



# ***146-200/300***

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## ***JETLINER***

**LIVERY & FMC PACK**



***Just Flight***

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# 146-200/300 Jetliner

## LIVERY & FMC EXPANSION PACK

Expansion for the Just Flight 146-200/300 Jetliner

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# INTRODUCTION

This pack includes 18 high resolution liveries for the Just Flight 146-200/300 Jetliner add-on and also an F-Lite style FMC (Flight Management Computer) which can be installed into both the 146-200 and the 146-300.

The liveries cover Europe, the USA and South America and bring you a mix of well-known airlines as well as some of the more obscure carriers.

The real 146-200/300 was not fitted with a FMC as it left the factory but we thought that you might like the added versatility of flying with an FMC. If you prefer to keep things simple, you can still fly the 146-200 and 146-300 in these new liveries without installing the FMC!

## 146-200 Liveries

### European operators

- Atlantic Airways
- Conti-Flug
- Crossair (livery B)
- Romavia
- SAS
- SwissAir Express
- Virgin

### North American operators

- Air Cal
- Air Wisconsin
- Delta Connection
- NWA
- United Express (older livery)
- US Air (newer livery)

### South American operators

- Star Peru

## 146-300 Liveries

- Aer Lingus
- Swiss Star Alliance
- Jet2 (white)
- Astra Airlines

## FMC/CDU

This custom-coded Flight Management Computer (FMC) is designed to assist you with functionality that many flight simmers miss on the default FSX aircraft:

- Flight Plan pages – load and activate pre-made FSX flight plans without having to leave the cockpit; track the route, and get an overview of distances and arrival times to the next waypoint en route and your destination
- Modify your route and save it
- Cockpit Navigator pages – easily switch (open/close) panels via the FMC
- Checklist pages – access the 146-200/300 checklists and work through them with the help of the FMC showing you matches/mismatches between required checklist items and current aircraft settings. Only when all aircraft settings match the checklist requirements will the checklist be completed and closed
- Aircraft/flight status page, showing date/time, coordinates and some general aircraft information at a glance (flaps status, gear status, fuel status, lights etc.)
- The FMC can hold two flight plans – an active flight plan and a standby flight plan. You can load a flight plan direct as the active flight plan (for immediate use) or you can load it as standby flight plan and set it active later. You can have an active and a standby flight plan loaded at the same time, so that you have an alternate route in case you need to change plans. With both flight plans you can add and remove waypoints

## FMC/CDU GUIDE

The CDU (Control Display Unit) – as the name suggests – allows you to monitor and control aircraft parameters, mainly those related to automated flight. The FMC (Flight Management Computer) is located in an avionics bay and it is this computer that is controlled using the CDU.

The CDU on this aircraft is based on a real unit, but it has been simplified and functionality added to better suit the needs of the FSX pilot.

The CDU consists of a screen with six display lines left and right. There is a row of keys (buttons) next to each line (left and right) called Line Select Keys (LSKs).

The documentation below refers to these keys as LSK L (left) and LSK R (right), together with a number (1-6) to indicate the line.

The last line on the CDU is the 'Scratchpad', where your keypad input is displayed.

## Turning the CDU on/off



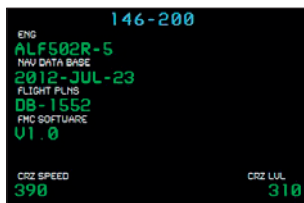
When loading the aircraft, the CDU will be in a 'Cold & Dark' state. Press the **ON/OFF MENU** button to switch on the CDU unit.

## INIT page

The first page that will appear after switching on the unit is the INIT (initialisation) page. This page also appears when you are on any other page and press the **ON/OFF MENU** button.

Pressing the **ON/OFF MENU** button whilst on this INIT page will switch off the CDU.

The INIT page shows you the aircraft type, engine type and information about the flight plan database and navigation database.

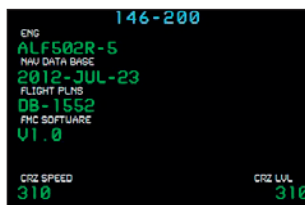


In LSK 6L and 6R you can see which cruising speed and altitude will be used for the flight plan calculations. You can change these values as follows:

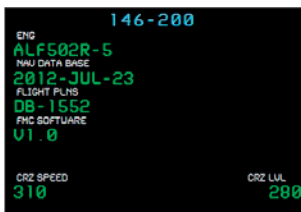
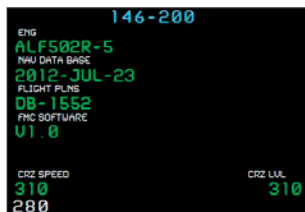
1. Enter a number into the scratchpad using the number keys (press CLR if you wish to delete them)



2. Press LSK 6L to accept the entry as the new cruise speed

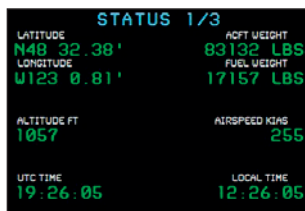


3. The same method works for entering a new cruise level



## INIT REF page

Pressing the **INIT REF** key will bring up the STATUS page. The first page shows some general information:



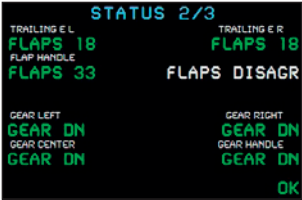
- Current latitude and longitude
- Aircraft weight
- Weight of fuel being carried
- Current altitude (feet)
- Current airspeed (knots indicated airspeed)
- Current time (UTC)
- Current time (Local)

Press the **NEXT PAGE** key to switch to the second STATUS page.

This page displays gear and flaps status, showing the positions of the left and right trailing edge flaps and the flaps handle, and also the gear status including the gear handle position.

If any of these units don't match the others you'll see a 'disagree' warning (FLAPS DISAGR or GEAR DISAGR).

Normally this warning will eventually disappear (e.g. when flaps or gear are in transition), but in case of power or hydraulic failure you'll find this useful to determine how the control surfaces and gear are currently positioned.



Press **NEXT PAGE** again to switch to the final STATUS page.

This page displays information about the spoiler/airbrake, including whether the spoilers are armed, the spoiler lever position and current position of the left and right spoilers.





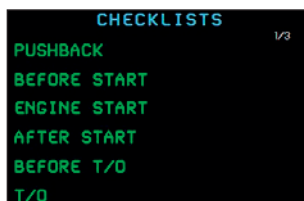
## CKPT NAV (Cockpit Navigator) page

Press the **CKPT NAV** button to open the Cockpit Navigator page. This page allows you to open the most important 2D panels. You can switch any 2D panel on/off by clicking on the LSK next to the relevant panel name. For example, clicking on LSK 1L will open the overhead panel.



## CHECKLIST page

The CHECKLIST page contains several electronic checklists, based on the checklists found on the kneeboard.



Unlike the kneeboard checklists, these are interactive. You read them, tick the items off, and when all items are ticked off the checklist title will turn green to indicate it has been completed.

You can tick off the item by clicking on the relevant LSK.



## RTE (Route) page

Press the **RTE** button to open the route page. You can have two flight plans loaded. One can be the active plan (the one which is being fed into the GPS/navigation system) and the other is a standby flight plan which can be used in case of detours etc.

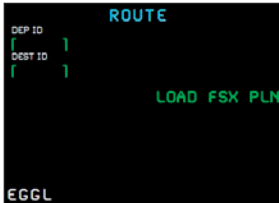


You can open a flight plan in two ways:

- 1) Load one of the flight plans in the database that is provided with 146-200 Jetliner. These flight plans cover routes between some of the most popular destinations worldwide
- 2) Load a pre-made FSX flight plan (which you have generated using the FSX Flight Planner menu)

### To load a 146-200/300 database flight plan:

Enter the desired departure and destination IDs (these need to be four-letter ICAO IDs) into the scratchpad and press the LSKs next to DEP ID and DEST ID.

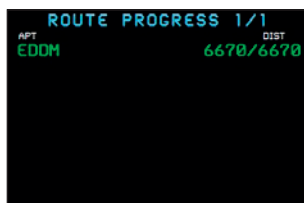


You'll see three new options:

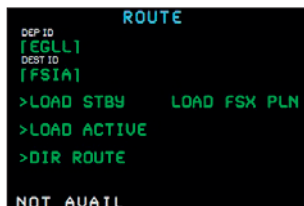
- Load the flight plan as standby plan
- Load the flight plan as active plan
- Fly to the destination airport direct

At this point the program does not yet know if the flight plan actually exists in the database. Select one of the options above, e.g. **LOAD ACTIVE**.

If the flight plan exists, you will be taken to the flight plan (PROG) page automatically.



If the flight plan doesn't exist, you will get the message 'NOT AVAILABLE'.



However you can still fly the route direct by clicking the **DIR ROUTE** button.

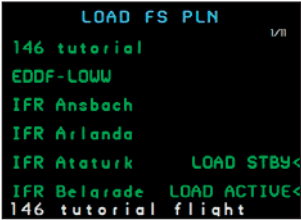
#### To load a pre-made FSX flight plan:

This is the LOAD FSX flight plan page:



This page shows a list with all the flight plans that exist on your hard drive (in the 'Documents\Flight Simulator X Files' folder). Some file names might be too long to be displayed; in this case the one selected will scroll through the scratchpad.

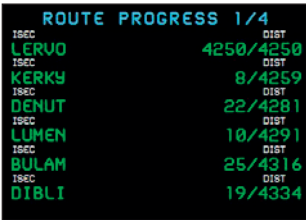
Selecting one of the flight plans will bring up two options, **LOAD STBY** and **LOAD ACTIVE**. Pressing **LOAD ACTIVE** will make the flight plan active.



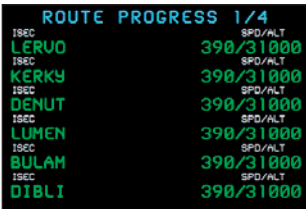
## PROG (Route Progress) page

The active flight plan appears on the **PROG**ress page. This page has four sub-pages:

Page 1 shows the route distances (between waypoints and the total distance en-route).



Page 2 shows the estimated speed and altitude at the waypoint. You can also use these figures to set the autopilot (discussed later).



Page 3 shows the estimated fuel (total fuel required and fuel remaining) at each waypoint in increments of 1,000 lbs.

ROUTE PROGRESS 1/4	
ISEC	FUEL TOT/REM x1000
LERVO	43 5/0 0
ISEC	FUEL TOT/REM x1000
KERKY	43 6/0 0
ISEC	FUEL TOT/REM x1000
DENUT	43 8/0 0
ISEC	FUEL TOT/REM x1000
LUMEN	43 9/0 0
ISEC	FUEL TOT/REM x1000
BULAM	44 2/0 0
ISEC	FUEL TOT/REM x1000
DIBLI	44 4/0 0

Page 4 shows the estimated time of arrival at the waypoint (UTC time).

ROUTE PROGRESS 1/4	
ISEC	UTC ETA
LERVO	1815
ISEC	UTC ETA
KERKY	1817
ISEC	UTC ETA
DENUT	1824
ISEC	UTC ETA
LUMEN	1827
ISEC	UTC ETA
BULAM	1835
ISEC	UTC ETA
DIBLI	1840

On longer flight plans (which don't fit onto a single page) you can scroll through the waypoint list by pressing the PREV/NEXT keys.

ROUTE PROGRESS 2/4	
ISEC	DIST
RAPIX	10/4344
ISEC	DIST
TEBRA	15/4359
ISEC	DIST
KOPUL	18/4377
ISEC	DIST
GILDA	21/4398
ISEC	DIST
FERIT	3/4401
ISEC	DIST
UESUL	3/4404

## RAD NAV (Radio Navigation) page

Press the **RAD NAV** button – this will take you to the Radio Navigation page.

RADIO NAV 1/2	
UOR1/ACTU	FREQ
113.70	1
UOR1/STBY	
117.20	
UOR2/ACTU	
110.60	
UOR2/STBY	
116.80	
ADF/ACTU	
123.4	
ADF/STBY	
1400.0	

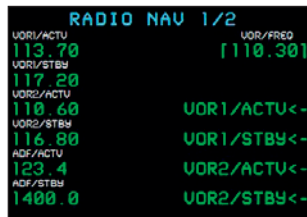
To the left you can see the active and standby frequencies on NAV1, NAV2 and ADF. The active and standby frequencies for COM1, COM2 and the transponder can be found on the second page.



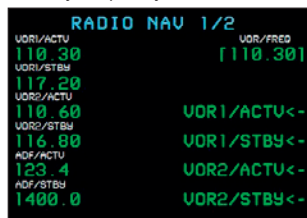
To change a frequency/code, enter the appropriate frequency/code into the scratchpad and then press LSK 1R.



The frequency/code will appear in line 1R.



Press one of the LSK R keys to set the frequency on NAV1, NAV2 or ADF as the active or standby frequency.



## CLR Key – Removing waypoints

On the flight plan page (PROG or STBY F-PLAN) press **CLR**. This will either clear the scratchpad or – when the scratchpad is already empty – will display 'CLR'.

ROUTE PROGRESS 1/12		
VOR		DIST
PRA	25/25	
ISEC		DIST
ATUTI	201/225	
ISEC		DIST
APNAK	173/398	
ISEC		DIST
AVIMO	179/578	
ISEC		DIST
EMALU	105/683	
ISEC		DIST
GAGDO	169/851	
CLR		

Press the LSK next to the waypoint that you wish to remove. The waypoint ID appears next to **CLR**.

ROUTE PROGRESS 1/12		
VOR		DIST
PRA	25/25	
ISEC		DIST
ATUTI	201/225	
ISEC		DIST
APNAK	173/398	
ISEC		DIST
AVIMO	179/578	
ISEC		DIST
EMALU	105/683	
ISEC		DIST
GAGDO	169/851	
CLR PRA		

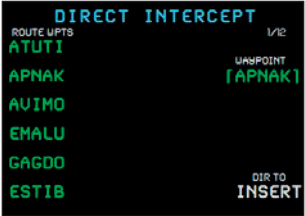
Press **CLR** again – the waypoint will be removed.

## DIR – Direct routing

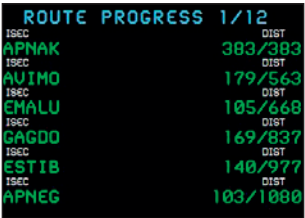
To fly to a waypoint direct, select the waypoint on the active flight plan page (PROG). The ID will show on the scratchpad.

ROUTE PROGRESS 1/12		
ISEC		DIST
ATUTI	211/211	
ISEC		DIST
APNAK	173/384	
ISEC		DIST
AVIMO	179/563	
ISEC		DIST
EMALU	105/668	
ISEC		DIST
GAGDO	169/837	
ISEC		DIST
ESTIB	140/977	
APNAK		

Press **DIR INTC**. This will take you to the DIrect-to page. The waypoint ID is already entered in the ID field.



Press the LSK next to DIR TO INSERT – the aircraft will remove all waypoints up to the selected one and fly direct.



## DEP/ARR (Departure and Arrival) page

If you press the **DEP/ARR** button while on the ground, you will be automatically taken to the DEPARTURE page. If you press the button in the air you will be taken to the ARRIVAL page. You can still toggle between the two pages using the PREV PAGE and NEXT PAGE buttons.

The DEPARTURE page shows:

- VR (rotate) speed
- V2 speed

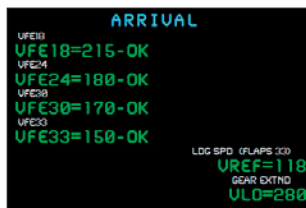




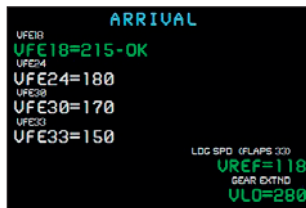
By default the speeds shown on this page are for use with only the 18-degree flap setting. To display the V-speeds for other flap settings press LSK 1L, 2L or 3L.



The ARRIVAL page displays V-speeds that are relevant to the approach and landing phases of flight, as well as the flap and gear extend speeds.



The VFE for each flap setting will turn green, with the word **OK** beside it, only when the aircraft has slowed to below the speed shown.



# Flying the 146-200/300 using the FMC/CDU

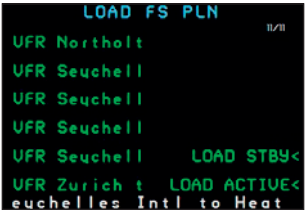
Once you have loaded your flight and have configured the aircraft, press the **ON/OFF MENU** button switch on the CDU.



Change the CRZ SPEED (cruise speed) and CRZ LVL (cruise level) values to suit your flight plan.



Select the flight plan that you wish to load and choose **LOAD ACTIVE**.



The flight plan will now appear on the ROUTE PROGRESS page.

ROUTE PROGRESS 1/12	
UOR	DIST
PRA	25/25
ISEC	DIST
ATUTI	201/225
ISEC	DIST
APNAK	173/398
ISEC	DIST
AVIMO	179/578
ISEC	DIST
EHALU	105/683
ISEC	DIST
GAGDO	169/852

To get the aircraft to follow the flight plan, engage the autopilot and press the **L NAV** button.



The autopilot will now hold the flight plan that is programmed into the FMC/CDU.

## CREDITS

Liveries – Commercial Level Simulations

FMC/CDU – Wolfgang Schwarz

Project Management – Alex Ford, Martyn Northall

Manual – Martyn Northall

Installer – Richard Slater

Design – Fink Creative

Support – Martyn Northall, George Bland

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A pirate, otherwise known as a thief, makes a profit from the sale of other people's hard work. In some cases he makes more profit than the publishers and developers make from the sale of an original title. Piracy is not just the domain of the casual domestic user in his or her back room, but it is also a multi-million pound business conducted by criminals often with associations with the illegal drugs trade. Buying or downloading pirated copies of programs directly support these illegal operations.

Don't be fooled by a load of old tosh about file 'sharing'. The sites that host these 'shared' files are multi-million dollar operations that cover their backsides with the excuse that they are simply a 'gateway' to the files. In fact, they actively encourage piracy and are often funded by advertising. Most of them are illegal money-laundering operations by another name.

The people who really suffer from game piracy are the artists, programmers and other committed game development staff. Piracy and theft directly affects people, and their families. Loss of revenue to the games industry through piracy means many are losing their jobs due to cut-backs that have to be made to ensure developers and publishers survive. The logical outcome of this is that eventually the supply of flight simulation programs will dry up because developers think it is not worth the hassle.

It's not just copying software that is against the law, owning copied software also constitutes a criminal offence; so anyone buying or downloading from these people is also at risk of arrest and prosecution.

To find out more about the implications of piracy please click on the Piracy link on our website at [justflight.com](http://justflight.com).