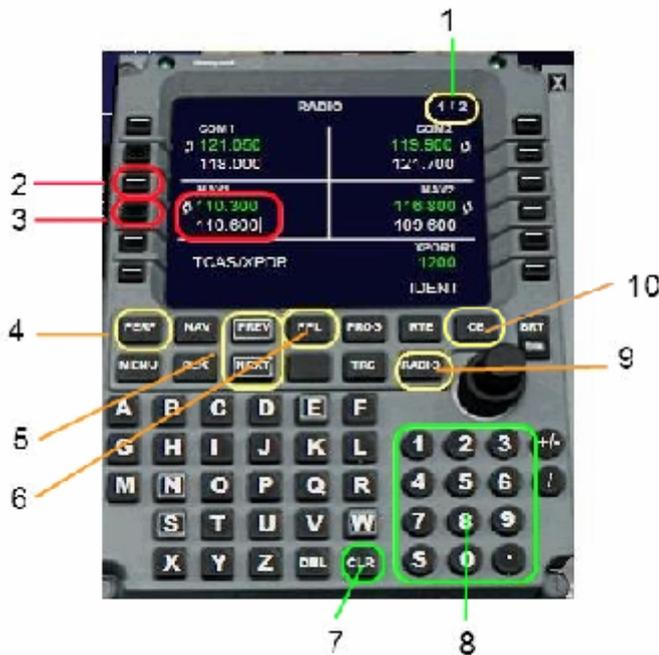


Flight Management System (FMS) EMB 170/175

We have integrated parts of the FMS in the new panel of EMB 170. But until today, there are still not all functions available though. Nevertheless there is a further development for that!



Radio Page

1. External display. If there are more than one pages available, you can switch between by using the buttons “previous” (5) or “next” (6).

2. LSK is swapping between the active frequency (green) and the standby frequency (white)

3. The standby frequency is to be edited within the panel and there will appear a white frame around the frequency due to be changed. By using the keypad (8), you can enter the new frequency and they will be verified self-acting.



If any error is occurring within doing that, the old frequency will be recovered. The input must be within a 6 digit number without any decimal points. After the correct input of the last digit, this new frequency will be taken as the new standby frequency. Any inputs can be cleared by pressing “clear” (7)

4. **PERF** performance page

5. **PREV** display the previous page

6. **NEXT** display the next page

7 **CLR** cleanup of all inputs

8. **keyboard**

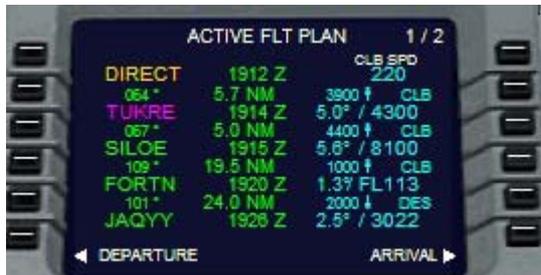
9. **RADIO** page to adjust the following frequencies: COM, NAV, ADF, TCAS and Squawk-Code

10. Is calculating the altitude of the new waypoints within the flight schedule (6). This is necessary after reloading a new flight plan in order to show the proper operating mode for climbing and descending.

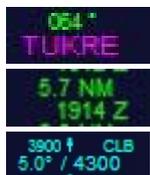
Caution: you will loose all data put in manually! Please check all altitude data within your flight plan, because the self-acting calculation of the FMS may be wrong. By editing these manually within the FMS, you can get rid of this problem. All elevation put in will be maintained unless the limit is not out of reach. No plane will be able to climb from FL 100 to FL 350 within waypoints, which are only 5nm apart from each other. At least, the FMS will not check the accuracy of the altitude points.

Flightplan- Page

To display the flight plan /flight schedule, we use the Flight Simulators flight plan. There must be a flight plan loaded or created! This is to be displayed within the FMS and is able to be edited or changed there as well. You can edit or change all waypoints apart from the initial airport. At present we still can't provide you with SID or STARS to choose from. Therefore please see below "How to load a flight plan"



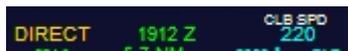
Loaded flight plan



Next waypoint and actual course

Distance and ETA (at waypoint)

Climb to 4300 ft within 3900 ft/min or climbing within 5 AOA



Actual UTC and Climb Speed 220 (as stated at the **PERF** page within the FMS)

To change a waypoint-level click on the appropriate button next to the altitude display and enter the new altitude within the keypad (8).

Entering a 3 digit number will be recognized as a flight level, a 4 digit number (or more then 4 digits) any altitude in ft.

280 -> FL280

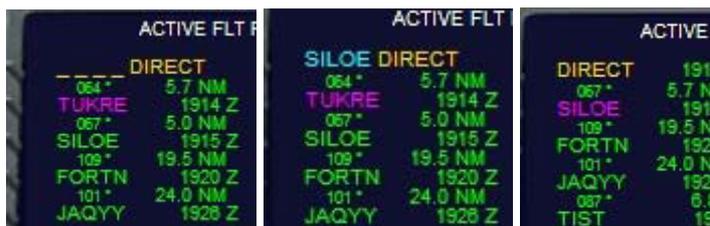
2800 -> 2800 ft

To complete any input, please click again on the button next to the number. When you load a flight plan, all waypoint altitudes will be calculated by the FMS.

However, it should always be controlled, since the calculations do not take into account the aircrafts weight, weather conditions or the Airport altimeter.

DIRECT TO

To use the function DIRECT, simply press the button next to the yellow DIRECT button. Then select the waypoint from the list of schedules will be issued and this waypoint will be set up above.



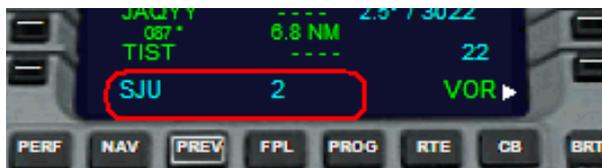
CANCELATION/ CLEARANCE OF A WAYPOINT



To delete a waypoint, click on the button "DEL". After doing so, the message "Delete" will be shown in the FMS's display.

Within this example you may will cancel/clear the waypoint **FORTN**: Press now the button on the left hand side of that waypoint.

ADDING A WAYPOINT



Type the initial of the waypoint you are looking for into the keypad. The display will show you all possible waypoints beginning with that initial. The number behind the waypoint "VOR SJU" is showing that 2 more VOR identifications are present for that initial.



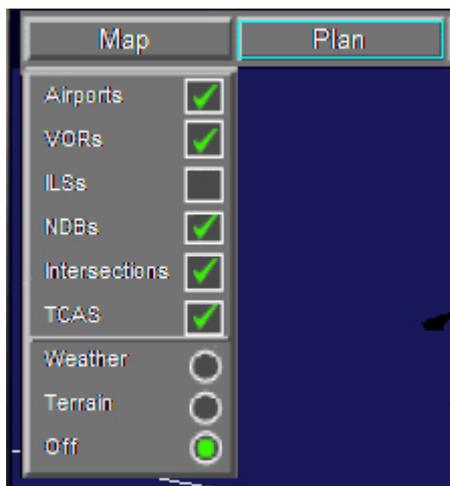
Caution:

You must choose if you are looking for a VOR / ISEC or NDB next to the right hand side where VOR is displayed. Unfortunately there is still no other possibility.

Then click the left hand side button for the VOR you want to use. A new screen will may open if there are one then more waypoints available with the same name and you can identify your waypoint .The last two digits in each row will display the ICAO Country identifier where this VOR is located.

FLIGHTPLAN STEP BY STEP

In order to follow a flight plan on the map, you must click “PLAN” on the MFD display. The particular waypoint is indicated below and can be displayed by clicking on “STEP” using the mouse button. By using the left side buttons within the FMS you can switch between all waypoints then. The PLAN display will switch to this selected waypoint then.



All VORs /NDBs /ILSs /Airports/ Intersections can be faded in /faded out within the MFD display. From a certain size of the map, further details are hidden automatically. These can't be displayed even with the advanced options!

TRANSITIONS



At present, SID and STARS can't be implemented, but this could be done using the transitions of Flight Simulator. Choose TRANS and it will be displayed within your flight plan. This includes the normal approach and the missed approach.





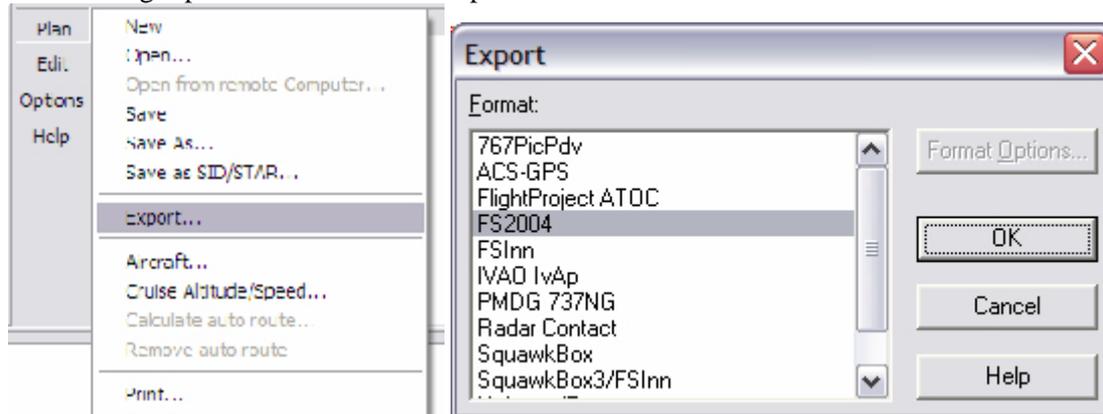
Display of the transition within the map.

LOADING A FLIGHT PLAN

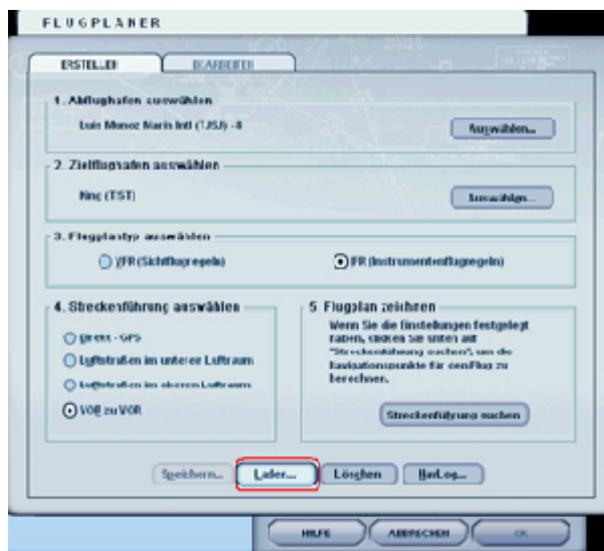
At least a flight plan MUST be loaded within FS9/FSX! According to technical issues we are still not able to choose the initial airport with the FMS. The simplest way to create a flight plan is with external software i.e. FSNavigator, because this will consider all navigation points, SID and STARS.

Exporting a flight plan with FSNav

Create a flight plan with FSNav and export that into FS 2004.



Load that within FS 2004/FSX then.



(Translation: Tobias Rihm)