



Flightplan

AivlaSoft EFBv2

User Guide

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1 Basic concept

We would like to make something clear right at the beginning: An EFB is no Flightplanning Software: Even though Flightplans can be created and edited with EFBv2, a complete Flightplanning Software has to consider many more items at the planning stage of a flight, such as performance data of the aircraft, actual and predicted weather situations, regional and worldwide regulations, closed airspaces, temporary and short-term restrictions, only to name a few. All these data are not or only to a small degree available to EFBv2.

This document describes handling of a Flightplan within a multitude of other possibilities in EFBv2 - of course also integration of flightplanning tools, such as PFPX from "FlightSimSoft" or RouteFinder.

Within EFBv2 we also use the term "Routing", which is equivalent to Flightplan. Flight- or Routeplanning is based on navigation facilities, waypoints and airports. All these components are provided by the Simulator as well as by an ARINC database.

Flightplanning software exclusively uses ARINC navigation data. ARINC is the acronym for a company named „**A**eronautical **R**adio **I**NCorporated“. Although being a private company, ARINC defines the standards in aviation communication and navigation in a wide range of aviation. ARINC navigation data are updated worldwide in a 28-days cycle, the so-called AIRAC Cycle. AIRAC is the acronym for „**A**eronautical **I**nformation **R**egulation **A**nd **C**ontrol“ and represents - simply put - the ICAO specification for publication of worldwide aeronautical information.

Flightplanning software (e.g. PFPX) as well as EFBv2 or Internet based planning services use navigation data from ARINC. In today's Flight Simulation, navigation data are supplied by either of the two providers "Navigraph" or "Aerosoft", both offering ARINC data in the 28-day AIRAC Cycle, which is used more and more by Simmers.

Exactly like in Real World, every Flightplan or Routing consists of data from a specific AIRAC Cycle, which was valid at the time of creating the Flightplan. On the computer this will mainly be the installed Airac Cycle, Webservices often offer the possibility to select a specific AIRAC cycle.

This leads us to one of the main problems when working with Flightplans/Routings:

Every Flightplan/Routing is based on a specific AIRAC Cycle. The older the Cycle is, the more likely it is that routing data are outdated because of major changes within the navigation database.

Airlines have to cope with this 28-day cycle all the time, because of their obligation to always use the actual AIRAC Cycle. There is no such obligation in Flight Simulation. This increases the risk of invalid data in Flightplans stored at a - sometimes - early date considerably, not to say enormously.

Our recommendation to overcome this kind of problems is clear: **subscribe** to one of the Providers of navigation data mentioned above and make sure that **all** your aircraft, planning tools and EFBv2 are using data from the same AIRAC cycle.

Alternatively you could at least use **one common** AIRAC Cycle for all aircraft, planning tools and EFBv2, not necessarily being the most recent one. The update rate is in fact not important, as long as all components within your Simulator System are speaking the identical "AIRAC Cycle" language.

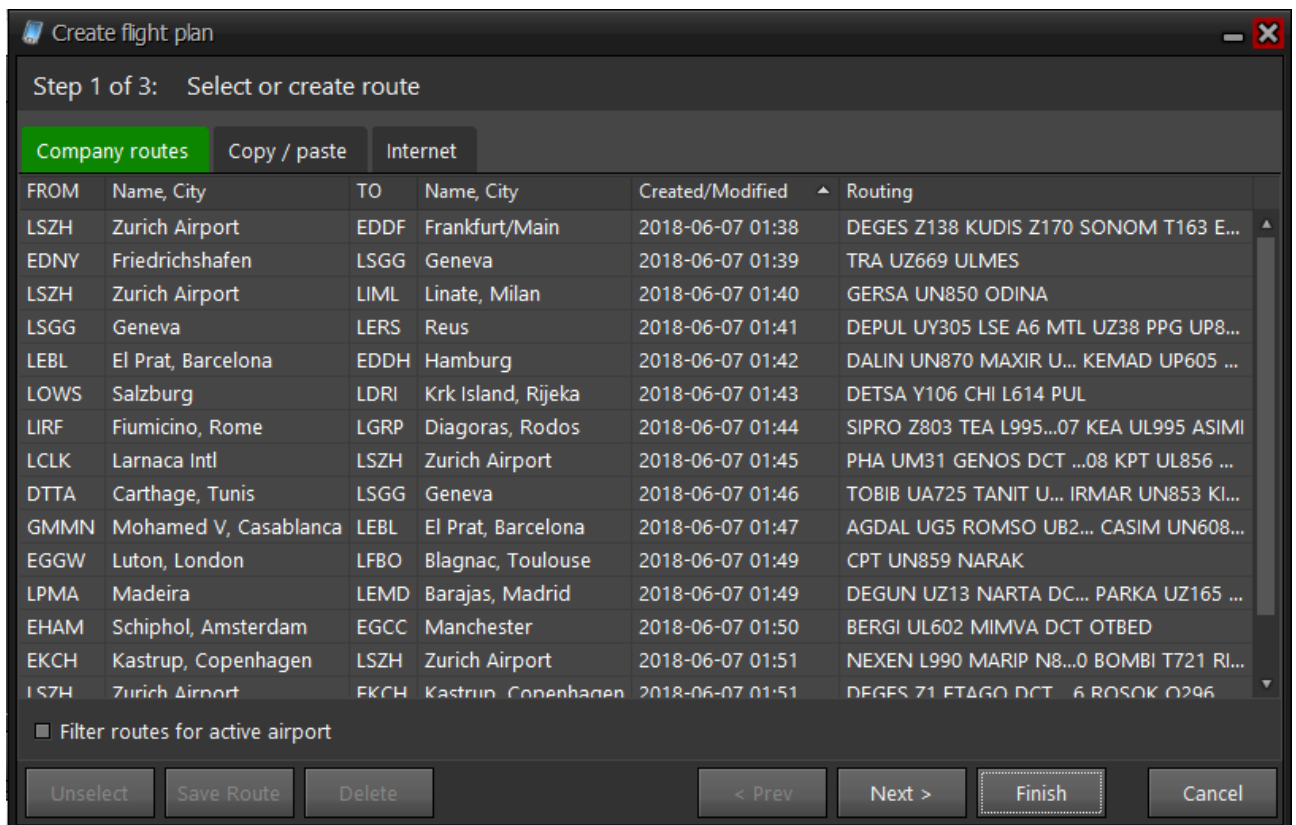
Keeping this **recommendation** in mind will help to avoid a considerable amount of trouble in your Flightplan handling.

2 Create a Flightplan

There is a fundamental difference between two Flightplan types: Before flight, planning from airport to airport along a defined route, and inflight from the actual position to a specific airport. To create a Flightplan for the first variant the aircraft needs to be on ground at creation of the Flightplan.

2.1 Load an existing Flightplan

The easiest and quickest way is of course opening an already existing and previously saved routing. For that you select "**FPL**" from the Main Functions. This opens the (at this time still empty) Flightplan window and on top of that the Creation Window. From here you select the tab "**Company Routes**".



FROM	Name, City	TO	Name, City	Created/Modified	Routing
LSZH	Zurich Airport	EDDF	Frankfurt/Main	2018-06-07 01:38	DEGES Z138 KUDIS Z170 SONOM T163 E...
EDNY	Friedrichshafen	LSGG	Geneva	2018-06-07 01:39	TRA UZ669 ULMES
LSZH	Zurich Airport	LIML	Linate, Milan	2018-06-07 01:40	GERSA UN850 ODINA
LSGG	Geneva	LERS	Reus	2018-06-07 01:41	DEPUL UY305 LSE A6 MTL UZ38 PPG UP8...
LEBL	El Prat, Barcelona	EDDH	Hamburg	2018-06-07 01:42	DALIN UN870 MAXIR U... KEMAD UP605 ...
LOWS	Salzburg	LDRI	Krk Island, Rijeka	2018-06-07 01:43	DETSA Y106 CHI L614 PUL
LIRF	Fiumicino, Rome	LGRP	Diagoras, Rodos	2018-06-07 01:44	SIPRO Z803 TEA L995...07 KEA UL995 ASIMI
LCLK	Larnaca Intl	LSZH	Zurich Airport	2018-06-07 01:45	PHA UM31 GENOS DCT ...08 KPT UL856 ...
DTTA	Carthage, Tunis	LSGG	Geneva	2018-06-07 01:46	TOBIB UA725 TANIT U... IRMAR UN853 KI...
GMMN	Mohamed V, Casablanca	LEBL	El Prat, Barcelona	2018-06-07 01:47	AGDAL UG5 ROMSO UB2... CASIM UN608...
EGGW	Luton, London	LFBO	Blagnac, Toulouse	2018-06-07 01:49	CPT UN859 NARAK
LPMA	Madeira	LEMD	Barajas, Madrid	2018-06-07 01:49	DEGUN UZ13 NARTA DC... PARKA UZ165 ...
EHAM	Schiphol, Amsterdam	EGCC	Manchester	2018-06-07 01:50	BERGI UL602 MIMVA DCT OTBED
EKCH	Kastrup, Copenhagen	LSZH	Zurich Airport	2018-06-07 01:51	NEXEN L990 MARIP N8...0 BOMBI T721 RI...
LSZH	Zurich Airport	EKCH	Kastrup, Copenhagen	2018-06-07 01:51	DEGES Z1 FTAGO DCT ...6 BOSOK Q296

☐ Filter routes for active airport

Unselect Save Route Delete < Prev Next > Finish Cancel

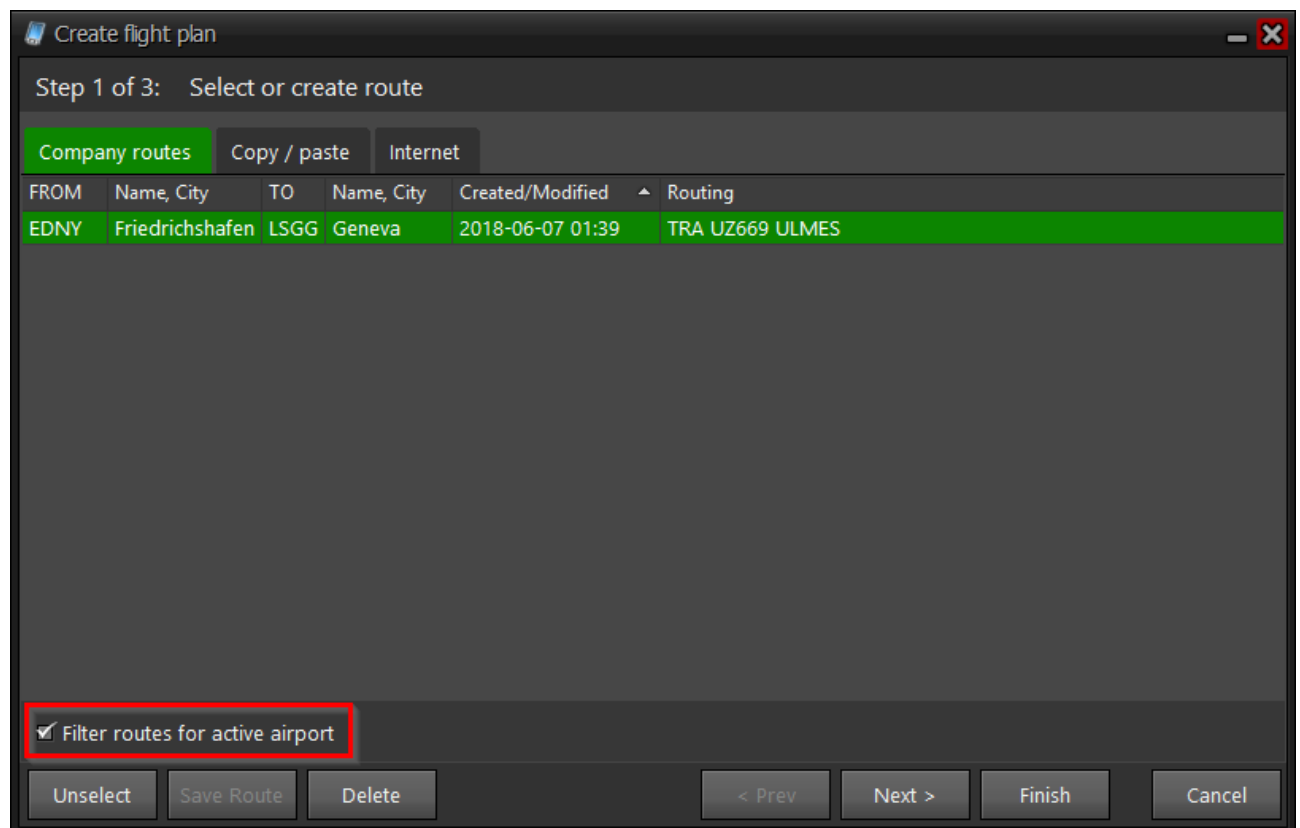
The tab "**Company Routes**" displays a listing of all routings saved to-date in the EFBv2 routing directory. The list is sorted in ascending order of creation data, however by clicking the column title sorting is also available using any other criteria.

The (standard) airport directory's path is as follows:

C:\Users\<username>\Documents\AivlaSoft\EFB2\Client\Routes.

All routes saved by EFBv2 are placed into this directory. Routes saved by PFPX can also be directed there.

In case a considerable number of saved Flightplans has built up in this directory, an additional filtering, marked below with a red rectangle, can be invoked for the Active Airport (EDNY Friedrichshafen in this example).



Mark the required routing and press "**Next**".

Create flight plan

Step 2 of 3: Enter flight plan details

EGLL to EGPK

Route distance

283 NM

Cruise ALT / FL

25000

Callsign

Departure (ETD)

07:56 UTC

Enroute (ETE)

00:00 HH:MM

Fuel (FOB)

00:00 HH:MM

Caution level remaining fuel

150 kg

Aircraft code / WTC *

/

Equipment

Flight rules

☒ IFR
 ☐ VFR

* = Aircraft wake turbulence category

< Prev

Next >

Finish

Cancel

Entries on this page are more or less optional and are only used to complete the Flight Log. For Online Flights however a few inputs for specific field are required.

One exception to the above however is the field "Cruise ALT/FL". Here the system will preset a value derived from the respective Aircraft Profile (see Profiles Editor, TAB FPL DEP/APP) for the planned routing distance. Nevertheless the Cruise Altitude can be set to your liking. If you input a 3-digit figure, it will be interpreted as a Flight Level (FL).

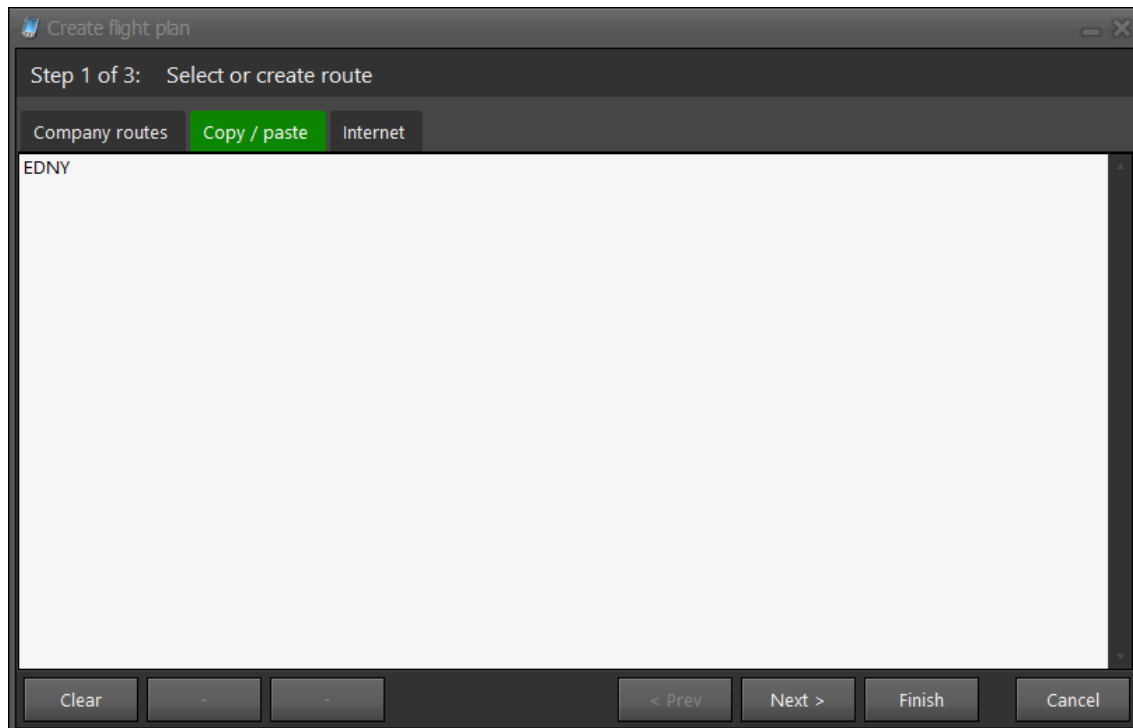
This completes all necessary steps and the Flightplan can be terminated by the **"Finish"** button.

The third step after pressing **"Next"** again can usually be skipped. It only concerns the functions **"Save Flightplan"** and **"Exporters"**. See the detailed description for "save Flightplan" and "Exporters" later in this document.

2.2 Create a Flightplan manually

2.2.1 Using the Creation Window

After opening the Creation Window select the tab "**Copy/Paste**". This opens the manual mode which offers a series of possibilities.




At this stage the input field only contains the ICAO of the Active (Takeoff-) Airport. You have the following options:

- Enter the destination airport. Just enter the ICAO code of the desired airport
- Enter waypoints and navaids between the two airports
- Enter airways. This requires a specific order of items: Waypoint Airway Waypoint ..., e.g. a route to LSGG Geneva would be entered as: **TRA UZ669 ULMES**

Important:

Do **not** use any special characters. Always use the **[space]** sign as a separator between the text items.

To complete our example, enter "LSGG" as the destination airport and click "**Next**". In the second step enter the desired Cruise Altitude or leave the value as already proposed by EFBv2. Complete your entry by clicking "**Finish**". You have now created a very simple Flightplan (in this example from EDNY Friedrichshafen to LSGG Geneva Cointrin.)

 Flight plan: EDNY to LSGG

AWY	WPT	Freq	TRK [°M]	DIST [NM]	DIST rmng	Position	ALT [ft]	WndSpd [KTS]
	EDNY				163.8	N47°40.3', E009°30.7'		
	LSGG		237	163.8		N46°14.3', E006°06.6'		

EDNY LSGG

Flight plan

Waypoint

Create FPL

Save FPL

Clear FPL

Adj CRZ ALT

15000

Enter

Insert

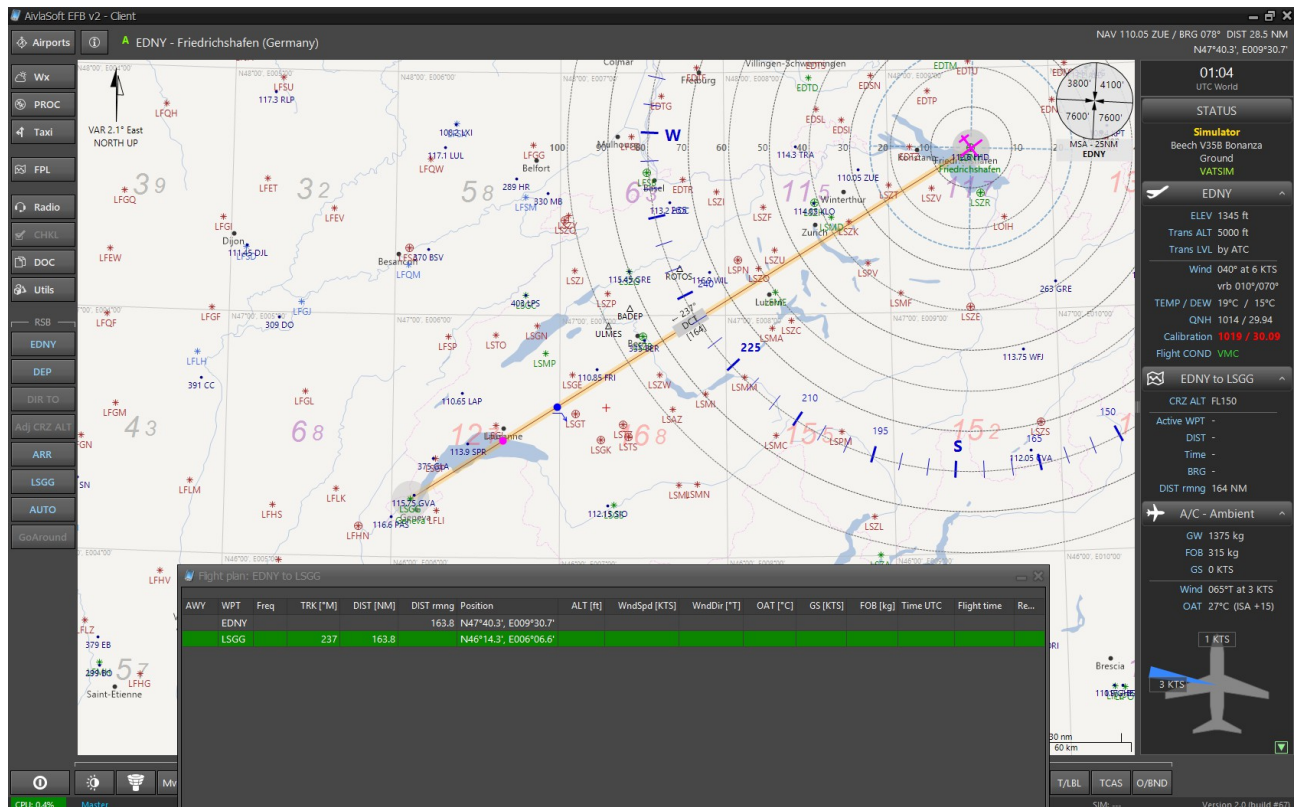
Remove

Of course still the routing with all waypoint is still missing.

The following description to create a routing is more suitable for VFR flights, if you want to create your own route without sticking to fixed airways and waypoints.

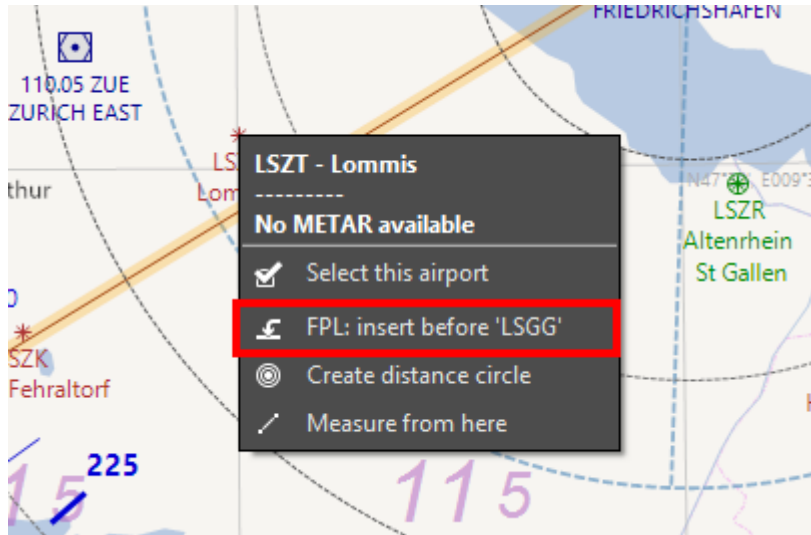
2.2.2 Routing directly from the World Map

EFBv2 allow you to create a random route directly from the World Map. Move the Flightplan Window towards the bottom and fit the flight route into the map window by zooming and dragging with the mouse. Now select the destination airport in the Flightplan Window. This should look now like in the following screenshot:



Now start selecting any waypoints along your planned route. This may be airports, nav aids, waypoints (not shown on this map for a better overview), but also arbitrary waypoints outside any fixed definition.

Selection can be done by right clicking a **selected point or object respectively** (LSZT Lommis airfield in this example). This will open a so-called **context menu**:

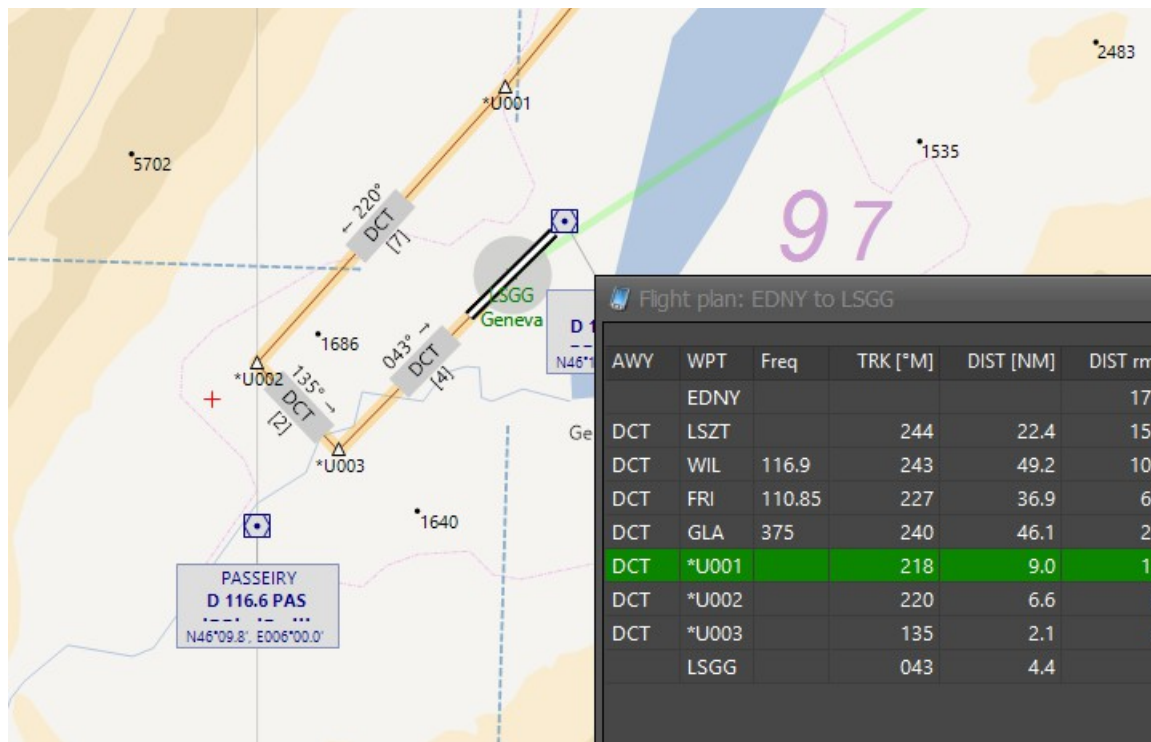


Select the option "FPL: insert before LSGG". This will insert the airport LSZT as a waypoint into the Flightplan and close the menu.

As all new entries are inserted **above the marked line in the Flightplan**, just continue towards your destination airport and insert all required waypoints.

The following picture shows three arbitrary waypoints, so-called "Custom Waypoints" inserted into the Flightplan. They are numbered in the order of their creation and named "*UXXX" where XXX is a consecutive number.

These Custom Waypoints have one special, unique property: they can be moved around freely, even during an active flight.



2.2.3 Routing from a Routingstring or from an ATC-Flightplan

For this method we use the same input window as for manual input. However instead of manually entering waypoint after waypoint, we use a so-called "Flightplan String", as it might be downloaded from a web based flight planning utility like <https://flightplandatabase.com/> or similar.

Such a Flightplan String might look like as follows (flight from LOWS Salzburg to EGLL London Heathrow):

LOWS SIMBA Y700 NENUM UZ39 GONBA UL610 BATTY UL608 SASKI EGLL

Alternatively also an ICAO Flightplan in ATC format (as it might be generated by PFPX) can be copied into this field (here for a flight from LSZH to EDDH):

**(FPL-HBOWC-IN
-A320/M-SDE1FGHIJ1RWXYZ/LB1
-LSZH1105
-N0451F360 DEGES Z1 ETAGO DCT HAREM UN851 KEMAD UP605 NOLGO
-EDDH0111 ETHS
-PBN/A1B1C1D1L1O1S1 NAV/RNVD1E2A1 DOF/180608 REG/HBOWC
EET/EDMM0011 EDUU0012 EDVV0041
EDWW0056 RVR/75 PER/C
-E/0202)**

Copy one of the mentioned texts into the input field and press the **"Next"** button. EFBv2 immediately starts analysing the text and will present a warning if errors are detected. In practice you will very quickly recognise the problems arising by outdated navigation data or not identical data between text and EFBv2 database. An invalid routing text cannot be loaded! If no error occurs, continue with the creation process by moving ahead to the second page to enter or alter the desired cruise altitude. When all is completed, press the **"Finish"** button.

Formatting of the Routing String and the ATC Flightplan must be strictly adhered to.

Attention!

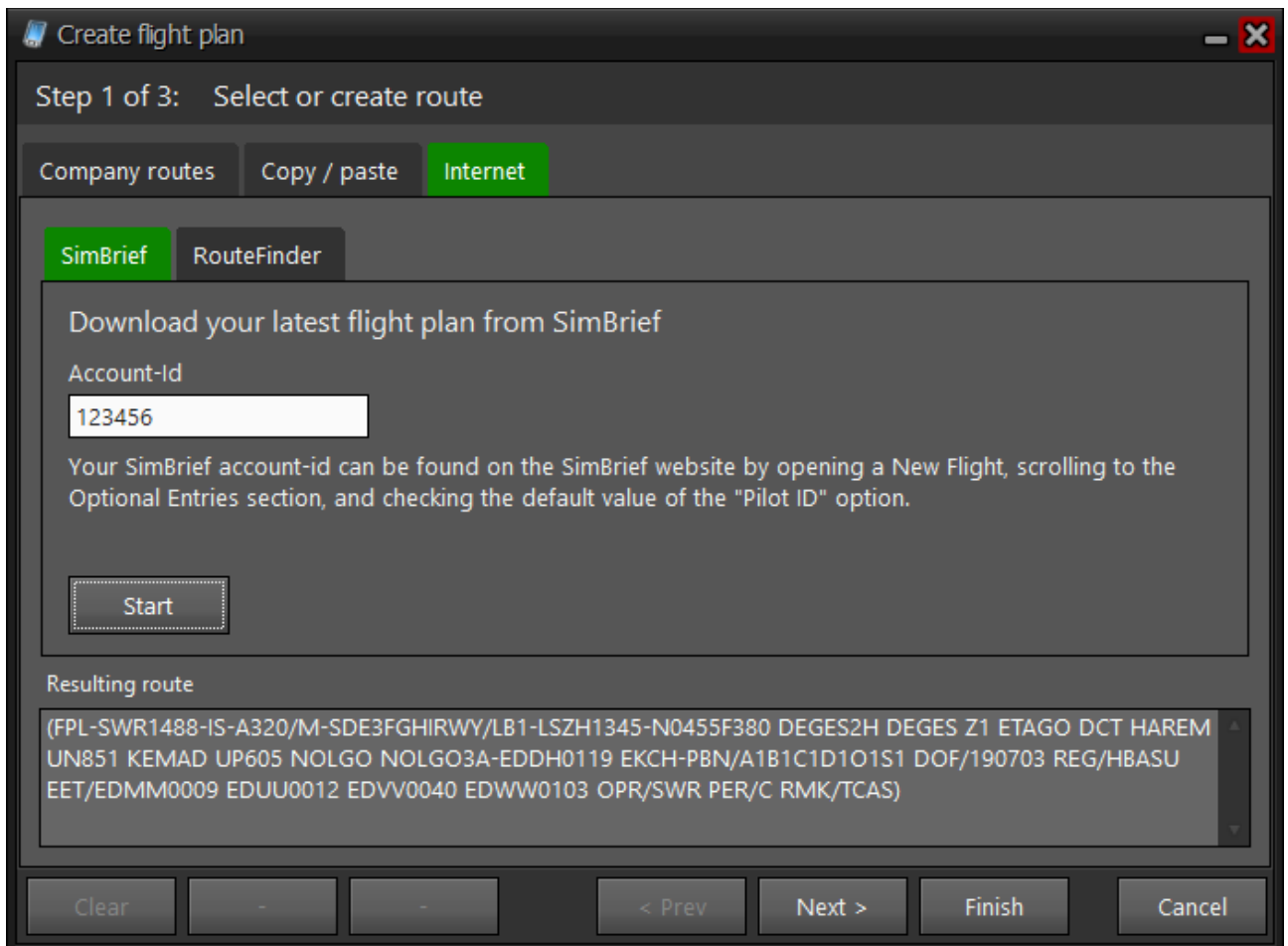
Using one of these text formats is a pretty delicate procedure, if the origin of the text parts is not known. As long as the AIRAC Cycle used for creation is unknown, the danger is imminent that the text is incorrect and thus rejected as invalid. A much better and reliable method is using a planning tool with identical AIRAC Cycle data as used by EFBv2.

2.2.4 Get Routing from Internet

SimBrief

If you are a registered user with SimBrief (<https://www.simbrief.com>) you can automatically download your latest flight plan from there into EFB.

To do so, you just have to enter your account-id into the text box and then press the button „Start“. If available, EFB will download your latest flight plan from SimBrief and the resulting route will be displayed as follows:



Create flight plan

Step 1 of 3: Select or create route

Company routes Copy / paste Internet

SimBrief RouteFinder

Download your latest flight plan from SimBrief

Account-Id

123456

Your SimBrief account-id can be found on the SimBrief website by opening a New Flight, scrolling to the Optional Entries section, and checking the default value of the "Pilot ID" option.

Start

Resulting route

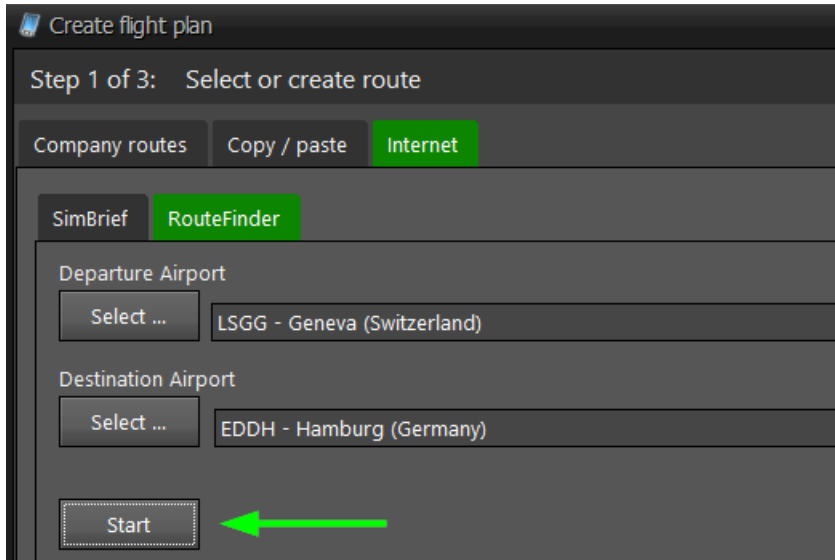
(FPL-SWR1488-IS-A320/M-SDE3FGHIRWY/LB1-LSZH1345-N0455F380 DEGES2H DEGES Z1 ETAGO DCT HAREM UN851 KEMAD UP605 NOLGO NOLGO3A-EDDH0119 EKCH-PBN/A1B1C1D1O1S1 DOF/190703 REG/HBASU EET/EDMM0009 EDUU0012 EDVV0040 EDWW0103 OPR/SWR PER/C RMK/TCAS)

Clear - - < Prev Next > Finish Cancel

As previously described in this manual, proceed with either „Next“ or „Finish“.

RouteFinder

Kind of an alternative for the Routing String method is provided by the website „RouteFinder“. First thing to do is to select the Departure Airport and the Destination Airport.



Create flight plan

Step 1 of 3: Select or create route

Company routes Copy / paste Internet

SimBrief RouteFinder

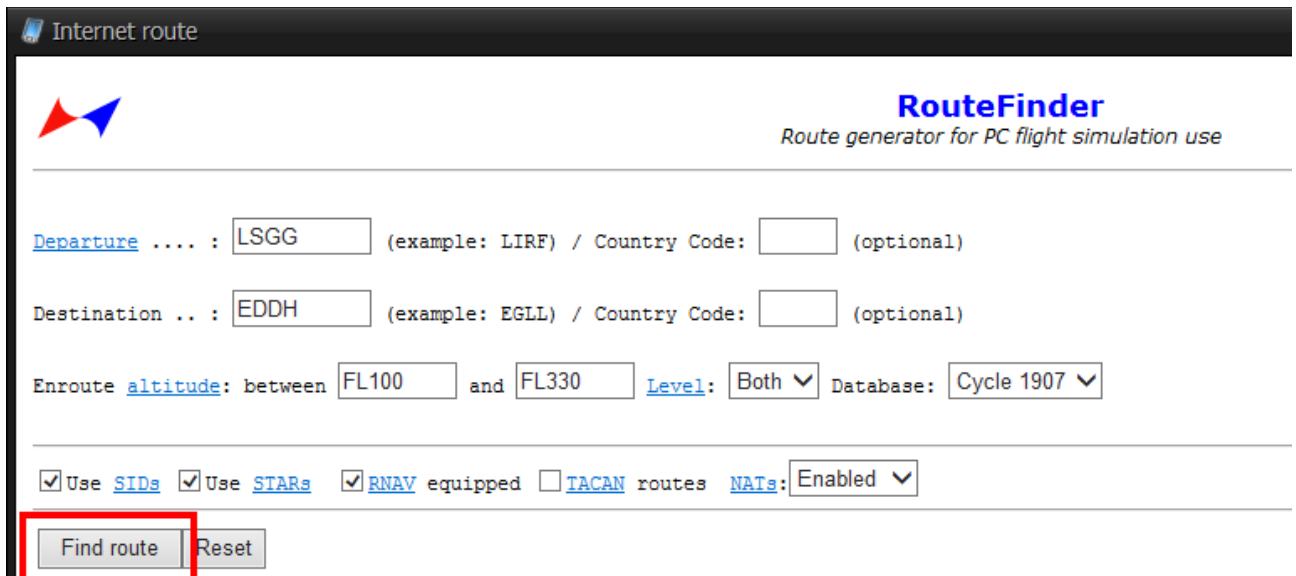
Departure Airport
Select ... LSGG - Geneva (Switzerland)

Destination Airport
Select ... EDDH - Hamburg (Germany)


Start

Afterwards the button "**Start**" calls the respective website and transfers the selected data.

Under normal circumstances no additional inputs are necessary the search can be initiated by pressing the "**Find route**" key on the **Website** (red rectangle on the next picture below).



Internet route

 **RouteFinder**
Route generator for PC flight simulation use

Departure : LSGG (example: LIRF) / Country Code: (optional)

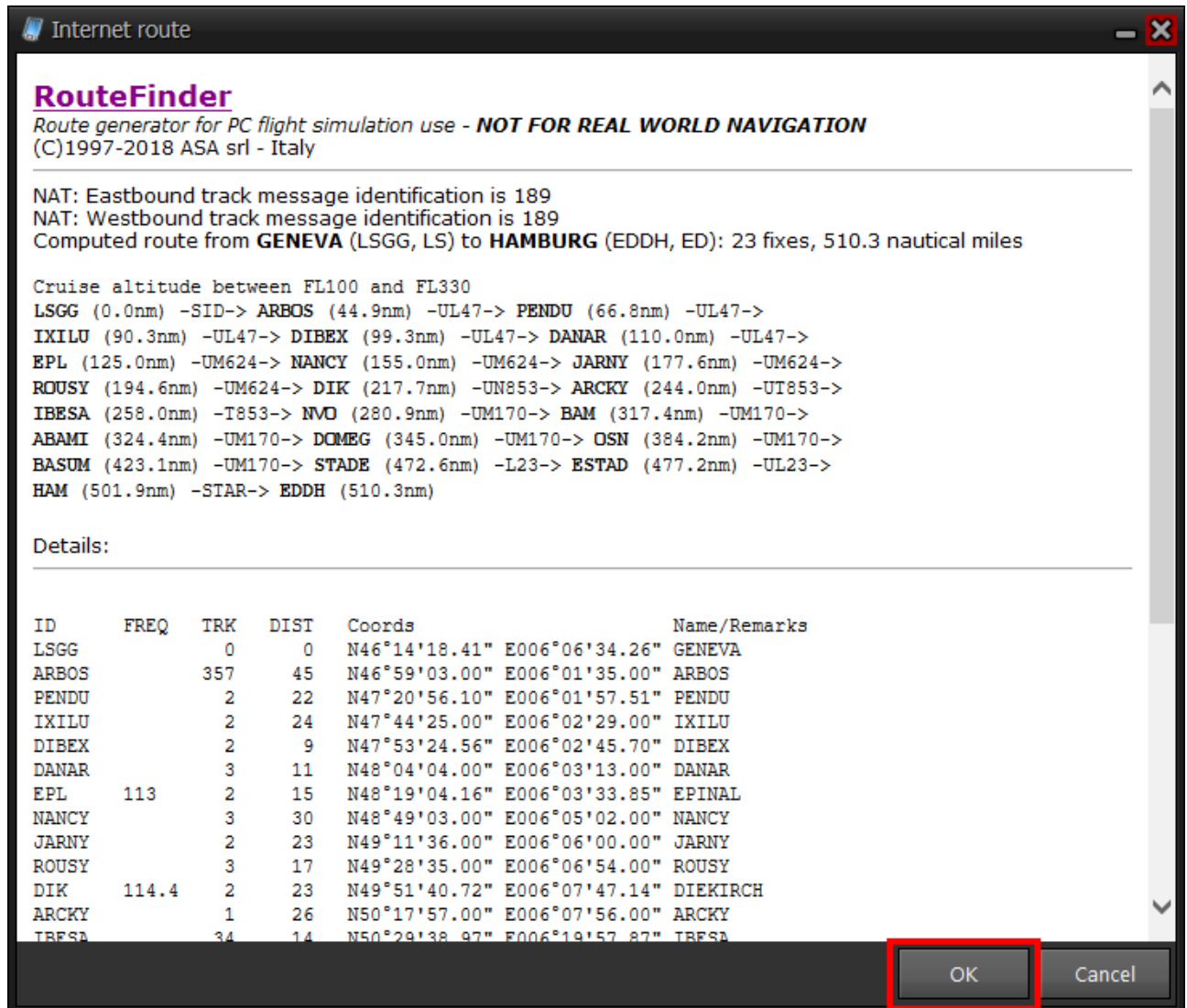
Destination .. : EDDH (example: EGLL) / Country Code: (optional)

Enroute altitude: between FL100 and FL330 Level: Both Database: Cycle 1907

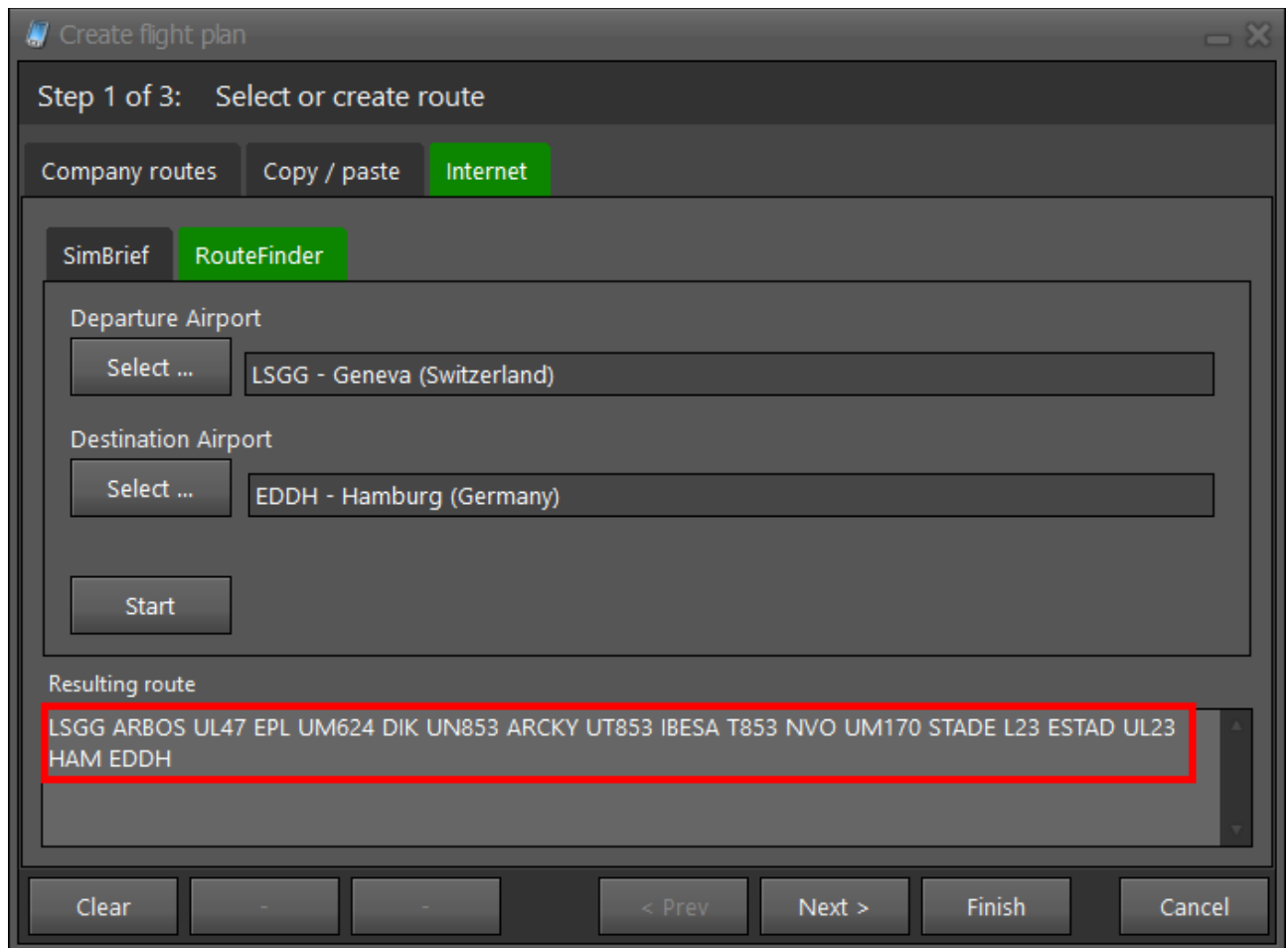
☒ Use SIDs ☒ Use STARs ☒ RNAV equipped ☐ TACAN routes NATs: Enabled

Find route Reset

As soon as a route was found by RouteFinder, it can be confirmed by pressing the "Ok" button.



The internet window will be closed and the Routing String of the created routing will be transferred into EFBv2 (shown in the red rectangle).



Completion of the routing on the second page is equal to the procedures described before and you can complete the Flightplan.

Important!

A few words to the worldwide „Organized Track-Systems“ **NAT** (North Atlantic Tracks), **PACOT** (Pacific Organized Tracks) and **AUSOT** (Australian Organized Tracks).

These systems can of course also be used and displayed any time in EFBv2 (User Settings/Global OTS must be activated). It is however important to know that these OTS are used in a very tight and limited time frame. Planning a flight on day X may be already obsolete the next day as the planned track is not valid any more! Such planning is only possible if the flight is executed within the time window of the selected track. Everything else will lead to error messages.

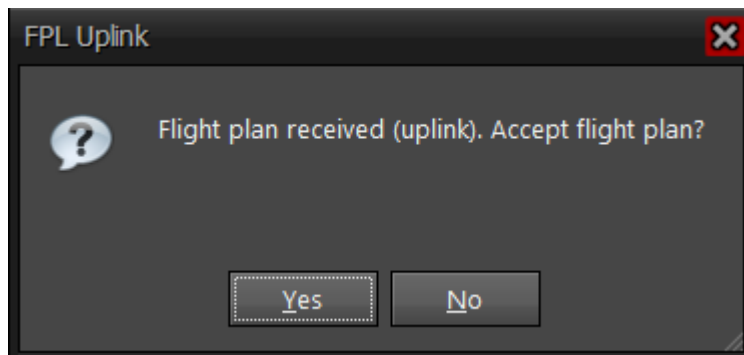
2.3 Flightplan via Uplink

There is one more procedure to transfer routes into EFBv2: The Uplink. This is a dedicated directory in the Client's and/or in the Server's data path, which is empty under normal circumstances.

The standard path is:

- C:\Users\<username>\Documents\AivlaSoft\EFB2\Client\Uplink
- C:\Users\<username>\Documents\AivlaSoft\EFB2\Server\Uplink

As soon as a text file is recognised within one of these directories, EFBv2 shows the following note and asks for confirmation to read this Flightplan.



By pressing "**Yes**" EFBv2 will immediately start analysing the text file. If a routing is recognised in a valid format, the Flightplan is created without further action.

Conditions

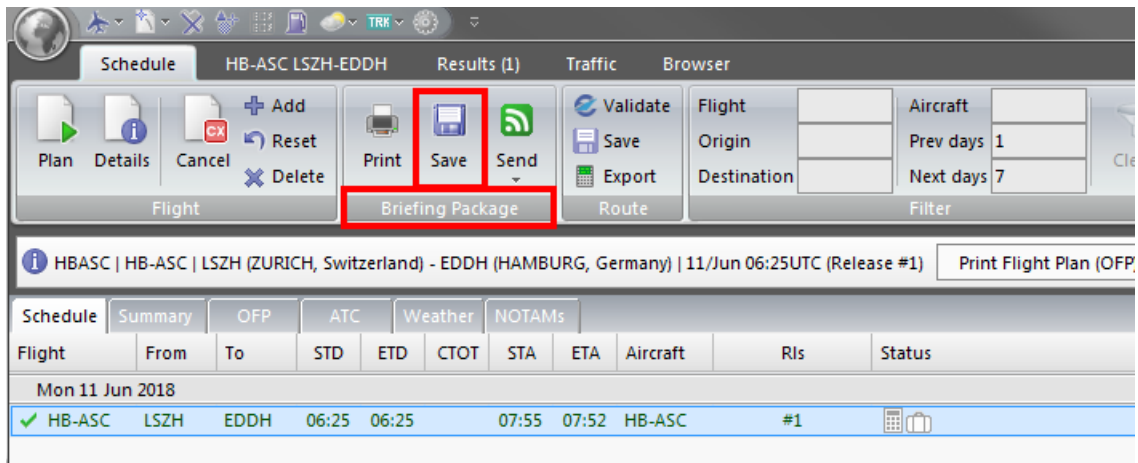
Following conditions must be fulfilled to make the "Uplink" work:

- EFBv2 must be running
- Aircraft position must be on ground
- permitted file suffixes must be either "**TXT**" or "**PLN**"
- The content of the file must correspond to one of the formats listed below

Allowed formats

Following formats are allowed within the text file:

- **PFPX OFP** (Operational Flight Plan)
The Flightplan must be released. Therefore the menu "Briefing Package" and the "Save" key must be activated. Save the OFP into the Uplink directory by pressing the "Save" key.



- **Routing String in TXT Format** z.B.
LSZH DEGES N871 MADEB M738 ADOSA KOPER LAREN LIPZ
- **ATC-Flugplan in TXT Format**, z.B.
(FPL-HBOWC-IN
A320/M-SDE1FGHIJ1RWXYZ/LB1
-LSZH1105
-N0451F360 DEGES Z1 ETAGO DCT HAREM UN851 KEMAD UP605 NOLGO
-EDDH0111 ETHS
-PBN/A1B1C1D1L1O1S1 NAV/RNVD1E2A1 DOF/180608 REG/HBOWC
EET/EDMM0011 EDUU0012 EDVV0041
EDWW0056 RVR/75 PER/C
-E/0202)
- **Flightplan in PLN Format**
Any Flightplan created in FS9, FSX or P3D

2.4 Inflight Flightplan

An IFR flight must not necessarily originate on ground. In EFBv2 you enjoy a leisure VFR flight. Whenever weather conditions deteriorate or other unpleasant conditions come up to prevent continuation of your trip, EFBv2 can be of sophisticated help in this situation. Another possibility could be that you might want to do some IFR training on a nearby airport. All this is no problem with EFBv2.

Open the Flightplan window as usual with the Main Function "**FPL**". As there is no active Flightplan yet, the Creation Window will be opened with the tab "Copy/Paste" active. Instead of an ICAO code you will see an entry reading "**PPOS**". This is the short form for "**Present POSition**", your actual position. From this moment creation of a flight plan continues exactly the same way as previously described under "2.2 Create a Flightplan manually/2.2.2 Routing directly from the World Map". enter the ICAO code of your planned Destination Airport after PPOS and continue to page 2 by pressing the "**Next**" button.

Attention!

It might be worth spending a few thoughts about the planned route and the necessary cruise altitude. The cruise altitude on page 2 will in this case be your actual flight altitude. Depending on whether you are still in climb or just flying at low altitude, a warning may be triggered, as calculation of a descent profile may not be possible from this altitude. It is equally possible that a warning is triggered, if an altitude restriction of a selected approach procedure is higher than the the chosen cruise altitude.

Continue now entering the desired route manually. After pressing "**Finish**" the Flightplan is created and it will be shown on the World Map.

Of course you now wish to use the lateral NAV function of the Autopilot, but you notice that your actual position has considerably changed against the initial PPOS fixed at the beginning of the Creation Process. To update your position for proper GPS and Flightplan tracking, it is recommended to use the "Direct-to" (button DIR TO on the RSB) function and to select the **next waypoint ahead** in the current Flightplan. Thereafter you are free to use NAV coupling to follow the GPS/GNS Flightplan.

3 Insert Procedures

So far in this document only routings without ISD and STAR were described. This was on purpose as per definition a routing only contains enroute waypoints and nav aids. As a general rule the **first** waypoint in a routing is **the end of a SID** (Standard Instrument Departure) and the **last** waypoint is **the beginning of the STAR** (Standard Terminal Arrival Route).

Attention:

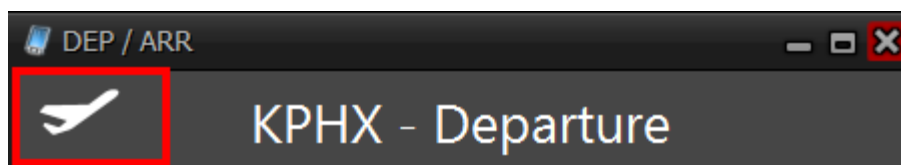
While in European airspace the characteristics mentioned above are valid for a reasonable percentage, this is not the case in FAA controlled airspace. Here is is, due to the completely different ATC structure, rather rare that terminal procedures (SID and STAR) can be "attached" directly to a routing.

Start Simulator and Weather Program

The whole creation process so far could be done without running the Simulator. To complete the Flightplan, i.e. to insert a Departure Route (SID) the **Simulator need to be started and the aircraft placed on the departure airport**. Furthermore if you are using an external weather program, it would be a good moment to start this too. This way you will be able to plan with the proper weather conditions for your future flight.

Open the dialogue window

Open now the "Procedure Window" with the Main Function button "**PROC**".

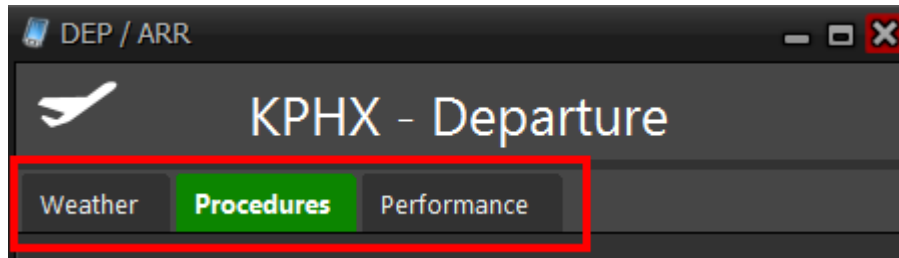


The Procedure Window has two modes, the "Departure" and the "Arrival" mode. Accordingly the Departure Procedures (SID) and the Arrival Procedures (STAR) for the Active Airport will be selected here.

The actually valid mode is recognised by the "climbing" or "descending" aircraft icon on top left and is also displayed in the title next to the ICAO code. To change the mode just click the aircraft icon (framed red here) or press the button labeled "Arrival" at the bottom of the procedure window (which will change the caption accordingly).

The actual mode (Arrival or Departure) is stored for each airport. At first opening the initial mode of the procedure window is always set to "Departure".

The procedure window consists of three areas "Weather", "Procedures" and "Performance", which can be selected by correspondig tabs:



If the procedure window is opened by the Main Function button "**PROC**", it will open in the middle tab "Procedures" area. Alternatively you can open it with the Main Function button "**Wx**". The same procedure window will then open in the "Weather" area which will give you a detailed overview of the weather conditions at the Active Airport. For more information about that read chapter "Weather" in document "5 EN Client".

Select now the optimum runway for the current weather conditions. In the Simulator your choice is free. In "Real Life" usually a certain runway is declared for takeoff, as long as it is suitable for the majority of departure traffic.

Weather	Procedures	Performance	
Runway			
Ident	TORA	QFU	Remarks
26R	2648m	260°	
26L	2543m	260°	
08L	2648m	080°	Out of limits (Wind)
08R	2543m	080°	Out of limits (Wind)

Optimum runways regarding wind are depicted green in the selection window. Runway outside limits are greyed out and carry a respective remark in the right column, nevertheless they can still be selected.

After this short excursion into explanations for proper handling of the procedure windows we will now come back to the original task which is selection and insertion of procedures into an existing Flightplan.

In the present example we will use - as previously described and created - the route from LSZH Zurich to EKCH Copenhagen.

3.1 Departures

We will now open the SID window by either using Main Functions "PROC" or "Wx" method to open the window.

As we have already created a routing, the "**Routing Shortcut Bar**" (RSB) is available and we can also use its button "**DEP**" to directly open the Departure (SID) Window.

We now select the "Departure" mode and a list with all available runways at our departure airport LSZH will be opened. We will select runway 28 for departure.

As soon as a runway is selected, the available departure procedures for this runway are filtered. Check now the first waypoint in our routing. This will be **DEGES**. As already mentioned, in most cases a SID with a matching designator will be available. In our case it will be **DEGE2W**.

the departure route will now be calculated from the installed AIRAC data and presented immediately in the World Map window of EFBv2. Zoom in to the airport to have a clear overview to the selected departure Procedure. You will see the following picture:



The SID **DEGE2W** is depicted exactly the way it will later be followed by the aircraft. The connecting line between the departure airport and the waypoint **DEGES** indicates that the SID is "only" momentarily displayed but not yet added to the Flightplan.

Immediate depiction of procedures is one of the key features of EFBv2. While in this example it is quite simple and clear to find a SID matching the routing, it may be more complex on other airports. EFBv2 allows you to show all available procedures at any time until a match is found. This is a much simpler method than thumbing through a collection of departure procedures.

Tip

We would like to encourage you to experiment with the methods offered. Go through all available procedures and have a look at other possible matches to get accustomed to the way of selecting procedures in EFBv2. No matter whether you are working with SIDs or STARs, the basic concept remains the same.

As soon as you have found the matching SID for your routing, click the "**Set FPL**" button at the lower area of the procedure window. This will transfer all waypoints of the SID into the Flightplan and the connecting line between airport and the first routing waypoint DEGES will be deleted.

3.2 Arrivals

More or less everything that has been said about departures in the previous chapter is also valid for arrivals.

Again we have various options to open the arrival window and again we will use the simplest way by just clicking the "**ARR**" button of the RSB. Now the arrival airport has shifted into the centre of the World Map and the procedure window shows all available arrival procedures. We will now select an ILS approach to runway 22L.

You can either select **runway 22L** in the upper part of the window and subsequently the ILS approach, or **directly ILS 22L** in the lower area. The results are identical.

If you zoom in to the World Map, you will see the "**ILS feather**" displayed and in addition the vertical profile for the ILS approach has opened. Selection of a STAR is a bit more complex because we have to differentiate between **Final** (ILS 22L), **Approach Transition** (VIA), **STAR** and at times also **STAR transitions** (mainly but not exclusively in the USA).

Ident	LDA	CAT / QFU	Freq/Ident/CRS	VFR Pat
22L	3296m	CAT III	109.5 OXS, CRS 217°	1000 ft
<div><div></div><div></div></div>				
Approach				
ILS 22L IF22L AT 3000 ft				
Via				
KAS	KAS 112.5 – IF22L			
STAR				
Ident	From → To	Type	DIR FROM	E...
ALM1F	ALM → Vectors		East	
ALM3N	ALM → IF22L		East	
MONA1N	MONAK – IF22L		South	
MONA2F	MONAK → Vectors		South	
SVD1F	SVD → Vectors		North	
SVD3N	SVD → IF22L		North	
TESP1N	TESPI → IF22L		West	
TESP2F	TESPI → Vectors		West	
TUDL1N	TUDLO → IF22L		West	
TUDL2F	TUDLO → Vectors		West	

Please note that in "Real Life" of course you won't need to find a fitting SID or STAR from all possible combinations. It will be assigned to your flight by ATC. In the Simulator however this is only the case if you fly in an Online-network. If not, you're free to experiment as much as you like.

Remarks

A few final remarks to the whole complex of selecting departure and arrival routes. It requires some practice to properly select SIDs and STARs for a given routing. It is worth playing around - especially at the beginning of your work with EFBv2 - and trying to fathom the various possibilities. To do this it's not necessary to create a Flightplan each time. It is completely sufficient to activate the airport of your choice (select through "Airports") and then start experimenting with SIDs and STARs. You will notice very soon that there are many cases where neither a SID nor a STAR will be a proper match.

Important:

Even if you don't find connecting procedures (or maybe a SID or STAR ending with a vector), in EFBv2 waypoints have to be **stringed together**. Things like "**FPLAN DISCONTINUITY**" as known from sophisticated FMC, **do not exist** in EFBv2.

One of the main reasons is that an EFBv2 Flightplan needs to be formatted for transfer into the **standard GPS/GNS** of FS0/FSX/P3D. In this format no interruptions are allowed. All waypoints are stringed together. This will also be the case after a vector. It will of course be shown, however the routing just continues to the next waypoint.

But you will of course continue in **HDG hold mode** after passing a vector and find your own way (maybe using DCT-TO) within the SID or STAR, won't you?

4 Flightplan changes

A Flightplan can always be changed. There are a few very simple, almost self-explanatory functions available for that.

4.1 Delete Waypoints

This doesn't need additional explanations. Just **select** one of the waypoints in the Flightplan and press the "**Remove**" button. That's all. There are not many limits for removal except for the first and last entry, the departure and the arrival airport.

4.2 Insert Waypoints

This doesn't require too much explanation either. Most important to know is **what kind** of points can be inserted into the Flightplan and **where** are they inserted. The first question is quickly answered: There are **no limits** for any points from the navigation database. All nav aids, Waypoints and airports can be inserted, **even** inserting **custom waypoints** is always possible.

Before you start adding new waypoints into the routing, the insertion point needs to be defined. As mentioned earlier in this Guide, simply open the Flightplan Window (use "FPL" if not already open) and select the waypoint, where you want the new point to be inserted **before**. As soon as the insertion point is selected (waypoint **highlighted green**), you can start adding new waypoints.

For airports, nav aids and waypoints after clicking the "**Insert**" button a selection window will open. All mentioned items can be searched by ICAO code or name.

Insert Waypoint

Ident
Name

EKRJ

Found nav aids

EKRIT	Fix DIST 13.4 NM	N47°40.7', E008°35.8'
EKRJK	Fix DIST 293.5 NM	N50°31.0', E002°45.4'
EKRIV	Fix DIST 431.9 NM	N52°09.0', E017°01.9'
EKRIS	Fix DIST 805.2 NM	N39°00.0', W005°46.9'
EKRIN	Fix DIST 1094.0 NM	N65°29.5', E013°24.7'

NAV
ARPT
FIX
OK
Cancel

By default all categories are enabled (NAV, ARPT, FIX), however they can of course also be deactivated any time. Whenever a selection is made, just activate the required item by a mouse click and transfer it to the Flightplan by the "**OK**" button. Alternatively a double click will transfer the selected item directly.

Apart from this Dialogue Window any arbitrary points can be inserted to the Flightplan using the Context Menu as described under "2.2 Create a Flightplan manually".

Synchronising the map center to waypoints

The last button in the Flightplan window still needs an explanation: "**Sync Pos**". This is an option button, which means it can be activated/deactivated. If the option is activated, the World Map will, whenever a point in the Flightplan is selected (highlighted green), automatically be centred on this waypoint. This function is meant to serve as a practical means to visually check the Flightplan from top to bottom.

5 Save a Flightplan

A Flightplan can be saved in two ways. Either you use the 3rd page of the Creation Window and click the "**Save Route**" button, you click the "**Save Route**" button at the bottom of the Flightplan window.

There is however a small difference between those two methods. When saving from the 3rd page of the Creation Window, there are no procedures inserted yet as at this stage the Flightplan only consists of the Routing String. If you save from the Flightplan Window, all inserted procedure waypoint are saved too, as those were inserted by the "**Set FPL**" function of each procedure selection page.

The second method however (from the Flightplan Window) creates a dilemma, as basically a **Routing does not contain** any procedure waypoints. So, why nonetheless **storing** the procedure **waypoints** is this case?

Storing of the Procedure Waypoint however has a specific reason: Routings which are stored in EFBv2's **native format** can be loaded even if the ARINC database is **outdated** and some of the Routing's waypoints do not match the database.

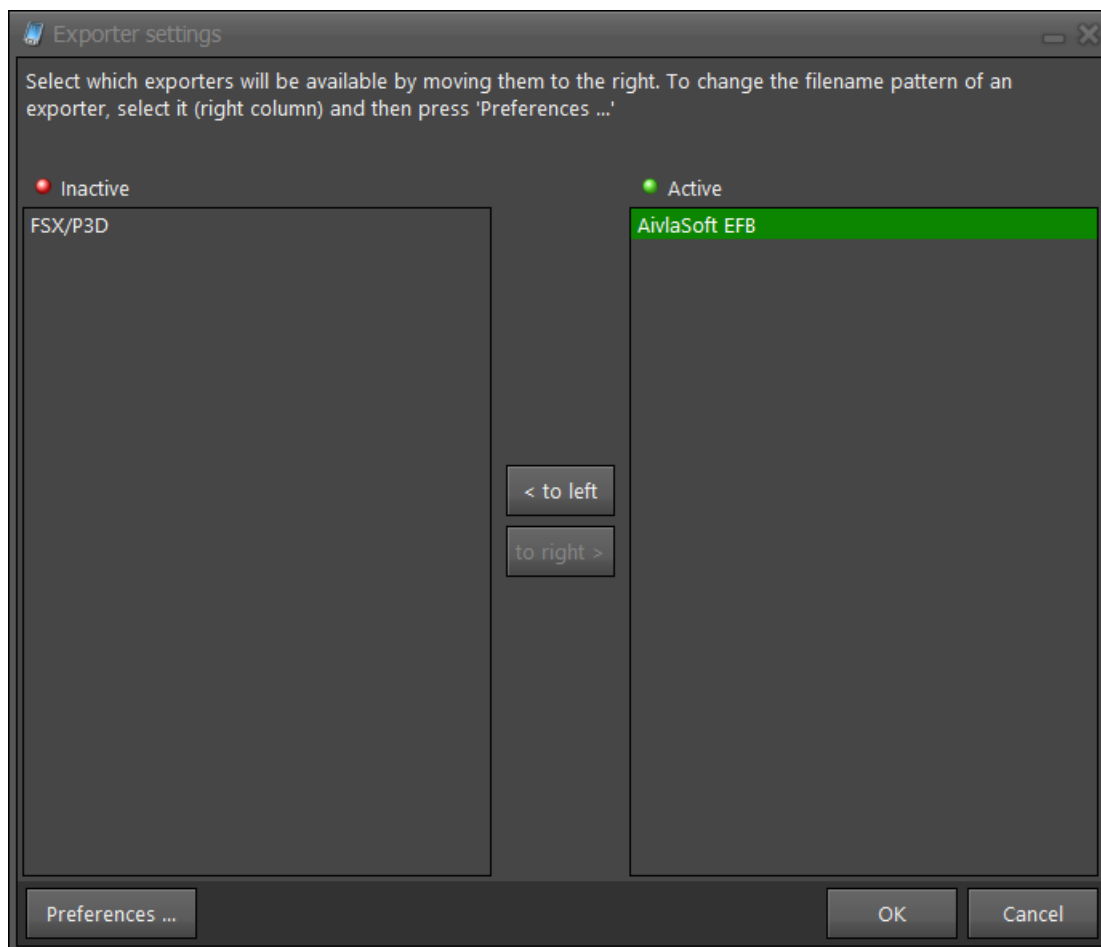
In this case a **native EFBv2 Routing** will nevertheless be **loaded**. This can be recognised by an **asterisk (*)** placed **ahead** of each waypoint's name. In this case (and only in this case) also **Procedure Waypoints are loaded**. However the SIDs and STARs are no longer depicted as such. They are just drawn from **point to point**.

The Storage path is indicated prior to storing. Read also the following chapter "Exporters".

5.1 Exporters

EFBv2 offers so-called "Exporters" to save Flightplans at a specific location also in foreign formats. At this time only the exporter for the native EFBv2 (yes, this is also done by an exporter) and for the FSX/P3D format are supplied.

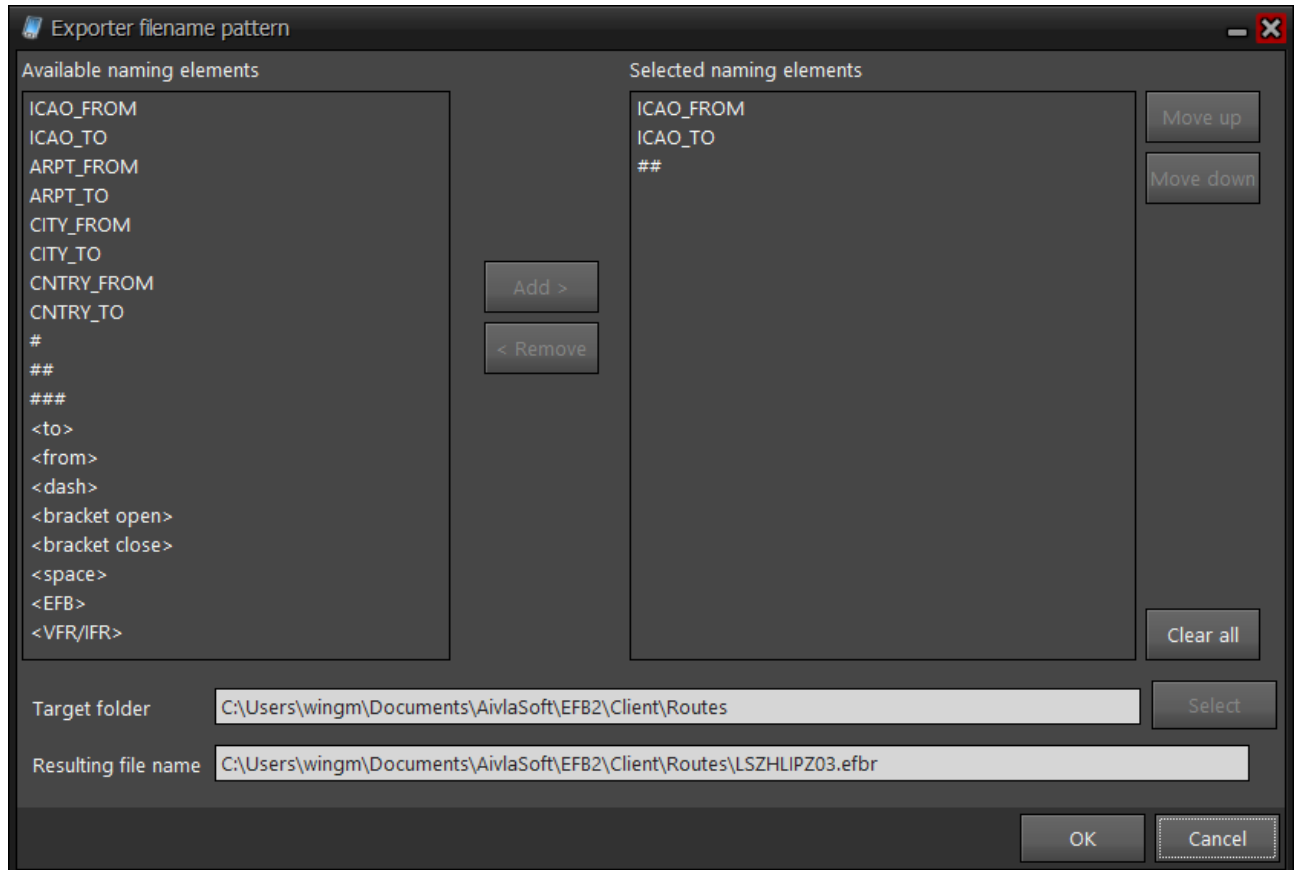
If you click the "**Save FPL**" button, the following dialogue window shows a button "**Exporters...**". Clicking it opens the following window:



In this window you see (in the right hand area) the only **active exporter** „AivlaSoft EFB“. In the previous "**Save FPL**" Dialogue Window all active exporters listed on the right hand side will be shown.

Highlight the **inactive exporter** "FSX/P3D" in the left hand area, **transfer** it into the **right hand area** (the button "**to right>**" will be activated) and confirm with the "**Ok**" button. You will note that now **two** files will be saved at **two different locations**.

Exporters are configurable to a certain extent. Only the name of the exported file can be configured individually. Highlight the required exporter and click the "**Preferences...**" button. This will open the following dialogue window:



You are free to configure the filename according to your requirements by selecting the offered naming elements (left table) and transferring them by the "**Add**" button to the right table. The bottom line always immediately shows the resulting name.

Elements that have been transferred to the right table can be moved by the „**Move up**“ and „**Move down**“ buttons according to your needs. Certain elements from the left table can be used multiple times in the right table (e.g. the "<space>" sign). Other elements are restricted to one time use only (e.g. "ICAO_FROM", the departure airport's ICAO code).

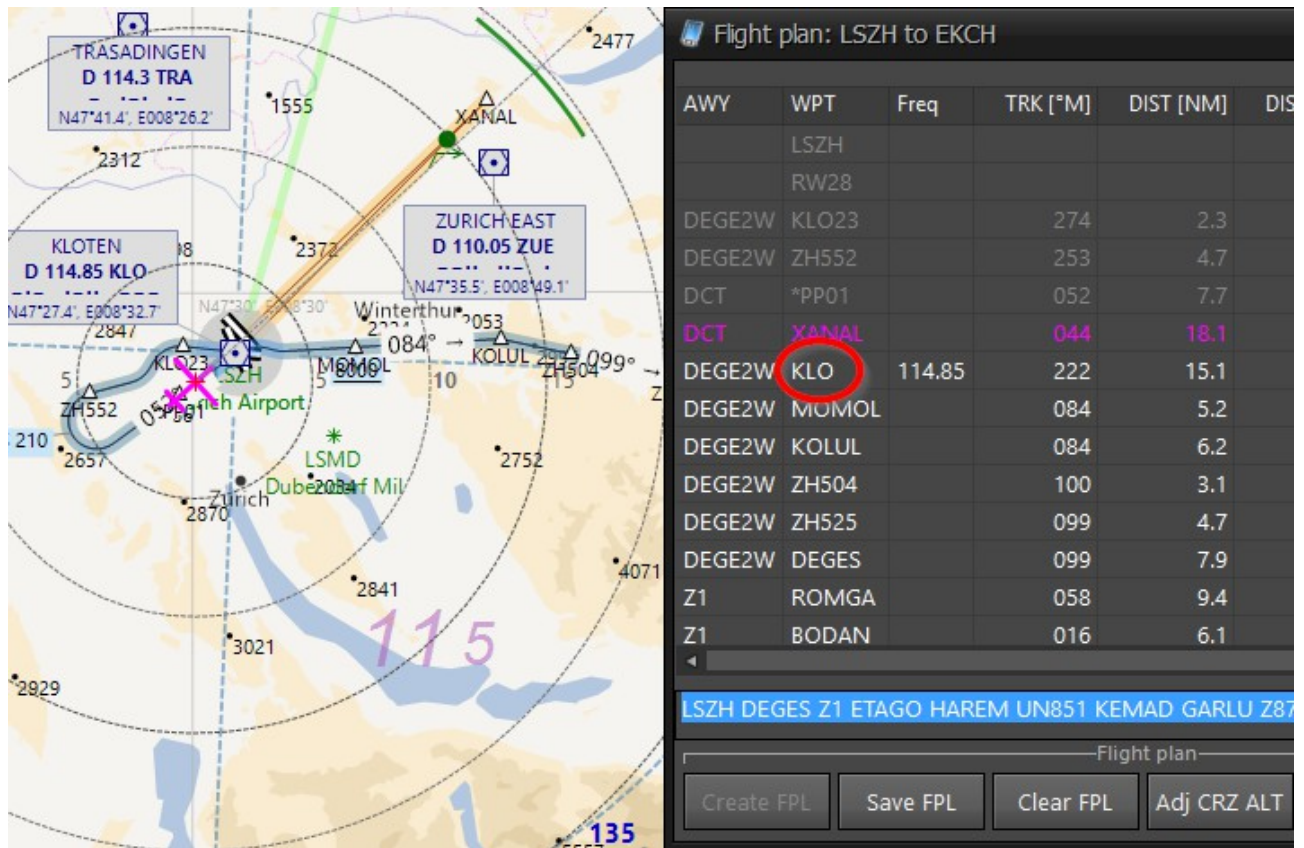
6 Using the Flightplan

If the option „forward flight plan to default GPS“ in the aircraft profile is ticked, the entire Flightplan including all procedures will be transferred into the default GPS/GNS. All changes, be it by inserting a new procedure or by using a "DCT-TO" command Enroute, will be synchronised immediately. This way lateral navigation can easily be left to the (default) autopilot.

The basic idea behind this - and also behind EFBv2 - is of course that it should become possible to use all departure and arrival procedures worldwide on all default aircraft with default GPS/GNS. There is no need for a highly sophisticated FMC whatsoever.

X-Plane

Automatical loading of a flight plan into the X-Plane GPS system is currently not possible. An inquiry to Laminar Research is already sent and we are awaiting their response.



In the above example a "Direct To" to the waypoint "**XANAL**" was inserted.

Attention!

Entering "foreign" waypoints (not contained in the actual routing) will prevent the Flightplan from being cleaned up. In this case either a second "**Direct To**" to a waypoint contained in the routing is executed later to clean up or the supernumerary waypoints, beginning at KLO in this example, must be deleted manually.

This corresponds to the handling of a "Direct To" to a "foreign" waypoint in a **modern FMC**, where in this example a F-PLAN DISCONTINUITY would have been inserted between XANAL and KLO.

Adjust Cruise Altitude

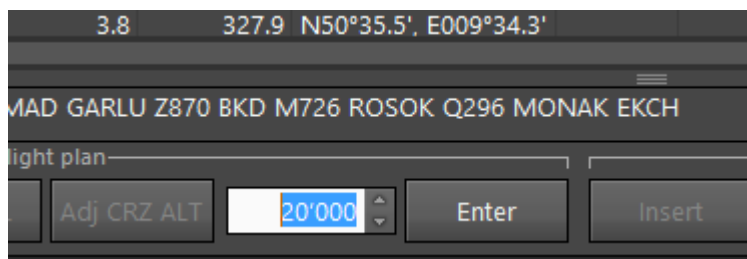
Another manual change in the Flightplan which might be required from time to time, is the **adjustment of the Cruise Altitude**. It may well be that for any reason you cannot use the **planned Cruise Altitude**. Be it that you are flying Online and do not get clearance to the requested Flight Level or you want to **climb over a cloud build up** ahead of your flight path.

This adjustment however is only necessary, if you have activated "**Vertical Guidance**" (see also next chapter "Vertical Guidance"). If "Vertical Guidance" is used, it is **imperative** that you adjust your actual Cruise Altitude. TOD (Top of Descent and thus the whole descent profile) can only be **properly calculated** if the **initial altitude** is correct.

There are two methods to adjust the Cruise Altitude:

1. changing the value in the Flightplan Window
2. Adjusting by the „Adj CRZ ALT“ of the RSB

Flightplan Window



Activate the input field for Cruise Altitude by clicking the „**Adj CRZ ALT**“ button and change the value to the new desired Cruise Altitude. Confirm with "**Enter**". The new Cruise Altitude will be shown immediately on the Sidebar.

Adjustment by RSB

The second method is the more elegant one. Climb to the intended Cruise Altitude. If your final altitude is stabilized, press the „**Adj CRZ ALT**“ button on the **RSB**. This synchronises the actual Cruise Altitude (mathematically rounded to 100 ft).

7 Vertical Guidance

Function and graphic depiction of the Vertical Guidance is described **in detail** in the respective chapter in the User Guide "**5 EN Client.pdf**".

Vertical Guidance and FMC

It must be pointed out however that use of the function „Vertical Guidance“ only makes sense if your aircraft is **not** equipped with a sophisticated FMC.

When using a FMC equipped aircraft the option „Vertical Guidance“ should be deactivated in the Aircraft Profile. An FMC has all necessary information to provide vertical guidance on his own.

Vertical Guidance for “simple” aircraft

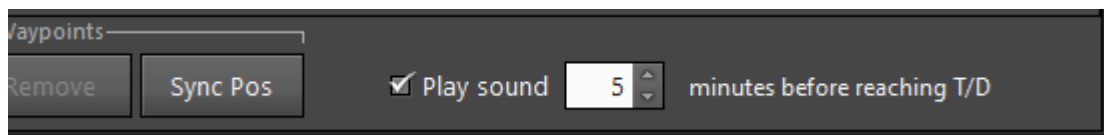
For aircraft of a "simplified" design (usually default aircraft or similar) "vertical Guidance" can be very helpful as it considers **all altitude restrictions** during the whole descent segment, including safety altitudes and ATC (airspace) restrictions, just **like a real FMC**.

Summing up the "Vertical Guidance" the following can be said:

- It is only possible if a **Flightplan is in use**
- in the Aircraft Profile(tab "Options") the function "Vertical Guidance" **must be ticked** and in tab „FPL DEP/ARR“ **reasonable values** for the descent profile must be defined
- Cruise Altitude must correspond **to the actual altitude**, as otherwise no reasonable TOD (Top Of Descent) can be calculated

Play a sound some minutes before reaching T/D

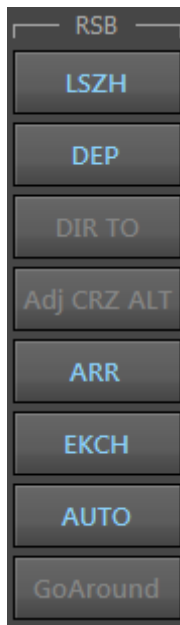
If the Vertical Guidance is activated you can play a sound some minutes before reaching „Top of Descent“. This function and the time frame can be toggled on or off on the flight planning dialog:



These settings will be saved for later use. Before using this function for the very first time, please make sure that you have assigned a sound file to this function in the Client settings.

8 Routing Shortcut Bar (RSB)

The RSB is a handy means, not only during flight, but also in the planning stage. the buttons of the RSB allow direct access to all important elements which need access during planning and while flying. The description can be summed up as follows:



The buttons are arranged in the order

- Departure Airport
- Departure Procedure
- Cruise
- Arrival Procedure
- Destination Airport
- GoAround

and may be deactivated in certain flight phases.

Functions are as follows:

- **Departure Airport** (here LSZH): This function is only active **on ground until liftoff**. It shows the **Departure Airport** in **Ground Map** mode
- **DEP**: opens the Procedure Window in **Departure Mode** for the Departure Airport and changes (if Ground Map is active) automatically to **World Map** mode
- **DIR TO**: open a dialogue window for "Direct-To" shortcuts as described above
- **Adj CRZ LVL**: adjusts the current altitude to **Cruise Altitude**
- **ARR**: Opens the Procedure Window in **Arrival Mode** for the Destination Airport and changes (if Ground Map is active) automatically to **World Map** mode
- **Destination Airport** (here EKCH): shows the **Destination Airport** in **Ground Map** mode
- **AUTO**: the "magic" button restores the **currently active window** including Zoom Level and Moving Map (in case the latter was deactivated)
- **GoAround**: **replaces** the active Flightplan by the (if available) **GoAround Procedure** to allow lateral navigation with autopilot during GoAround. This button is **only active** at a **specific segment** of the final approach

8.1 Go-Around

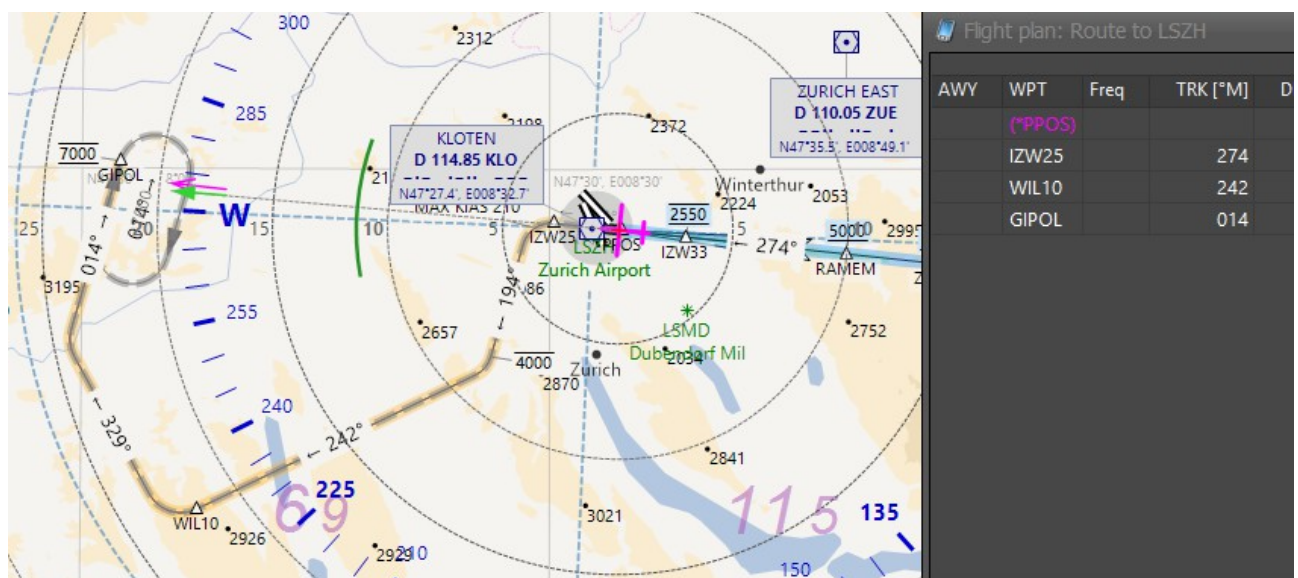
The GoAround function is integrated into the RSB. It can only be invoked from there. The conditions are as follows:

- An **approach Procedure** must be selected
- A **Flightplan** must be active
- A **GoAround Procedure** must be available for the selected approach
- the aircraft must be **within 3 NM** from the threshold and **less than 300 ft** above the Approach Minimum stipulate for this approach. Otherwise the GoAround button **remains inactive**

If all of the above conditions are fulfilled, you can use the GoAround function. This will result in the following:

- The actual Flightplan is **being deleted** and replaced by the **Missed Approach Procedure**
- The flight path is additionally depicted in **yellow**

The World Map looks like this:



And this is how it looks in the default GPS/GNS:



As can be seen on these pictures, the old Flightplan is cleared and replaced by the Missed Approach. It ends at GIPOLE (in this example). From there the flight must be conducted in **HDG mode** as EFBv2 cannot transfer Holding Procedures into the GPS/GNS.

Aeronautical aspects of a Go-Around

A few comments to the aeronautical aspects of a GoAround. It is - although declared a "Standard Procedure" always "connected" to a certain stress level - even in the Simulator. Therefore it might be worthwhile to make a few considerations for the handling sequence.

Here's a proposal for regular handling („Auto-GoAround“ using Autopilot)..

- Set HDG bug to **actual heading** (we need that to decouple lateral autopilot guidance from the ILS)
- As soon as the decision for a GoAround is made, **activate HDG mode and Altitude mode, execute GoAround** (Power, Flaps to Takeoff Position, Gear Up)
- **Activate GPS lateral navigation** (if it was deactivated for an ILS approach)
- When reaching Climb Speed **Flaps up**
- **Set Climb Power**
- Continue **monitoring climb**
- ...

Should you ever be tempted to try this option, you will certainly note that it can work out pretty well, as long as you have practised the procedure to a certain level. This part is exactly like in "Real Life".