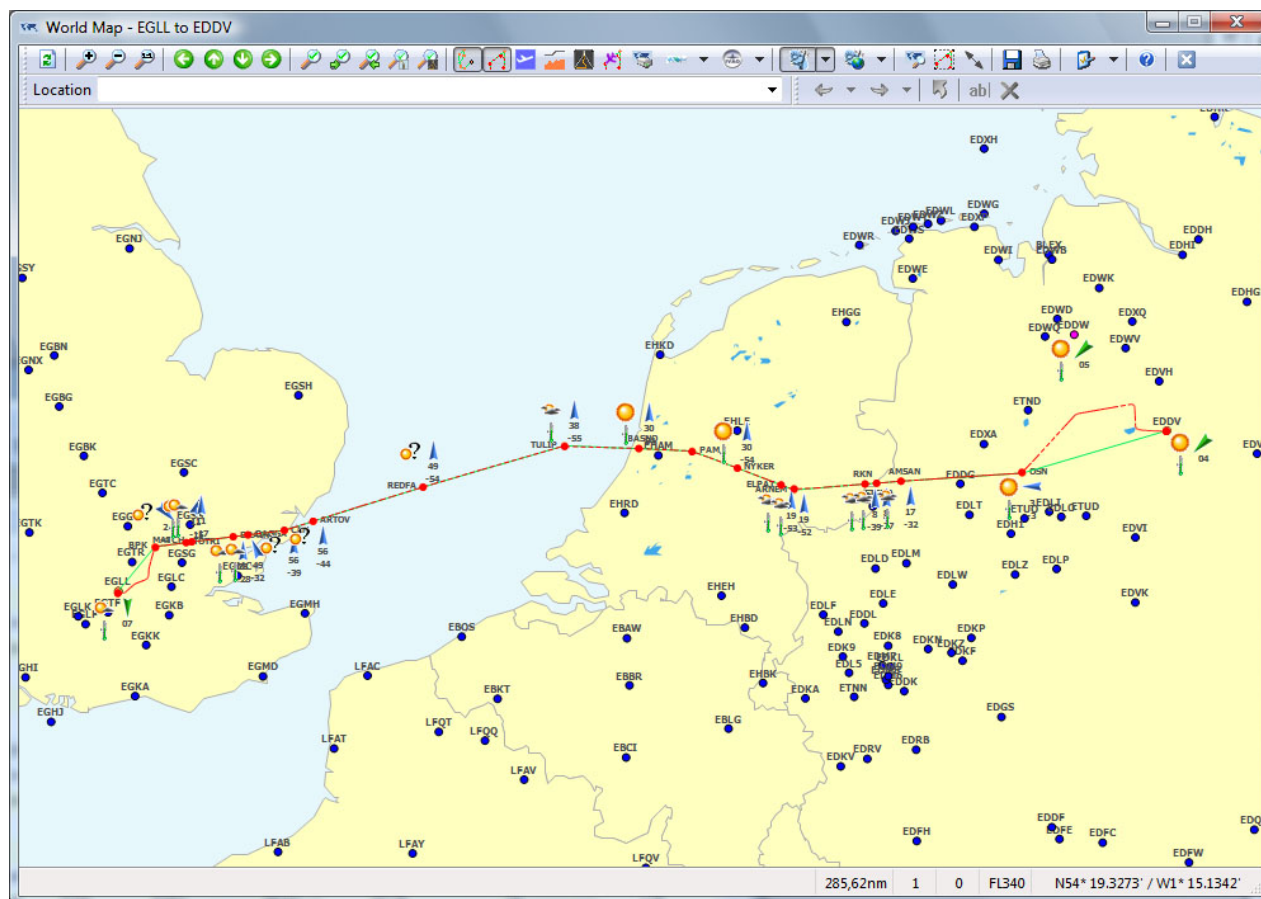
Function Overview

- Display planned route (with weather forecast if available)
- Display actual flight route (with weather if available)
- Display the recorded taxiway route at the origin and destination airports
- Display detected flight events
- Currently FSFK will display the following events:
 - Block (with Rotate, Rejected Takeoff, Go Around and Touch and Go events)
 - Position Reports
 - Failures / Crashes
 - Altitude changes
 - ACARS Comments
 - TCAS
 - GPWS
 - Localizer / Glideslope / Marker
 - Flap changes
 - Gear
 - Fuel Low
 - Reverse Thrust
 - Warning messages
- Airport Information (Location, Parking amount, Runways and ILS)
- Airport details (Aprons, Gates, Taxiways, Runways, Tower and Gas stations)
- Airways and Airspaces
- Display Lakes, Rivers and State borders (USA, Canada and Australia)
- Cities
- Terrain map (also relative to the current altitude while in live watch mode)
- Display airborne and ground AI Traffic (Multiplayer Traffic is available via AI-Bridge)
- Display Virtual Airline Traffic (live ACARS)



- Display IVAO and VATSIM Pilots, Controller, FIR and active zones
- Display Weather and WMO Stations
- Display world wide weather (METAR/ALOF) on the World Map
- Black Box flight playback on the world map
- Special charts for the vertical and approach/ILS profile
- Distance and Heading measuring
- Airport and Navaid search
- Search stored Flights by selecting an area on the Map
- Fit map ranges so that the complete route, departure, approach, etc. are visible
- Store often used map locations (positions)
- Location (position) history, that lets you easily switch back to a previous map position
- Save a screenshot of the current map display
- Map automatically follows your aircraft while flying
- Define you own map colors and detail levels
- Full antialiasing support

The map itself is divided into four detail levels to improve the overall performance. This is done by measuring the maximum visible range (y-axis) in miles. Smaller ranges will add more details to the map (more airports displayed, airport details, nav aids, detailed coast lines, etc). There is a section available in the FSFK Options (,World Map') where you can define those ranges. The airport detail level is calculated by the amount of gates available. This means that if you define a gate amount of 50 for detail level four, only airports with 50 or more gates will be displayed on the map. There are also options to tell FSFK when to display event and waypoint captions, nav aids, airways, airspace and the airport details (aprons, gates, etc.) on the map. This is useful, because if they would be always displayed and you display lets say over 50 flights on the map, you wouldn't see anything except black noise. To avoid this you can adjust those display ranges.

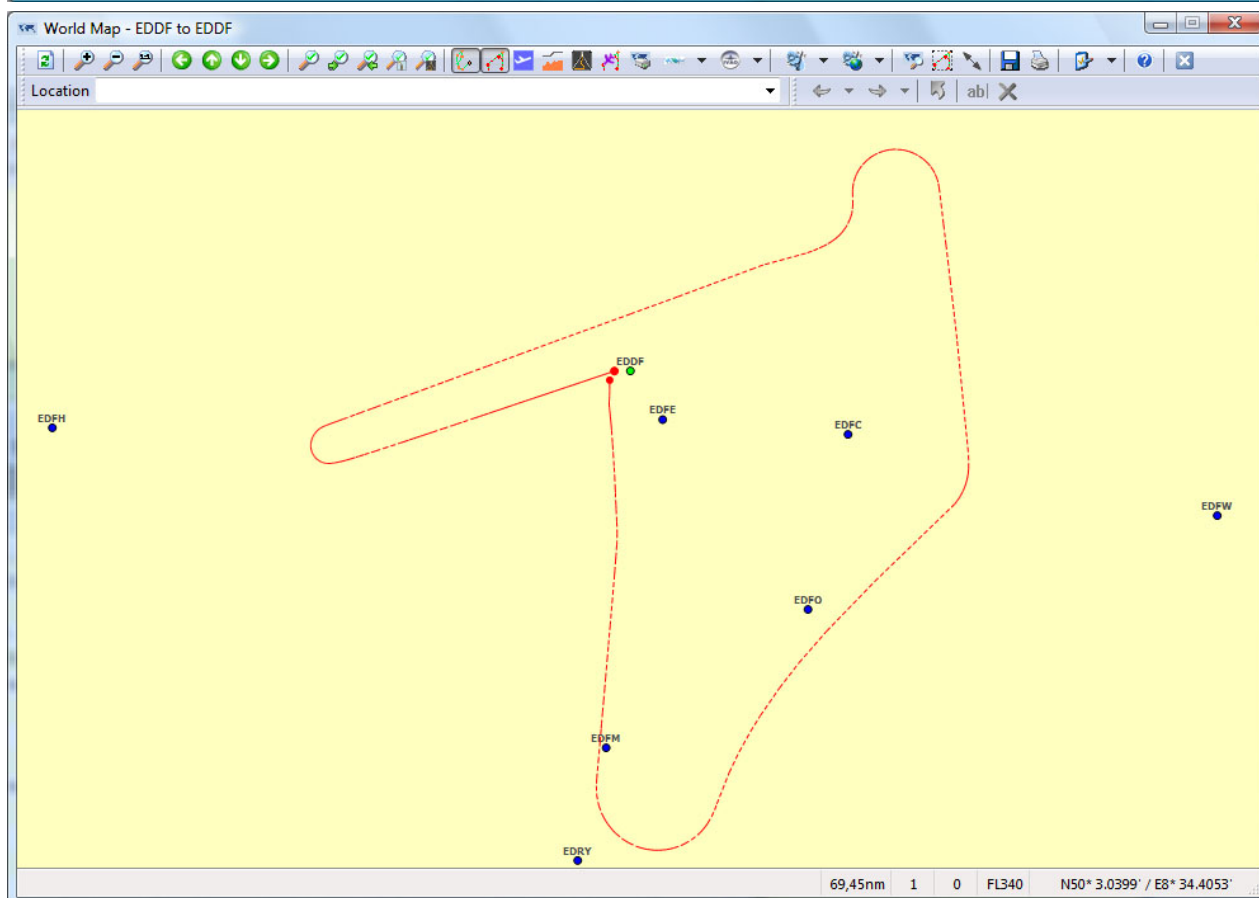
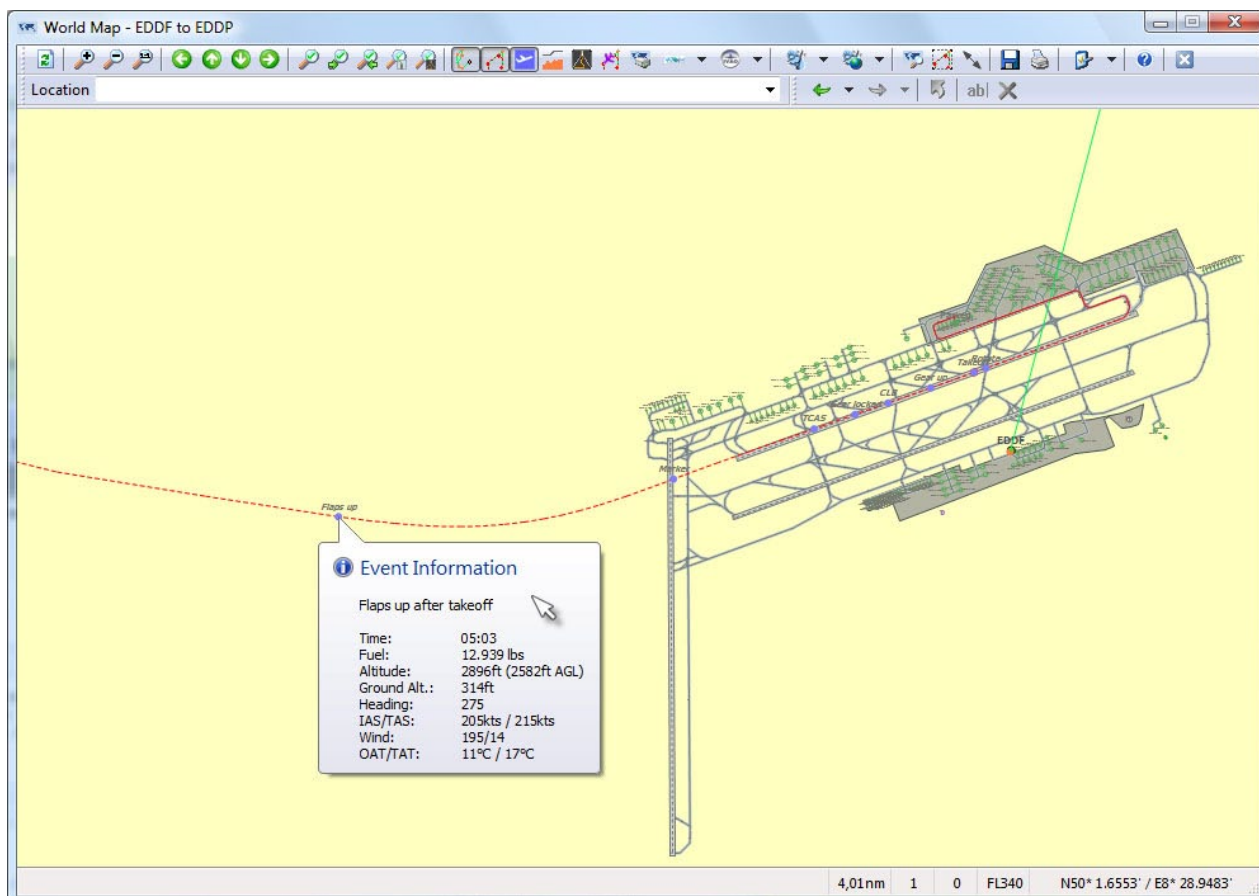


The screenshot above shows a typical flight (in this case a flight from London/EGLL to Hannover/EDDV) recorded with FS Flight Keeper. It displays the plan, flight route with the actual weather and events. In the status bar you see the current y-axis range (right now ~286nm), current detail level (here 1), current minimum gate amount (here 0), current ALOFT level (here FL340) and the current mouse position in Latitude/Longitude format. To select a region on the map, simply hold down the left mouse button and move the mouse until you have selected the area you want to see. Now release the left mouse button and FS Flight Keeper will automatically redraw the map, showing only the selected region and its data.

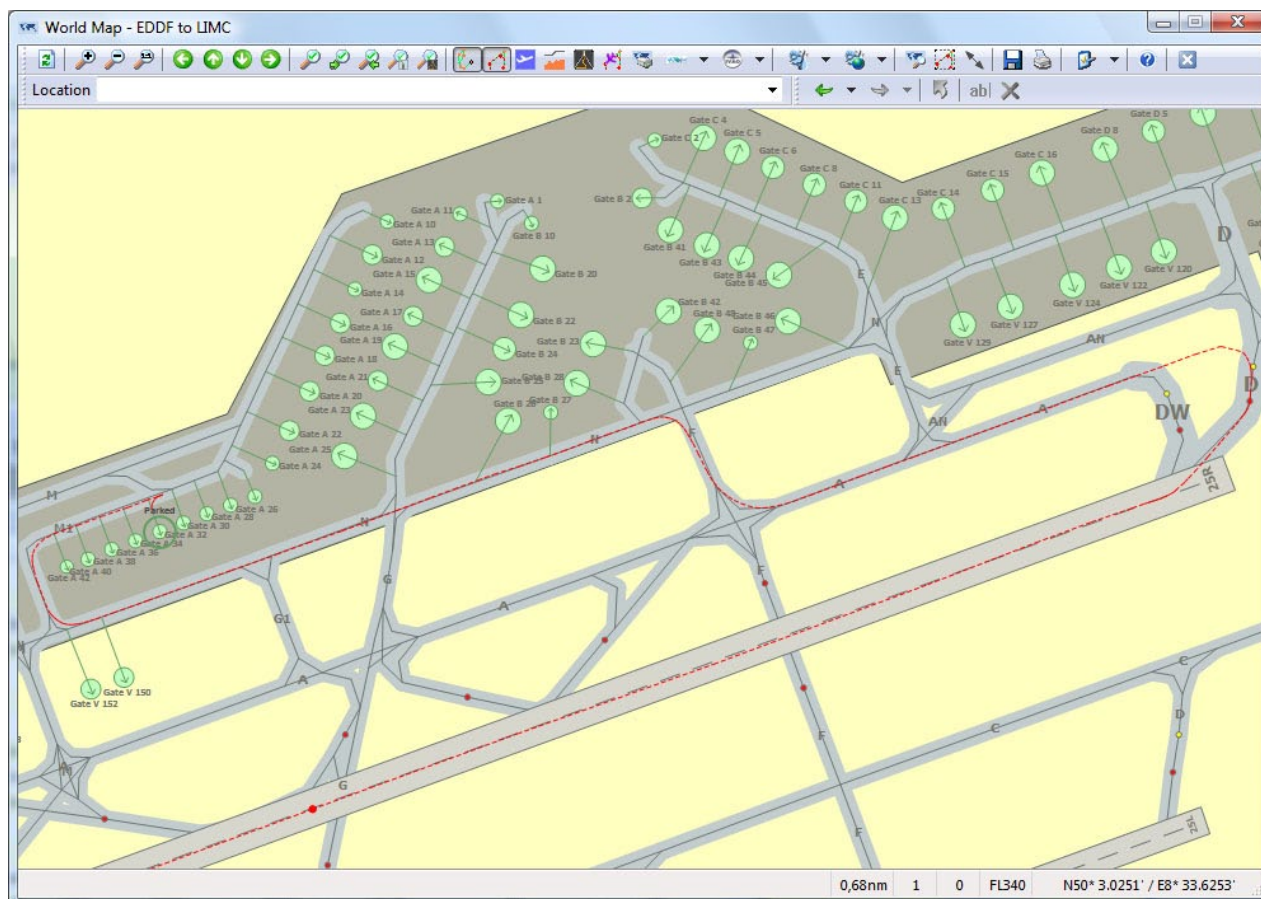
Please note that some lakes, rivers and islands are missing on the map. The data that FSK uses has defined a minimum size for those entries. So it might be that your favorite lake/river/island is missing. Nonetheless all airports with at least one runway/gate will be displayed. So be sure to find your favorite airport on the map.

The World Map can be resized by clicking and dragging the size grip in the bottom right corner. The World Map will maintain a given aspect ratio, so after resizing the window width and height will be corrected to keep the ratio. That's why maximizing the World Map is not possible.

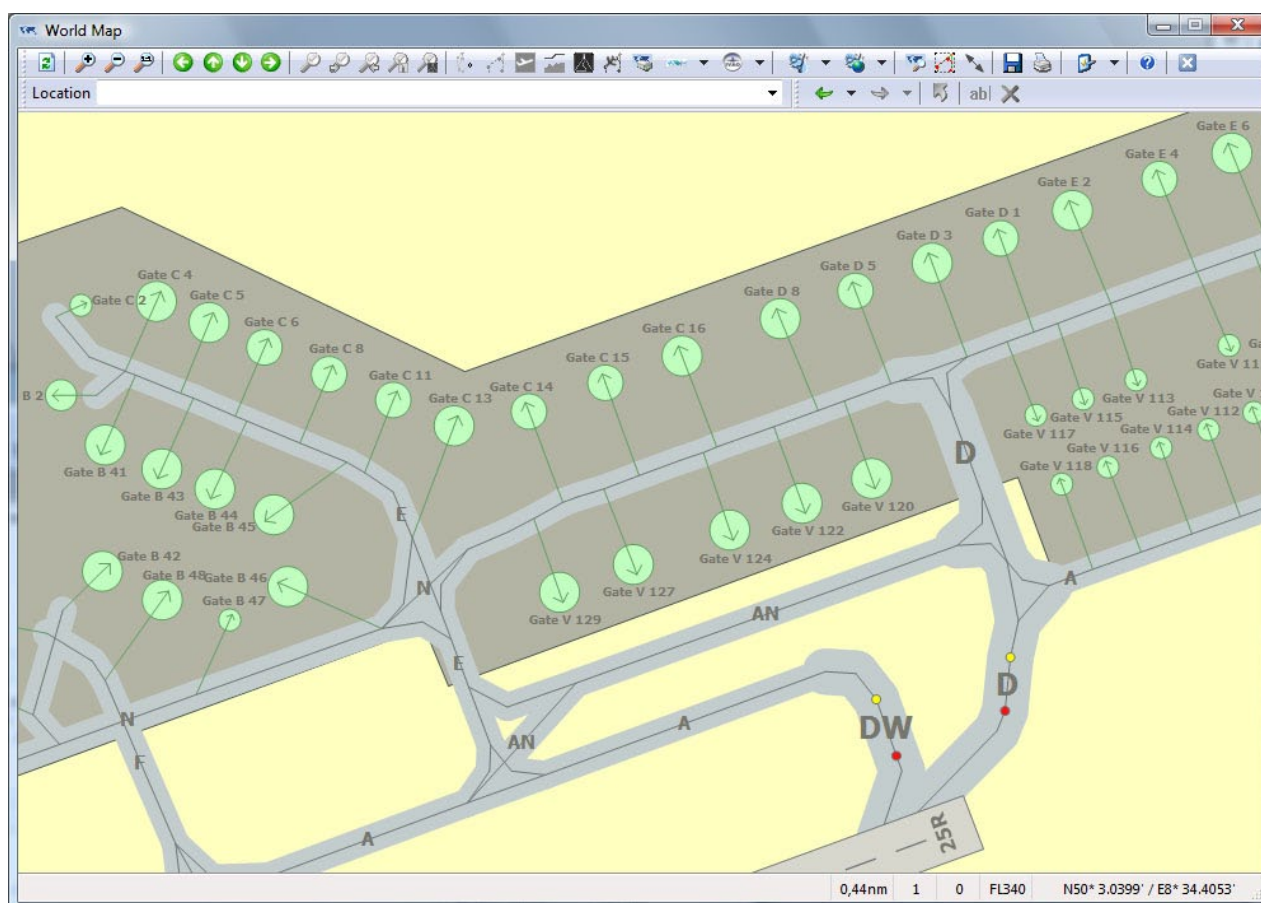
The map also features detailed information for most items by moving the mouse over them. The mouse pointer will change (hand cursor) and a tooltip with detailed information will popup.



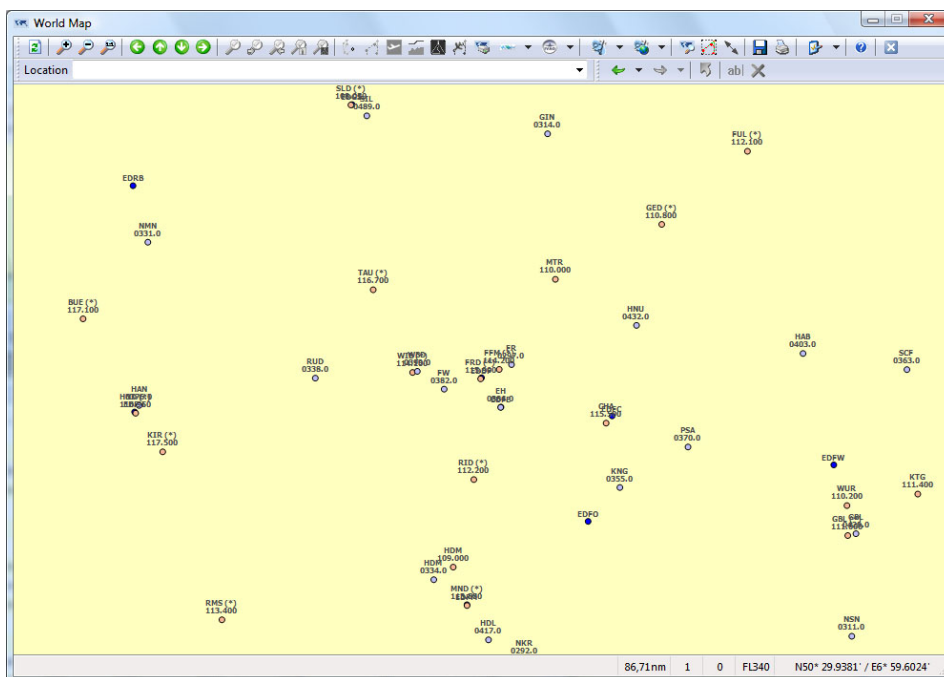
Enhanced flight path recording allows a precise investigation of your approach or even for analyzing an aircraft crash












Easily review the route taken during taxiing to the runway or even on water

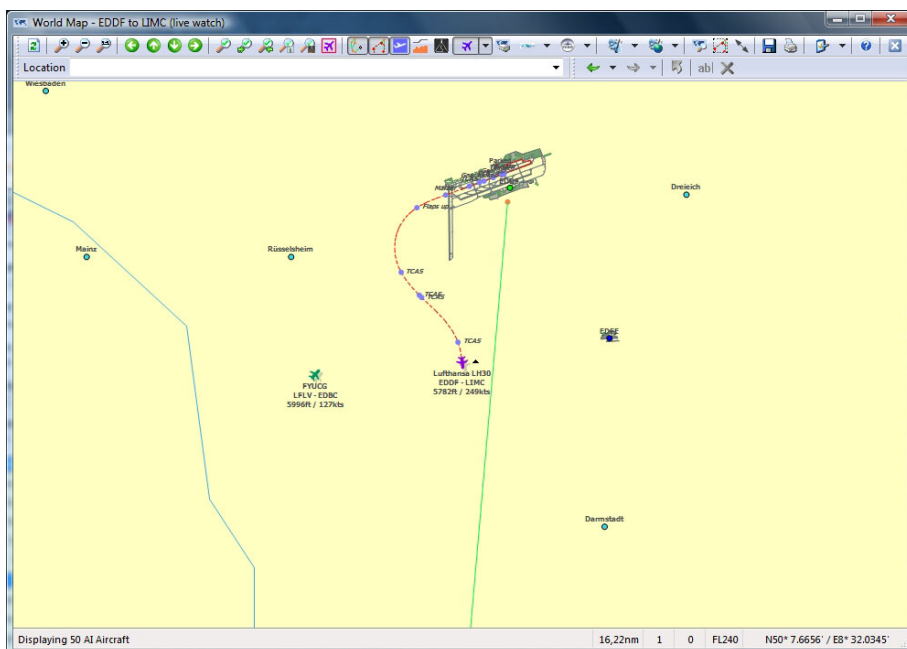


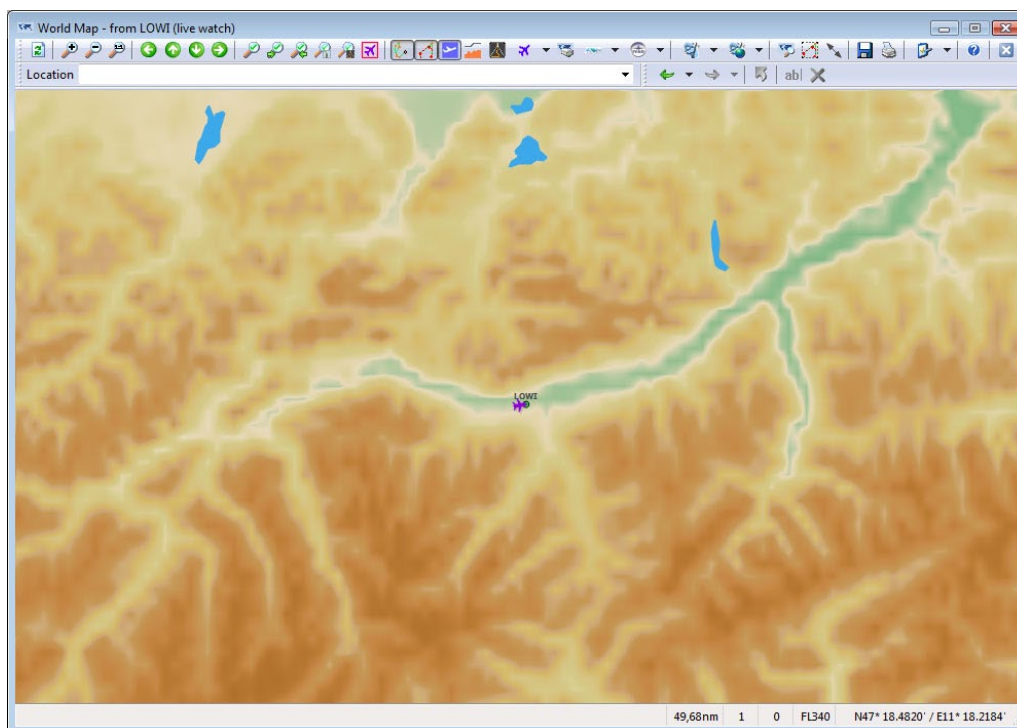
Simply find your way from the gate to the assigned runway



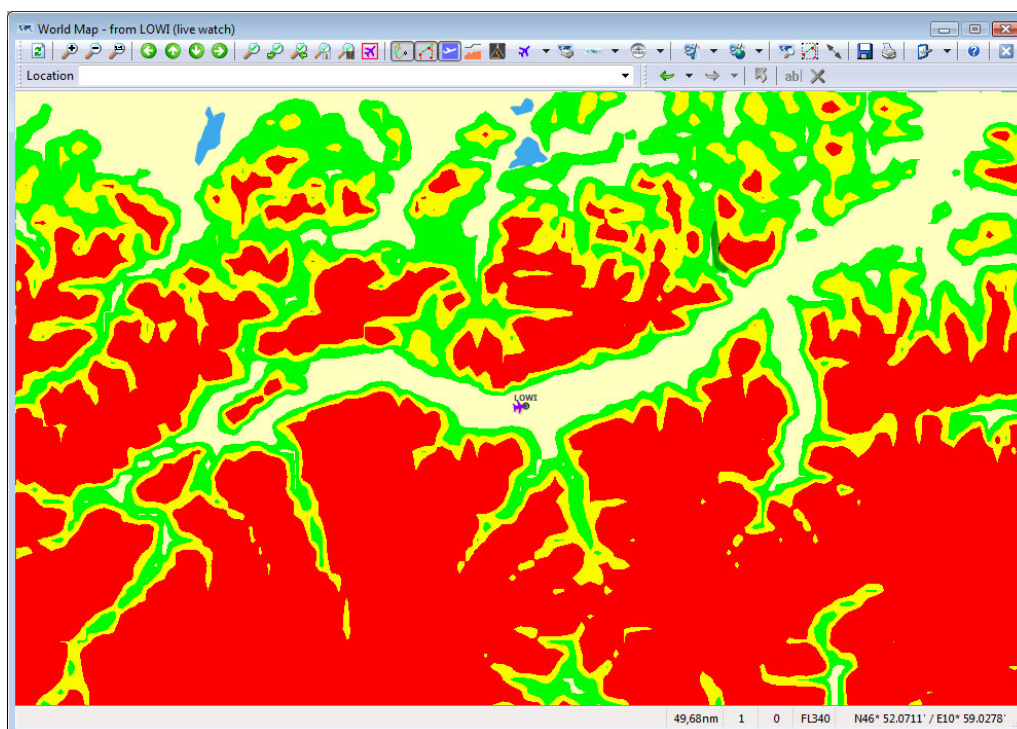
Nav aids (VORs, NDBs, ILS and Markers) shown on the map - The caption ,(*)' indicates a VOR with DME services

If you open the World Map while connected with your Flight Simulator, the map will go into the so called ,live watch' mode. This mode allows you to view the current status of your own aircraft and you can also display the AI (Multiplayer/VA) Traffic (the Log Mode has to be set to ,Full' to see the traffic!). If you want to automatically refresh the aircraft positions, then turn on the option ,Refresh Aircraft positions' from the drop down option menu. Every second FSFK will now refresh the position on the map. Please note that this will not refresh the flight route display as this will be refreshed only every 30 seconds. To repaint the route you need to click on the toolbar button [] or press the hotkey ,F5'. The aircraft captions are directly read from FSUIPC. If you want to change the caption displayed, you can change them in the FSUIPC option section ,Technical'. For more information read the FSUIPC documentation installed with Flight Keeper. AI- and Multiplayer Traffic will be shown as [ -Airborne |  -Ground] (aircraft within TCAS range 3 will be displayed as [] and within range 1 as [] for easier traffic identification), IVAO, VATSIM and Virtual Airline (live ACARS) as [ -Airborne |  -Ground], IVAO and VATSIM Controller [] and your own Aircraft as [].





Additionally to the vector world map FS Flight Keeper offers a terrain map with a resolution of ~1km. Because the drawing of this map type takes a lot more CPU time you can define the quality used to draw the map in the Options dialog and save some CPU time for other applications.

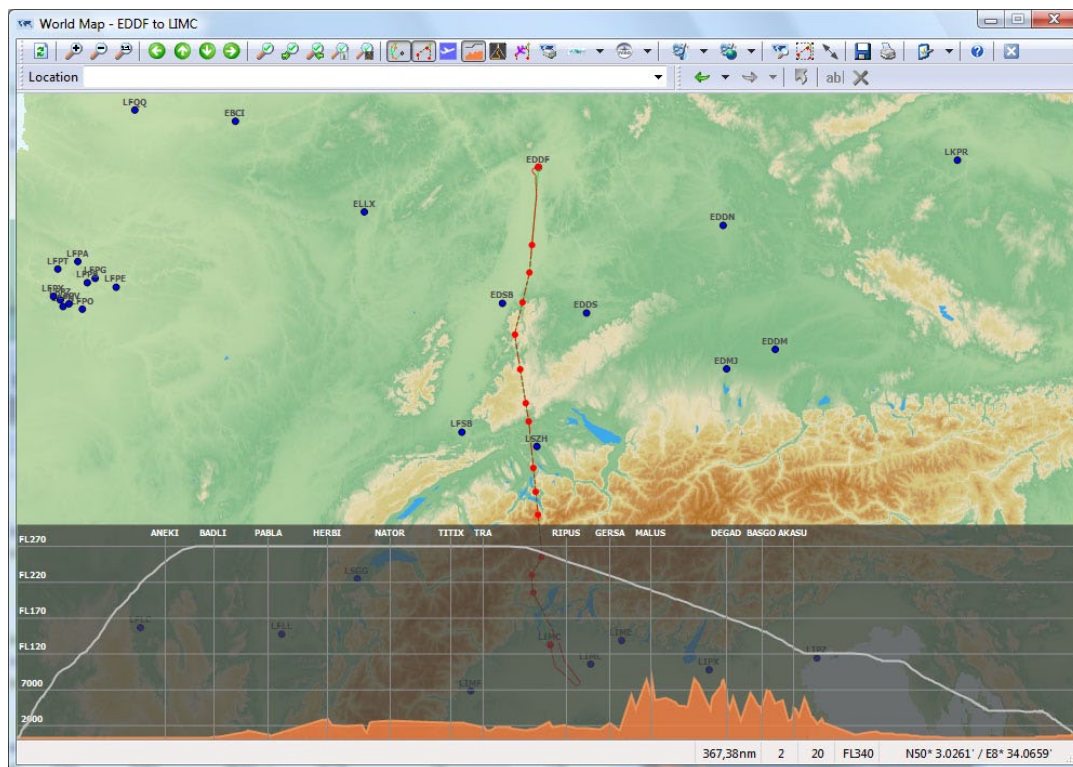


The relative elevation map displays the surrounding terrain relative to your current flight altitude and can only be used in 'live watch' mode. The relative altitude is divided into four areas:

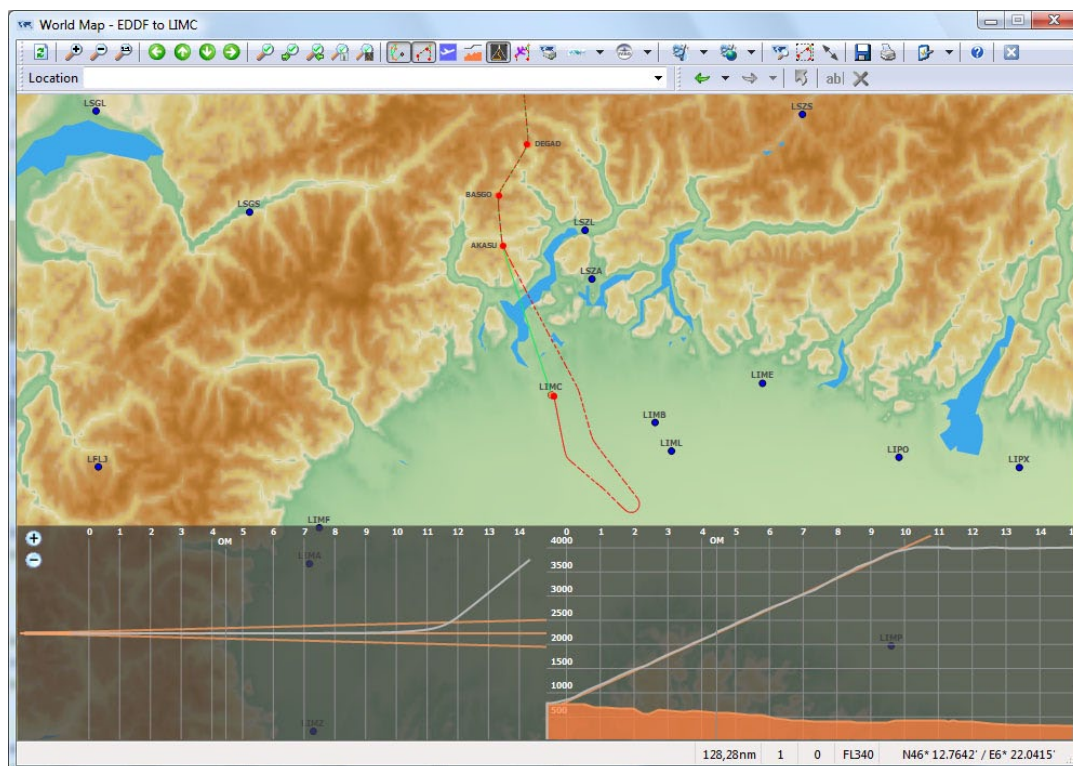
- Red: Altitude above ground is lower than 100ft
- Yellow: Altitude above ground is between 100 and 1000ft
- Green: Altitude above ground is between 1000 and 2000ft
- Transparent: Altitude above ground is greater than 2000ft



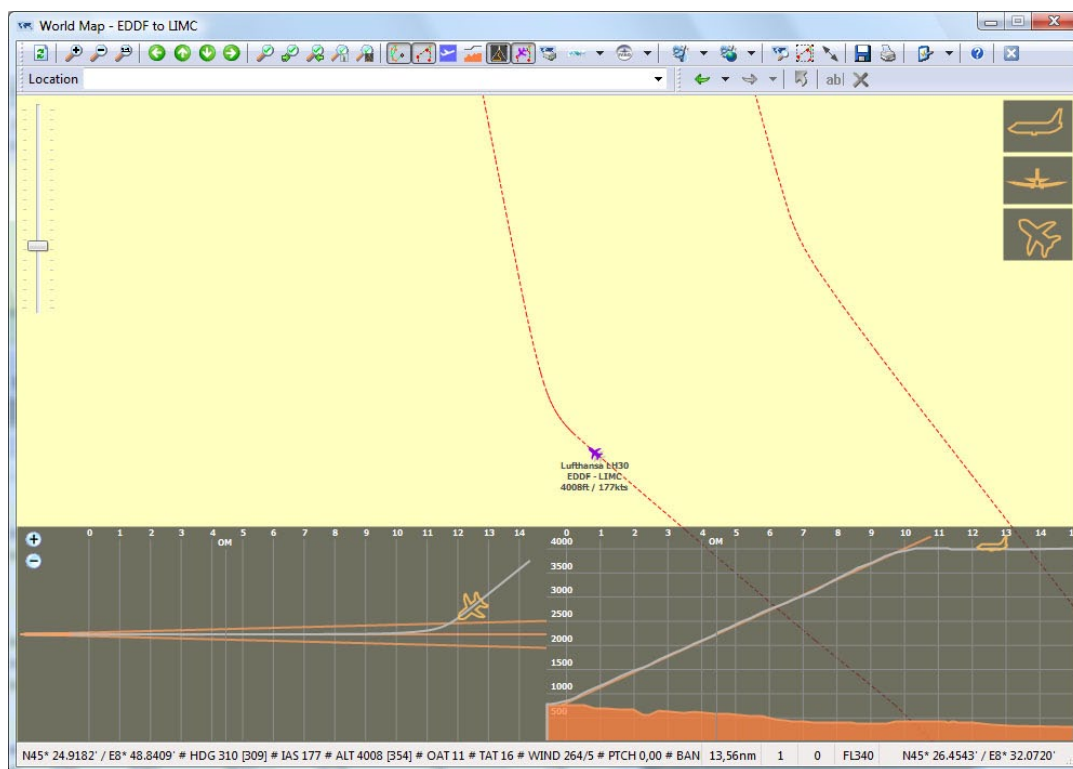
For the flight reviewing the world map offers two additional charts: The vertical flight path and approach/ILS profiles.



The vertical profile displays hereby only the area currently visible on the screen, flight path altitudes and the ground elevations. Additional waypoint markers allow a better orientation on the chart.



On the left side of the approach/ILS profile you'll see the horizontal and on the right the vertical profile. The horizontal profile keeps track of the localizer capturing and following. The orange colored lines represent the localizer beam angle and the runway center line. The vertical profile keeps track of the glideslope capturing and following. The orange colored line here represent the glideslope angle and is not visible if there is no glideslope available for the landing runway. The +/- icons on the left side allow you to increase or decrease the zoom level of the shown profiles.
























The playback of a recorded flight (called black box playback) is the perfect tool to analyze every single phase of your flight. In the top right corner three vector symbols represent the current state of your aircraft in the air: Pitch, Bank and Heading. If either the landing or vertical charts are displayed an additional aircraft symbol will be shown their (see screenshot). To navigate through the recorded flight












press the combination Shift + Up/Down or use the slider control in the top left corner. To quickly navigate to the taxi in/out, departure or approach phase simply press the corresponding toolbar button and FSFK will automatically adjust the map position and black box time. Important: Flights recorded with v2.x do not have any pitch and bank angle information, so the vector symbols will stay at their default position.

Toolbar

Button/Function	Description
Main Bar	
Refresh [ <td>Redraws the map display</td>	Redraws the map display
Zoom In [ <td>Decreases the visible range</td>	Decreases the visible range
Zoom Out [ <td>Increases the visible range</td>	Increases the visible range
Reset view [ <td>Resets the map view, so you see the whole world again</td>	Resets the map view, so you see the whole world again
Move left [ <td>Moves the map display to the left</td>	Moves the map display to the left
Move up [ <td>Moves the map display up</td>	Moves the map display up
Move down [ <td>Moves the map display down</td>	Moves the map display down
Move right [ <td>Moves the map display to the right</td>	Moves the map display to the right
Fit Flight Plan [ <td>Fits the visible display range, so that the complete flight plan is visible - If there is now plan available, the flight events will be used instead or if there has been no taxi path recorded the range will be set around the aircraft startup position.</td>	Fits the visible display range, so that the complete flight plan is visible - If there is now plan available, the flight events will be used instead or if there has been no taxi path recorded the range will be set around the aircraft startup position.
Fit Taxiway Path Out [ <td>Fits the visible display range, so that the complete taxiway path at the origin airport is visible or if there has been no taxi path recorded the range will be set around the aircraft end position</td>	Fits the visible display range, so that the complete taxiway path at the origin airport is visible or if there has been no taxi path recorded the range will be set around the aircraft end position
Fit Taxiway Path In [ <td>Fits the visible display range, so that the complete taxiway path at the destination airport is visible</td>	Fits the visible display range, so that the complete taxiway path at the destination airport is visible
Show Flight Plan [ <td>Shows the assigned Flight Plan</td>	Shows the assigned Flight Plan
Show actual Flight route [ <td>Shows the actual flight route</td>	Shows the actual flight route
Fit Departure [ <td>Fits the visible display range, so that the complete departure is visible</td>	Fits the visible display range, so that the complete departure is visible
Fit Approach [ <td>Fits the visible display range, so that the complete departure is visible</td>	Fits the visible display range, so that the complete departure is visible
Show Flight Events [ <td>Displays all Flight Events</td>	Displays all Flight Events
Vertical Profile [ <td>Displays the vertical profile for the current flight</td>	Displays the vertical profile for the current flight
Approach/ILS Profile [ <td>Displays the approach/ILS profile for the current flight</td>	Displays the approach/ILS profile for the current flight
Black Box Playback [ <td>Enables the black box playback of the displayed flights</td>	Enables the black box playback of the displayed flights
Show AI Traffic [ <td>Shows available AI (Multiplayer via AI-Bridge) Traffic</td>	Shows available AI (Multiplayer via AI-Bridge) Traffic
Show ACARS Traffic [ <td>Shows ACARS Traffic. Only available, if the live ACARS template defines an address for the aircraft position reporting</td>	Shows ACARS Traffic. Only available, if the live ACARS template defines an address for the aircraft position reporting



Show VATSIM Traffic 	Shows VATSIM Pilots, Controller, FIR and active zones - From the drop down box you can select what you want to see
Show IVAO Traffic 	Shows IVAO Pilots, Controller, FIR and active zones - From the drop down box you can select what you want to see
Show Flight Weather 	Displays weather icons for the plan or the flight route
Show World Weather 	Downloads and displays METARs and ALOFTs world wide. Please note that the average download in live weather mode will be around 4-7mb. If you are using FSFK in of-line weather mode, the offline files will be used instead. The drop down box offers the following quick options: <ul style="list-style-type: none"> • Show Winds ALOFT - Turns on/off the ALOFT display for WMO stations. • Show METARs - Turns on/off the Airport and Weather Station METAR display. METARs will only be displayed, if the Airport and/or Weather Station display is turned on.
Search Airport 	Searches through all available airport - You can enter the ICAO code, Name, City, etc. If an airport could be found the airport will highlighted and centered on the map.
Search flights within an area 	If turned on, you can select an area on the Map with the left mouse button pressed. Releasing the button will start the search in the database. All flights will be displayed where either the filed flight plan or, if the CTRL key is pressed, the actual flight route goes through. After a search you should turn off this function to avoid unwanted searches.
Measure Distance and Heading 	Switches between distance/heading and map selection mode
Save Map 	Saves the current map display to a BMP or JPG file
Map Options 	Opens the Options dialog - The drop down box offers the following quick options: <ul style="list-style-type: none"> • Airports (Ctrl+Alt+A) - Turns on/off the airport display (only available if the FS Scenery options is enabled) • Airport Details (Ctrl+Alt+D) - Turns on/off the airport details • Parking Names (Ctrl+Alt+E) - Turns on/off the display of gate names • Taxiway Designators (Ctrl+Alt+T) - Turns on/off the display of taxiway designators • Marker / ILS (Ctrl+Alt+K) - Turns on/off the Marker / ILS display • Nav aids [VOR/NDB] (Ctrl+Alt+N) - Turns on/off the nav aid display • Cities (Ctrl+Alt+Q) - Turns on/off the city display • Obstacles (Ctrl+Alt+O) - Turns on/off the obstacle display



- Airspaces (Ctrl+Alt+Z) - Turns on/off the airspace display
- Airspace Restrictions (Ctrl+Alt+R) - Turns on/off the airspace restriction display
- Airways Victor (Low) (Ctrl+Alt+S) - Turns on/off the victor airway display
- Airways Jet (High) (Ctrl+Alt+J) - Turns on/off the jet airway display
- Weather Stations (Ctrl+Alt+W) - Turns on/off the Weather station display
- WMO Stations (Ctrl+Alt+M) - Turns on/off the WMO station display
- Waypoints (Ctrl+Alt+Y) - Turns on/off the waypoint display
- Special Weather Locations (Ctrl+Alt+H) - Turns on/off the special weather display
- Elevation Map (Ctrl+Alt+V) - Turns on/off the elevation map
- Relative Elevation Map (Alt+V) - Turns on/off the relative elevation map
- Show all Labels (Ctrl+Alt+B) - Turns the information labels completely on or off
- Aircraft Labels (Ctrl+Alt+L) - Turns the information label for all aircrafts on or off
- Aircraft Information (Ctrl+Alt+I) - Displays some extra aircraft information (Airports, IAS, ALT and VS)
- AI Ground Traffic (Ctrl+Alt+G) - If the AI traffic display is turned on, you can additionally show all ground traffic
- TCAS Aircraft (Ctrl+Alt+C) - Turns on/off the aircraft display for TCAS events
- Aircraft Shadows - Turns on/off the aircraft shadows. The shadow distance is calculated by the actual aircraft altitude
- State Borders (US/CAN/AUS) - Turns on/off the state border display.
- Rivers - Turns on/off the river display
- Lakes - Turns on/off the lake display
- Search in Airports - This option turns the search in the Airport database on or off
- Search in Nav aids - This option turns the search in the Navaid database on or off
- Search in all Pilots - This option toggles, if the area search will lookup flights for all Pilots or only for the currently selected Pilot
- Search in all Logbooks - This option toggles, if the area search will lookup flights for all Logbooks or only for the currently selected Logbook



- Highlight Airline Parkings - Allows to highlight assigned gates of a specific airline
 - Show only Addon Airports - Shows only airports that have a modified layout (AFCAD) installed
 - Keep Aspect Ratio - If turned on FSFK will always correct the selection, so the display dimensions will be correct
 - Info Tooltips - If this option is enabled you will get a info tooltip displaying important information for the selected item (e.g. airports, waypoints, events, etc.)
 - System Default - Uses the default system logic to set the Tooltip position
 - Top/Left Corner - Positions the Tooltip on the top/left corner of your monitor
 - Top/Right Corner - Positions the Tooltip on the top/right corner of your monitor
 - Bottom/Left Corner - Positions the Tooltip on the bottom/left corner of your monitor
 - Bottom/Right Corner - Positions the Tooltip on the bottom/right corner of your monitor
 - Off - Turns the display of Info Tooltips off
 - Refresh Aircraft positions (Ctrl+Alt+P) - This will automatically refresh the airport position for any traffic available. If you turn off the option, you will need to refresh the display by hand (F5).
 - Map follows Aircraft (Ctrl+Alt+F) - When enabled this option will automatically correct the map position, if your aircraft is flying out of the map area
- This option is only available, if the option 'Refresh aircraft positions' is turned on and the map is in the 'live Watch' mode. If you manually move the aircraft out of scope (e.g. by centering the map via a double click), FSFK will stop following until the aircraft is moved back to the view. This allows to view other parts of the map without the need to turn off the option.
- Map centers Aircraft (Ctrl+Alt+X) - When enabled the world map keeps the aircraft centered on the map. This option will use more CPU than the other modes.
 - Invert Mouse Wheel Zoom Direction - Inverts the zoom direction when using the mouse wheel

Help [?]]

Opens the help file

Close Window [X]]

Closes the World Map.



Location Bar	
Previous Location [FSFK will save the current map location (position) every-time you select a new region on the map in a position history. This allows you to easily go back to a previous position. Please note that Flight Keeper will not add a new history, if you zoom in/out or just move the map with the arrow keys.
Next Location [Moves the map to the next stored history.
Add Location [To save locations on the map for later sessions, FSFK allows you to store those positions. Just enter a name for the new location (e.g. Germany) and click this button. Now you can select the new location with the combo box on the left side and the map will be set to the stored position.
Rename Location [If you want to rename a stored location, then select it from the combo box, change the name and then click this button.
Delete Location [If you want to completely remove a stored location, then select it from the combo box and then press this button.

Keyboard/Mouse Shortcuts














Shortcut	Description
Moving	
Left Mouse Button down/drag/up	Select a map area to display
Right Mouse Button up	Opens the advanced map options menu
Ctrl + Shift + Left Mouse Button Double Click	Center map at the current mouse cursor position
Ctrl + Left Mouse Button	Zoom In
Shift + Left Mouse Button	Zoom Out
+/-	Zoom In / Out
Mouse Wheel Up/Down	Zoom In / Out
Ctrl + Mouse Wheel Up/Down	Zoom In / Out (smaller steps)
Shift + Mouse Wheel Up/Down	Zoom In / Out centered to the current cursor position
Arrow Keys	Move map
Ctrl + Arrow Keys	Move map (smaller steps)
Shift + Arrow Keys/Mouse Wheel Up/Down	Moves the black box playback backwards or forwards
Alt + Left/Right	Move in the location history
Functions	
F2	Switch between distance/heading measuring and map area selection mode
Ctrl + F and F3	Airport search - Displays the first airport found (F3 will search for the next airport)
Ctrl + F3	Toggles the Flight area search on or off













F5	Redraw map - Useful if you have changed the display options or for refreshing the traffic
F6	Reset zoom level
F7	Fit the map to show the complete flight plan / route
Ctrl + F7	Fit the map to show the complete taxiway path at the origin airport
Shift + F7	Fit the map to show the complete taxiway path at the destination airport
F8	Center own aircraft - Only available during live watch mode
Ctrl + F8	Fit the map to show the complete departure
Shift + F8	Fit the map to show the complete approach
F9	Toggle planned route display on/off
F10	Toggle flight route display on/off
F11	Toggle flight event display on/off
Ctrl + F11	Enables the black box playback of the displayed flights
Shift + F11	Toggle AI Traffic display on/off
F12	Toggle weather display on/off
Ctrl + F12	Toggle approach/ILS profile on/off
Shift + F12	Toggle vertical profile on/off
Ctrl + O	Opens the Options dialog
Ctrl + S	Save current map display to a bitmap file (BMP-Format)

Weather

If you have turned on the weather display and the planned route and the actual flight are also on, you will see the weather for the flight. To see the planned weather you will need to turn off the display of the flight route. A detailed description of what each weather icon represents can be found in the table below. Flight Keeper will also display the forecasted/actual wind speeds and temperatures.

Icon	Description
Weather Conditions	
	Clear
	Few
	Scattered
	Broken
	Overcast
	Fog / mist
	Light rain
	Rain
	Heavy rain
	Light snow
	Snow
	Heavy snow
	Light hail



	Hail
	Heavy hail
	Thunderstorm
Wind conditions	
	Surface wind direction
	Variable, Calm or no Wind information available
	ALOFT Wind Direction
	Variable, Calm or no ALOFT Wind information available
Temperature conditions	
	Low-Temperature below 5°C
	Normal - Temperature between 5°C and 29°
	Hot - Temperature above 29°C



ACARS Device

The ACARS Device for FS2002, FS2004 and FSX displays many useful information, but also allows you to access some FS Flight Keeper functions directly from your cockpit without the need to switch the application. Additionally it features a fully customizable map mode that displays a vector map, terrain, traffic and much more. It easily integrates into any existing aircraft panel without any configuration knowledge (see the ACARS Device Installer). The main goal was to create a very easy and well known interface (other Flight Management Computers) and to minimize the performance impact while displaying the Device.



Usage

The gauge itself is easy to use. Initially you will see a start up screen, if the master battery and avionic switches are turned on and made the Device visible (e.g. by clicking on an installed Hotspot). To leave this screen press the „ENT“ key and the main menu (see screenshot above) will show up after you have connected FSFK with the gauge. This menu is used to navigate through the device and invoke functions. Disabled menu items are displayed in brackets (e.g. „[Connect]“). The navigation is similar to other FMCs. The gauge uses the keys on the left (so called LSK) and the right (so called RSK) to open a menu item or invoke a function. The key with the globe is used to switch between the text/command and map modes. The keyboard on the bottom of the Device is used to enter some text (e.g. entering an airport ICAO code).

The Text/Command mode

Special keys:

1. Shift

If you haven't entered any text, this key is used as the back button. The device will then move to the previous menu level. If you have entered some text (e.g. for adding an ACARS comment), the key is used as the normal shift key to enter numbers or upper case chars.



2. Down arrow

Clicked with:

- Left mouse -> Scrolls down one single line
- Right mouse -> Scrolls down one page
- Middle mouse click (3 button mouse only!) -> Scrolls to the end

3. Up arrow

Clicked with:

- Left mouse -> Scrolls up one single line
- Right mouse -> Scrolls up one page
- Middle mouse (3 button mouse required!) -> Scrolls to the beginning

4. Enter

Clicked with:

- Left mouse click -> If you have entered some text it will send the text input to FSFK (e.g. adding an ACARS comment) for further processing - Otherwise it will refresh the current displayed page and move it to the beginning of the page
- Right mouse click -> Refresh the page currently displayed, but will maintain the current page position

5. Blue LED on the right side

This button will hook/unhook the keyboard input. Instead of using the device keyboard you can also hook your keyboard and all input will go to the gauge. The key used for hooking the keyboard can be configured for each aircraft panel (see the ACARS Device Installer). When right clicking on the button the instrument light can be turned on or off. This is needed with some third party aircraft (e.g. PMDG 747 or MD-11) which don't use the FS instrument lights at all.

If the keyboard is hooked the following special keys are available in the text mode:

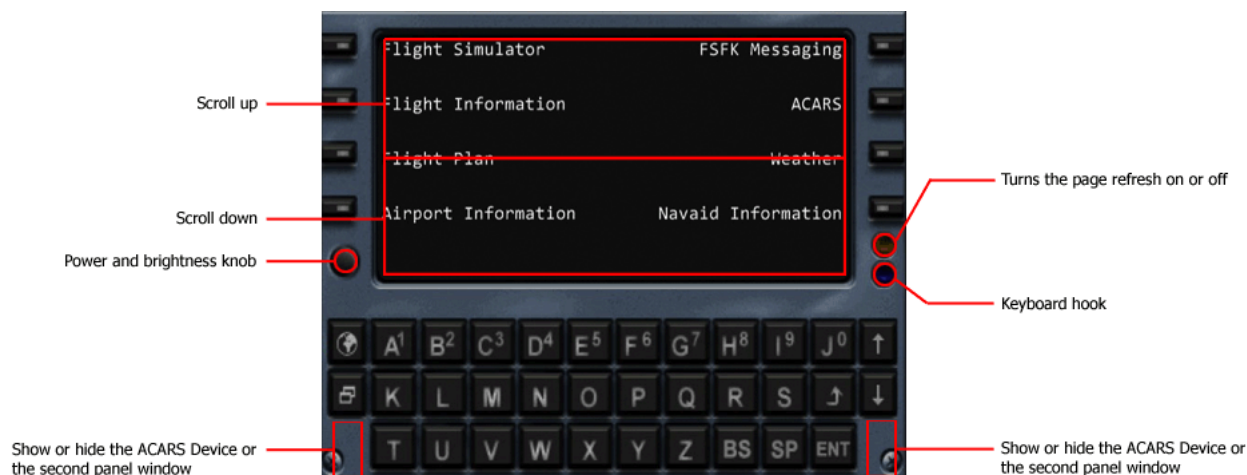
Key	ACARS Device Function
F1-F4	LSK1-4 keys
F5-F8	RSK1-4 keys
F12	Toggles the automatic page refresh on or off
ESC	Deletes the text that has been entered
(Shift +) Return	Submits the entered text to Flight Keeper or when pressed with the Shift key will refresh the current page
Backspace	Deletes the previous character
Up/Down Arrow	Scrolls the display up or down
Left Arrow	Goes back to the previous menu (level)
Page Up/Down	Moves the display either one page up or down
Home/End	Moves the display either to the bottom or the end

6. Amber LED on the right side

This button turns the automatic page refresh on or off. This is useful, if you don't want to manually refresh a specific page (e.g. the 'Flight Status' page) all the time. The refresh interval can be configured in the FS Flight Keeper Options.



Other clickable areas (Hotspots)



In both scroll areas a left click will scroll one single line, a right click will scroll one page and clicking with the middle mouse button will either move the display to the first or to the last line. You can also use your mouse wheel, if available, to move the display up or down.

Flight Simulator - Menu

Menu Item / Function	Description
Connect [LSK1] / Disconnect [RSK1]	Automatically connects (disconnects) FS Flight Keeper with (from) FS
System Info [LSK2]	Displays system memory usage, Frames Per Second reports and FS process information
Turn Sound Environment On/Off [RSK2]	Turns the Cockpit Sound Environment on or off
Start/Stop Air TV [LSK3]	Turns Air TV on or off
GPWS On/Off [RSK3]	Turns the Ground Proximity Warning System on or off
Main [RSK4]	Returns to the main menu

Messaging - Menu

Menu Item / Function	Description
Connect [LSK1] / Disconnect [RSK1]	Automatically connects (disconnects) FS Flight Keeper with (from) the configured Messaging Service
View Users [LSK2]	Displays all connected users and their online status.
Main [RSK4]	Returns to the main menu



Flight Information - Menu

Menu Item / Function	Description
Flight Status [LSK1]	Shows the current status of the flight (Flight Mode, Position, System/FS Time, Block Times, Fuel, Weight, Distance, Next Waypoint, etc.)
Aircraft Status [RSK1]	Shows the current status of the aircraft (Flight Mode, Position, Fuel, Weight, Altitude, ISA/TAS, Heading, Wind, OAT/TAT, Engine, Autopilot, etc.)
View Events [LSK2]	Displays a log of all recorded flight events
View ACARS Log [RSK2]	Displays a log of all recorded ACARS messages
View Flight Plan [LSK3]	Shows the currently loaded flight plan with some waypoint specific information (Distance, ETA, ETE, etc.).
Current Weather [RSK3]	Displays the current weather conditions in the near of the aircraft Wind and Cloud layers with icing and turbulence warnings!) and also the active/predicted runways for arrival and departure (requires FS2004 or FSX)
TCAS Traffic [LSK4]	Shows a list of aircraft that meet the TCAS range/warning settings
Main [RSK4]	Returns to the main menu

ACARS - Menu

Menu Item / Function	Description
Connect [LSK1] / Disconnect [RSK1]	Automatically connects (disconnects) FS Flight Keeper with (from) the configured ACARS service
Resume [LSK2]	Resumes a suspended (e.g. due to a service or connection problem) ACARS connection
View Log [RSK2]	Displays the log of all recorded ACARS messages
ACARS Traffic [LSK3]	Shows a list of other flights/pilots currently using the configured ACARS service with their current status
TCAS Traffic [RSK3]	Shows a list of aircraft that meet the TCAS range/warning settings
Add Comment [LSK4]	Adds a comment to the ACARS log
Main [RSK4]	Returns to the main menu



Flight Plan - Menu

Menu Item / Function	Description
View Flight Plan [LSK1]	Shows the currently loaded flight plan with some waypoint specific information (Distance, ETA, ETE, etc.)
Skip Next Waypoint [RSK1]	Skips to the next available waypoint
Flight Weather [LSK2]	Displays the downloaded and decoded METAR and TAF forecast reports for the current flight plan
Download Weather Forecast [RSK2]	Downloads METARs, TAFs and ALOFTs forecasts for the current flight plan
Flight ALOFT [LSK3]	Displays the downloaded and decoded ALOFT forecast reports for the current flight plan
Weather Summary [RSK3]	Calculates the estimated average wind conditions and displays special weather conditions (e.g. thunderstorm, rain, fog, etc.) to be expected enroute
Open Flight Plan [LSK4]	<p>Loads a flight plan in FSFK - This function won't work over WideFS or if the Core Module is not installed. This function will be disabled in these cases.</p> <p>Please note that, if FS is running in full screen mode, it can happen that the open dialog is not visible (behind the FS window). This is due to some video driver <--> FS related problems. In this case simply press ,ESC' and retry.</p>
Main [RSK4]	Returns to the main menu

Weather - Menu

Displays the current weather conditions in the near of the selected location (Aircraft, Station, Destination, etc.). With FS2004 or FSX the device will also display the the active/predicted runways for takeoff and landing. Please note that with FS2004/FSX the ACARS Device will always display the current weather conditions (with wind and cloud layers) and the current TAF report for all locations. For FS2002 this information is not always available. In these cases the current METAR will be displayed instead.

Airport Information - Menu

With this menu you will get access to all important airport (FS related) information available and you can also list airports in a given range around your aircraft. Besides some general information like the location, altitude, frequencies, etc., the device also displays runway (width, length, surface, ILS, etc.) and gate information.



Navaid Information - Menu

The Navaid Information menu gives you access to the FSFK navaid (VOR, NDB and ILS) database. You can display the information for the currently selected nav aids, but you can also lookup the nearest nav aids to your Aircraft or filed flight plan.

Menu Item / Function	Description
NAV Information[LSK1]	Gives detailed information about the Nav aids tuned into either NAV1, NAV2 or NAV3 with their corresponding standby frequency (if available).
ADF Information [RSK1]	Gives detailed information about the Nav aids tuned into either ADF1 or ADF2 (FS2004 and FSX only).
Nearest VORs [LSK2]	Looks up the nearest VORs according to the current aircraft position in a given range. This range can be configured in the Options dialog
Nearest NDBs [RSK2]	Looks up the nearest NDBs according to the current aircraft position in a given range. This range can be configured in the Options dialog
Nearest VORs to Plan [LSK3]	Looks up the nearest VORs according to the filed Flight Plan in a given range. This range can be configured in the Options dialog
Nearest NDBs to Plan [RSK3]	Looks up the nearest NDBs according to the filed Flight Plan in a given range. This range can be configured in the Options dialog
Other Navaid [LSK4]	With this function you can search for Navaid in the database either by the name or the ID. The nearest Navaid found will be displayed.
Main [RSK4]	Returns to the main menu

The Map mode

Special keys:

1. Shift

If the map menu is visible you can navigate back to the previous menu.

2. Up/Down arrow

If the map menu is visible you can change the menu page, otherwise you can adjust the zoom level.

3. Blue LED on the right side

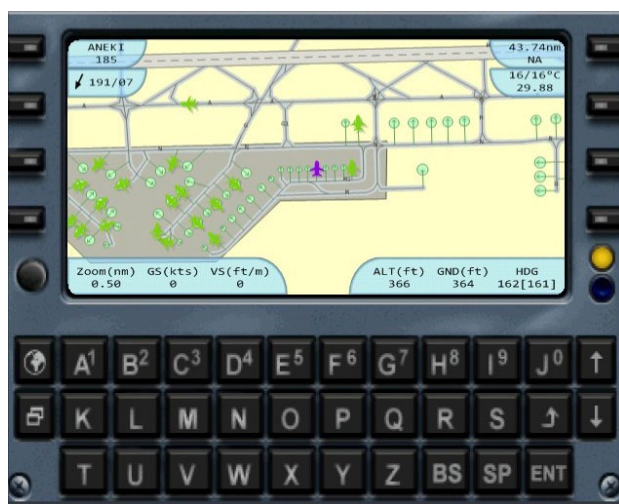
This button will hook/unhook the keyboard input. Instead of using the device keyboard you can also hook your keyboard and all input will go to the gauge. The key used for hooking the keyboard can be configured for each aircraft panel (see the ACARS Device Installer). When right clicking on the button the instrument light can be turned on or off. This is needed with some third party aircraft (e.g. PMDG 747 or MD-11) which don't use the FS instrument lights at all.

If the keyboard is hooked the following special keys are available in the map mode:



Key	ACARS Device Function
Tab	Switches between text and map mode
F1-F4	LSK1-4 keys
F5-F8	RSK1-4 keys
F9	Displays or hides the map menu
Up/Down arrow	If the map menu is visible you can change the menu page, otherwise you can adjust the zoom level
Left arrow	If map menu is visible you can navigate back to the previous menu

The different map types



Vector World Map
with airport details, AI- and Multiplayer traffic
and a status display (next waypoint, weather, etc.)



Terrain map



Terrain map relative to the current aircraft altitude:
 red areas have a maximum distance of under 100ft,
 yellow areas have a maximum distance of 1000ft and
 green areas have a maximum distance of 2000ft

LSK/RSK Key Mapping	Description
Map Mode [LSK1]	Changes the map mode: <ul style="list-style-type: none"> • World Map • Terrain • relative Terrain
Tracking Mode [RSK1]	Changes the tracking mode: <ul style="list-style-type: none"> • Track Up • Track Up Arc • Heading Up • Heading Up Arc • North Up • North Up Arc
Nav aids/Cities [LSK2]	Turns nav aids (left click) or cities (right click) on or off
Range Arcs [RSK2]	Turns the range arcs on or off
Flight Plan [LSK3]	Turns the flight plan display on or off
Status Display [RSK3]	Turns the status display (speeds, weather, etc.) on or off
TCAS [LSK4]	Turns TCAS/Traffic display on or off
TCAS Mode [RSK4]	Changes the TCAS filtering mode: <ul style="list-style-type: none"> • Above (-2700 to +9000 ft) • Normal (-2700 to +2700 ft) • Below (-9000 to +2700 ft) • Unrestricted



Map Menus

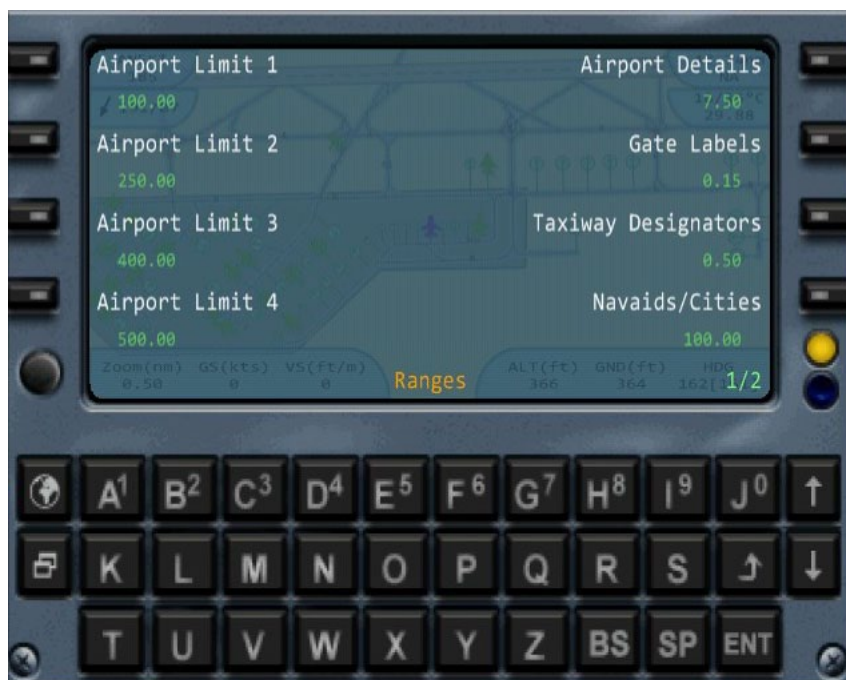
The map menus are displayed by pressing the so called window key (below the globe key). To enter a menu press the corresponding LSK/RSK key. In the bottom right corner the current page is shown. To change the menu page press on one of the arrow keys and to go back to the previous menu level press the shift key.



Main Menu	Description
Options [LSK1]	Opens the options menu
Key Mapping [RSK1]	Displays the LSK/RSK key/function mapping and the current function setting
Flight Plan [LSK2]	Displays the current flight plan with detailed information for each waypoint
System Information [RSK2]	Displays the firmware version and some additional information of the navigation database



Options Menu



The options menu allows you to configure the ACARS Device map mode. Under each displayed option you will find the current setting value. To change a value press the corresponding LSK/RSK key. The value color will change and you can change the value by pressing either the up or down key. To unselect a setting (that allows you to change the menu page) press the LSK/RSK key again. To go back to the previous menu press the shift key.

System Menu

Functions - Page 1	Description
Display Refresh Rate [LSK1]	Configures the drawing refresh rate per second
Status Refresh Rate [LSK2]	Sets the the status display refresh rate per second
TCAS Refresh Rate [LSK3]	Configures the traffic refresh rate per second
Assigned CPU (Core) [LSK4]	Sets the CPU/Core to be used to draw the gauge
Quality [RSK1]	Configures the quality of the map - Possible values: <ul style="list-style-type: none"> • Performance - No antialiasing, compass rose headings are not rotated and no interpolation • Quality - Antialiasing and bilinear interpolation • High Quality - Antialiasing and bicubic interpolation
Elevation Map Quality[RSK2]	Configures the quality of the terrain map - Possible values: <ul style="list-style-type: none"> • Performance - No antialiasing and no interpolation • Quality - Antialiasing and bilinear interpolation • High Quality - Antialiasing and bicubic interpolation



Display Menu

Functions - Page 1	Description
World Map [LSK1]	Shows or hides the vector world map
Airports [LSK2]	Shows or hides airports
Airport Details [LSK3]	Shows or hides airport details (aprons, taxiways, etc.)
Airport Detail Labels [LSK4]	Shows or hides taxiway and gate designators
Nav aids [RSK1]	Shows or hides nav aids
Cities [RSK2]	Shows or hides cities
Waypoint Info [RSK3]	Shows or hides waypoint information
Ambient Weather Info [RSK4]	Shows or hides ambient weather information
Functions - Page 2	Description
Compass Rose [LSK1]	Shows or hides the compass rose
Smart Zoom [LSK2]	Turns the smart zoom function on or off - This function automatically sets the current zoom level depending on the current flight status (0.5nm while on ground and keeps the next waypoint visible while in flight otherwise)
Compass Rose Heading [RSK1]	Shows or hides the heading on the compass rose
Compass Rose Autopilot Heading [RSK2]	Shows or hides the configured autopilot heading on the compass rose

Ranges Menu

Functions - Page 1	Description
Airport Limit 1 [LSK1]	Defines the range when all airports are displayed
Airport Limit 2 [LSK2]	Defines the range when airports with at least 10 or more gates are displayed
Airport Limit 3 [LSK3]	Defines the range when airports with at least 20 or more gates are displayed
Airport Limit 4 [LSK4]	Defines the range when airports with at least 40 or more gates are displayed
Airport Details [RSK1]	Defines the range when airports details are displayed
Gate Labels [RSK2]	Defines the range when gate labels are displayed
Taxiway Designators [RSK3]	Defines the range when taxiway designators are displayed
Nav aids/Cities [RSK4]	Defines the range when nav aids and cities are displayed
Functions - Page 2	Description
Ground Traffic [LSK1]	Defines the range when ground traffic is displayed
Ground Traffic Altitude [LSK2]	Defines the altitude above ground when ground traffic is displayed
Minimum Smart Zoom Range [LSK3]	Defines the minimum range the smart zoom feature can set
Maximum Smart Zoom Range [LSK4]	Defines the maximum range the smart zoom feature can set
TCAS Level 1 [RSK1]	Defines the range when traffic is added to TCAS category 1



TCAS Level 2 [RSK2]	Defines the range when traffic is added to TCAS category 2
TCAS Level 3 [RSK3]	Defines the range when traffic is added to TCAS category 2
TCAS Altitude [RSK4]	Defines the altitude when traffic is added to TCAS category 1-3

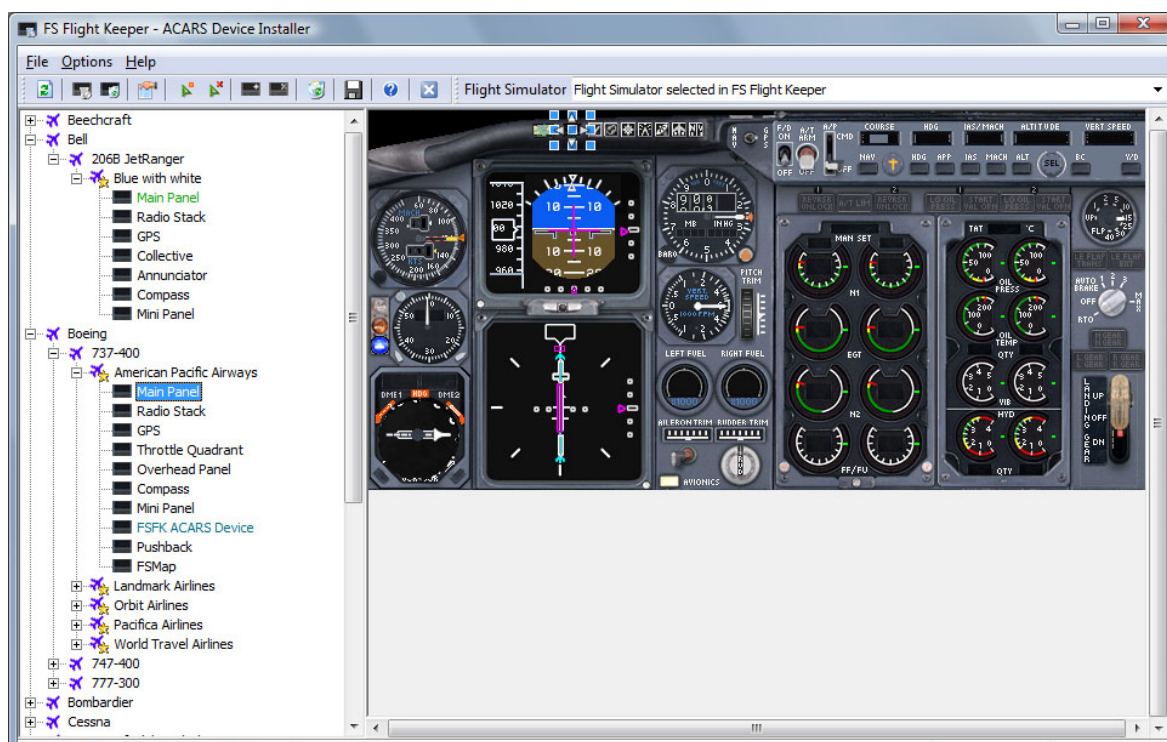
Units Menu

Functions - Page 1	Description
Altitude [LSK1]	Sets the unit used for altitudes
Speed [LSK2]	Sets the unit used for speeds
Distance [LSK3]	Sets the unit used for distances
Temperature [LSK4]	Sets the unit used for temperatures
Pressure [RSK1]	Sets the unit used for pressures
Time [RSK2]	Configures if times are shown as local or ZULU times




ACARS Device Installer

This installer allows you to easily add and install the ACARS Device and additional click spots (so called Hotspots) to your favorite panels. During startup the installer will automatically detect all installed aircraft within the selected Flight Simulator installation, which will be displayed in a tree view on the left side of the main window. The list is sorted by the manufacture, aircraft type and the name of the variation defined for the installed aircraft. Under the variation you will find the actual panel and the contained windows. You should refresh the list whenever you install new aircraft or change an existing aircraft configuration outside of the installer. Otherwise new aircraft will not be selectable and the installer might overwrite your changes made outside.



If you click on one of the panel windows (e.g. the 'Main Panel'), the installer will create a preview picture of the selected window on the right side of the main window. All instruments and background images will be shown, so you can easily integrate the Hotspots and the ACARS Device itself. The preview is nearly 99% accurate, but due to some limitations it might happen that some panels (especially some third party addon aircraft/panels) are not shown 100% correct.

So how does the FSFK ACARS Device work?


The gauge has been written with the help of the Microsoft Panel SDKs for FS2002, FS2004 and FSX. The program code and bitmap resources are located in the file 'FSFK-ACARS.gau', which will be installed on demand by the installer. This file contains the actual Device and two types of Hotspots, which toggle the visibility of the device on or off. The first click spot type displays the following bitmap at the configured position: . Clicking on this bitmap will cause the Device to show or hide. The other type is identical except that no bitmap will be shown.

You have two choices to integrate the ACARS Device: In a separate new panel window or integrated in an existing panel window (e.g. the 'Main Panel'). All this can be done with the installer as you will see further below.

The actual communication between FS Flight Keeper and the ACARS Device is done via TCP/IP. Thus it is required that TCP/IP is installed and configured on the computers running FS and FSFK.




Example Installation

Start the ACARS Device Installer and if asked say ,Yes' to install the gauge file to FS (,<FS>\Gauges\FSEK-ACARS.gau'). Select an aircraft panel window (e.g. the default B734 ,Main Panel') in the tree view and click on the toolbar button ,Add Hotspot' []. The installer will now add a new Hotspot to the panel and you can now modify the size and position by clicking on it and use the mouse to move and/or size it. You can also use the cursor keys:

- Left/Right/Up/Down: Moves the Hotspot
- Shift + Left/Right/Up/Down: Resizes the Hotspot

Using ,**Ctrl**' together with the keys listed above will increase the move or resizing steps.

Now it's time to add the ACARS Device. Click on the toolbar button [] and if asked say ,Yes' to add the Device in a separate panel window. The installer will now automatically add a new panel window called ,FSEK ACARS Device' that will be positioned in the bottom right corner on startup.








Now click on the ,Save' [] button and your done. Now start FS Flight Keeper and Flight Simulator and enjoy the new level of flying with this ACARS Device.

If you ever want to remove the ACARS Device from some or all panels (which we hope should be never the case), then select the Hotspot or the Device and use the corresponding ,Remove' toolbar buttons to delete them. The installer will also create backups of any modified panel configuration file (extensions ,.without FSEK.bak' for the first backup and ,.FSEK.bak' if the first backup file already exists - e.g. ,Panel.cfg.without FSEK.bak'). So you can always easily restore any previous panel configuration by replacing the panel config file with one of the backups.






When editing a virtual cockpit window you need to be careful as some VCs for example might have 3D knobs for instruments, which cannot be removed or replaced without modifying the aircraft model itself. Also be careful when removing "default" gauges in a panel as they might be needed for proper aircraft functionality.

If you have FS2002, FS2004 and FSX installed, you can switch between the FS versions by selecting them from the drop down box ,Flight Simulator'.









Toolbar Buttons

Button/Function	Description
Refresh Aircraft list []	Checks the selected Flight Simulator for installed aircraft
Install/Update ACARS Device Gauge []	Copies the latest ACARS Device gauge (file ,FSEK-ACARS.gau') to the ,<FS>\Gauges' folder
Uninstall ACARS Device Gauge []	Deletes the gauge file from ,<FS>\Gauges' folder and allows you to automatically remove all ACARS Devices and Hotspots installed to your aircraft panels
Edit Properties []	Opens the properties window of the selected ACARS Device or Hotspot (see below)
Add Hotspot []	Adds a new Hotspot to the selected panel window
Remove Hotspot []	Removes the selected Hotspot from the selected panel window
Add ACARS Device []	Adds a new ACARS Device to a new or to the selected panel window



Remove ACARS Device 	Deletes the selected ACARS Device window or deletes it from the selected panel window
Remove any ACARS Device and Hotspot 	Automatically removes all ACARS Devices and Hotspots from the current panel
Save Panel modifications 	Saves all modifications made and creates backup files of all modified configuration files
Help 	Opens the FS Flight Keeper manual
Close ACARS Device Installer 	Exit the ACARS Device Installer

Context Menu


Menu Item	Description
Add Hotspot 	Adds a new Hotspot to the selected panel window
Remove Hotspot 	Removes the selected Hotspot from the selected panel window
Add ACARS Device 	Adds a new ACARS Device to a new or to the selected panel window
Remove ACARS Device 	Deletes the selected ACARS Device window or deletes it from the selected panel window
Remove Gauge 	Removes the selected gauge from the selected panel window
Replace Gauge with Hotspot 	Replaces the selected gauge with a Hotspot
Replace Gauge with ACARS Device 	Replaces the selected gauge with the ACARS Device
Edit Properties 	Opens the properties window of the selected ACARS Device or Hotspot (see below)

Options Menu

Menu Item	Description
Create Backup of modified files	Enables/Disables the automatic creation of backups
Validate modified Panels	If this option is enabled, the Installer validates all modified panels, where the Device is installed, against possible common problems (e.g. no Hotspots installed on one ore more main or visible panels, Hotspot installed but no Device, etc.)
Safe Mode	Turning on the „Safe Mode“ will prevent some installer CTDs (Crash To Desktop) for some 3rd party panels, but you might loose some bitmaps, which are not longer displayed if this mode is turned on. Only use this mode, if the installer crashes on specific panels. You should turn off this option immediately after you have finished adding the ACARS Device to the panel. Note: 3rd party gauges are not always designed (one might call it „bad programming“ ;)) to run outside the FS environment, so that they might crash because they are expecting FS running. This is the only reason why this mode exists.



Customizing

Double clicking a Hotspot or Device or pressing the 'Properties' [] button allows you to customize some settings:

ACARS Device

Edit ACARS Device

Modify the ACARS Device properties and click 'OK' to commit your changes.

Window Identifier
15372

Window Identifier for right clicking
FSMap

TCP/IP Port
8011

Hotkey for Keyboard Hook
Scroll Lock

Window Position on startup
[Dropdown]

Window Width
[Text Box]

Window Height
[Text Box]

Case
Metallic Blue (default)

Panel Light Mode
Metallic Blue with green lit up Keyboard (default)

Configuration Name
Test

☐ Visible on startup

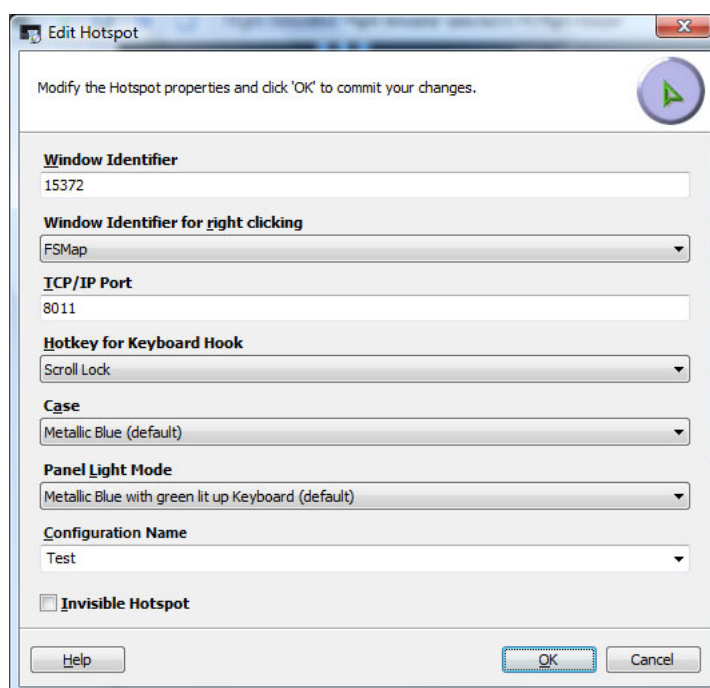
Help OK Cancel

Field	Description
Window Identifier	ID for the panel window - Defaults to ,15372'
Window Identifier for right clicking	ID of the panel window opened when right clicking on a hotspot
TCP/IP Port	Configures the TCP/IP port used to communicate with Flight Keeper (see Options) - Defaults to port ,8011'
Hotkey for Keyboard Hook	Sets the hotkey used to hook the keyboard input - Defaults to ,None'
Window Position on startup	Sets the initial position after loading the aircraft/panel - Defaults to the lower-right corner
Window Width/Height	Configures the size of the separate window - The installer will automatically calculate the optimal size (ratio 4:3) for the panel, so there should be normally no need to change this.
Case	Configures the case type used by the ACARS Device - Available case types: Metallic Blue (default) and Boeing Brown
Panel Light Mode	Configures which panel light should be used - Available modes: FS internal Panel Lights, Amber, Metallic Blue and Metallic Blue with green lit up Keyboard (default)



Configuration Name	Allows you to assign a specific name for this instrument - All settings made in the instrument are saved to a single configuration file. Setting an individual name here allows you to save settings specifically for this particular instrument only. The combo box displays all previously saved configurations.
Visible on startup	Configures, if the window will be shown after the aircraft/panel has been loaded and initialized- Defaults to hide on startup. [Only available if the Device is placed in a separate window]

Hotspot



Field	Description
Window Identifier	ID for the panel window - Defaults to ,15372'
TCP/IP Port	Configures the TCP/IP port used to communicate with Flight Keeper (see Options) - Defaults to port ,8011'
Hotkey for Keyboard Hook	Sets the hotkey used to hook the keyboard input - Defaults to ,None'
Case	Configures the case type used by the ACARS Device - Available case types: Metallic Blue (default) and Boeing Brown
Panel Light Mode	Configures which panel light should be used - Available modes: FS internal Panel Lights, Amber, Metallic Blue and Metallic Blue with green lit up Keyboard (default)



Configuration Name	Allows you to assign a specific name for this instrument - All settings made in the instrument are saved to a single configuration file. Setting an individual name here allows you to save settings specifically for this particular instrument only. The combo box displays all previously saved configurations.
Invisible Hotspot	Toggles the display of the bitmap for the Hotspot - Defaults to show the bitmap

Please note that the Window Identifier, TCP/IP Port, Hotkey and Panel Light setting should be identical for all Hotspots and the ACARS Device gauge located in the aircraft panel to avoid any problems.

Known Issues/Limitations

- The installer will report an error, if the FS location is accessed via an UNC path (e.g. ,\\MyPC\FShare')
To fix this problem install FSFK on the FS machine and start the installer there.
- Some gauges are not shown correctly (e.g. missing elements, etc.)
Due to the fact that the panels are actually not running within the FS environment, it might be that some third party panel gauges are not working properly. This will cause no problems and the installer should work as expected.

Manual Installation

1. Copy the gauge (,FSFK-ACARS.gau') to the ,Gauges' folder of FS (e.g. ,<FS>\Gauges\FSDK-ACARS.gau').
2. Open the aircraft ,Panel.cfg' with Notepad or any other text editor of your choice.
3. Add a new window and replace XX with a new unique number

```
[Window Titles]
WindowXX=FSFK ACARS Device

[WindowXX]
BACKGROUND_COLOR=0,0,0
window_size_ratio=1.0,1.0
size_mm=397,274
position=8
visible=0
ident=15372
FSFKDevice=1
gauge00=FSFK-ACARS!Device,0,0,397,274
```

Notes:

Be sure to use the same value for ,ident' in the window definition here and the Hotspot definition (see below). The panel size here is configured for the default B734, which uses a screen width of 640. For higher panel sizes (not the actual FS screen resolution!) you will need to adjust the values 397 (width) and 274 (height) to meet the panel size/resolution.



If you don't want to add the Device in a separate window, then simply add the line:

```
gaugeXX=FSFK-ACARS!Device,x,y,w,h, IDENT|PORT|HOTKEY|PANELLIGHT|CASE|CONFIGNAME|IDENT2
```

to any existing panel window (should be a window which is visible on startup, so the TCP/IP listener is up and running - so that FS Flight Keeper can connect to the device) and set the values for XX, x, y, w, h, IDENT, PORT, HOTKEY, PANELLIGHT, CASE, CONFIGNAME and IDENT2 accordingly.

4. Add the Hotspot to the main panel and replace XX with a unique number

Example:

```
gaugeXX=FSFK-ACARS!Hotspot,164,10,16,11, 15372|8011|1|3|0|Default|100000
```

Standard gauge parameters in this example for the default B734:

Position X = 160

Position Y = 10

Width = 16

Height = 11

Optional FSFK Parameters (here: ,15372|8011|1|3|0|Default|100000'):

Panel ID = 15372 [default value]

TCP/IP Port = 8011 [default value]

Hotkey for the Keyboard Hook = 1 (0=None [default value], 1=Scroll lock, 2=Caps lock, 3=Num lock)

Panel Light = 3 (0=FS internal Panel Light, 1=Amber, 2=Metallic Blue, 3=Metallic Blue with green lit up Keyboard [default value])

Case = 0 (0=Metallic Blue [default value], 1=Boeing Brown)

Configuration Name = Default [default value]

Window Identifier for right clicking = 100000 (10000=Turned off [default value], all other values will open the corresponding panel window)

Notes:

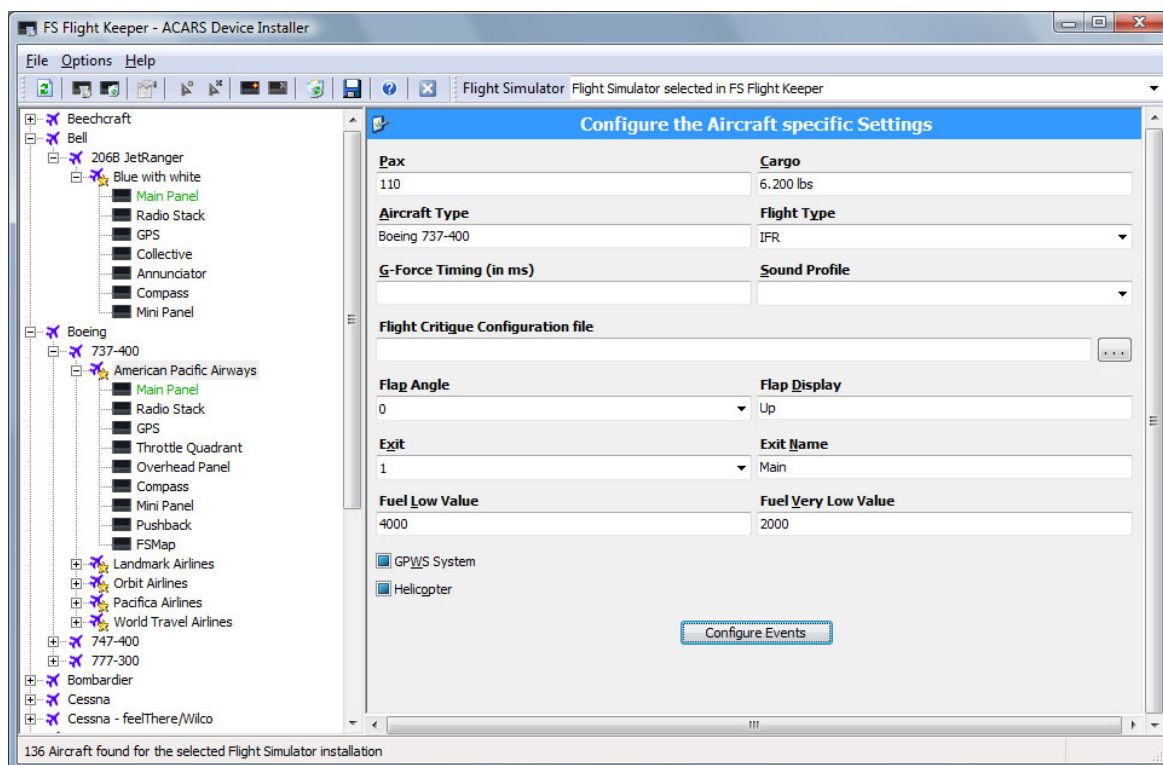
FS Flight Keeper is using TCP/IP to communicate with the ACARS Device. The default port is ,8011' unless you configure something else. If you want an invisible Hotspot, then use ,Hotspot-Inv' instead of ,Hotspot'. You can add more than one Hotspot, if you need it for your aircraft. Only make sure that all FSFK parameters are equal for each Hotspot (e.g. all parameters set to ,15372|8011|1|3|0|Default|100000').

For further information on panel modifications we recommend the
FS2002/FS2004 Software Development Kits.



Editing Aircraft specific Settings

Clicking on an aircraft variation (here „American Pacific Airways“) will open an editor, which enables you to edit all FSFK related/specific aircraft settings. For a detailed description of the available parameters read the corresponding section in this manual.





Cockpit Sound Environment (Profiles)

The Flight Keeper Sound Environment brings your cockpit to life. Easily add crew announcements, which will be played automatically on different flight situations (e.g. pushback, pax security information, crew prepare for landing, etc.). You can also add a virtual copilot, that gives you aural information for different aircraft status changes (e.g. gear down and locked, glideslope active/captured, etc.). Cabin ambient sounds with full 3-D surround sound support will give you the feeling as if the passengers were really in your aircraft. But sounds can not only be played automatically, you can also play pre configured sounds manually by pressing a configurable hotkey. Last but not least you can add an aural GPWS/TCAS, which can be used for every aircraft even if it does not have one installed by default. The only requirement for this experience is a DirectX compatible Audio Card and DirectX 8.1 or higher installed on your system. The FSFK sound system allows you to play on 64 channels simultaneously, this means that you can play 32 manual/event and 32 ambient sounds at the same time.

To provide a great flexibility you can configure different profiles, which can be easily selected in the Options dialog. So one can remove the GPWS/TCAS sounds, if the aircraft already provides one. Or simply because you are flying Airliners and General Aviation aircraft, which require different crew announcements and timings.

Each profile contains two different types of sets (so called profile types). One is for all sounds, which you want to play manually (e.g. seat belts on/off or any other event which is not offered by default), and the other being for all events Flight Keeper offers, which will be automatically played whenever the event occurs during your flight (see the Sound Editor for a list of supported events).

The grid will display all sound items currently configured for the selected profile and set. The order of the items is only important for the manual set, because they are played sequentially. Use the buttons ,Move Up/Down' to set the correct order for those items. To edit a sound item double click it (or press ,enter') and the Sound Editor will open. If you right click on an item a context menu will open:

Context Menu Item	Description
Play	Plays the sound item at the current 3-D position
Play Loop	Plays the sound item looped at the current 3-D position. Useful to easily position the sound
Stop	Stops the sound output
Copy Position	Copies the current 3-D position to the clipboard
Paste Position	Pastes the 3-D position from the clipboard
Reset Position	Resets the 3-D position to the default one
Check Sound Files	Reports missing sound (wave) files that are used in the selected profile

To make configuring of different profiles easier you can create a new profile simply by copying an existing profile (button ,Copy') and then add the sounds you need for this new profile. If you want to turn off this FSFK feature completely select ,### No Profile ###' in the profile combo box.

Due to the design of the DirectX audio interface it is not possible to increase the volume of a sound. Thus the volume slider will only reduce the volume by the given value. To make the sound louder you will need a sound editor and edit the file manually.

If a flight has been automatically finished (by the ,End of Flight' trigger) and some sounds are still playing (e.g. ambient sounds), Flight Keeper will continue to play them for at least 4 minutes or until you press the Sound Environment hotkey to turn them manually off.



Via the combo box ‚Sound Active‘ Flight Keeper allows you to configure when sounds are played (active on your speaker). There are three options:

- Always on
Sounds are always played no matter which application is active
- While FSFK is active
Sounds are only played, if FSFK is the active application
- While FS is active
Sounds are only played, if the FS main window is active

‚Surround Mode‘ configures the way sounds are played in 3-D. Possible values:

- Disabled
Turns off surround sound (defaults to standard stereo).
- No Virtualization
3-D effects are mapped onto normal stereo panning. At 90 degrees to the left, the sound is coming out of only the left speaker; at 90 degrees to the right, sound is coming out of only the right speaker. The vertical axis is ignored except for scaling of volume due to distance.
- Default (System)
DirectX uses the default 3-D algorithm. The default algorithm may be based on a Control Panel setting.
- Performance
3-D effects are processed with the efficient 3-D audio algorithm. This algorithm gives a good 3-D audio effect, but uses fewer CPU cycles than the ‚Quality‘ mode.
- Quality
3-D effects are processed with the high quality 3-D audio algorithm. This algorithm gives the highest quality 3-D audio effect, but might use more CPU cycles (depending on the audio hardware used).

Even if there is no surround sound available (via the audio card or the speakers used), one should use a surround mode (e.g. ‚No Virtualization‘) to improve the overall cockpit sound experience.

The option ‚Max. Channels‘ sets the maximum sound channels available for playing event/manual and ambience sounds simultaneously. For example: If you configure 16 channels, you can play 16 sound events (or manually triggered sounds) and additionally 16 ambient sounds at the time. Please note that using less channels can improve the audio performance on some audio cards. So it's a good idea to limit the channels to the amount you want to play simultaneously.

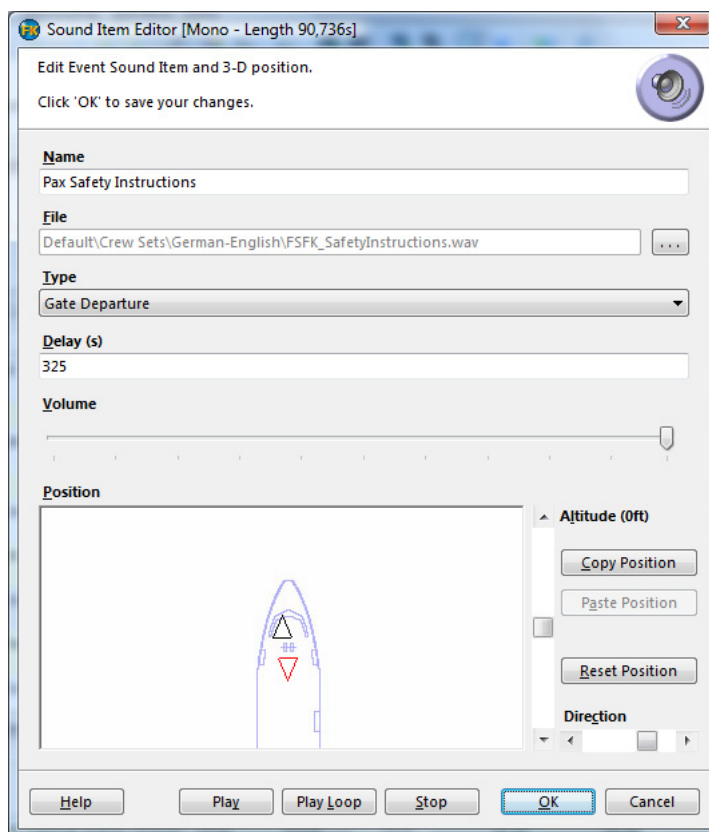
If you want to share your profiles with any other Flight Keeper user, you can use the ‚Export‘ button to export a single profile. The profile will be saved in a special file with the extension FSP (FSFK Sound Profile). Additionally FSFK can automatically create a Wave file archive (ZIP format), which contains all sounds used in the profile. The receiving user just needs to double click on the FSP file (or use the ‚Import‘ button) and Flight Keeper will automatically import the profile and also extract the Wave file archive if one exists.

Sound Item Editor

The Sound item editor allows you to easily edit all available parameters for a sound item. Simply selected a wave file from the configured FSFK sound folder, choose a trigger type, position your sound and you are done. There is no limitation in size, sampling rate or sampling size of the wave file (except for any audio hardware limitation). Only if you want to position your sound in the 3-D space, you are



forced to use a mono file. This is a DirectX interface requirement, because it would make no sense to use a stereo Wave for 3-D sound. FSFK will warn you, if you are trying to add a stereo file. Nonetheless we recommend to use mono wave files using 22kHz and 16-bit. Using too many different wave formats can lead to more CPU usage, because DirectX needs to convert them into the same format. All wave files that come with FSFK are all in the recommended format (except for some stereo effect files).



Option	Description
Name	Sets the name displayed in the Options grid - This value can be used to set a small description for the item
File	Selects the wave file played - This file must be in a sub folder of the main sound path configured
Type	For event profile types you can configure the type of event that triggers the sound - Check the full trigger type listing below for a detailed description. This parameter is not available for the manual profile set.
Delay (s)	Sets the trigger delay in seconds, after which the sound should start playing - This can also be used to play several sounds after each other. This parameter is not available for the manual profile set.
Volume	Sets the volume for the sound item - Please note that this volume will not make the sound louder, but only reduces the volume. If you want to increase the volume of the Wave file, you will need to edit the sound with any available Wave file editor.
Position	Click and drag the red triangle around with the left mouse button to change the sound position
Altitude (ft)	Changes the sound altitude (+/- 328ft [100m])
Direction	Modifies the direction from where the sound comes from
Copy Position	Copies the current 3-D position to the clipboard



Paste Position	Pastes the 3-D position from the clipboard
Reset Position	Resets the 3-D position to the default one
Play	Plays the sound item at the current 3D position
Play Loop	Plays the sound item looped at the current 3-D position - Useful to easily position the sound
Stop	Stops the sound output
OK	Closes the editor and saves all modifications
Cancel	Closes the editor without saving any changes
Help	Opens the online manual

Trigger Types

Type	Description
Ambience Parking Origin	Sound will be played in a loop while the FSFK flight mode is set to ,Parking Origin'.
Ambience Taxiing Origin	Sound will be played in a loop while the FSFK flight mode is set to ,Taxiing Origin'.
Ambience Taxiing Destination	Sound will be played in a loop while the FSFK flight mode is set to ,Taxiing Destination'.
Ambience Parking Destination	Sound will be played in a loop while the FSFK flight mode is set to ,Parking Destination'.
Pause on/off	---
Cruise Altitude – Reaching	Sound will be played when a Cruise Altitude is configured and the aircraft is reaching the given Altitude - 4000ft.
Cruise Altitude - Level off	Sound will be played when a Cruise Altitude is configured and the aircraft has leveled off at the given Altitude.
Cruise Altitude – Descending	Sound will be played when a Cruise Altitude is configured and the aircraft is descending from the given Altitude.
Waypoint reached	---
Parking Brake set/released	---
Over Speed Warning	---
Stall Warning	---
Gate Departure	Sound will be played when the flight mode is set to ,Taxiing Origin'.
Takeoff	Sound will be played when the flight mode changes from ,Taxiing Origin' to ,Climbing.
Landing	Sound will be played when the flight mode is set to ,Land-ing'.
Gate Arrival	Sound will be played when the flight mode is set to ,Park-ing Destination'.
Failure	Whenever Flight Simulator indicates a system failure (e.g. electric, engine, etc.) the sound will be played.
Glideslope Alive/Captured	---
Localizer Alive/Captured	---
Crash	---



Turbulence on/off + Light/Moderate/Heavy/Severe	Played when Turbulence has been detected. The ,On' sound is only played once until the turbulence ends. The sound for the types Light/Moderate/Heavy/Severe is only played, if previously no higher type has been played or there was no turbulence.
Icing on/off + Trace/Light/Moderate/Severe	Played when Icing has been detected. The ,On' sound is only played once until the icing conditions end. The sound for the types Trace/Light/Moderate/Severe is only played, if previously no higher type has been played or there was no icing.
Shear on/off + Moderate/Steep/Sharp	Played when Shear has been detected. The ,On' sound is only played once until the shear ends. The sound for the types Moderate/Steep/Sharp is only played, if previously no higher type has been played or there was no shear.
Gust on/off	Played when Gust has been detected. The ,On' sound is only played once until the gusty conditions end.
Flaps Up/Down	---
TCAS 1-4	Depending on your configured TCAS level ranges the sounds will be played.
Rejected Takeoff	Played if Flight Keeper detected a Rejected Takeoff.
Touch'N'Go	Played if Flight Keeper detected a Touch and Go.
Go Around	Played if Flight Keeper detected a Go Around.
Engines on/off	---
Gear Down/Up (and locked)	---
Autopilot on/off	---
Landing Lights on/off (Ground)	Sound is trigger when landing lights are on/off and the aircraft is not airborne (e.g. for ,Crew prepare for Takeoff').
Landing Lights on/off (Airborne)	Sound is trigger when landing lights are on/off and the aircraft is airborne (e.g. for ,Pax prepare for Landing').
Beacon Lights on/off	---
Taxi Lights on/off	---
Strobe Lights on/off	---
Instrument Lights on/off	---
Pressure changed	---
Airspeed Active	Played only during takeoff, if the Indicated Airspeed (IAS) is greater than 40kts.
80kts (Takeoff)	Played only during takeoff, if the Indicated Airspeed (IAS) is greater than 80kts.
60kts (Rollout)	Played only during landing, if the Indicated Airspeed (IAS) is less than 60kts (e.g. for calling ,Reverse Idle').
Transition Altitude Origin/Destination	Depending on the configured altitudes the sounds will be played, when reaching them.



Spoilers Armed/Down/Deployed/Fully Deployed	1. Armed - Self explaining 2. Down - Spoilers set to 0% 3. Deployed - Spoilers set to 0% > x < 100% (only played once until one of the other configurations are set) 4. Fully Deployed - Spoilers set to 100%
Marker Outer/Middle/Inner	---
On FS Connect	Triggered shortly after FSFK has established a connection with FS.
Climbing after Takeoff	Played if the Radio Altitude (RA) is greater than 50ft and the Vertical Speed (VS) is greater than 250 ft/min.
Call Outs (2500-10ft)	GPWS call outs for the following radio altitudes, if the aircraft is in landing condition (gear down and locked): <ul style="list-style-type: none"> • 2500ft • 1000ft • 500ft • 400ft • 300ft • 200ft • 100ft • 50ft • 40ft • 30ft • 20ft • 10ft
Excessive Descent Rate - Sink Rate	Ground Proximity Warning System (GPWS) call out for Mode 1 - outer alert boundary.
Excessive Descent Rate - Pull Up	GPWS call out for Mode 1 - inner alert boundary.
Excessive Terrain Closure Rate - Terrain	GPWS call out for Mode 2a/b - outer alert boundary.
Excessive Terrain Closure Rate - Terrain Terrain	Second GPWS call out for Mode 2a/b - outer alert boundary.
Excessive Terrain Closure Rate - Pull Up	GPWS call out for Mode 2a/b - inner alert boundary.
Altitude Loss After Takeoff - Don't Sink	GPWS call out for Mode 3.
Unsafe Terrain Clearance - Too low Gear	GPWS call out for Mode 4a.
Unsafe Terrain Clearance - Too low Flaps	GPWS call out for Mode 4b.
Unsafe Terrain Clearance - Too low Terrain	GPWS call out for Mode 4a/b/c.
Below Glideslope (Soft/Hard Alert)	GPWS call out for Mode 5 - outer/inner alert boundary.
Autopilot Altitude - One To Go	Altitude alert when approaching autopilot altitude (difference <= 1050ft).
Autopilot Altitude - Capturing	Altitude alert when autopilot altitude capturing begins (difference <= 250ft).



Autopilot Altitude - Captured	Altitude alert if autopilot altitude has been captured (difference ≤ 30 ft).
Fuel Low / Fuel Very Low	Played if Flight Keeper detected low amount of fuel (Low fuel amount detected (can be configured in the Aircraft specific Settings).
Retard	Played if RA is below 30ft and gear is fully down.
Cabin Signs On/Off	Played if the corresponding configured Hotkey has been pressed.
Pushback Started/Stopped	Played if starting or stopping a pushback.
Exits opened	Played when the first exit is open
Exits closed	Played when the last exit is closed

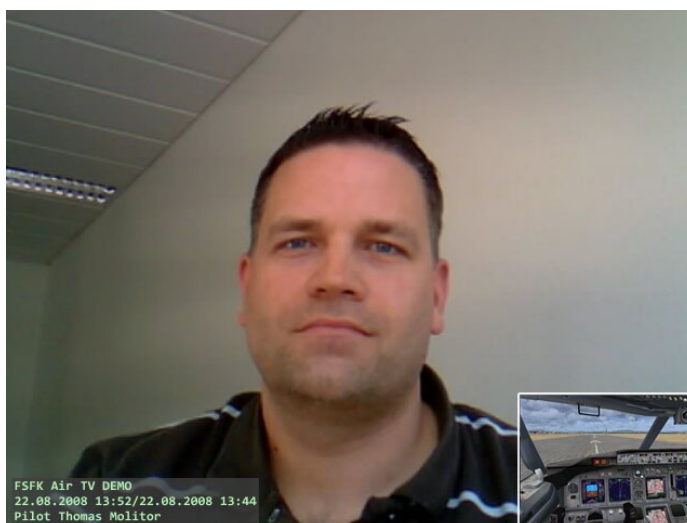


Air TV

FSFK Air TV creates screen and/or video (webcam) captures and uploads them at a regular interval as JPEG image files to a configured FTP/HTTP server or saves them to a local hard drive. Additionally you can add picture in picture (PIP) and text overlays to the captures. A great feature for your Virtual Airline or your personal web site allowing your visitors to visually track your flights.



FSX capture with webcam PIP and an informational text box



Video capture with screen capture PIP and an informational text box

The text overlay configured in the Options is based on so called tags. These tags are similar to HTML-Tags, but do not have any end tag. The tags will be replaced by the actual value during creating the text. For example the tag ,`,$@CurrentAltitude$@'` will be replaced by the actual altitude value (e.g. ,30000ft'). Every tag starts with ,`,$@'` and ends with ,`,$@'`. In between these two strings the actual property name is placed. A list of valid tags can be found at the end of this manual section. Additionally FSFK distinguishes between online and offline modes, which means whether you are connected with FS or not (or if the FS main window is active or not). Therefore you can add text templates for both modes. The text block for the online mode has to be placed between the tags ,`[!'` and ,`;!'` and the offline block between ,`<!'` and ,`!>'`.



Example:

```
<!We are online!>[!We are offline!]
```

or a bit more complex one used to create the text overlay for the above captures:

```
<!FSFK Air TV DEMO
Pilot is currently not flying!>
[!FSFK Air TV DEMO
$$$CurrentFSDateTime$$$ # $$$CurrentFlightTime$$$ ($$$$CurrentBlockTime$$$)
$$$Pilot$$$ flies from $$$OriginAirport$$$ to $$$DestinationAirport$$$
$$$CurrentMode$$$ @ $$$CurrentPosition$$$ Waypoint: $$$CurrentWaypoint$$$
ALT $$$CurrentAltitude$$$ IAS $$$CurrentIAS$$$ HDG $$$CurrentHeading$$$° WIND
$$$CurrentWind$$$ TAT $$$CurrentTAT$$$!]
```

For WideFS users we offer a separate tool that can be used without FSFK. Unzip the downloaded archive to any folder on your FS machine. Before you can use this tool you'll need to define an Air TV profile to be used. This can be done by creating a profile in the configuration file 'AirTVProfiles.cfg'. By default there is already one defined, but you should change it to fit your needs. Additionally you can edit the profiles with FSFK and then copy the configuration file stored under 'Documents\Flysimulator\FS Flight Keeper\AirTVProfiles.cfg' to the folder where you unpacked the external Air TV tool.

List of valid profile parameters:

„NAME“

Name of the profile.

„URL“

Sets the FTP/HTTP server or the local folder where the captures should be saved to. Please make sure that when using an URL a valid type „ftp://“, „http://“ or „https://“ has been entered or the value will be interpreted as a folder.

„PORT“

TCP/IP port of the FTP/HTTP server.

„PASSIVEMODE“

Turns the FTP passive transfer on (Values: True or 1) or off [DEFAULT] (Values: False or 0) . Normally, when you connect to an FTP site, the site establishes the data connection to your PC (the client). However, some FTP sites allow passive transfers – this means that your PC establishes the data connection. Note that passive mode may be required in the following instances:

- For users on networks behind some types of router-based firewalls
- Users on networks behind a gateway requiring passive transfers
- If transfers are erratic
- If you keep getting failed data channel errors

„LOGINENCRYPTED“

Please set this parameter always to „0“.

„USERNAME“

User needed to access the server. Can be left blank, if no authentication is required.

„USERPASSWORD“

Password needed to access the server. Can be left blank, if no authentication is required.



„STARTMODE“ (this parameter is not used in the external tool)

This option tells FSFK when you want to start Air TV. Possible options:

- 0 [DEFAULT] => Manual - You will always connect to it manually (via hotkey or toolbar button)
- 1 => Auto-Connect when flying - FSFK will automatically start Air TV after a connection with the Flight Simulator has been established
- 2 => Auto-Connect on startup - After FSFK has been started it will start Air TV

„STOPMODE“ (this parameter is not used in the external tool)

This option tells FSFK when you want to stop Air TV. Possible options:

- 0 [DEFAULT] => Manual - You will always stop it manually (via hotkey or toolbar button)
- 1 => Auto-Disconnect when stop flying - FSFK will automatically stop Air TV after the connection with the Flight Simulator has been closed

„CAPTUREUPDATEINTERVAL“

Sets the time between two captures.

„CAPTUREINFOTEXT“

Defines the text to place on top of the capture.

„CAPTUREINFOTEXTBACKGROUND“

Configures the background for the text. Possible values are:

- 0 [DEFAULT] => None
- 1 => Shadows
- 2 => Transparent Rectangle

„CAPTUREINFOTEXTPOSITION“

Defines the position of the informational text in the capture. Valid values are:

- 0 [DEFAULT] => Hidden
- 1 => Top/Left
- 2 => Top/Middle
- 3 => Top/Right
- 4 => Middle/Left
- 5 => Centered
- 6 => Middle/Right
- 7 => Bottom/Left
- 8 => Bottom/Middle
- 9 => Bottom/Right

„CAPTUREINFOTEXTFONT“

Font type for the informational text (e.g. „Tahoma“, „Consolas“ [DEFAULT], etc.).

„CAPTUREINFOTEXTFONTSIZE“

Font size in pixel.



„CAPTUREINFOTEXTFONTCOLOR“

Foreground color of the text as RGB value (e.g. Red => $0 \times 65536 + 0 \times 256 + 255$ or Blue => $255 \times 65536 + 0 \times 256 + 0$)

„CAPTUREOFFLINEIMAGE“

Selects the offline image used when you stop Air TV or FS is not the active application. Leave this field blank if you don't want to use an offline image.

„CAPTURETHUMBNAILWIDTH“ and „CAPTURETHUMBNAILHEIGHT“

Sets the size of the capture image thumbs.

„CAPTUREMODE“

Sets the capturing mode for the screen capture. Possible modes:

- 0 => Whole Screen - Captures the visible area of your screen
- 1 => Active Window - Captures only the current active window
- 2 => Flight Simulator - Capture the FS window (windowed and full screen mode)
- 3 [DEFAULT] => Flight Simulator active - Capture the FS window whenever it is active (windowed or full screen mode)

„CAPTUREFILENAME“

Configures the filename of the JPG image. The extension „.jpg“ will be automatically appended, if it is missing.

„CAPTUREPOSITION“

Sets the position of one capture in the other (e.g. Screen in Video capture). Valid values:

- 0 [DEFAULT] => Hidden
- 1 => Top/Left
- 2 => Top/Middle
- 3 => Top/Right
- 4 => Middle/Left
- 5 => Centered
- 6 => Middle/Right
- 7 => Bottom/Left
- 8 => Bottom/Middle
- 9 => Bottom/Right

„CAPTURESIZERATIO“

Configures the size ratio of the PIP. Valid values are larger than zero and smaller than one. Important: Use the char „.“ as the decimal symbol. Otherwise the value will not be read correctly.

„CAPTUREWIDTH“ and „CAPTUREHEIGHT“

Configures the maximum image size, if the image is larger it will be automatically resized.



„VIDEOUPDATEINTERVAL“, „VIDEOINFOTEXT“, „VIDEOINFOTEXTBACKGROUND“, „VIDEOINFOTEXTPOSITION“, „VIDEOINFOTEXTFONT“, „VIDEOINFOTEXTFONTSIZE“, „VIDEOINFOTEXTFONTCOLOR“, „VIDEOOFFLINEIMAGE“, „VIDEOTHUMBNAILWIDTH“, „VIDEOTHUMBNAILHEIGHT“, „VIDEOFILENAME“, „VIDEOPOSITION“, „VIDEOSIZERATIO“, „VIDEOWIDTH“ and „VIDEOHEIGHT“

These parameters define the settings for the video capture (see above).

Profiles are stored in sections as follows: „[Profile.X]“. Replace X with the corresponding profile number starting at zero.

Sample configuration:

```
[Profile.0]
Name=My Air TV
URL=ftp://ftp.MyDomain.com/AirTV
Port=21
PassiveMode=0
LoginEncrypted=0
UserName=MyUser
UserPassword=MyPassword
StartMode=0
StopMode=0
CaptureUpdateInterval=60
CaptureInfoText=<!FSFK Air TV DEMO\r\nPilot is currently not flying!>\r\n
n[!FSFK Air TV DEMO\r\nn$$$CurrentFSDateTime$$$ # $$$CurrentFlightTime$$$
($$$$CurrentBlockTime$$$)\r\n$$$Pilot$$$ flies from $$$OriginAirport$$$ to
$$$DestinationAirport$$$\r\n$$$CurrentMode$$$ @ $$$CurrentPosition$$$ Waypoint:
$$$CurrentWaypoint$$$\r\nALT $$$CurrentAltitude$$$ IAS $$$CurrentIAS$$$ HDG
$$$CurrentHeading$$$° WIND $$$CurrentWind$$$ TAT $$$CurrentTAT$$$!]
CaptureInfoTextBackground=2
CaptureInfoTextPosition=7
CaptureInfoTextFont=Consolas
CaptureInfoTextFontSize=12
CaptureInfoTextFontColor=12055479
CaptureOfflineImage=http://www.MyDomain.com/AirTV/Offline.jpg
CaptureThumbnailWidth=40
CaptureThumbnailHeight=30
CaptureMode=3
CaptureFilename=My-Capture.jpg
CaptureWidth=1024
CaptureHeight=768
CapturePosition=9
CaptureSizeRatio=0.25
VideoUpdateInterval=60
VideoInfoText=<!FSFK Air TV DEMO\r\nPilot is currently not flying!>\r\n[!FSFK
Air TV DEMO\r\nn$$$CurrentDateTime$$$/$$$$CurrentFSDateTime$$$\r\nPilot $$$Pi-
lot$$$!]
VideoInfoTextBackground=2
VideoInfoTextPosition=7
VideoInfoTextFont=Consolas
VideoInfoTextFontSize=12
VideoInfoTextFontColor=12055479
VideoOfflineImage= http://www.MyDomain.com/AirTV/Offline.jpg
VideoThumbnailWidth=40
VideoThumbnailHeight=30
VideoFilename=My-Video.jpg
VideoWidth=1024
```




VideoHeight=768
 VideoPosition=1
 VideoSizeRatio=0.1667

Tags for the informational text

Tag Name	Description
CurrentDateTime	Current system time
CurrentFSDateTime	Current FS time
CurrentBlockTime	Total block time
CurrentFlightTime	Total flight time
CurrentPosition	Aircraft position in latitude / longitude
CurrentAltitude	Aircraft altitude
CurrentGroundAltitude	Ground altitude
CurrentGroundSpeed	Ground speed
CurrentIAS	Indicated air speed
CurrentTAS	True air speed
CurrentGrossWeight	Gross weight
CurrentFuelOnBoard	Fuel amount on board
CurrentFuelUsed	Fuel used during the flight
CurrentMode	FSFK mode (e.g. taxiing, climbing, etc.)
CurrentVerticalSpeed	Vertical speed
CurrentHeading	Magnetic heading
CurrentTrueHeading	True heading
CurrentWind	Wind magnetic heading and speed
CurrentTrueWind	Wind true heading and speed
CurrentOAT	Operating air temperature
CurrentTAT	True air temperature
CurrentWaypoint	Waypoint if a flight plan has been loaded into FSFK
CurrentFlightTotalDistance	Total flight distance calculated from the flight plan or from the origin and destination airport
CurrentFlightDistance	Distance flown
CurrentFlightPlan	Flight plan if it has been loaded into FSFK
AircraftTitle	Aircraft title
AircraftType	Aircraft type
AircraftTailNumber	Tail number
FlightType	Flight type (IFR, VFR, etc.)
AircraftAirline	Airline
FlightNumber	Flight Number
FlightLevel	Planned/Actual flight level
Passenger	Amount of passenger
Cargo	Cargo weight
OriginAirport	Origin airport
OriginGate	Origin gate



OriginRunway	Origin runway
SID	Standard Instrument Departure used
OriginTransitionAltitude	Origin transition altitude
DestinationAirport	Destination airport
DestinationGate	Destination gate
DestinationRunway	Destination runway
STAR	Standard arrival route
DestinationTransitionAltitude	Destination transition altitude
AlternateAirport	Alternate airport
Pilot	Pilot name
Logbook	Logbook

Known Issues

- Incomplete Captures (e.g. black border/bottom or panel not visible)
In the current version Air TV does not use DirectX to create the captures. So it does not know when FS has finished its drawing/calculation cycle. This can cause incomplete captures as Air TV might take the shot while FS is still rendering. We hope to solve this problem with one of the next updates.
- Blank capture when using FS in full screen mode
This is a problem under Vista and is also depending on the installed graphics adapter and driver. On some system we could solve this problem when turning off antialiasing in either FS or the driver settings. There is currently no other work around to solve this problem other than using windowed mode in all other cases. Again we hope to solve this issue with one of the next updates.



FS Core Module

The optional FS Support/Core Module for FS2002, FS2004 and FSX adds a new menu to the standard FS menu ,Flights' or ,Addons', if it is installed. To install (or uninstall) the module use the menu item ,Tools->FSFK Core Module->Install/Update' in FSFK. This will automatically install the necessary file (FSFKCore.dll') for the currently selected FS installation.

The following menu items are available via the new sub menu ,FS Flight Keeper':

Menu Item /Function	Description
Start	Loads the FS Flight Keeper main interface
Connect with FS [Pause/Resume Flight Logging]	Starts FSFK and automatically connects with FS If connected you can pause/resume the flight logging with this item.
Disconnect from FS	Closes the connection with FS
Connect ACARS Device	Connects FSFK to the ACARS Device
Disconnect ACARS Device	Terminates the connection to the ACARS Device
Start Air TV	Starts Air TV, if an Air TV profile has been selected
Stop Air TV	Stops Air TV
Open Flight Plan	If a new flight has been created, you can load a flight plan in FSFK - This function won't work over WideFS, so in this case the menu item will be disabled Please note that, if FS is running in full screen mode, it can be that the open dialog will not be shown. This is due to some video driver <--> FS related problems. In this case simply press ,ESC' and retry.
About	Displays the version information

Please note that FS Flight Keeper needs to be installed on the same machine running FS. It will not work across a network running WideFS.



Hotkeys

For easier access to some important in-flight functions, FSFK offers some hotkeys for them. For the following features you can configure hotkeys via the Options dialog:

Hotkey	Description
Connect to Flight Simulator	Opens the 'New Flight' dialog and opens a connection to FS - NOT AVAILABLE THROUGH WIDEFS
Disconnect from Flight Simulator	Disconnects Flight Keeper from FS
Connect with live ACARS Server	Opens a live ACARS connection
Disconnect from live ACARS Server	Closes an open live ACARS connection
Resume live ACARS	Resumes a suspended live ACARS connection
Take Screenshot	Takes a screenshot from the active window and stores it internally for later use (see Screenshot Manager for more information) - NOT AVAILABLE THROUGH WIDEFS
Download Flight Plan weather	Start the Flight Plan weather download
Skip next Waypoint	Skips the current waypoint and the next flight plan entry will be activated
Sign in to Messaging Service	Signs you in to the FSFK Messaging service
Sign off from Messaging Service	Signs you off from the Messaging service
Connect to ACARS Device (Show/Hide)	Opens a connection (via TCP/IP) with the ACARS Device or if already connected shows or hides the gauge
Disconnect from ACARS Device	Disconnects Flight Keeper from the ACARS Device
Toggle Cockpit Sound Environment On/Off	Turns your currently selected Sound Profile on or off while connected with FS
Play next Sound Item	Plays the next manual sound item from the current Sound Profiles, if Flight Keeper is connected with FS and a profile has been selected in the Options
Play Sound 'Cabin Signs On'	Plays the sound event configured for 'Cabin Signs On', if Flight Keeper is connected with FS and a profile has been selected in the Options
Play Sound 'Cabin Signs Off'	Plays the sound event configured for 'Cabin Signs Off', if Flight Keeper is connected with FS and a profile has been selected in the Options
Start Air TV	Starts Air TV if a profile has been selected in the Options - NOT AVAILABLE THROUGH WIDEFS
Stop Air TV	Stops Air TV - NOT AVAILABLE THROUGH WIDEFS
Toggle Speed Restriction under FL100	Enables or disables the speed restriction under FL100

These hotkeys are system wide. This means that even if Flight Keeper is not the active window, those keys, if pressed, will start the associated functions. So make sure that the key combinations are not used anywhere else on your system (also in FS!). If FSFK runs on a WideFS client, the configured (activated) hotkeys will also be registered on the computer running FS via FSUIPC/WideFS. Please note that it can take a small period of time until FSFK recognizes the hotkey press on the WideFS client. This is caused by the time it needs until WideFS receives the data from the computer running FS. Therefore you will get a response message on the FS machine, that the associated hotkey function has been started (e.g. 'Downloading Flight Plan weather. Please wait ...').



The following keys can not be used as a hotkey:

- Enter
- Tab
- Backspace
- Escape
- Print
- Pause
- Home / End
- Insert / Delete
- Page Up / Down
- Cursor Keys
- Num-Lock
- F11 / F12



Reports

Flight reports give you the possibility to filter/group your flights by different criteria. Currently FS Flight Keeper supports the following groups:

Group by	Description
Aircraft	Flights will be grouped by the aircraft title
Aircraft Type	Flights will be grouped by the aircraft type (e.g. Airbus, Boeing, Cessna, etc.)
Airline	Flights will be grouped by the airline name
Origin Airport	Flights will be grouped by the origin airport ICAO
Destination Airport	Flights will be grouped by the destination airport ICAO
Flight Level	Flights will be grouped by the flight level (e.g. FL240, FL350, etc.)
Flight Type	Flights will be grouped by the type of the flight (IFR/VFR)
Flight Number	Flights will be grouped by the flight number
Tail Number	Flights will be grouped by the aircraft tail number

You can also filter the report by selecting a logbook and/or pilot. To limit the amount of flights returned by the report you can use the following filters:

Filter	Description
Flight Time	Searches for all flights within the given flight time (format: HH:nn)
Flight Distance	Searches for all flights within the given flight distance (in nm)
Flight Score	Searches for all flights within the given flight score range
Custom Field	<p>Select the custom field you want to look up and enter the filter value</p> <p>Note: You can use the wildcards '*' (for strings) or '?' (for chars).</p> <p>Examples:</p> <p>'*Ital*' - Searches for 'Ital' occurrences in the selected custom field (e.g. 'Italy', 'italian', etc.)</p> <p>'??ready' - Searches for values which end with 'ready' and additionally have two chars in the beginning (e.g. 'already')</p>



Time Filter Mode	<p>Lets you search within a given time value (optionally within a time range).</p> <ul style="list-style-type: none">• System Date (Range) - Searches in the 'Created On' field• FS OUT Date (Time Range) - Searches in the 'Time OUT' field• FS OFF Date (Time Range) - Searches in the 'Time OFF' field• FS ON Date (Time Range) - Searches in the 'Time ON' field• FS IN Date (Time Range) - Searches in the 'Time IN' field
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Report Templates

To give you a high rate of flexibility for the report design, FS Flight Keeper offers you to create your own report templates. These templates are used to create a single report. Each template needs to implement so called tags. These tags are similar to HTML-Tags, but do not have any end tag. The tags will be replaced by the actual value during creating the report. For example the tag „`,$@$Flight-Time$@$`“ will be replaced by the actual flight time (e.g. `,01:17'`). Every tag starts with `,$@$` and ends with `,$@$`. Between these two strings the actual property name is placed. A list of valid tags for each report type can be found at the end of this manual section. The templates already installed with FS Flight Keeper are mainly HTML documents. But you can use whatever text format you want. Only the templates for transmitting a flight via Email or a Web Service need to fulfill a minimum requirement. You will need to implement a configuration and data section into those templates. These sections are represented by `,[WEB_CONFIG]'`, `,[EMAIL_CONFIG]'` and `,[DATA]'`. The config section itself contains some properties, so FS Flight Keeper knows the address to send the flight to.

Email

“EMAIL”

Address to send the flight to.

Example:

```
[EMAIL_CONFIG]
EMAIL=flights@myva.com
```

```
[DATA]
```

```
....
```

Web Service

“ADDRESS”

Web Service address (must be a valid URL). Note that you can use “HTTPS” for a secure connection.

“PORT”

Web Server port.

“USER”

User needed to access the web service. Can be left blank, if no authentication is required.

“PASSWORD”

Password needed to access the web service. Can be left blank, if no authentication is required.

“TIMEFORMAT”

Tells FSFK which time zone to use for any time values. Possible values are “ZULU” or “LOCAL”.

“DATETIME_FORMAT_STRING”

Sets the default Date/Time format in the PIREP.

“TIME_FORMAT_STRING”

Sets the default Time format (e.g. for all Event Times).



Examples:

MMVddVyyyy HHnn -> 07/14/2004 15:11 (this forces a slash as the date separator!)

MM/dd/yyyy -> 07.14.2004

hh:nn AM/PM -> 03:11 PM

HH\.nn -> 15.11 (this forces a dot as the time separator!)

Flight Map Uploading

With FSFK it is possible to upload specific Flight Maps pictures (in JPEG format) with a PIREP. Flight Keeper will automatically create the configured flight maps during creating the PIREP (like it does for the flight exports) and will upload all newly created JPG files before sending the PIREP to the web server, so the files are directly accessible for the PIREP service.

“PICTURE_ADDRESS”

HTTP or FTP Server address with the upload directory. The address must start with either “http://” or “ftp://” or FSFK will not upload the files. This is used to indicate the type of method used for uploading the pictures.

“PICTURE_FTP_PASSIVE_MODE”

Turns the FTP passive transfer on (Values: True or 1) or off [DEFAULT] (Values: False or 0) . Normally, when you connect to an FTP site, the site establishes the data connection to your PC (the client). However, some FTP sites allow passive transfers – this means that your PC establishes the data connection. Note that passive mode may be required in the following instances:

- For users on networks behind some types of router-based firewalls
- Users on networks behind a gateway requiring passive transfers
- If transfers are erratic
- If you keep getting failed data channel errors

“PICTURE_PORT”

HTTP or FTP Server port (e.g. 80 for HTTP or 21 for FTP).

“PICTURE_USER”

User needed to access the server. Can be left blank, if no authentication is required.

“PICTURE_PASSWORD”

Password needed to access the server. Can be left blank, if no authentication is required.

“PICTURE_TYPES”

This parameter defines which Flight Maps will be uploaded to the given HTTP or FTP Server. Valid entries are:

- FlightMapJPG: Uploads the default Flight Map
- FlightMapEventsJPG: Uploads the Flight Map with Events
- FlightMapWeatherJPG: Uploads the Flight Map with Weather
- FlightMapAllJPG: Uploads the Flight Map with Events and Weather
- FlightMapTaxiOutJPG: Uploads the Flight Map with the complete taxiway path at the origin airport



- FlightMapTaxiInJPG: Uploads the Flight Map with the complete taxiway path at the destination airport
- FlightMapVerticalProfileJPG: Uploads the Flight Map with Events and vertical profile
- FlightMapLandingProfileJPG: Uploads the Flight Map with Events and the approach/ILS profile

You can upload more than one map by separating the map types with a comma (see the example below).

Example:

```
[WEB_CONFIG]
ADDRESS=http://www.myva.com/FlightService/LogFlight.asp
PORT=80
USER=pilotname
PASSWORD=pwd

TIMEFORMAT=ZULU
DATETIME_FORMAT_STRING=dd/MM/yyyy HHnn
TIME_FORMAT_STRING=HHnn
PICTURE_ADDRESS=http://www.myva.com/FlightService/Upload
PICTURE_PORT=80
PICTURE_USER=pilotname
PICTURE_PASSWORD=pwd
PICTURE_TYPES=FlightMapJPG, FlightMapWeatherJPG
oder für einen FTP-Upload:
PICTURE_ADDRESS=ftp://ftp.myva.com/PIREP/Upload
PICTURE_PORT=21
PICTURE_USER=pilotname
PICTURE_PASSWORD=pwd
PICTURE_FTP_PASSIVE_MODE=True
PICTURE_TYPES=FlightMapJPG, FlightMapWeatherJPG
[DATA]
....
```



Flight Keeper will send the PIREP to `http://www.myva.com/FlightService/LogFlight.asp` using the user `,pilotname'` and the password `,pwd'`. All time values will be converted to Zulu (GMT+0) time. Two flight maps (in JPG format) will be automatically generated and uploaded via HTTP/PUT to the server directory `http://www.myva.com/FlightService/Upload'`.

The data for the web service will be stored in two web form variables `,DATA1'` and `,DATA2'`, which can then be accessed in your server script. `,DATA1'` contains the FS Flight Keeper identifier string (`,FL-KEEPER'`) and the version delimited by the character string `,|'` (e.g. `,FLKEEPER|3.0'`). `,DATA2'` contains the actual flight data you have defined in your template. The flight plan data uses a carriage return as the row delimiter and the character `,|'` as the column delimiter. The flight event data uses a carriage return as the row delimiter and the character `,~'` as the column delimiter. FS Flight Keeper will save and display the web server response. Please note that the response should not contain any images, style sheets, etc. with relative paths, because those files will not be downloaded automatically. Use full paths and everything will work fine.

In the data section (`,[DATA]'`) the actual template is placed. Check the installed templates (`,EMAIL.TXT'` and `,WEB.TXT'`) for examples. If you need any further assistance for your Virtual Airline then contact us or download the Virtual Airline SDK.



Ground Proximity Warning System

GPWS

Flight Keeper offers a basic implementation of a GPW System following the Honeywell specifications. All important modes are available, but are not visualized. Instead sound event items can be used for aural notifications. The GPWS can be used with any aircraft installed in FS. There is no further installation required. Every GPW occurrence will be logged with a flight and can be optionally criticized. The system can be globally turned on or off in the Options dialog or only for specific aircraft by setting a parameter in the ‚Aircraft.cfg‘.

System Description

The purpose of the Ground Proximity Warning System is to help prevent accidents caused by Controlled Flight into Terrain (CFIT) or severe windshear. The system provides advisories that increase crew situational awareness during operation on and around airports. The system achieves this objective by accepting a variety of aircraft parameters as inputs, applying alerting algorithms, and providing the flight crew with aural alert messages in the event that the boundaries of any alerting envelope are exceeded.

The system comprises the following groups of components:

- Aircraft sensors and other systems providing input signals
- The Ground Proximity Warning Computer (GPWC)
- Flight deck audio systems (speakers and interphone)

The system is designed to be fully compatible with normal operations of commercial aircraft: unwanted alerts will be very rare if the flight crew maintains situational awareness with respect to the terrain and if the crew follows correct avoidance procedures for any significant windshear activity.

Several main alerting functional areas are integrated into the GPWC. The functional areas are:

- Basic Ground Proximity Warning
- Altitude awareness callouts
- Excessive bank angle alerting
- Windshear detection and alerting
- Terrain and Obstacle Awareness Alerting as well as optional display of this information, and Terrain Clearance Floor

The basic Ground Proximity Warning (GPW) function is the backbone of the system, and the primary design objective has been to maintain the integrity of this function independent of the other functions. For example, loss of the terrain awareness function will not affect the operation of the GPW functions (provided that the input signals necessary for GPW operation are still available).

The system provides the basic Ground Proximity Warning System (GPWS) alerting in six modes:

1. Excessive Descent Rate
2. Excessive Terrain Closure Rate
3. Sink after Takeoff
4. Unsafe Terrain Clearance
5. Below Glideslope
6. Excessive Bank Angle / Altitude Call-Outs



Modes 1 through 5 are in accordance with the requirements of TSO-C92c, TSO-C151a, DO-161A, CAA Spec 14 and ICAO Annex 6.

Mode 6 provides additional protection in the form of radio altitude callouts during landing approach, and an optional alert for excessive bank angle. (It should be noted that the numbering of the modes is derived from the history of the development of GPWS, and does not imply any special hierarchy)

Mode 1 - Excessive Descent Rate

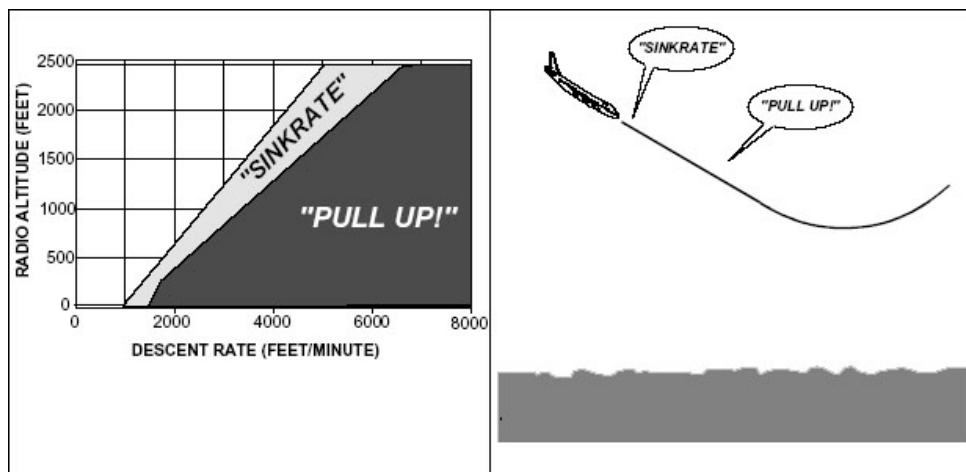


Figure 1.1

If the aircraft penetrates the outer alert boundary, the voice aural „Sinkrate“ is generated, and alert discretes are output by the computer for driving visual annunciators. If the aircraft penetrates the inner alert boundary, the voice aural „Pull Up!“ is generated and visual alert discretes are also output. The alert boundaries are defined in terms of aircraft vertical speed (barometric vertical speed supplemented by inertial vertical speed when available) and radio altitude.

Mode 2 - Excessive Terrain Closure Rate

Mode 2 provides alerts when the aircraft is closing with the terrain at an excessive rate. It is not necessary for the aircraft to be descending in order to produce a Mode 2 alert; level flight (or even a climb) towards obstructing terrain can result in hazardous terrain closure rate. The terrain closure rate variable is computed within the GPWS computer by combining radio altitude and vertical speed in a non-linear complementary filter. The standard Mode 2 performance is described below. Mode 2 has two sub-modes, referred to as Mode 2A and Mode 2B, the active sub-mode being determined by aircraft configuration. The Mode 2A alerting envelope is illustrated in Figure 2.1, and the Mode 2B envelope is shown in Figure .



Mode 2A

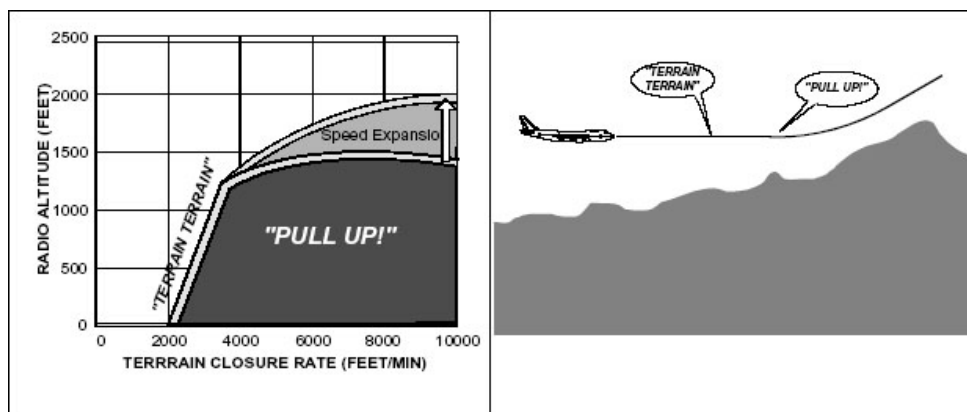


Figure 2.1

Mode 2A is enabled when the conditions for enabling Mode 2B are not satisfied (see below). If the aircraft penetrates the mode 2A alerting envelope, the voice aural „Terrain Terrain“ is generated initially, and alert discrettes are output for driving visual annunciators. If the aircraft continues to penetrate the envelope, then the voice aural „Pull Up!“ is repeated continuously until the warning envelope is exited. At this point an altitude gain function activates. The aural reverts to „Terrain, Terrain...“ but will only be given if the terrain clearance continues to decrease. The visual alert will remain on until either the aircraft has gained 300 feet of barometric altitude, or 45 seconds has elapsed, or the radio altimeter loses track. At that point all visual alerts stop. As shown in Figure 2.1, the upper boundary of the mode 2A alert envelope varies as a function of aircraft speed and the availability of the Terrain Awareness function. The boundary expands to provide increased alert times at higher airspeeds as airspeed increases from 220 knots to 310 knots, and is reduced when the Terrain Awareness function is available and of high integrity.

Mode 2B

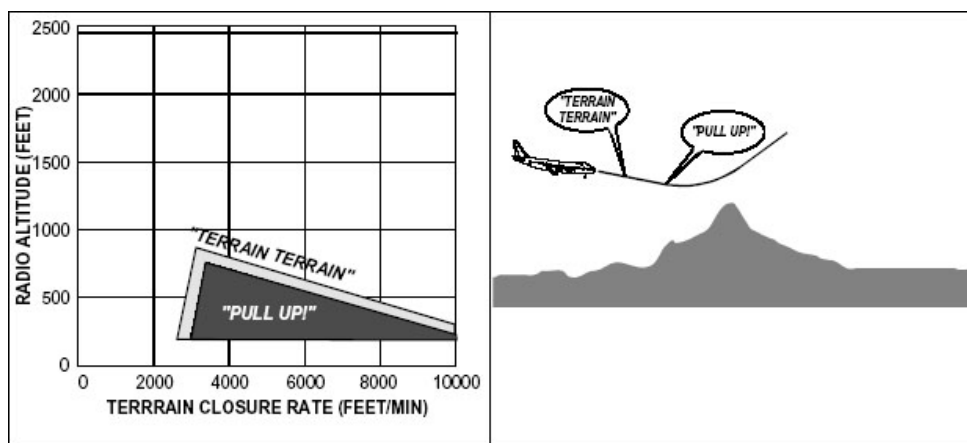


Figure 2.2

Mode 2B provides a desensitized alert envelope, permitting normal landing approach maneuvering close to the terrain without producing unwanted alerts. Mode 2B is enabled for three conditions:

- Whenever flaps are selected to the landing position
- If the aircraft is performing an ILS approach and is within ± 2 dots of both localizer and glideslope centerlines
- If the aircraft is within 5 miles (10 miles starting in 218) and 3500 ft of the destination runway and the Terrain Awareness function is enabled and of high integrity.



Mode 3 - Altitude Loss After Takeoff

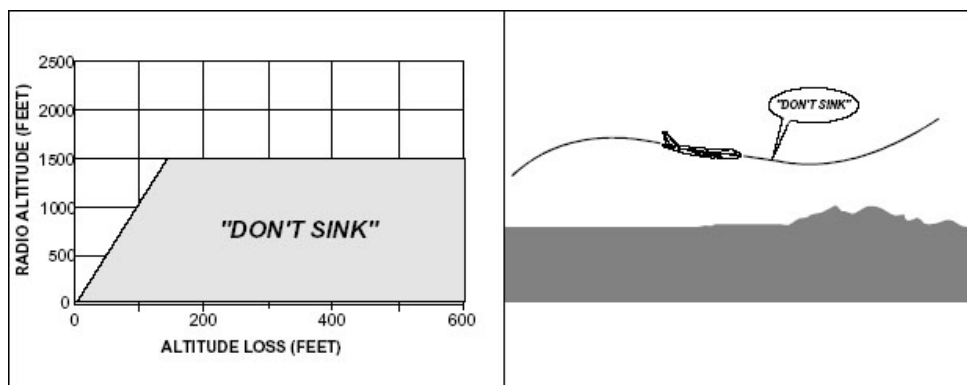


Figure 3.1

Mode 3 provides alerts when the aircraft loses a significant amount of altitude immediately after take-off or during a missed approach, as shown in Figure 3.1.

The altitude loss variable is based on the altitude (MSL) value from the time of the beginning of the inadvertent descent. The amount of altitude loss, which is permitted before an alert is given, is a function of the height of the aircraft above the terrain, as shown in Figure 3.1. Mode 3 is enabled after takeoff or go around when landing gear or flaps are not in landing configuration, and stays enabled until the GPWS computer detects that the aircraft has gained sufficient altitude that it is no longer in the takeoff phase of flight. If the aircraft penetrates the mode 3 boundary, the voice aural „Don't Sink“ is generated, and alert discretes are provided for activation of visual annunciators.



Mode 4 - Unsafe Terrain Clearance

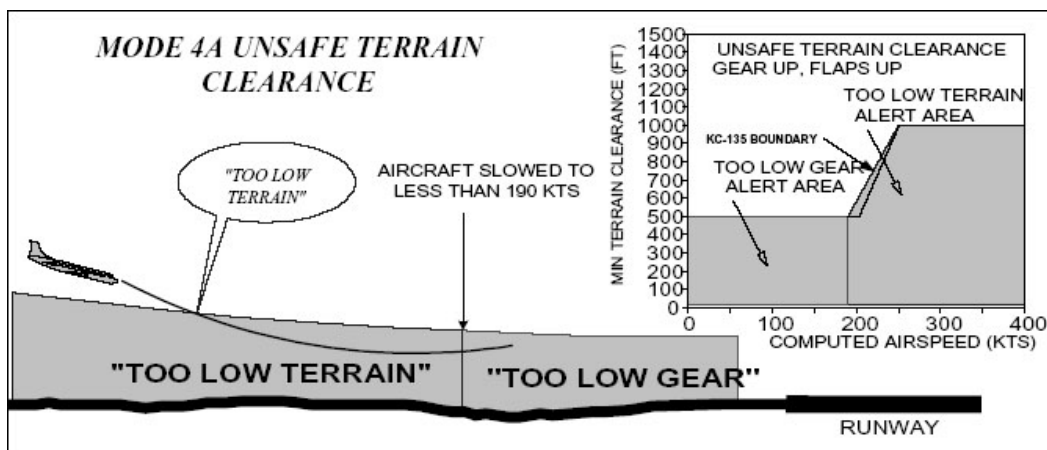


Figure 4.1

Mode 4 provides alerts for insufficient terrain clearance with respect to phase of flight and speed. Mode 4 exists in three forms: 4A, 4B and 4C. Mode 4A is active during cruise and approach with gear not in landing configuration. Mode 4B is also active in cruise and approach, but with gear in landing configuration. Mode 4C is active during the takeoff phase of flight with either gear or flaps not in landing configuration. As shown in Figure 4.1 the standard upper boundary for mode 4A is at 500 feet radio altitude. If the aircraft penetrates this boundary with the gear still up, the voice aural will be „Too Low Gear“. Above 190 knots the upper boundary increases linearly with airspeed to a maximum of 1000 feet radio altitude at 250 knots or more. Penetrating this boundary produces a „Too Low Terrain“ aural.

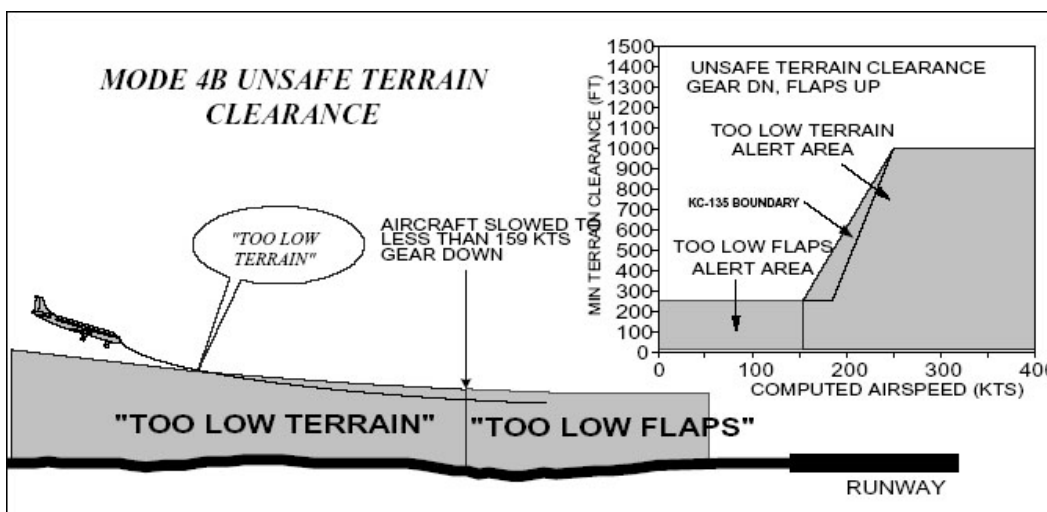


Figure 4.2

When the landing gear is lowered, the upper boundary decreases to 245 feet. Penetration below 159 knots results in the „Too Low Gear“ messages with gear up or the „Too Low Flaps“ message with gear down and flaps not in landing configuration, while above 159 knots (185 knots for KC-135) the message is „Too Low Terrain“. Mode 4B is illustrated in figure.



Mode 5 - Below Glideslope

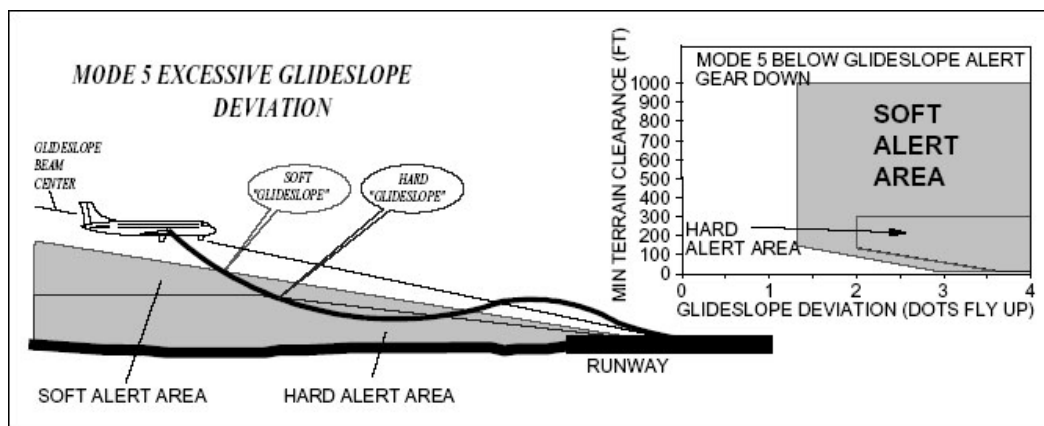


Figure 5.1

Mode 5 provides two levels of alerting when the aircraft flight path descends below the glideslope beam on front course ILS approaches. The first alert activation occurs whenever the aircraft is more than 1.3 dots below the beam and is called a „soft“ glideslope alert. A second alert boundary occurs below 300 feet radio altitude with greater than 2 dots deviation and is called „loud“ or „hard“ glideslope alert. Mode 5 is illustrated in figure .

Mode 6 - Callouts

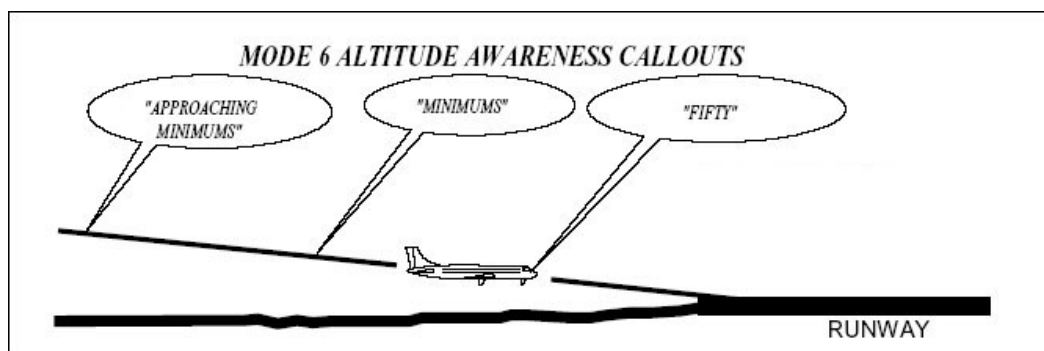


Figure 6.1

Mode 6 provides alerts and callouts for descent below predefined altitudes as shown in figure 6.1. Alerts for excessive roll or bank angle are also provided as part of this mode as shown in figure.

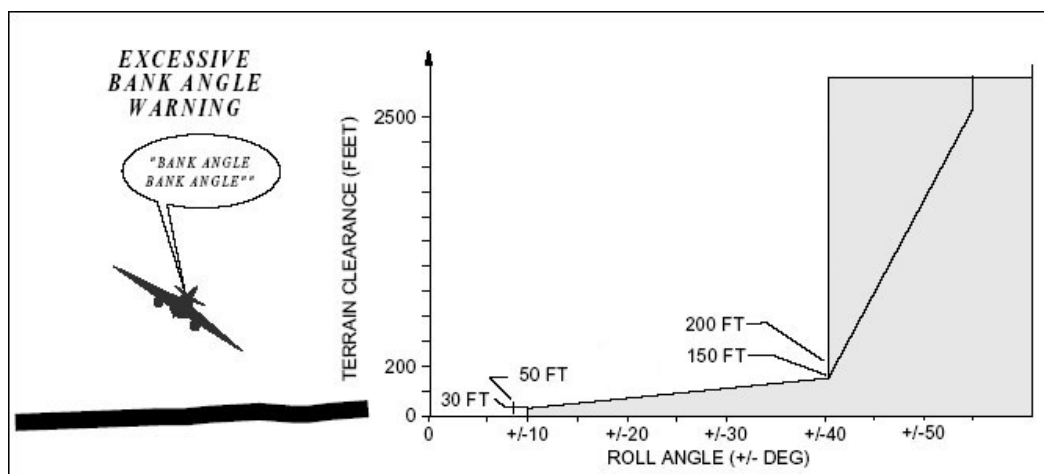


Figure 6.2



Flight Simulator Scenery

FS Flight Keeper has a rather unique feature that allows to detect the correct aircraft position. This means airport, gate and the takeoff/landing runway can be automatically detected. This is done by analyzing the Airport Facility Data (AFD) located in your scenery folders of your Flight Simulator 2002/2004/X installation and storing this data in a special database. This feature requires a huge amount of memory and thus it's disabled by default. But most systems on the market today can easily handle this, so you should turn this feature on during the first start of FS Flight Keeper. The creation of the database is only needed once. But you should refresh the database after you have installed or updated a scenery. This includes any AFCAD installation or modification! To refresh the database you just need to click on the menu 'Rebuild Navigation Database' under the main menu 'Tools'. This will clear the database and FS Flight Keeper will automatically create a new database. The available airports, gates and runways will be available through the combo boxes in the Flight Editor, the World Map and the ACARS Device. Supplementary you can also add aprons and taxiways (FS2004 and FSX only!) to the database, which then can be displayed on the World Map and the ACARS Device.

Please note that by default FS Flight Keeper only collects data for airports which have at least one parking place. To change this you will need to turn this limitation off (see Options).

FSFK also supports the My Traffic (<http://www.simmarket.com/online/mytraffic>) AFD data for FS2002. To include My Traffic open the Options dialog and set the 'Additional AFD Data folder' (files/folders section) to the My Traffic AFD folder location. My Traffic installs this by default under the following directory: 'FS\SCENEDB\MyTrafficAFD\Scenery'

The next time FSFK needs the AFD data the database will be automatically refreshed. This is only required for FS2002 and if you are using FS2004/FSX this option will be ignored.

Nav aids (VORs, NDBs and Markers) , Airways and Airspaces

Additionally FSFK also adds nav aids, airways and airspaces installed in Flight Simulator to the database. The nav aid information can be accessed via the ACARS Device or can be displayed on the World Map for navigation during the flight. Again, if you add a scenery to FS, you should refresh the database.

Additional Airports

To add airports that have no AFD data installed in FS you will need to add them by adding them to the configuration file 'Airports.cfg' located under 'Documents\FS Flight Keeper'. The following format is used for each airport:

ICAO, Latitude, Longitude, Name, Continent, Country, State, City, Elevation (in feet)

Example:

EDBT,N51* 22.8330',E11* 26.8000',Allstedt,Europe,Germany,,Allstedt,932

U60,N45* 07.9944',W115* 19.3068',Big Creek,North America,United States,Idaho,Big Creek,5743

Please note that it is not possible to add runways and/or gates. The airports will be displayed on the World Map and are selectable in the Flight Editor. Also be sure to set map detail level 1 minimum gate amount to 0 or the airports will not show up on the map. To add airports with runways use the tools AFCAD/AFCAD2/AFX and rebuild the navigation database.



Additional Cities

To add missing cities simply add them to the configuration file ,Cities.cfg'. The following format is used for each entry:

Name, Population, Latitude, Longitude

Example:

Frankfurt,653227,N50* 7.1999',E8* 40.7999'

Obstacles

As of August 2008 there is no free available database containing aviation obstacles. Therefore the Flight Keeper does not contain any obstacles. We do hope that some users are able to deliver us with some data which we can add to the next versions. To add obstacles edit the configuration file ,Obstacles.cfg'. The following format is used for each obstacle:

Latitude, Longitude, Name, Total Altitude Above Sea Level (in feet)

Example:

N50* 8.1451',E8* 39.1358',Europaturm Frankfurt,1510



Options

General Options

Option	Description
Event log mode	<p>This value decides which events will be recorded. It might also be necessary to adjust this setting on slower systems to improve the general FPS. FS Flight Keeper does not use much CPU, but on slower machines with a high detailed scenery or panel it might be possible that the FPS drops a bit. Available options:</p> <ul style="list-style-type: none"> • Basic: Altitude, Block-Events, Pause, Slew-Mode, Parking brake, Flaps, Gear, Lights, Simulation Rate, Master Battery and Avionics Switch, Route changes, Instant Replay • Normal (default): Engine, Reheat/Afterburner, Autopilot, Transponder, Radio frequencies, Flight Plan/Position reports • Advanced: Autothrottle, Anti-Ice, Spoilers, Barometer, Maximum Speeds, Engine Starter, Engine Fuel Pumps, Tank Selektor, Yaw damper, Pitot Heat, Alternator, Auto-Feather Arm Switch, Propeller Synchronization, Propeller De-Ice, Pushback • Full: Avg./Min./Max. Values, Turbulence, Gust, Stall, Over-speed, Failures, Markers, ILS-Events, AI Traffic • Full Plus: Enhanced Flight and Taxiway path recording - This way flight and taxiway route are more precise and less angular. <p>All higher modes include the previous events (e.g. Normal mode will log all Basic mode events, etc.)</p>
Events	Open a dialog where you can define which events will be recorded by the black box
Parking Destination trigger	<p>This option triggers the flight mode 'Parking Destination' - Available options:</p> <ul style="list-style-type: none"> • Parking brake set (default) • Taxi lights off • Taxi lights off and parking brake set • Beacon lights off • Beacon lights off and parking brake set • Engines off • Engines off and parking brake set



End of flight trigger	<p>This value will influence the way when FS Flight Keeper will automatically end a flight for you - Available options:</p> <ul style="list-style-type: none"> • Parking brake set • Engines off • Engines off and parking brake set (default) • Beacon lights off • Beacon lights off and parking brake set • Taxi lights off • Taxi lights off and parking brake set • Master Battery off • Master Battery off and parking brake set
Message display time	FS Flight Keeper can display a message in FS (similar to the ATIS report) that reports mode changes and Flight Plan navigation events (or Position reports) - This feature is turned off by default and only the connect and disconnect messages will be shown.
Nav. point range	FS Flight Keeper continuously calculates the distance to the current navigation point. If this distance is getting greater you have reached the point and you'll get a credit for this. Selecting a range advises Flight Keeper to check if the minimum distance (tolerance) to the navigation point was within the selected range. If yes, then the waypoint will be logged, otherwise not. Turning the range off will always log the point, if the distance is getting greater.
Position Timer	If there is now Flight Plan assigned to a flight, FSFK will automatically store the aircraft position at a given interval
Flight Backup interval	Defines how often FSFK will save a backup of your current flight - This helps in case that FSFK crashes to restore your flight and continue flying
Use Flight Simulator Scenery	See the manual section Flight Simulator Scenery
Only Airports with one ore more parkings	By default FSFK only adds airports with one or more gates to the AFD cache. This option allows you to turn it off. But keep in mind that memory usage will be higher and the airport detection might take longer. If you change this option you will need to rebuild the navigation database.
Taxiways	Toggles the support for scenery taxiways on or off
Aprons	Toggles the support for scenery aprons on or off (FS2004 and FSX only)
Nav aids	Toggles the support for scenery taxiways on or off
Scenery Objects	Toggles the support for scenery towers, gas stations and special weather locations (e.g. thermals) on or off
Airways	Toggles the support for airways on or off (FS2004 and FSX only)
Airspaces	Toggles the support for airspaces on or off (FS2004 and FSX only)



Add Airline IATA Code prefix to Flight Number	<p>This option automatically adds the Airline IATA code prefix to the Flight Number when connecting to FS.</p> <p>FSFK uses the parameter ‚atc_airline‘ (actually the airline callsign) in the ‚Aircraft.cfg‘ to lookup the airline data stored in the configuration file ‚Airlines.cfg‘. It compares the 4th column (Callsign) in this file with the value read from FS. If there is a match, FSFK will add the IATA code found to the flight number (e.g. ‚713‘ -> ‚AA713‘).</p> <p>‚Airlines.cfg‘ file format:</p> <p>IATA Code, ICAO Code, Airline, Callsign</p> <p>Examples:</p> <p>AA,AAL,American Airlines,AMERICAN</p> <p>--,AAG,Air Atlantique,ATLANTIC</p> <p>The value ‚--‘ indicates that there is no IATA code defined for an airline.</p>
Correct FS Airline name (Callsign)	<p>This option automatically corrects the FS Airline name (Callsign) with the name found in the ‚Airlines.cfg‘ - e.g. ‚AMERICAN‘ -> ‚American Airlines‘ (see above for a detailed description)</p>
Minimize to the System Tray after ...	<p>This option automatically minimizes FS Flight Keeper to the System Tray after a connection with FS has been established</p>
Create and open Flight Critique after ...	<p>If enabled FS Flight Keeper will create and open the flight critique automatically after disconnecting from FS</p>
Automatically start and connect ...	<p>FSUIPC allows to start some programs after loading a flight. This option, when enabled, will configure FSUIPC to automatically start and connect FS Flight Keeper. To manually configure FSUIPC add the following line to the ‚FSUIPC.ini‘ programs section:</p> <p>run1=READY,‘<INSTALL PATH>\FSFK.exe /N’</p> <p>‚INSTALL PATH‘ should be replaced by the actual installation folder. The parameter ‚/N‘ tells FS Flight Keeper to automatically create a new flight and establish a connection with FS. If you would like that WideFS starts FS Flight Keeper automatically then add the following line to the ‚WideClient.ini‘ user section:</p> <p>run1=<INSTALL PATH>\FSFK.exe /N’</p>
Ground Proximity Warning System (GPWS)	<p>Toggles the GPWS on or off - For a detailed description of this system check out the GPWS section in the manual</p>
Display TCAS messages	<p>If a TCAS event occurs FS Flight Keeper can automatically display a short message to inform you about any possible near traffic</p>
Ranges (nm)	<p>You can tell FSFK when you want that a TCAS event occurs. Therefore you can setup 4 ranges. By default they will be set to 1, 2, 5 and 10nm. If the distance to a foreign aircraft is reaching one of the four ranges, FSFK will generate a TCAS event. If you don’t need all four, you can set for example range 4 to 0 and you will only get events for three ranges. Please note that each range has to be greater than the previous or you will get an error message.</p>



Height (ft)	Defines the height in feet below and above your aircraft, which will be checked for any traffic
-------------	---

Unit Setup

Option	Description
Aircraft weight unit	This option will change the aircraft weight values displayed in any dialog. You can choose between "lbs" and "kg". Note that all values are stored in "lbs". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Fuel weight unit	This option will change the fuel weight values displayed in any dialog. You can choose between "lbs", "kg" and "gal" (for the fuel types JetA or Avgas). Note that all values are stored in "lbs". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Distance unit	This option will change the distance values displayed in any dialog. You can choose between "nm", "km" and "sm". Note that all values are stored in "nm". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Speed unit	This option will change the speed values displayed in any dialog. You can choose between "kts", "mph" and "km/h". Note that all values are stored in "kts". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Pressure unit	This option will change the pressure/altimeter values displayed in any dialog. You can choose between "hg" and "mb". Note that all values are stored in "hg". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Temperature unit	This option will change the temperature values displayed in any dialog. You can choose between "°C" and "°F". Note that all values are stored in "°C". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Altitude unit	This option will change the altitude values displayed in any dialog. You can choose between "ft" and "m". Note that all values are stored in "ft". Only during displaying the value it will be converted. If the Flight Editor or the World Map is open this value can not be changed.
Time display	Select if you want to display local times or the general ZULU time. Note that all values are stored in ZULU time. If the Flight Editor or the World Map is open this value can not be changed.



Weather Options

Option	Description
Mode	<p>Currently there are ten different weather modes:</p> <ul style="list-style-type: none"> • Live - This will download the METARs and TAFs from the configured weather server. • Offline - Allows you to download a weather cycle (hourly) or set a fix file that contains the METARs, TAFs and ALOFTs for all available weather stations (see below for details). • Flight Simulator 2004/X - Delivers weather forecasts and live weather directly taken from FS2004 or FSX Note: FSFK will automatically create METARs and ALOFTs, but no TAFs. ALOFT reports are limited by the fact that FS2004/X does not simulate upper winds for the whole world, but only in the near of the aircraft (radius ~150nm). FS2004/X weather themes are also supported. For backup reasons you can also select alternate weather server for downloading METARs, TAFs and ALOFTs, if they are not available due to the mentioned FS limitations. • Active Sky 2012, Active Sky Evolution, Active Sky Advanced, Active Sky X, Active Sky Version 6.x, Active Sky Version 5, Active Sky 2004 and Active Sky wxRE - Gets the weather directly from Active Sky (Offline or Live mode), so that the METARs, TAFs and ALOFTs in both programs are identical. Please note that you will need to turn on the FSFlightMax export option so that everything works properly. If Active Sky (v1.6 and higher) is in online mode FSFK will read the current METAR from the file „exp_currmetar.txt“ that is automatically generated by wxRE. So in flight METARs are identical in both programs. Flight forecasts (METAR, TAF and ALOFT) will be downloaded directly from the configured weather server. • FS Meteo - Gets the weather directly from FS Meteo (Offline or Live mode), so that the METARs and TAFs in both programs are identical. Please note that you will need to turn on the FSFlightMax export option so that everything works properly. ALOFTs will automatically downloaded from the configured weather server. • Weather Center 2 - Gets the weather directly from WC2 (Offline or Live mode), so that the METARs in both programs are identical. Please note that you will need to turn on the „Enable MET File Generation“ option so that everything works properly. TAFs and ALOFTs will automatically downloaded from the configured weather server, if WC2 is not in Offline mode. In Offline mode TAFs and ALOFTs are currently not available due to some WC2 limitations.



Offline Cycle/File or Installation Folder	<p>Depending on the weather mode selected you can configure the installation folder for Active Sky, FS Meteo or Weather Center. If the Offline mode is selected you can decide, if you want to use a file you have downloaded previously or if you want that FSFK will download a cycle. If you want to use a cycle, select the hour from the drop down box. If you choose ,# Current Cycle #', FSFK will download the current METAR, TAF and ALOFT cycle available. These files will be downloaded from the public NOAA server and will be stored in the sub folder ,Weather' for later use. The following file formats are currently supported:</p> <ul style="list-style-type: none"> • METAR Files (*.met) - These files only contain METARs and are used by a wide range of programs (e.g. FS Meteo, Active Sky and Flight Keeper itself) to store downloaded METARs. If there is a file in the same directory with the extension ,.taf', then FSFK will read this file for the offline TAFs. • Weather Center 2 Weather Archives (*.wca) - These files contain METARs (similar to the .met files) and ALOFTs and are currently only used by Weather Center. • Active Sky Weather Snapshots (*.dat) - These files contain METARs, TAFs and ALOFTs. • Weather Definition Files (*.wxd) - This file format was first introduced in Active Sky wxRE and contains links to METAR (*.met), TAF (*.taf) and ALOFT (*.wmo) offline files. Making it very simple to use complete weather sets for offline flying. FS Flight Keeper itself uses this format to make downloaded weather available for later usage.
Download weather for all Airports	Automatically download the weather for the Origin, Destination and Alternate airports - So you don't need to manually download it in the Flight Editor
Download weather for navigation ...	Automatically download the weather, if a navigation point has been reached or if there is no flight plan available it will download the weather every 15 minutes (configurable)
TAF support	Turns the TAF support on or off
ALOFT support	Turns the ALOFT support on or off
Automatically decode and display ...	If you turn on this option, FS Flight Keeper will automatically decode and display the reports for your Flight Plan
Display Pressure changes	This will display any pressure changes detected by FSFK in the FS window - Very useful if you are using any of the known weather add-ons and want to correct your altimeter setting in time



WMO Station (ALOFT) Configuration

FS Flight Keeper uses the configuration file ‚WMOSTations.cfg‘ to configure all available WMO stations. Because those stations get inactive from time to time, it might be necessary to remove them from the configuration file. This will prevent you from getting too many ‚Not available‘ reports within FSFK. You will have to look for the station ID and remove the entire line. You can also add new stations at your preferred areas if they are missing. We will however update this configuration file frequently to reflect major changes. After installing Flight Keeper there will be two additional WMO Station files called ‚WMOSTations-Complete.cfg‘ and ‚WMOSTations-Active.cfg‘. The first file is the full list of WMO stations. If you want to the full listing, then simply copy the contents of the full listing to the file ‚WMOSTations.cfg‘. The second file ‚WMOSTations-Active.cfg‘ contains all active WMO stations as of December 2010 (backup of original file). Please note that you will need to restart FSFK to reload the WMO station list.

Export Templates / Email Configuration

In this section you can select, which templates FS Flight Keeper will use to create the reports and how the flight will be send through Email or a Web Service. For a detailed description check out the manual section Templates. Note that only files with the extension HTML, HTM or TXT in the sub folder ‚Templates‘ will displayed in each combo box. Click on the ‚Edit‘ buttons to open the associated editor (e.g. Notepad, FrontPage, etc).

The Virtual Airline template is used to automatically configure the live ACARS / PIREP templates and FS realism settings for VAs. Please check the Virtual Airline SDK for further details.

With the combo box ‚Email Mode‘ you select, which method Flight Keeper will use when sending mails. You can switch between ‚MAPI‘ and plain ‚SMTP‘ support. The default mode ‚MAPI‘ requires a MAPI compatible mail client such as Microsoft Outlook™, Outlook Express, Thunderbird, etc. If your preferred client does not have a proper MAPI interface, you can use the email mode ‚SMTP‘ to send emails directly to your mail server. Use the next two text boxes to configure the SMTP server address (e.g. ‚mail.mydomain.com‘) and port (standard SMTP TCP/IP port is 25). FSFK will always use the email you have configured for the selected pilot as the sending email address. So be sure that this address is valid.



File/Folder Options

Option	Description
Flight Simulator Main folder	Sets the path to the FS installation folder
Additional AFD Data folder	If you have My Traffic installed and you want to use the modified airport facility data, then set the path to the My Traffic AFD folder (check out the FS Scenery manual section for more details) - Note: This parameter is only relevant for FS2002.
FS Flight Keeper Database	With this option you can select the FSFK database to use - Might be useful for users, that want to use the same database on different computers
Database Backup folder	Sets the path to the database backup folder
Reports folder	Sets the path to the FSFK export directory
Templates folder	Sets the path to the templates folder used by FSFK
Sounds folder	Sets the path to the sounds folder used by the FSFK Sound Environment
Saved Flights folder	Sets the path where flight backups are stored

World Map Configuration

Option	Description
Colors	Select one of items where you want to change the map color for and click on „Edit“ to modify the color
Font	Select the font and size you want to use on the World Map
Map Quality	Configures the quality and drawing speed of the world map - Possible values: <ul style="list-style-type: none"> • Performance - No antialiasing and no use of the high resolution vector data • Quality - Antialiasing and no use of high resolution vector data • High Quality - Antialiasing and high resolution vector data
Elevation Map Quality	Configures the quality and drawing speed of the elevation (relative and absolute) map. Possible values: <ul style="list-style-type: none"> • Performance - No antialiasing and interpolation • Quality - Antialiasing and bilinear interpolation • High Quality - Antialiasing and bicubic interpolation
Detail level x range	The FS Flight Keeper World Map has four detail levels, which are set according to the visible range. With these values you can define where each level begins (ends). The range is miles and measured on the map y-axis.
Minimum Gate amount	This value tells FSFK which airports should be displayed on the map. For each detail level you can define which airports you want to see. This is measured by the amount of gates available at the airport. Setting a value of 50 will only display airports with fifty or more gates.



Weather/WMO Station Range	Set the range when the Weather and WMO Stations are going to be displayed on the map
Events caption range	Set the range when the captions for each event are going to be displayed on the map
Waypoints caption range	Set the range when the captions for each waypoint are going to be displayed on the map
Airport details range	Set the range when the airport details (aprons, taxiways, markers, etc.) are going to be displayed on the map
Nav aids/Obstacle range	Set the range when the nav aids (VORs and NDBs.) and obstacles are going to be displayed on the map
AI Ground Traffic range	Set the range when the AI ground traffic is going to be displayed on the map
Special Weather Location range	Set the range when the special weather locations (e.g. thermals) are going to be displayed on the map
Airways range	Set the range when airways are going to be displayed on the map
Airspaces range	Set the range when airspaces are going to be displayed on the map

The button ,Reset' will restore all map options to their default values. So if you are not satisfied with your current settings, you can always revert to the default display setting.

Hotkey Setup

Hotkey	Description
Connect to Flight Simulator	Opens the ,New Flight' dialog and opens a connection to FS - NOT AVAILABLE THROUGH WIDEFS
Disconnect from Flight Simulator	Disconnects Flight Keeper from FS
Connect with live ACARS Server	Opens a live ACARS connection
Disconnect from live ACARS Server	Closes an open live ACARS connection
Resume live ACARS	Resumes a suspended live ACARS connection
Take Screenshot	Takes a screenshot from the active window and stores it internally for later use (see Screenshot Manager for more information) - NOT AVAILABLE THROUGH WIDEFS
Download Flight Plan weather	Start the Flight Plan weather download
Skip next Waypoint	Skips the current waypoint and the next flight plan entry will be activated
Sign in to Messaging Service	Signs you in to the FSFK Messaging service
Sign off from Messaging Service	Signs you off from the Messaging service
Connect to ACARS Device (Show/Hide)	Opens a connection (via TCP/IP) with the ACARS Device or if already connected shows or hides the gauge
Disconnect from ACARS Device	Disconnects Flight Keeper from the ACARS Device
Toggle Cockpit Sound Environment On/Off	Turns your currently selected Sound Profile on or off while connected with FS



Play next Sound Item	Plays the next manual sound item from the current Sound Profiles, if Flight Keeper is connected with FS and a profile has been selected in the Options
Play Sound 'Cabin Signs On'	Plays the sound event configured for 'Cabin Signs On', if Flight Keeper is connected with FS and a profile has been selected in the Options
Play Sound 'Cabin Signs Off'	Plays the sound event configured for 'Cabin Signs Off', if Flight Keeper is connected with FS and a profile has been selected in the Options
Start Air TV	Starts Air TV if a profile has been selected in the Options - NOT AVAILABLE THROUGH WIDEFS
Stop Air TV	Stops Air TV - NOT AVAILABLE THROUGH WIDEFS
Toggle Speed Restriction under FL100	Enables or disables the speed restriction under FL100

Note: To disable a hotkey, simply hit 'DEL'. 'ALT' key combinations are not allowed to avoid any menu problems inside your Flight Simulator (especially in full screen mode).

Messaging Service

Option	Description
Messaging Server	Selects the Messaging Server (configurable via the file 'MessagingServer.cfg') - Currently only the official FS Flight Keeper server is available
Connection type	Currently there are three different types: <ul style="list-style-type: none"> Manual - You will always need to manually connect to the FSFK Messaging Service Auto-Connect on startup - Flight Keeper will automatically connect to the Messaging Service when it is started. Auto-Connect when flying - This option will sign you on, whenever you are connected with FS.
Email	Email address used for logging in to the service
Password	Password used for logging in to the service
Email Password	This button is useful, if you have forgotten your service password - The messaging service will automatically email you your current password to the register email address
Username	The name you type in here will be displayed in the messaging center window
Alias	The alias name will be displayed in chat windows or whenever you send a short message
Client TCP/IP Port	TCP/IP Port used to communicate with other users - Only values between 1000 and 65534 are valid. Please make sure that this port is reachable from outside. So please check your personal Firewall and Gateway settings, so that all other users can reach you.
Publish Email	This allows other users to see your address and send you an email
Allow Short Messages	Allows other users to send short messages



Available for Chats and File transfers	Allows other users to request chats and file transfers
Change Password	Clicking this button allows you to change your Messaging Service password
Check Login	Validates your login information (Email and Password) on the Messaging server
Register	Registers a new user (Email address) on the messaging service - The server will automatically send you an initial password, which you can change later

ACARS Device

Option	Description
Connect Mode	This option tells FSFK when you want to connect to the device - Possible options: <ul style="list-style-type: none"> • Manual - You will always connect to it manually (via hotkey or toolbar button) • Auto-Connect when flying - FSFK will automatically connect the device after a connection with the Flight Simulator has been established • Auto-Connect on startup - After FSFK has been started it will try to connect to the device
Disconnect Mode	This option tells FSFK when you want to disconnect from the device - Possible options: <ul style="list-style-type: none"> • Manual - You will always disconnect to it manually (via hotkey or toolbar button) • Auto-Disconnect when stop flying - FSFK will automatically disconnect the device after the connection with the Flight Simulator has been closed
TCP/IP Address	Configured TCP/IP address of the ACARS Device (e.g. ,localhost', ,192.168.0.1', etc.)
TCP/IP Port	Configured TCP/IP port of the ACARS Device (e.g. ,8011', etc.)
Automatic Page Refresh Interval	Here you can configure the page refresh interval, if it is turned on for the ACARS Device
Cloud Altitude Display	Configures if cloud altitudes in the ACARS Device are displayed in AGL (Above Ground Level) or MSL (Mean Sea Level)
Max. Airport/Navaid Range (nm)	Sets the maximum range in nautical miles for searching Airports and Nav aids in the near of the current aircraft position
Max. Airport Navaid distance to Flight Plan (nm)	Sets the maximum distance for looking up nav aids in the near of the filed Flight Plan



Sound Setup

Option	Description
Global Volume	Configures the global volume for all sounds played by FS Flight Keeper
Global Panning	Configures the global panning (left/right) for all sounds played by FS Flight Keeper
Adapter	Selects the sound device to use for the sound output
Sound Active	<p>Toggles the way sounds are played - Possible values:</p> <ul style="list-style-type: none"> • Always on - Sounds are always played no matter which application is active • While FSFK is active - Sounds are only played, if FSFK is the active application (window) • While FS is active - Sounds are only played, if the FS main window is active
Surround Mode	<p>Toggles if sounds are played in surround mode - Possible values:</p> <ul style="list-style-type: none"> • Disabled - Turns off surround sound (defaults to standard stereo). • No Virtualization - 3-D effects are mapped onto normal stereo panning. At 90 degrees to the left, the sound is coming out of only the left speaker; at 90 degrees to the right, sound is coming out of only the right speaker. The vertical axis is ignored except for scaling of volume due to distance. • Default (System) - DirectX uses the default 3-D algorithm. The default algorithm may be based on a Control Panel setting. • Performance - 3-D effects are processed with the efficient 3-D audio algorithm. This algorithm gives a good 3-D audio effect, but uses fewer CPU cycles than the 'Quality' mode. • Quality - 3-D effects are processed with the high quality 3-D audio algorithm. This algorithm gives the highest quality 3-D audio effect, but might use more CPU cycles (depending on the audio hardware used). <p>Even if there is no surround sound available (via the audio card or the speakers), one should use a surround mode (e.g. 'No Virtualization') to improve the overall cockpit sound experience.</p>
Max. Channels	Sets the maximum sound channels available for playing event/manual and ambience sounds simultaneously - For example: If you configure 16 channels, you can play 16 sound events and additionally 16 ambient sounds at a time. Please note that using less channels can improve the audio performance for some older audio cards.
Profile	Selects the active Sound Profile or for editing an existing or new profile.
Profile Type	<p>Each profile contains to types of sound items:</p> <ul style="list-style-type: none"> • Events - Configures the sound items, which will be played whenever a flight event occurred



	<ul style="list-style-type: none"> Manual - Configures the sound items, which will be played when pressing the assigned hotkey <p>If you change the value in the combo box, the grid will automatically show all sound items used in the selected profile type.</p>
New (Profile)	Creates a new profile
Rename (Profile)	Renames an selected profile
Copy (Profile)	Creates a new profile by copying the currently selected profile.
Delete (Profile)	Deletes the selected profile
Import (Profile)	Imports a sound profile
Export (Profile)	Exports the selected profile
Add Item	Creates a new sound item and automatically opens the Sound Item Editor
Delete Item	Deletes the selected sound item from the profile
Move Up	Moves the selected item up in the grid
Move Down	Moves the selected item down in the grid

For a detailed description of this feature read the Sound Environment section in this manual.

Air TV

Option	Description
Profile	Selects the active Air TV profile
Capture Type	Chooses the capture type you want to edit: <ul style="list-style-type: none"> Screen - Screen Capture (e.g. whole screen, single windows, etc.) Video - Video Capture (e.g. webcam)
New (Profile)	Creates a new profile
Rename (Profile)	Renames the selected profile
Copy (Profile)	Creates a new profile by copying the currently selected profile
Delete (Profile)	Deletes the selected profile
Capture Image Filename	Configures the filename of the JPG image - The extension „.jpg“ will be automatically appended
Screen Capture Mode	Sets the capturing mode for the screen capture - Possible modes: <ul style="list-style-type: none"> Whole Screen - Captures the visible area of your screen Active Window - Captures only the current active window Flight Simulator - Capture the FS window (windowed and full screen mode) Flight Simulator active - Capture the FS window whenever it is active (windowed and full screen mode)
Max. Capture Image size	Configures the maximum image size, if the image is larger it will be automatically resized
Picture in Picture Position (PIP)	Sets the position of one capture in the other (e.g. Screen in Video capture)
Size Ratio of PIP	Configures the size ratio of the PIP - Valid values are larger than zero and smaller than one



Update Interval	Sets the time between two captures
Offline Image	Selects the offline image used when you stop Air TV or FS is not the active application - Leave this field blank, if you don't want to use an offline image
Image Thumbnail size	Sets the size of the capture image thumbs
Informational Text Position	Defines the position of the informational text in the capture
Background	Configures the background for the text - Possible values are: <ul style="list-style-type: none"> • None • Shadows • Transparent Rectangle
Font Type / Size / Color	Sets the size, color and font type used to write the informational text
Informational Text	Defines the text to place on top of the capture - Press ‚Ctrl+Enter‘ to add a carriage return
Start Mode	This option tells FSFK when you want to start Air TV - Possible options: <ul style="list-style-type: none"> • Manual - You will always connect to it manually (via hotkey or toolbar button) • Auto-Connect when flying - FSFK will automatically start Air TV after a connection with the Flight Simulator has been established • Auto-Connect on startup - After FSFK has been started it will start Air TV
Stop Mode	This option tells FSFK when you want to stop Air TV - Possible options: <ul style="list-style-type: none"> • Manual - You will always stop it manually (via hotkey or toolbar button) • Auto-Disconnect when stop flying - FSFK will automatically stop Air TV after the connection with the Flight Simulator has been closed
Server Address (URL) / Folder	Selects the FTP/HTTP server or folder where your capture will be placed - Please make sure you add ‚ftp://‘, ‚http://‘ or ‚https://‘, if you enter an URL
TCP/IP Port	Port of the FTP/HTTP server
Passive Mode	Tells FSFK whether the FTP server requires an active or passive connection
Username	User required to login into the server
Password	User password



Click ,Video' to open the video configuration dialog:

Option	Description
Source	Choose the source of your video signal (open a system dialog)
Format	Configures the video signal format (opens a system dialog) - Important note: Please make sure you use a color depth of 24bit or higher or FSFK will not be able to use it
Flip Horizontal/Vertical	Rotates the incoming signal if needed
Refresh Rate (in FPS)	Defines the how many images per seconds will be produced by the video device. Higher rates will result in smoother images, but will cost some CPU

For a detailed description of this feature read the Air TV section in this manual.



WideFS Support

FS Flight Keeper has been successfully tested with WideFS V6.50+. FS Flight Keeper should be installed on the client running WideFS and a public share should be created for the FS folder (or drive) on the system that runs FS/FSUIPC. If you don't create this share FSFK will not be able to access the FS scenery data and no navigation data will be available for FSFK. The automatic detection of airport, runways and gates will be turned off in those cases.

Additionally you should also create a share for your 'My Documents' or the 'My Documents\Flight Simulator Files' folder, if you are using FS2004 or FSX. This allows FSFK to read the FS2004/X flight plan.

If you want to use the ACARS Device in FS, you will need to install FSFK on the FS machine to install all required files.



FSNavigator Support

FS Flight Keeper supports FSNavigator 4.x plans. Due to the design of the file format used by FSNav, there are some limitations you need to know. FSNav does not store the names for all waypoints. During loading those plans FSNav will automatically lookup the names for each waypoint. Thus FSFK does need to do the same. FS Flight Keeper uses some FSNav information files („ISEC.TXT“ and „AIRWAY.TXT“) to lookup the names. FSFK needs direct access to those files under the FSNavigator installation folder ‚<FS>\Modules\FSNav\bin‘. If FSFK can not locate those files, it will check the Flight Keeper main program folder. If the files can not be located in one of the folders, the support will be turned off automatically. So be sure that you have them in one of the mentioned directories. We also recommend that you update both files with the current AIRAC Cycle available for download at <http://www.navigraph.com>. Please note that FSNavigator needs to be installed under the FS folder ‚Modules‘ so it can be detected by FSFK. Any other installation will simply not work, but you can always copy the files to the Flight Keeper main folder to turn on the FSNavigator support. Please note that even if the navigation files are updated, it might happen that some names are wrong or marked as ‚Unknown‘. This is not critical as the waypoint positions are still the original ones used in the FSNav plan.



PMDG Flight Plan Support

FS Flight Keeper supports PMDG flight plans (extension RTE). Due to the design of the file format used by PMDG, there is a limitation you need to know: There is no flight level parameter so you will need to set the level manually after opening. Waypoint type detection for VORs and NDBs is only available if the Navaid Support is turned on. If there is any departure/arrival runway, SID or STAR information stored in the plan, FSFK will automatically copy that information to your current flight.



PIC 767 Flight Plan Support

FS Flight Keeper supports Pilot In Command (PIC) 767 flight plans (extension RTE). Due to the design of the file format, there is a limitation you need to know: There is no flight level parameter so you will need to set the level manually after opening. Waypoint type detection for VORs and NDBs is only available if the Navaid Support is turned on. If there is any departure/arrival runway FSFK will automatically copy that information to your current flight.

Notes:

The PIC 767 file format is not compatible with the Level-D 767 file format. But the Level-D 767 FMC supports the older PIC 767 format. FSBuild 1.2.2+ exports flight plans for the Level-D 767. But those files produced by FSBuild are actually saved in the old PIC 767 format, so FSFK will be able to load them.



Wilco Flight Plan Support

FS Flight Keeper supports Wilco flight plans (extension RTE). Due to the design of the file format used by Wilco, there is a limitation you need to know: There is no flight level parameter so you will need to set the level manually after opening. Waypoint type detection for VORs and NDBs is only available if the Navaid Support is turned on.



Airbus X Extended Support

The native Airbus X Extended support will make the following default FSFK flight events available:

- Autopilot on (AP 1 and/or 2)
- Autopilot modes (ALT, FPA, etc.)
- Autothrottle armed
- Flight director
- Engine pumps
- No smoking and seat belt signs
- Additional passenger exits not captured in FSX

Additionally the following events which are unique for the Airbus X have been added:

- Window heat
- IRS aligned
- Packs
- Wing Anti-ice
- Bleed Air
- Emergency Lights
- Ignition
- Hydraulic Pumps
- Ground Power
- Transponder mode

FSFK requires that the Aerosoft recorder module ('<FSXROOT>\Aerosoft\Flight Recorder\AS-Flight-Recorder.dll') is running. This should be the case unless you have modified the FSX configuration file 'DLL.xml' after the Airbus X installation. If so make sure that the module is registered and enabled in the config file.

The FDR of the Airbus X can be safely turned off as FSFK does all recording. If you have previously recorded your flights with the FDR you can import them via the Aerosoft Flight Recorder Manager (please check the Airbus X manual for details).



PMDG 737 NGX Support

The native PMDG 737 NGX support will make the following default FSFK flight events available:

- Autopilot on (CMD A and/or B)
- Autopilot modes (LNAV, VNAV, etc.)
- Autothrottle armed
- Flight director
- Engine starter
- Engine pumps
- Yaw damper
- APU on
- No smoking and seat belt signs

Additionally the following events which are unique for the PMDG 737 have been added:

- Window heat
- IRS aligned
- Packs
- Wing Anti-ice
- Bleed Air
- Generator
- Emergency Lights
- Ignition
- Standby Power
- Hydraulic Pumps
- Ground Power
- Isolation Valve
- Recirculation Fan
- Cabin Util
- Inflight Entertainment System
- Bus Transfer
- Transponder mode



To enable the native support you'll need to accept the PMDG 737 SDK user license agreement, which is shown when you connect to FSX/PMDG 737 and you haven't accepted it yet.

The SDK is required to retrieve all data for FSFK. If the SDK output is not enabled (which is the default after the 737 installation) FSFK will ask you if you want to enable it. FSFK will add the content file 737NGX_Options.ini that is located in the folder "<FSXROOT>\PMDG\PMDG 737 NGX".

[SDK]

```
EnableDataBroadcast=1
```

You can also add these lines before you connect FSFK if you want. Only requirement is that the PMDG 737 is not loaded while editing the configuration file.

FS Flight Keeper supports the new PMDG 737 NGX flight plan (extension RTE). If there is any departure/arrival runway, SID or STAR information available FSFK will automatically copy that information to your current flight. Waypoint type detection for VORs and NDBs is only available if the Navaid Support is turned on.



iFly 737 Support

The native iFly 737 support (FS2004 and FSX versions supported) will make the following default FSFK flight events available:

- Autopilot on (CMD A and/or B)
- Autopilot modes (LNAV, VNAV, etc.)
- Autothrottle armed
- Flight director
- Engine starter
- Engine pumps
- Yaw damper
- APU on
- No smoking and seat belt signs

FS Flight Keeper supports iFly 737 flight plans (extension FLTPLAN). If there is any departure/arrival runway, SID or STAR information available FSFK will automatically copy that information to your current flight. Waypoint type detection for VORs and NDBs is only available if the Navaid Support is turned on.



TOPCAT Support

The TOPCAT (Take-Off and Landing Performance Calculation Tool) product support will read the pre-calculated v-speeds and use them to play the assigned sound files, pax and cargo weights and additional TO/LA data will be shown on the flight status page of the ACARS device. Please make sure you have the option *"Add Loadsheet to the FS Kneeboard"* turned on when exporting the data to FS with TOPCAT. Otherwise speed and weight data won't be available for FSFK.



Radar Contact Support

FS Flight Keeper directly supports Radar Contact v3 (RC3) and v4 (RC4). If you have prepared a flight with RC3/RC4 – flight plan loaded and controller info set – RC will create a special configuration file in the same folder where the flight plan is stored (file extensions RC3 or RC4). This file will be automatically detected by FSFK during loading the plan and the alternate airport, transition altitudes and gates will be stored in the related FSFK fields. Runways are currently not saved by RC3/RC4, so there is no possibility to get these values into FSFK.

Please note that FS Flight Keeper only support version 3 and 4 and not the older 2.2.



Weather Add-On Support

Flight Keeper currently supports four Flight Simulator Weather Add-Ons. The support for all programs can be turned on in the FSFK Options dialog.

Active Sky 2012 (AS2012), Active Sky Evolution (ASE), Active Sky Advanced (ASA) and Active Sky X (ASX)

If you start your flight session be sure that you start Active Sky before starting FSFK and the weather download has been finished.

Flight Keeper will use the ASE/ASA/ASX weather, if one of the following conditions are met:

1. Active Sky is in Offline mode
2. Active Sky is in Online mode and FSFK is connected with FS
3. Active Sky is in Online mode and no Weather server are configured in FSFK

In all other cases FSFK will download the weather from the configured weather server.

Active Sky Version 6 (ASv6)

FSFK requires that you have v1.0 or higher installed on your system. If you start your flight session be sure that you start ASv6 before starting FSFK. The best you wait until ASv6 displays the following message on the main window: „**Weather update completed...**“. This ensures that ASV has finished it's work.

Flight Keeper will use the ASv6 weather, if one of the following conditions are met:

1. ASv6 is in Offline mode
2. ASv6 is in Online mode and FSFK is connected with FS
3. ASv6 is in Online mode and no Weather server are configured in FSFK

In all other cases FSFK will download the weather from the configured weather server.



Active Sky Version 5 (ASV)

FSFK requires that you have v1.0 or higher installed on your system. If you start your flight session be sure that you start ASV before starting FSFK. The best you wait until ASV displays the following message on the main window: „**Weather update completed...**“. This ensures that ASV has finished it's work.

Flight Keeper will use the ASV weather, if one of the following conditions are met:

1. ASV is in Offline mode
2. ASV is in Online mode and FSFK is connected with FS
3. ASV is in Online mode and no Weather server are configured in FSFK

In all other cases FSFK will download the weather from the configured weather server.

Active Sky 2004

FSFK requires that you have v1.0 or higher installed on your system. If you start your flight session be sure that you start Active Sky 2004 before starting FSFK. The best you wait until wxRE displays the following message on the main window: „**Weather update completed...**“. This ensures that Active Sky 2004 has finished it's work.

Flight Keeper will use the AS2004 weather, if one of the following conditions are met:

4. AS2004 is in Offline mode
5. AS2004 is in Online mode and FSFK is connected with FS
6. AS2004 is in Online mode and no Weather server are configured in FSFK

In all other cases FSFK will download the weather from the configured weather server.

Active Sky wxRE

FSFK requires that you have v1.6 or higher installed on your system. The option „**Export METARs for FSFlightMax**“ should be turned on and also be sure that the „**wx Export Path**“ is configured correctly. If you start your flight session be sure that you start Active Sky before starting FSFK. The best you wait until wxRE displays the following message on the main window: „**Weather processing complete!**“. This ensures that Active Sky has finished his work.

If Active Sky (v1.6 and higher) is in online mode FSFK will read the current METAR from the file „**exp_currmetar.txt**“ that is automatically generated by wxRE. So in flight METARs are identical in both programs. Flight forecasts (METAR, TAF and ALOFT) will be downloaded directly from the configured weather server.

FS Meteo

Flight Keeper requires that you have at least v5.2 or higher installed on your system. The option „**Export weather for FSFlightMax**“ should be turned. If you start your flight session be sure that you start FS Meteo before starting FSFK. We recommend using this weather mode only, if you want to use offline (cycle file) weather during your flight. In all other cases you should use the FSFK „**Live**“ weather mode to get the actual realtime METARs and TAFs from the configured weather server. The downloaded METARs will match nearly 100% with the reports used by FS Meteo, so there should be only a minor difference in the reports.



Weather Center 2

Flight Keeper requires that you have at least v2.0 or higher installed on your system. The option „**Enable MET File Generation**“ should be turned. If you start your flight session be sure that you start WC before starting FSFK. TAFs and ALOFTs will automatically downloaded from the configured weather server, if WC2 is not in Offline mode. In Offline mode TAFs and ALOFTs are currently not available due to some WC2 limitations. If you are using a Weather Center 2 Weather Archive (WCA), you should use the FSFK weather mode „**Offline**“ and select the WCA file in the Options dialog (only METARs and ALOFTs are available in a WCA file).



Screenshot Manager

The Screenshot Manager is a simple, but very helpful, tool, that lets you take screenshots of the active window. You can take as many shots as you want (just limited by the amount of disk space available) and you can save the shots you like after you have finished the flight. So no stress during your flight; no need to switch to any other program while you fly. The only thing you need to do is to configure the ‚Take Screenshot‘ hotkey in the Options dialog and press it while you fly. FS Flight Keeper will take the screenshot and will store it in an internal gallery. The managing tool, available through the main menu or the the vertical bar, allows you to manage the shots taken:

The grid shows when and where the shot was taken or the window caption, if the active window is not the Flight Simulator main window. Below you will see a preview of the stored picture, so you can easily review and reselect the screenshots you want to save or send to another messaging user.



Uninstalling

If you want to uninstall Flight Keeper, which we doubt that it will ever happen, the setup program will remove most of the files installed. As usual there is an exception for the following files/folders and modifications, which will not automatically be removed or restored:

Files

- ‚FSFK-ACARS.gau‘ - ACARS Device Gauge installed to ‚<FS>\Gauges‘
Use the ACARS Device Installer to remove the gauge prior to uninstalling.
- ‚FSFKCore.dll‘ - FSFK Core Module installed to ‚<FS>\Modules‘ for FS2002 and FS2004
Use the menu item ‚Tools -> FSFK Core Module -> Uninstall‘ to remove the module prior to uninstalling.
- Any backup files created for panel and aircraft configuration modifications
- Any file in the FSFK program folder which is not coming with the original setup

Folders

- ‚Documents\Fs Flight Keeper‘ - Default folder for storing database, templates, etc.
- Any sub folder in the main FSFK program folder which contains a file/folder not coming with the original setup

Modifications

- Panel or Aircraft changes made by the ACARS Device Installer
Use the uninstall function in the ACARS Device Installer to remove all changes automatically prior to uninstalling.
- FSUIPC configuration file (‚FSUIPC.ini‘) changes to the ‚[Programs]‘ section
Simply delete the lines referring to Flight Keeper or disable the autorun feature in the Options dialog prior to uninstalling.



Credits

Main Concept, Design and Programming

Thomas Molitor

Manual

Guenter Zehnel and Thomas Molitor

ACARS Device Graphics

Tim Taylor

Additional Control Programming

Dirk Bunar (Tribe Technologies)

External Libraries

Intel® JPEG Library - Copyright © 1999 Intel Corporation. All rights reserved.

ZIP Libraries - Copyright © 1990-2005 Info-ZIP. All rights reserved.

Cockpit Environment Sound Events

Nick Schreger (MeatWater Studios) and Wilco Van Deijl

Ambient Sounds

Mathijs Kok

Pilot Sound Sets

Jean Claude Bailly, Johan Peeters, Nick Schreger, Robert F. Barber, Sergio Ortega and William L. Hagen

Crew Sound Sets

Nick Schreger (MeatWater Studios)



Beta Testers

Norman Blackburn, Jens Rödel, Kenneth Dundon, Stephane Franot, Stefan Haag, Gary Hack, Patrick Walther, Trevor McComish, David Marshall, Tom-Inge Larsen, Gottfried Reder, Bernard Greenbank, Yuri Kuit, Olivier Briot, Bryan Opalka, Karl Sjøen, Wolfgang Schröder, Allen Barker, Dale Reitz, Carsten Wichura, Stefan Gruendel, Jason Shephard, Robert Janetz, Luc Claus, Marcus Kannicht, John Dekker, Ray Proudfoot, Sanford Seidler, Sonny Spaan, Brian Sperduto, Ben Elsen, Thomas Plieschnegger, Broder Illing, Luc Brusselmans, Mark Richards, Robert Price, Omar Lavagnini, Audun Sjøen, Pete Dowson, Steve Silvi, Mindaugas Kilikevicius, John Navara, Jason Epps-Eades, Miguel Regalado, Daniel Umlauf, Fred Solli, Javier Gualde, Egbert Drenth, Luis Blanco, Christoph Limm, Alfred Jordan, Jarle Bronstad, Konstantin Dorofeev, Harry Elkins, Russell Jourdain, Peter Schindler and Norbert Wöller.

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- Aerosoft for the interest in this product

and the Flight Simulator Community for all the creativity and support!



Contact

Homepage

www.flightkeeper.net

Support Forum

forum.aerosoft.com

Email

Support via forum is preferred, we assure you it is fast and it is efficient, but if you prefer email support use: support@flightkeeper.net and no other address. For questions about purchasing or downloading use: info@aerosoft.com.