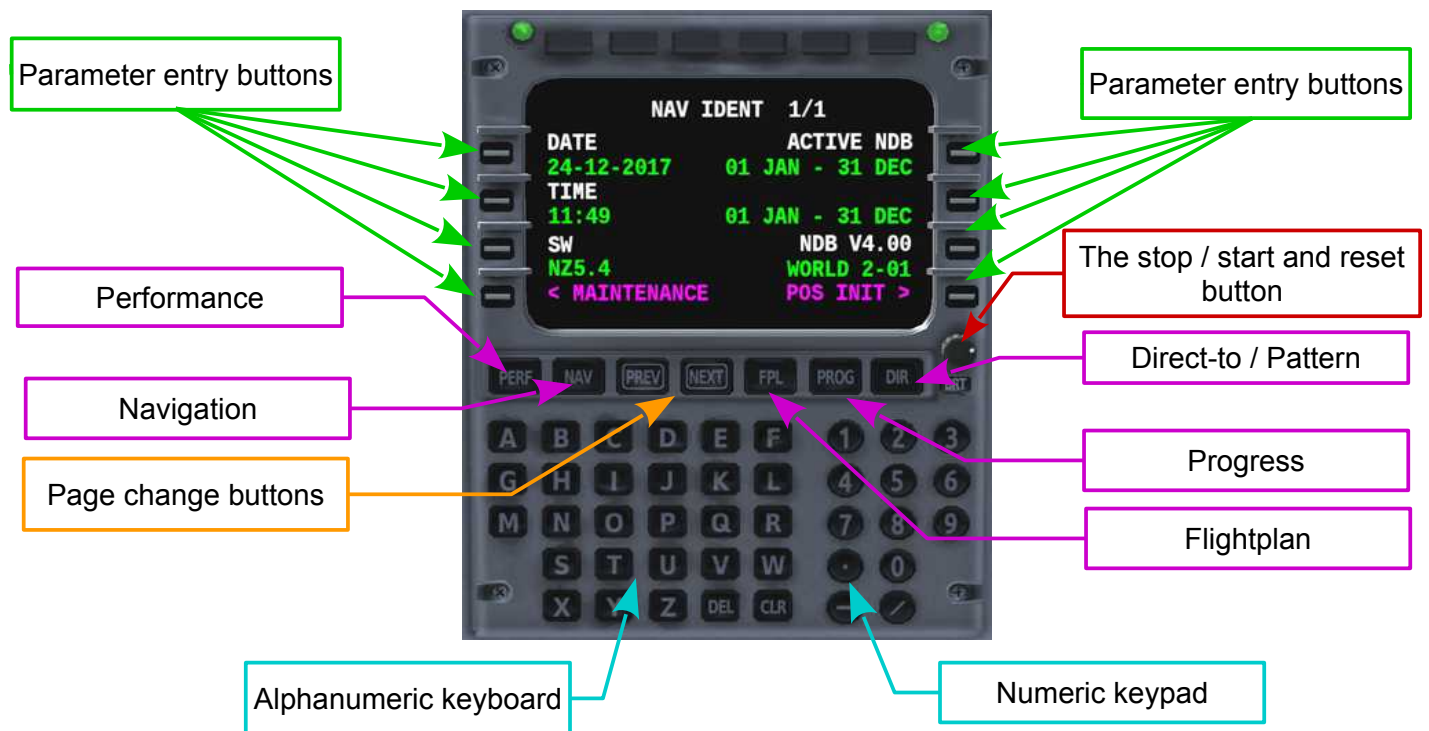


# CITATION X

## The CDU

The CDU (Control Display Unit) is the input module used by the FMS (Flight Management System) to manage a flight plan and provide pilots with the necessary data (piloting, fuel, estimated consumption, etc.).

It looks like this:



The screen shown below is displayed when the device is powered on. To fully understand the CDU configuration logic, we are going to program a flight from LFOH (Le Havre) to LFRK (Caen) by making a vertical beacon from DVL (Deauville).





POSITIONING lights up for 5 sec before allowing access to the CDU functions

The plane's GPS coordinates are displayed.



Pressing any of these 3 buttons loads the positioning data and allows access to the flight plan



The first flight plan data entry page was displayed. Not having a flight plan already recorded, we are going to set one up:

The airport and the runway we are on are displayed automatically



We will enter the destination airport by typing on the alphanumeric keypad LFRK

As we type LFRK it is shown on the last line (scratchpad)



To validate LFRK, press the button corresponding to our destination

A new page has just been displayed allowing you to enter Waypoints (Wp).



LFRK is accepted as the destination airport

You must also enter the arrival runway.



To do this, press the button in front of ARRIVAL

Let's press the button in front of RUNWAY



LFRK's available runways is displayed



We choose runway 31 which is lucky enough to have an ILS, by clicking on the corresponding button





Runway 31 is loaded  
succesfully

Let's go back to our  
previous page



At this stage we could  
configure the approach Wp  
...but we will do it later!

Let's go back to our flight  
plan



Runway 31 appears here

Now let's take care of the  
departure by clicking on  
this button

LFOH's runways are here. As we are already on track 22, no need to select it again



We will configure the SIDs (Standard Instruments Departure)

Only the SIDs generated by FG (DEFAULT) are accessible. We choose them.



SIDs are loaded





SIDs are loaded

As well as their altitudes (defined by FG) ...

On the next page, by pressing the NEXT button:



To delete an entry, press DEL.

DELETE is shown in the scratchpad

We have deleted waypoint 22-6 by clicking on the corresponding button



Page 2 being filled with SIDs, let's go to page 3 by pressing the NEXT button

Here we have entries available to set up our personal waypoints.



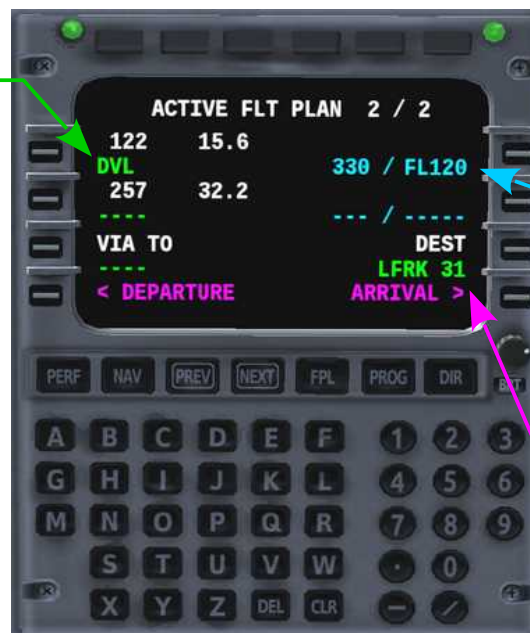
Enter our DVL waypoint using the alphanumeric keypad. It is shown in the scratchpad.

We enter it at the first available place.





DVL is loaded



We can also enter an altitude in the form "feet" or FL and a speed in the form kt or mach (here 330 kt)

We are now going to worry about the arrival at destination. So let's click on ARRIVAL

We select APPROACH



Then DEFAULT  
(waypoints calculated by FG)

Back to our ARRIVAL page



DEFAULT is loaded

We are done with our approach Wp.  
Back to our flight plan  
(Note: STARs are not provided by FG)



Here we are back to the first page of our flight plan.  
To go to the next page, click on NEXT



The approach waypoints are well recorded.



With their altitudes (ft)  
generated by FG

With another click on NEXT  
we will display the following page

This is the last approach waypoint. It bears the GS mark (GlideSlope)

**WARNING:** If modifications or additions of Wp are necessary, it must be done before closing the flight plan.



Now we will close our flight plan. To do this, we click on the button in front of the arrival airport.

We will transfer it to the free space by pressing the corresponding button.

Entering the destination airport on one of the left lines closes (activates) the flight plan



LFRK is shown in the scratchpad.

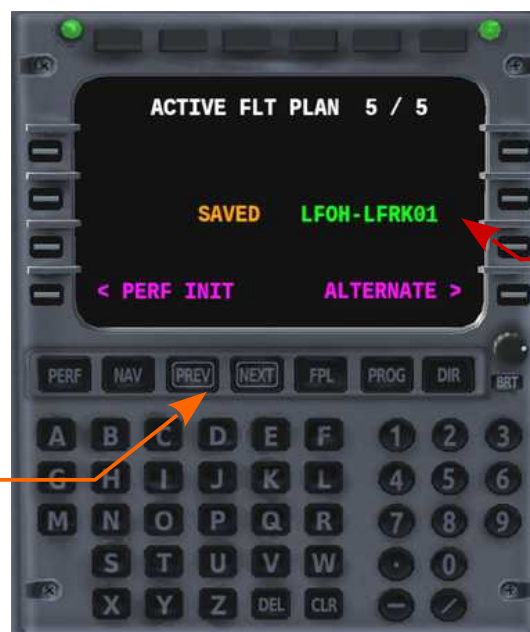
This is the last page of our flight plan. Now we have the option to save it.



The title of our flight plan being pre-defined, all that remains is to add a number from 00 to 99



Let's click on this button to save our plan.



Several clicks on PREV or just one on FPL will take you back to the first page of our flight plan.

Our plan is saved in / sim / fg-home: "/ Aircraft-data / FlightPlans»

Note:  
It is not mandatory to save the flight plan.



Back to the first page. The arrow indicates the position of the aircraft which is currently at the end of the runway, ready to take off



This flight plan is closed because the destination airport is the last waypoint



To deactivate the plan, press the DEL key



DELETE is shown in the scratchpad

By pressing the button in front of LFRK 31, it disappears and... deactivates the flight plan.



Then all you have to do is enter the new Waypoints without forgetting to reactivate the flight plan as we did previously.

## Programming a diversion



The diversion is programmed from the save flight plan page, by pressing the "ALTERNATE" button



The departure remains unchanged and is displayed automatically

Choose LFRN (Rennes) as the diversion airport



The diversion airport is validated by pressing this button.

Access the list of runways via this button.



Let's choose runway 28



Access to the waypoints entry page using this button.

Confirmation of the runway selection

This page allows the entry of waypoints with their altitude and speed, as on the main flight plan.

There is no access to the "Star" and "Approach" list as on the main flight plan. A default approach will be automatically generated if the diversion is chosen in flight.

ALTERNATE FPL 1 / 1

ORIGIN / ETD	SPD / CMD
LFOH-22 220 114.5	
VIA TO	ALTN LFRN-28

< FLT PLAN

We choose the LGL beacon in the event of a diversion

ALTERNATE FPL 1 / 1

ORIGIN / ETD	SPD / CMD
LFOH-22 220 114.5	
VIA TO LGL	ALTN LFRN-28

< FLT PLAN

LGL entered here.

ALTERNATE FPL 1 / 1

ORIGIN / ETD	SPD / CMD
LFOH-22 158 47.5	
LGL 245 100.2	ALTN LFRN-28

< FLT PLAN



We can also choose an altitude to overfly the beacon



The altitude is entered on the line corresponding to the waypoint. It is automatically converted to the correct format.



We close the diversion flight plan by clicking on this button ...



... Then by pressing the button for a free slot.

Return to the main flight plan using this button.



## PERF (Performance)



By pressing the PERF button, we enter the PERFORMANCE pages of the CDU

The second page is accessible by the NEXT or NEXT PAGE buttons



This is where the various speed limits are programmed. Those that are listed are the default ones. They can be modified by entering a value in kt or mach and clicking on the corresponding button

Programming the cruising altitude

The descent slope can be programmed between 3° and 5°.

Next page

On this page the departure and arrival zones (CTR) are programmed with their restrictions indicated on the aeronautical charts.

Here, the take-off speed is limited to 200 kt in a cylinder 2,500 ft high and with a radius of 4.0 nm around the airport.

Nächste Seite



On this page the approach speeds can be set according to the flaps setting. The default values are those recommended in the aircraft manual.



Last page of the PERFORMANCE module.

The empty weight of the aircraft (lbs)

Fuel weight (lbs)

Cargo weight (lbs)

Previous page



The number of passengers (8 max), the 2 pilots and the weight calculation reference. The number of passengers can be modified using the corresponding button

The total weight of passengers + pilots calculated by the CDU (lbs) (unchangeable)

The total weight of the aircraft calculated by the CDU (lbs). (unchangeable)

Back to the first page of the PERFORMANCE module



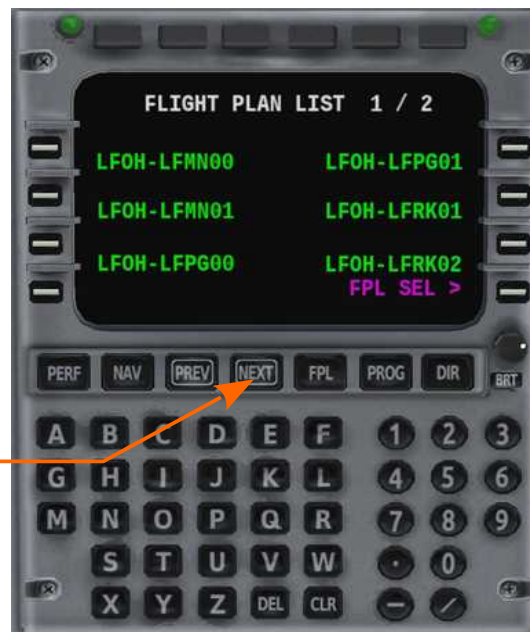
## NAV (Navigation)



The NAV pages are accessible by the NAV button.

Selecting FPL LIST displays saved flight plans.

The flight plans already recorded are displayed on the corresponding pages



The NEXT button shows us the next page





Let's choose this flight plan



The selected plan is entered in the scratchpad



Pressing this button gives access to the details of this flight plan

The original aerodrome

The destination

Access to the activation page without going through the flight plan detail page

The detail page of the selected flight plan

Return to the list of saved flight plans

The distance to travel

Le temps estimé pour parcourir cette distance à la vitesse de 330 kt (ici 23 mn)

Access to the activation page



Activation of this flight plan

This message indicates that a flight plan is already activated and asks for confirmation of the replacement of the current flight plan by this one

Pressing this button replaces the old flight plan with this one





Deactivation of this flight plan if it was active



Confirmation of the deactivation of the flight plan



This message appears if this is not the active plan





Access to the PERF  
(Performance) module

See the PERF module  
described above



## PROG (Progress)



The Progress module is accessible by the PROG button

In FMS mode, this line shows the next waypoint, its distance from the plane, the estimated time in minutes and seconds if it does not exceed one hour, otherwise in hours and minutes then the fuel consumption necessary to reach it (in lbs)

Ditto for reaching the destination (in hours, minutes)

The FMS active if the FMS button is pressed

The frequency indicated on the NAV window of the RMU1



The frequency indicated on the NAV window of the RMU2

In NAV mode, the radio beacon (VOR or ILS) selected on the RMU1, its distance from the aircraft, the estimated time and the fuel consumption required to reach it are shown.

The radio beacon activates if the NAV button is pressed

Access to the NAV1 page



Access to the NAV2 page

On the NAV1 page the 6 ILS closest to the position of the aircraft are displayed, from the closest to the most distant



The choice of this frequency will be transferred to the RMU1



Ditto for the NAV2 page which reports the selected frequency on the RMU2



## ***DIR (Direct to / Pattern)***

See the CDU DIR module tutorial.

C. Le Moigne (clm76) – June 2021  
English translation by Stefan Frank – June 2021