

FDS-PRO-MX-CDU/MCDU

GW 475.0 LB
FUEL 0.0 LB
ZFW 475.0 LB
RESERVES 0.0 LB
COST INDEX 100

<INDEX 250

SETUP GUIDE/MANUAL

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FDS-PRO-MX-CDU/MCDU

FEATURES:

- **NEW! VGA LCD (800x600 or 1024x768 Resolution)**
- All Metal Construction (Bezel and Structural Components)
- Dual Use Design (Drop in DZUS Rail Compliant and/or Desktop)
- New Dimpled Injection Moulded Keys
- Open Source Interface for Simple Integration with available CDU Software (SDK Required)
- PnP with Sim-Avionics, Project Magenta and AST
- Dimmable Key Brightness
- Dimmable LCD Display Brightness (Software Dependant)
- Super Realistic Tactile Feel Keys (With Audible Click)
- Dimensions: 8.95" x 5.75" Footprint (Dzus Compliant)
- API included with Interface Software



FIG. 1



FIG. 2



FIG. 3

PLEASE NOTE: The FDS-PRO-MX-CDU does not function unless you have installed the FDS-CDU Controller Software. (Sim-A uses an optional SYS Controller instead) Configuring the CDU by following the instructions on the following pages will enable you to turn on the backlighting, LCD Screen and use the keyboard.

Compatible Software List

- **aeroSystems**
 - **AST**
 - **iFly**
 - **Level D**
- **PMDG NGX** (FSX Only)
- **Project Magenta**
 - **ProSim**
- ***Aerowinx Precision Simulator (PSX)***
 - **Sim-Avionics**
 - **JetMax *by Sim-Avionics***

API documentation included with the install package.

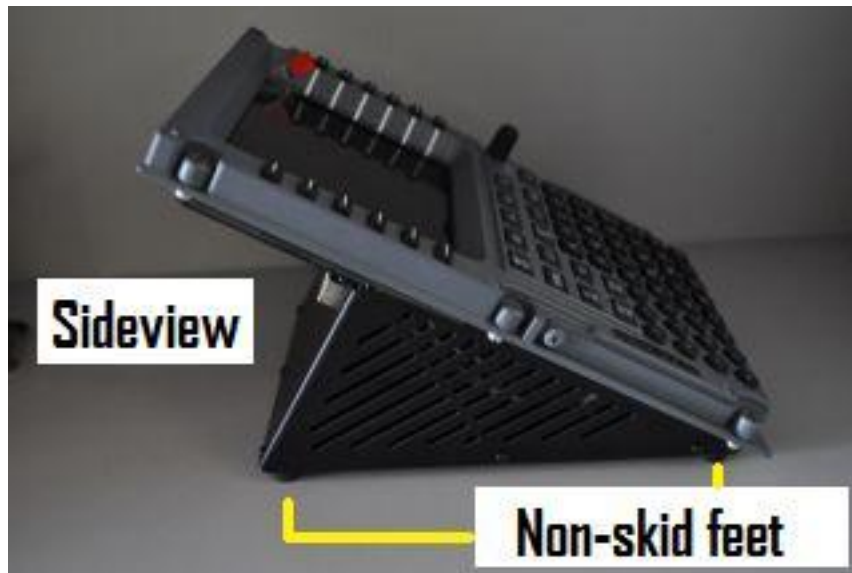


FIG. 4

DZUS fasteners and non-skid rubber feet



FIG. 5

Functioning Dimmer for key backlighting and
Screen dimming (software dependent)



FIG. 6

Optional Adapter Kit available for non-DZUS pedestals or CDU Bays

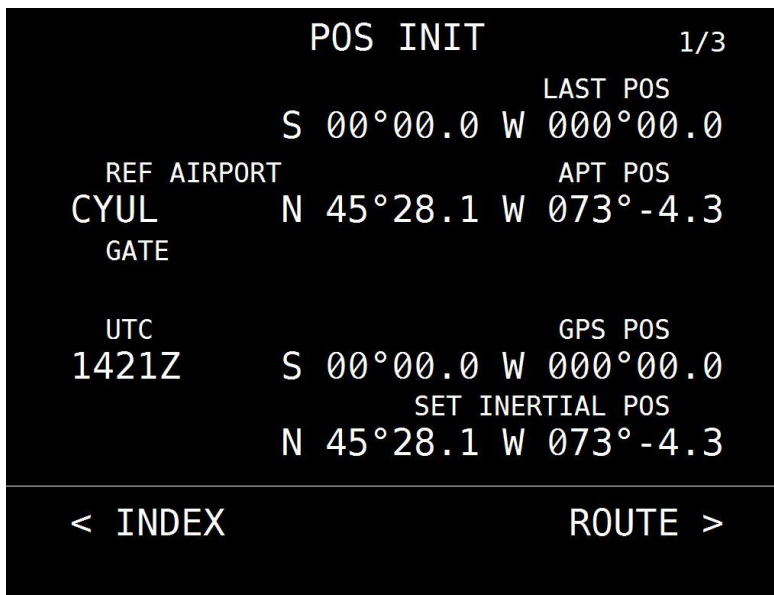


FIG. 7

FDS-CDU SOFTWARE MODULE AND SETUP

FDS-CDU Software is located here:

<http://www.tekworx.ca/downloads.html>

CDU software v3.1.5 (Current version at time of this manual creation: Aug/2014) [LINK](#)

Install the software on each computer that will have a CDU plugged into it via a USB cable (self installing). Single PC users only need to install it once and assign each CDU/MCDU to the correct position (Capt or F/O)

NOTE: Sim Avionics users can assign 3 CDU's (Capt, F/O and Observer for B777 Simulators). A nice feature for full functionality!

Plug in the USB cable to the computer and CDU/MCDU and wait for the hardware to be found.

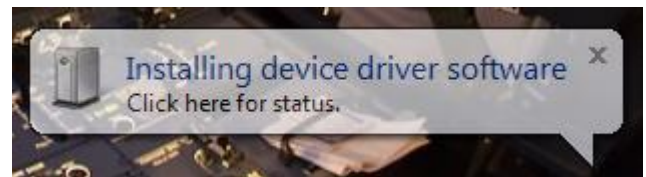


FIG. 8

Start the FDS-CDU software; it will appear down by the clock in the Task Bar.



FIG. 9

1. Right click on the ICON and select Configure.
2. Select **Test Module** from the drop down menu.
3. Select CDU1 in the Drop-down menu
4. Click on SAVE.

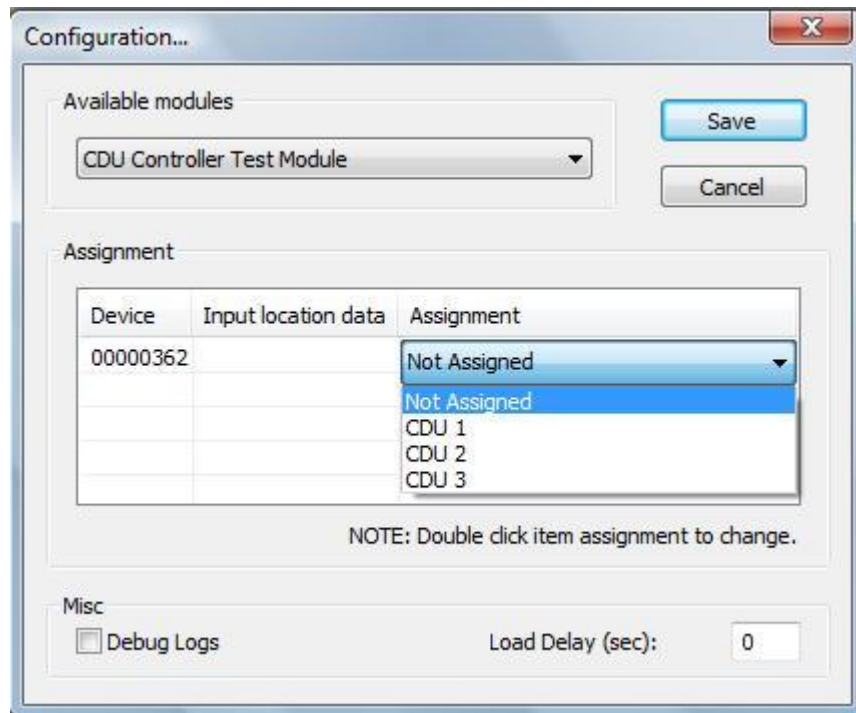


FIG. 10

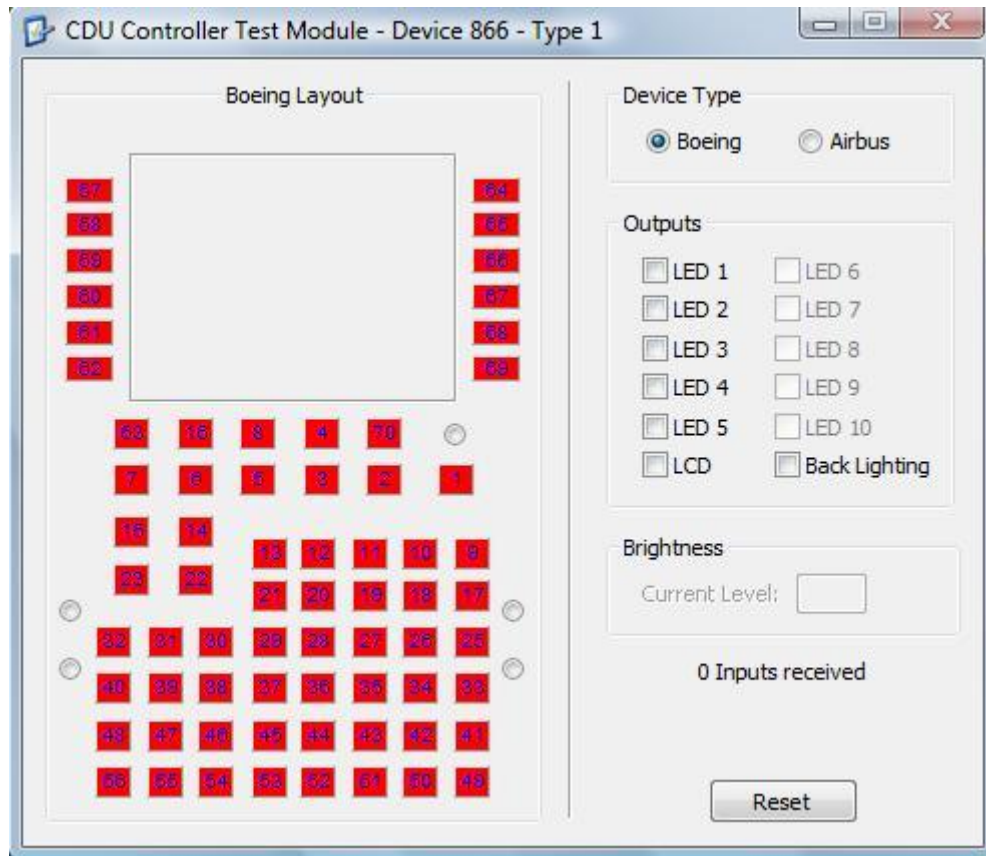


FIG. 11

The Test Module will show a CDU and you will be able to test all the keys, LED's, backlighting and LCD screen. Also the value assigned to the dimmer knob starting at 0-255. You can click in the boxes on the right or click on each LED position and the LCD screen in the CDU picture. Select Airbus for MCDU's and also the Airbus style you are using (**FDS-A320-PRO-MX-MCDU** is modelling the Thales version)

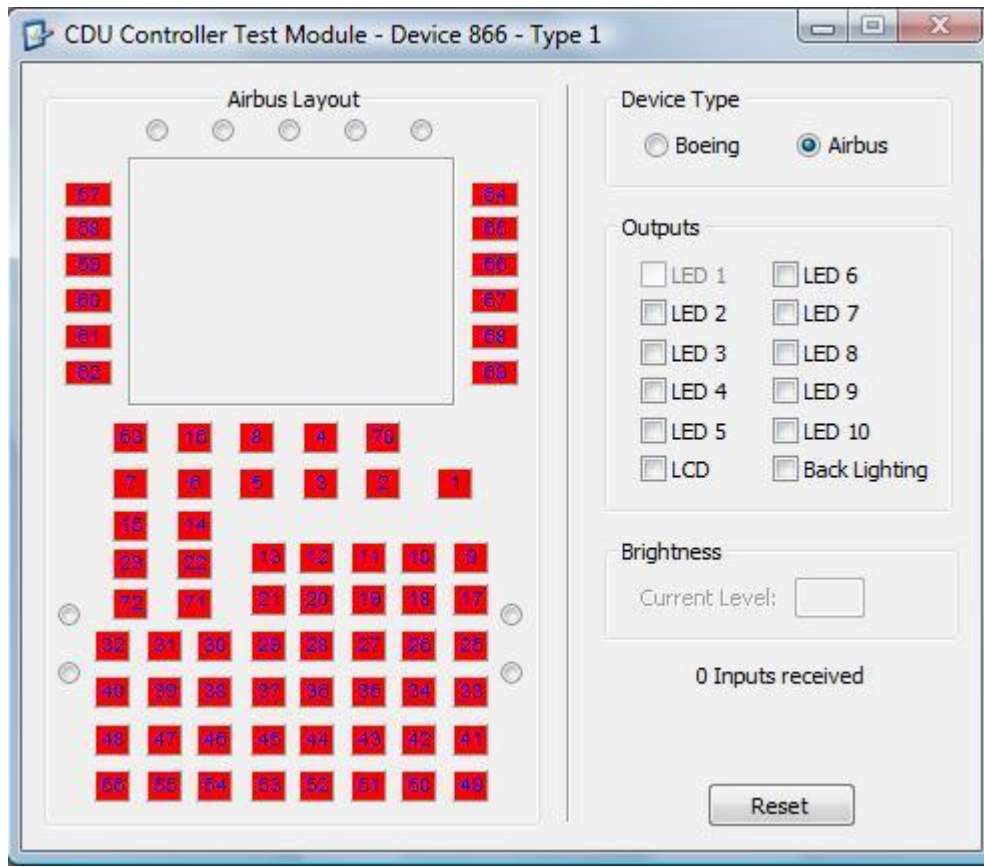


FIG. 12

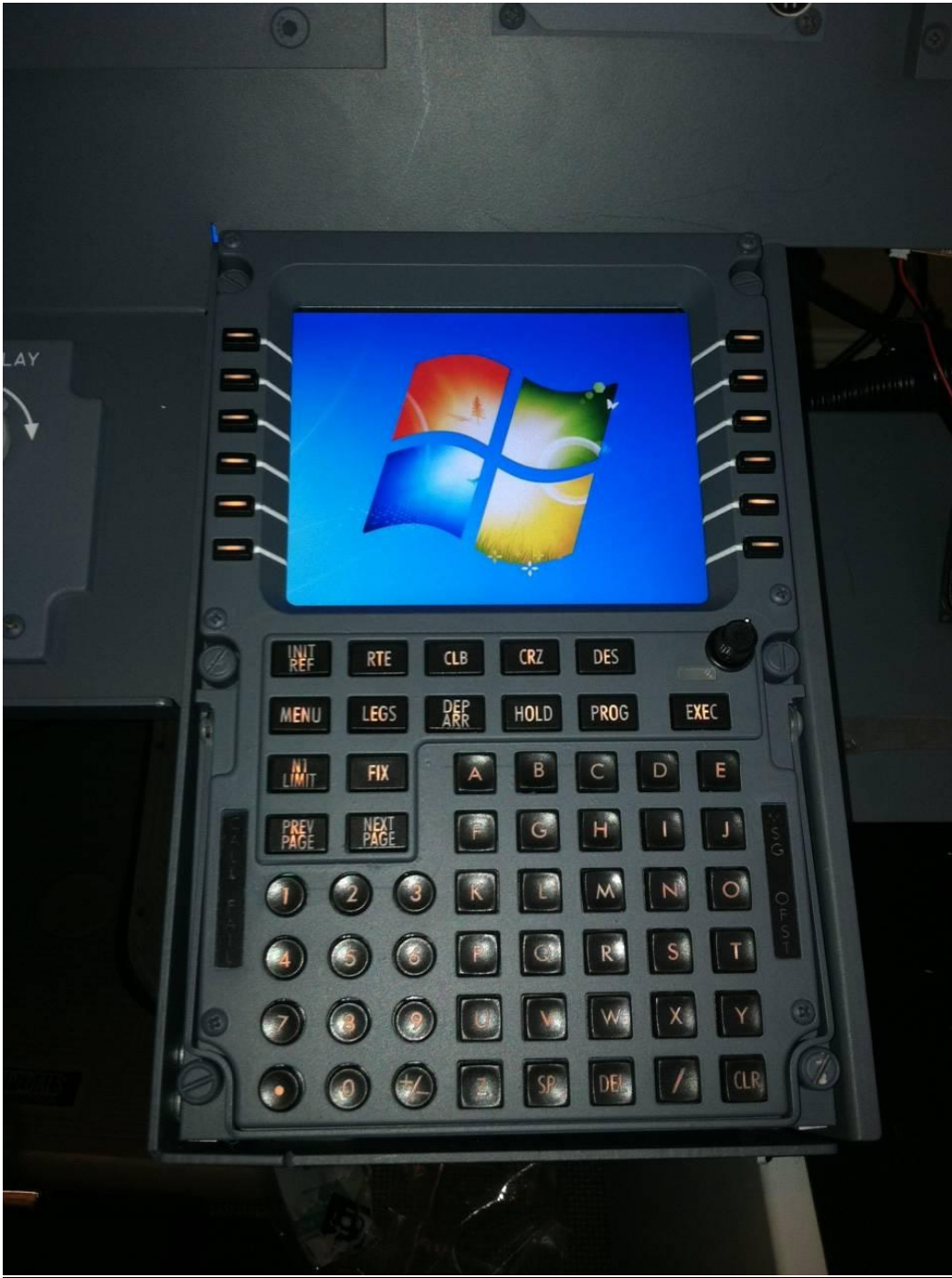


FIG. 13

CDU in Test mode with LCD, backlighting on

SIM-AVIONICS (Sim-A) CDU SETUP

Using the SYS Controller Software (New for 2014)

NOTE: For the JetMax/Sim-A Installer follow the instructions located [here](#)
Different controller software is used.

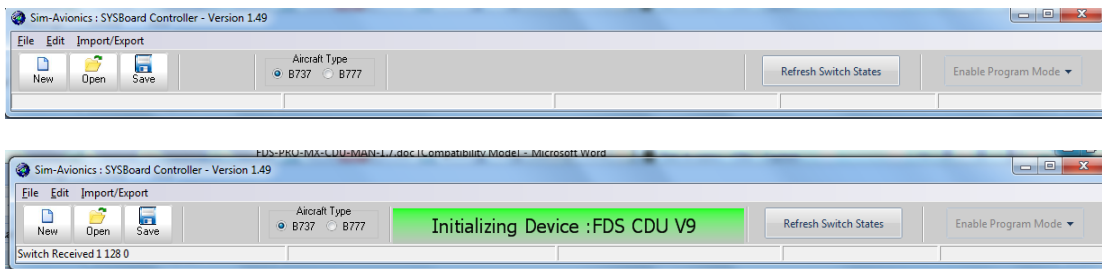
NOTE: This SYS Controller replaces the FDS-CDU software and is not required anymore. If you are switching over to the SYS Controller from using the original FDS-CDU software make sure you change the following line in your Captain CDU ini file in Sim-A to look like this:

```
// Automatically start FDS-CDU interface on startup.
```

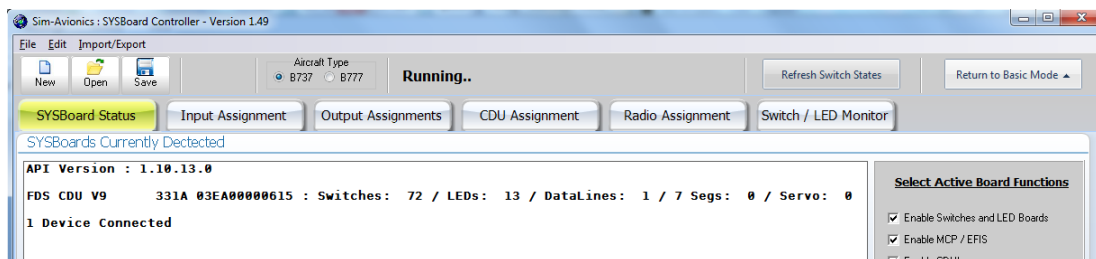
```
START_STOP_FDS_CDU_MODULE=0
```

Setup Instructions

- 1) Connect CDU USB, power (12V) and VGA cable.
- 2) Open the SYS Controller software in the main Sim-A folder.
- 3) Software will open.

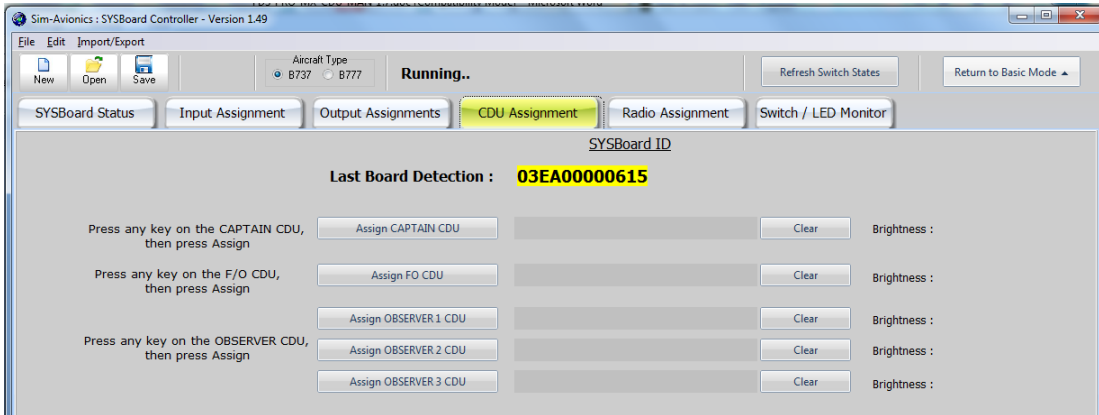


- 4) CDU Hardware is initialized.
- 5) Assign the CDU(s) by opening “Enable Program Mode” on right side of SYS Controller



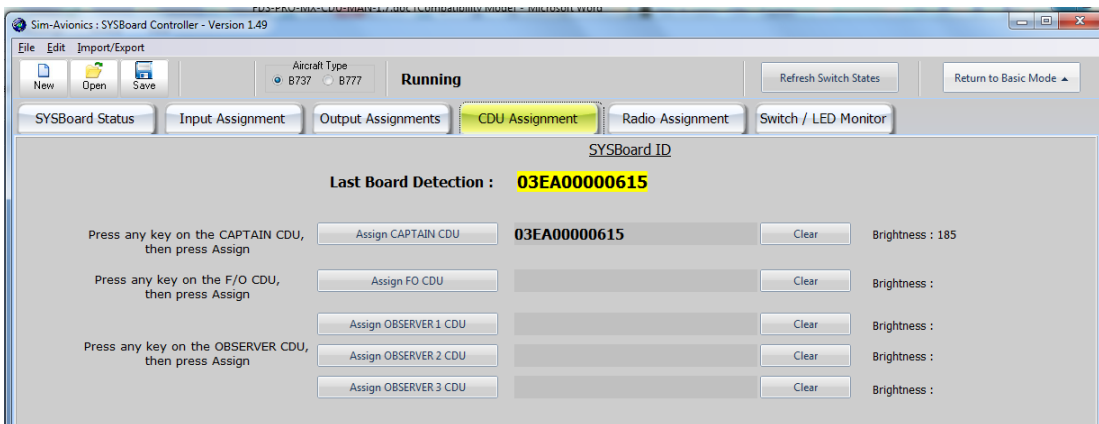
List of SYSBoards detected is shown. Select CDU Assignment Tab.

6) Press any Key on the CDU you want to assign.



Number appears in yellow. Assign to the CDU, in this case CAPTAIN CDU

7) CDU will show assigned and Press "SAVE"



8) Once assigned the CDU screen and backlighting will turn on.

9) Start the Sim-A CDU software by clicking on the exe in the CAPT CDU folder.



FIG. 14

- 10) The CDU appears on the Main PC screen as above. Drag the CDU over to the CDU screen.
- 11) Once positioned in the FDS CDU hardware screen, press the “END” key on your computer keyboard. The CDU will go to Full Screen.
- 12) Close the Sim-A CDU program to allow the screen settings to be written to the CDU ini file in Sim-A
- 13) Re-start the CDU program and the CDU will display the CDU screen in your CDU hardware.

***Follow the Line Set-up procedure on page 18 of this manual.**

SIM-AVIONICS (Sim-A) CDU SETUP (Original)

NOTE: For the JetMax/Sim-A Installer follow the instructions located [here](#)
Different controller software is used.

Start the FDS-CDU Software.

Open the software; it will appear down by the clock in the Task Bar.



FIG. 15

Right click on the ICON and select Configure. Select *Sim-Avionics* from the drop down menu. In the Assignment Tab use the Drop-down menu to select the position of the CDU.

NOTE: If you have more than 1 CDU plugged in at the same time (this will show in the DEVICE column) and you are unsure which CDU is which. Then press a key on a CDU and this will show a key press in the INPUT DATA LOCATION.

Click on SAVE. Right click on the ICON and select EXIT.

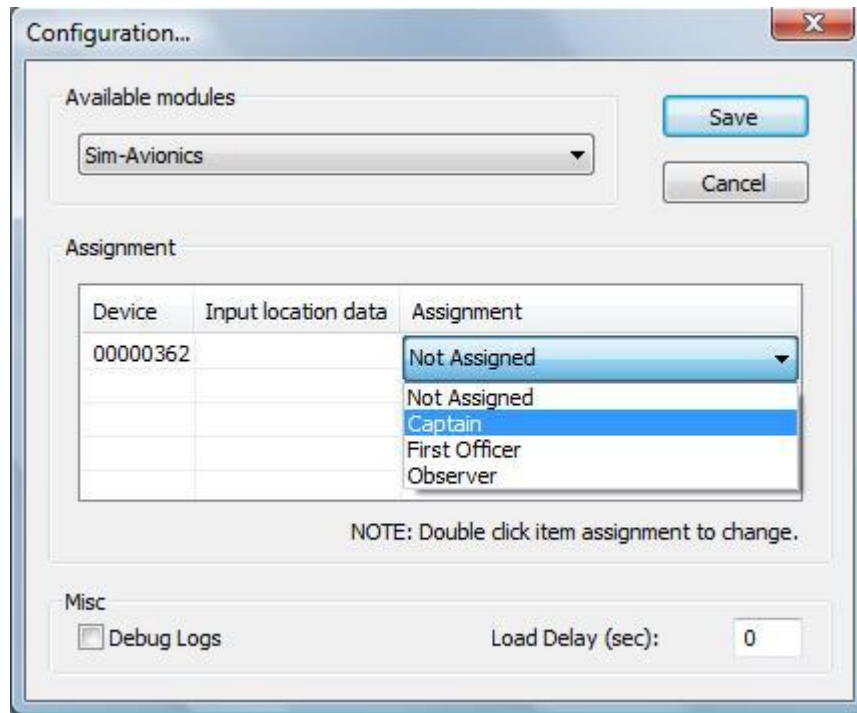


FIG. 16

In the Sim- Avionics CDU (CA, FO or OBS) folder go to the Config ini file and change the line that allows Sim-A to start the FDS-CDU software from =0 to =1

```
// Automatically start FDS-CDU interface on startup
START_STOP_FDS_CDU_MODULE=1
```

If starting manually, then start the FDS-CDU first then the CDU software.

Other Config ini file changes are for the following:

Assigning CDU position:

[SETTINGS]

// = CPT or FO or OBS

POSITION=CPT

CDU Key layout:

// MENU KEY Pages

// 0 = 777

// 1 = 737

// 2 = 737 with NAV RAD instead of N1 LIMIT

KEY_MAP=1

CDU Full Screen and Resolution:

WINDOW_LEFT=0

WINDOW_TOP=0

WINDOW_WIDTH=800

WINDOW_HEIGHT=600

WINDOW_ROTATE=0

ROTATE_X=0

ROTATE_Y=0



FIG. 17

Single PC Setup Info

In a single PC setup you will need to add the resolution to the WINDOW_LEFT=XX

This will place the screen in the correct location of your Extended Desktop in the Single PC setup. Depending on how you layout the screens you may need to add the number for WINDOW_TOP=XX as well.

By moving the screens around in the Screen Resolution page the numbers will appear (see picture above). We suggest you align the screens as they appear in your MIP. Use Identify to have them in the correct location by showing the screen numbers (1-6)

Note:

Set your video card resolution and then set the same resolution in the Config ini. *800 x 600 is preferred but 1024 x 768 will work as well.

Line Set-up:

1. Press the MENU key
2. Press SIM
3. Press NEXT PAGE
4. Press Line Setup
5. Change each line number by entering the new number with the keypad and select the line you want to adjust. The line will move, adjust the number till lined up. Do this for each line. IE: Shows 58 enter 68, select the LSK and the text will shift down. (if you make a mistake enter a number close to what it was and select the LSK to return the line)
6. Press NEXT PAGE to go to the next menu page.
7. This is for the Title, Margin and Scratchpad
8. Press SAVE when completed.

Nav Data

The necessary files that are required for the CDU to have the latest data are available here:

<http://www2.navigraph.com/www/default.asp>

FMS Data page:

<http://www2.navigraph.com/www/fmsdata.asp>

Scroll down to the Sim-Avionics and select the file. You need to purchase credits to download the latest files.

Note: Software suites do not come with Nav Data installed.

For more info: http://www2.navigraph.com/www/fmsdata_about.asp

Select FMS format from the following list:

<http://www2.navigraph.com/www/fmsdata.asp>

Self Installing software.

Air Sim Tech (AST) MCDU Set-up

FDS-CDU Software is located here:

<http://www.tekworx.ca/downloads.html>

CDU software v3.1.5 link is [here](#)

Open the software; it will appear down by the clock in the Task Bar.



FIG. 18

Right click on the ICON and select Configure. Select **AST Software** from the drop down menu. Click on SAVE. Right click on the ICON and select EXIT.

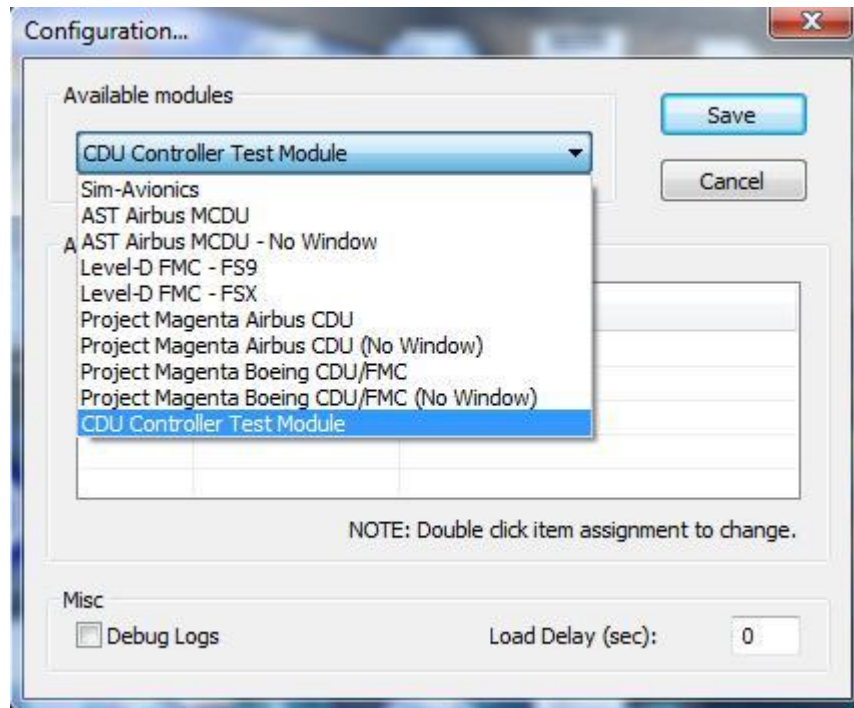


FIG.19

Follow the MCDU instructions that come with AST software for proper installation. AST uses a “Key Teacher” program to assign keys to the MCDU software. Also the ICFG program will allow you to make the proper screen adjustments.

<http://www.airsimtech.eu/>

NOTE: You need to choose the “No window” in the Drop Down menu. Be sure that the MCDU software is NOT running when using the “Key Teacher” tool.



FIG. 20

FDS-A320-PRO-MX-MCDU [*Multi Control Display Unit*]

Available:

DIR, PERF, PROG, INIT A, INIT B, DATA, F-PLN, RADNAV, FUEL PRED, MCDU MENU,
Fuel calculations, Vertical Flightpath Calculations.

Project Magenta CDU Setup

FDS-CDU Software is located here:

<http://www.tekworx.ca/downloads.html>

CDU software v3.1.5 [LINK](#)

Open the software; it will appear down by the clock in the Task Bar.



FIG. 21

Right click on the ICON and select Configure. Select ***Project Magenta*** from the drop down menu. Click on SAVE. Right click on the ICON and select EXIT.

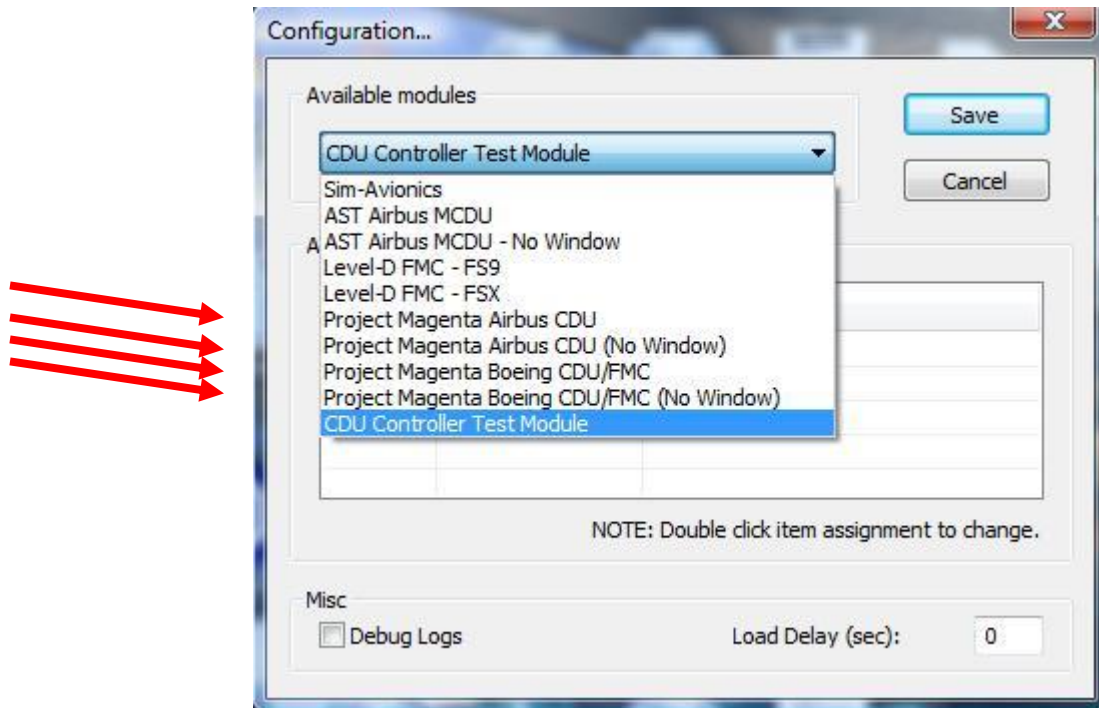


FIG. 22

The RCDU software requires the **Project Magenta** (No Window) when configuring the FDS-CDU software.

<http://www.projectmagenta.com/resources/MagentaDoc11.pdf>

CDU Information starts on Page 30. Set-up and INI file information can be found in this document. Follow the instructions provided.

Project Magenta Troubleshooting

*** Project Magenta FAIL Light on:**

In the ini file you change this line:

KeyboardLights=Off / Lights keyboard lights when EXEC,

KeyboardLightsXP=Off / MESS, FAIL light up

Change to=On

**Has something to do with Number Lock key on a keyboard and a common Technical question.*

iFly CDU Setup

<http://www.flightdecksolutions.com/pcupload/FDS-CDU-iFly-Module-v1.0.zip>

Follow instructions below. Install FDS-CDU-iFly-Module software **after** FDS-CDU Controller Software.

Installation Steps

1. First, you will need to download and install the FDS CDU Controller software from <http://www.tekworx.ca/downloads.php>

FDS-CDU ver 3.1.5 [LINK](#)

***This is the main controller software required to interface the hardware to any software.**

2. After successfully running **FDS-CDU iFly Module v1.0.exe** the installer has made the changes to allow the CDU Controller to interface with the CDU on the FSX iFly aircraft. What did the installer do :

- You will find a new folder : **\FDS iFly Interface\CDU**

This contains **iFlyCDU.dll** which is the iFly addon module for the CDU Controller software.

- A Registry entry is also added during the installation to register the iFlyCDU.dll with the CDU Controller software:

HKLM\Software\TEKWorx Limited\FDS-CDU\Extra Modules\iFly

3. Now all of the components have been installed you need to assign the connected CDU's as either Captain or FO in the CDU Controller software.

To do this you should connect the CDU's to you computer via the USB cables and run the CDU Controller software – **FDS-CDU.exe**

It will show as an icon in the systray on the taskbar (down by the clock)



FIG. 23

4. Now Right-Click on the icon and select "Configure" from the popup menu. **iFly** should be available and selected in the "Available Modules" dropdown menu.

One or Two devices will be displayed in the Assignment window depending on how many CDU's you have connected. Using the *Assignment* dropdown menu you can select Captain or FO.

By pressing some keys on one of the

CDU's, you should see Keypresses shown in the *Input Location Data* box.

This will help you to differentiate between two CDU's

Press **Save**

Then Right-Click on the CDU Controller icon again and select **Exit**

You have now configured the CDU Controller Software

<http://www.flightdecksolutions.com/pcupload/FDS-CDU-Module-iFly-Manual.pdf>



FIG. 24

PMDG NGX CDU Setup

http://www.flightdecksolutions.com/pcupload/FDS-CDU_PMDG_Module_v1.1.zip

Follow instructions below. Install FDS-CDU-PMDG-Module software **after** FDS-CDU Controller Software.

Installation Steps

1. First, you will need to download and install the FDS CDU Controller software from

<http://www.tekworx.ca/downloads.php>

This is the main controller software required to interface the hardware to any software.

2. After successfully running **FDS-CDU PMDG Module v1.0.exe** the installer has setup the FDS CDU Controller to interface with the CDU on the FSX PMDG 737NGX aircraft.

What did the installer do :

- You will find a new folder : **\FDS PMDG Interface\CDU**

This contains **PMDGCDU.dll** which is the PMDG addon module for the CDU Controller software.

- A Registry entry is also added during the installation to register the PMDGCDU.dll with the CDU Controller software:

HKLM\Software\TEKWorx Limited\FDS-CDU\Extra Modules\PMDG

3. Now all of the components have been installed you need to assign the connected CDU's as either Captain or FO in the CDU Controller software.

To do this you should connect the CDU's to you computer via the USB cables and run the CDU Controller software – **FDS-CDU.exe**

It will show as an icon in the systray on the taskbar (down by the clock)



FIG. 25

4. Now Right-Click on the icon and select “Configure” from the popup menu.

PMDG should be available and selected in the “Available Modules” dropdown menu. One or Two devices will be displayed in the Assignment window depending on how many CDU's you have connected. Using the *Assignment* dropdown menu you can select Captain or FO. By pressing some keys on one of the CDU's, you should see Key presses shown in the *Input Location Data* box. This will help you to differentiate between two CDU's Press **Save** Then Right-Click on the CDU Controller icon again and select **Exit**.

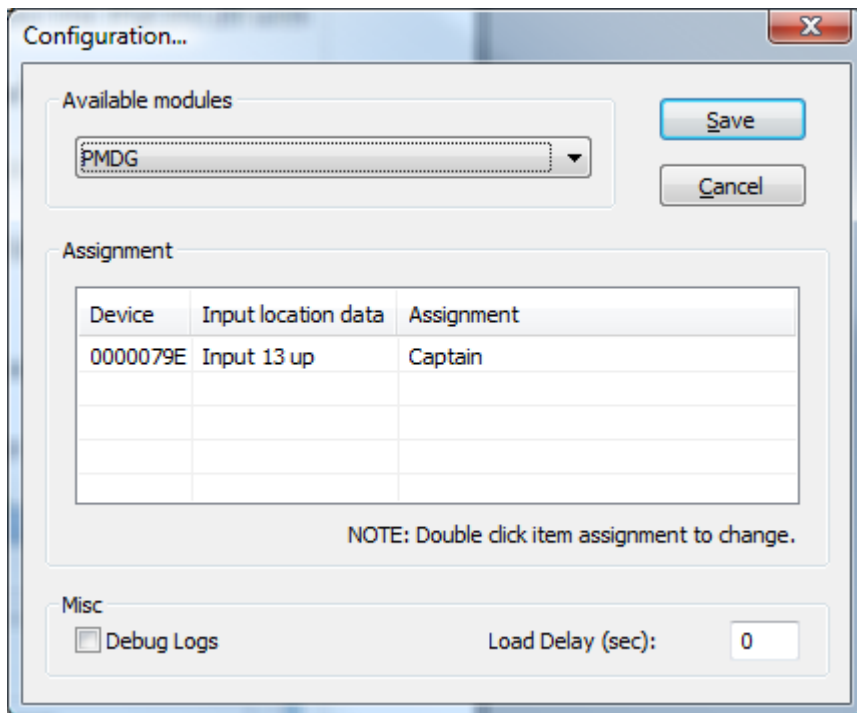


FIG. 26

You have now configured the CDU Controller Software

Your Flightdeck Solutions CDU hardware will now be able to communicate with the PMDG 737NGX CDU.

***But there is one more step...

FSX Window Setup

You will need to make an adjustment to the Aircraft Panel.cfg to make the CDU display in Full Screen.

5. Browse to the folder of the PMDG 737-800NGX aircraft :

\Microsoft Flight Simulator X\SimObjects\Airplanes**PMDG 737-800NGX**\panel\

In this folder you will find a file called **panel.cfg**

You need to edit this file using something like Notepad or Editor

Scroll down until you find the section:

```
//  
// CDU (Left)  
//  
[Window02]  
BACKGROUND_COLOR=0,0,0  
size_mm=385,600  
window_size= 0.20052, 0.50000  
position=8  
visible=0  
ident=402  
zorder=99
```

(This is the line that needs to be changed)

```
gauge00=PMDG_737NGX!CDU, -50,-50,350,350,L #0
```

Insert these numbers:

```
gauge00=PMDG_737NGX!CDU, -90,-100,570,1580,L #0
```

6. Now you can

- Start FSX and select the PMDG 737NGX aircraft

- Start the CDU Controller Software

*You can start these in any order

** If FSX is closed or Restarted then you will also need to restart the CDU Controller Software.

Once you have selected the PMDG aircraft, from the aircraft cockpit you can now

- Click on the CDU to display the CDU window.

- Right-Click on it to bring up the option menu and Select UnDock Window.



FIG. 27

Once the Window is Undocked you can resize and position the window onto the CDU monitor.

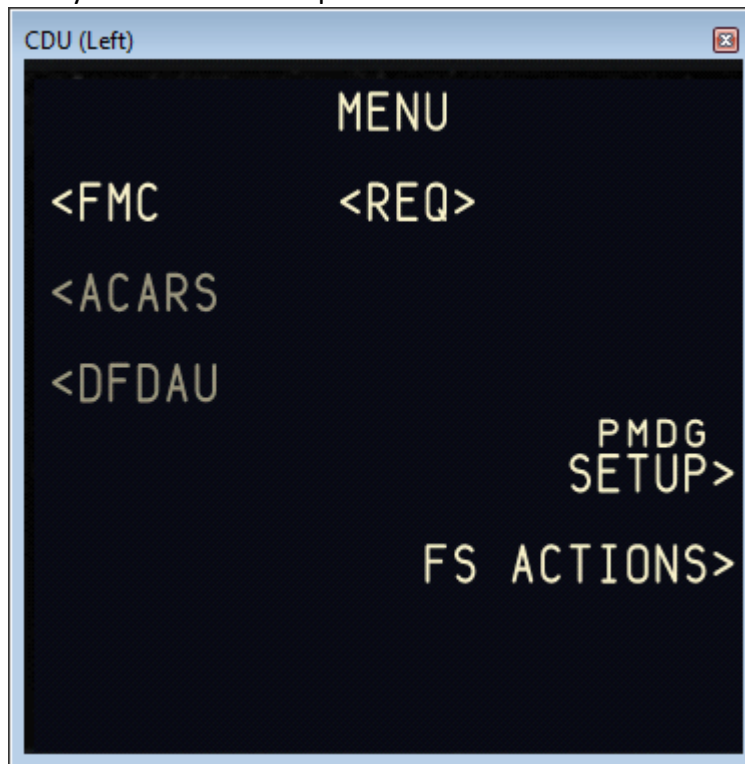


FIG. 28

Save the FSX Flight to remember the window positions.

Current Undocking Issue

After a flight is loaded we have found that the “Un-Docked” gauges do no resize within their respective windows properly. Currently we do not know if this is an FSX or PMDG issue or setup problem. The solution for us is to either “Dock” then “Undock” each window or to slightly move or resize each window.

The problem is being investigated and we will update this document once we have a solution.

<http://www.flightdecksolutions.com/pcupload/FDS-CDU-PMDG-Installation.pdf>

One more line to change:

You also need to enable PMDG data broadcasting. Add the following 2 lines to this file: **<FSX main folder>\PMDG\PMDG 737 NGX\737NGX_Options.ini**

[SDK]

EnableDataBroadcast=1

ProSim CDU Setup

In ProSim 1.38 production release, you need to run the FDS CDU Controller application as well. This puts a task in the Windows task bar and you can configure the CDU there. ProSim will then recognize the CDU.

In the most recent pre- releases (1.39.38) ProSim now supports the FDS CDU with its own version of the TEKWorx driver (interfaceITAPI.dll)

Install TEKWorx software and then setup the ProSim CDU software under options and ticking the "FDS" box. Make sure you use the TEKWorx driver (from the windows task tray) to configure either one (or both) CDU'S as operating in ProSim mode as well.

***Remember to drag the ProSim CDU to the CDU hardware screen.**

Follow the ProSim instructions to install and configure the CDU software.



FIG. 29

AEROWINX PRECISION SIMULATOR (PSX) CDU SETUP

Start the FDS-CDU Software.

Open the software; it will appear on the Task Bar.



FIG. 30

Right click on the ICON and select Configure. Select **Aerowinx Precision Simulator (PSX)** from the drop down menu as shown below.

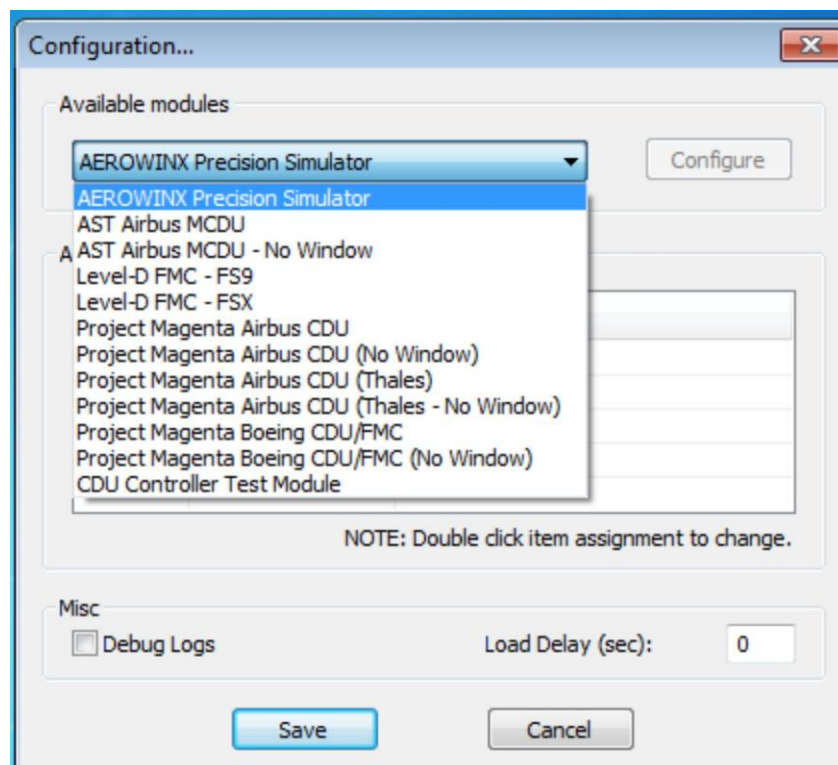


FIG. 31

When PSX is selected the Configure Icon to the right of the drop down menu will darken. If the CDU is being configured from a networked computer other than the PSX Server the IP address and Port number of the Server should be selected. The port number can be obtained from looking at the PSX server's **Preferences – Basic** page.

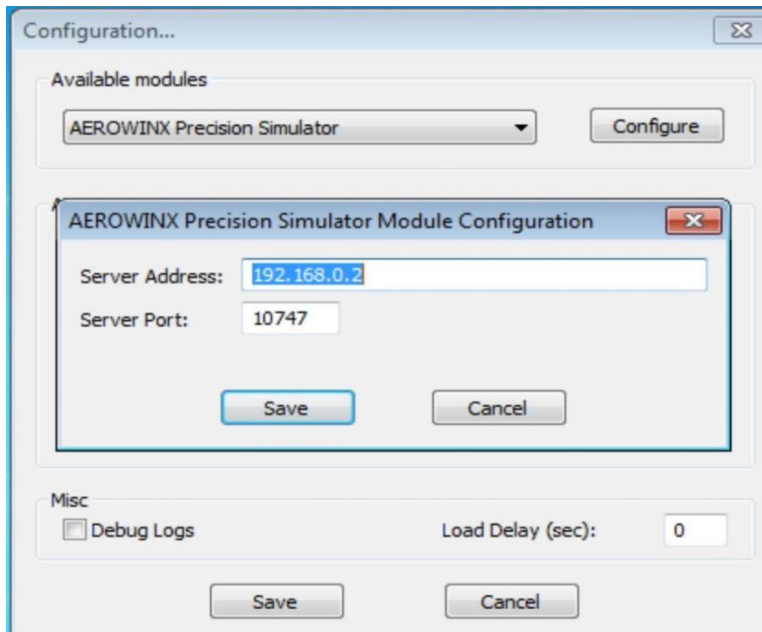


FIG. 32

In the Assignment Tab use the Drop-down menu to select the position of the CDU as shown in the following screenshot. For PSX the CDU position is defined as left, center and right. Left is the captain's CDU, Center is the Observer's CDU on the aft aisle stand and Right is the First Officer's CDU. All three CDUs can be on the same PC if desired.

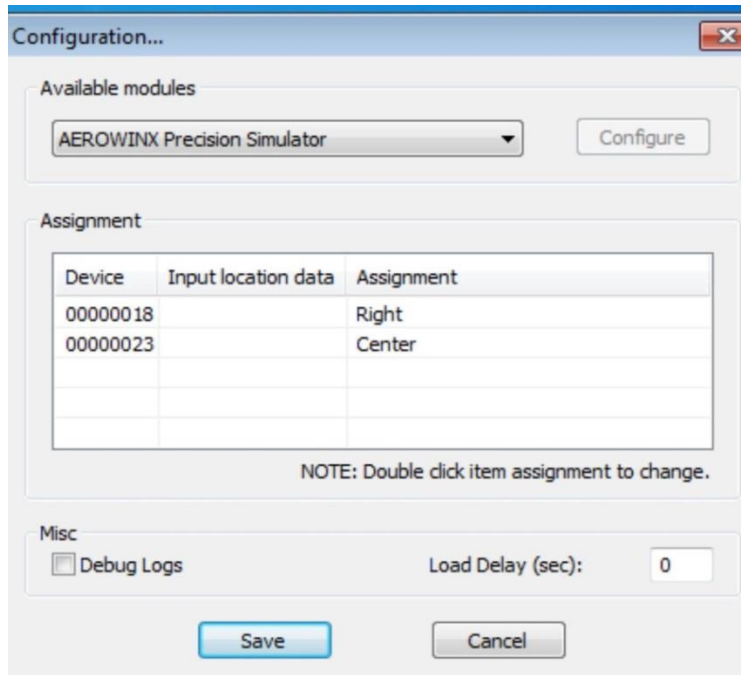


FIG. 33

Click on SAVE. Right click on the ICON and select EXIT.

Optimal video card resolution to match the PSX program is 800 x 600.

Once set up and initialized, the screen, the keypad backlighting and the indicator lights are controlled by the state of the B747-400 simulator. When the aircraft is unpowered, all CDUs are inoperative. When powering up a CDU, it takes 20 seconds until the CDU is operative. The left CDU is powered when the Battery switch is ON and the Standby Power Selector is set to AUTO or BAT. The center CDU is powered when AC bus 1 powered. The right CDU is powered when AC bus 1 or 2 is powered. (AC busses can be powered by APU PWR, EXT PWR, or by engine generators.) The CDU screen intensity is set by the **BRT** dimmer knob on the CDU. The keypad backlighting is controlled by the **Aisle Stand Panel** lighting Potentiometer on the Overhead Panel.

FAQ

Frequently Asked Questions

1. I can't get the CDU to work at all.

Don't panic, do you have the VGA, USB and 12V power connected?

Have you installed and configured the FDS-CDU software?

Have you used the FDS-CDU software Test Module?

2. The display doesn't look right.

Check the Frequency in the Video card settings. Some configurations

(ie: video cards, settings etc need to be adjusted)

Check the resolution for the screen 800 x 600 preferred but 1204 x 768 will work as well.

3. Can I run 2 CDU's on 1 PC?

Yes, you can with Sim-Avionics. Only change the CDU config file to start the FDS-CDU software in the Captain's CDU. Select each CDU in the FDS-CDU Configuration drop-down menu. Project Magenta at the moment you cannot run the RCDU unless it is the "Top Window". Testing has shown you will need a second PC. Mirroring a Pedestal CDU from the Captain's CDU is an option for B747 and B777. (A VGA amplifier will be required)

4. I don't see the software CDU on my Screen

You need to drag the software CDU screen over to the actual CDU Hardware screen. Common **ProSim** installation step that is missed.

Contact FDS Support via scos@flightdecksolutions.com for answers to your installation issues. Please provide some details with your query, Win XX, Video card info, Version of Avionics software etc. This helps us, to help you.

Thank you for purchasing the FDS-PRO-MX-CDU/MCDU from Flightdeck Solutions.

We are proud of our products and hope you enjoy using this

High quality product.

