OPENCOCKPITS MCP B-737

INSTALLATION AND USER'S MANUAL

Opencockpits

All for your cockpit

MODULE DESCRIPTION

Note: All module components and their functioning, are subject to the airplane or the add-on to be used and also if they have these ítems actived.

1. **COURSE:** Shows the selected VOR or ILS course (CPT).
2. **A/T ARM:** Auto/Throttle. Switch.
3. **C/O:** Pushbutton to change between IAS and MACH.
4. **IAS/MACH:** Shows the selected speed.
5. **VNAV:** Pushbutton to arm the pitch mode VERTICAL NAVIGATION.
6. **HEADING:** Shows the selected heading.
7. **LNAV:** Pushbutton to arm the roll mode LATERAL NAVIGATION.
8. **ALTITUDE:** Shows the selected altitude.
9. **VERT SPEED:** Shows the selected vertical speed.
10. **A/P ENGAGE:**
    - **CMD A:** Arms the automatic pilot in COMMAND mode (CPT)
    - **CMD B:** Arms the automatic pilot in COMMAND mode (FO)
    - **CWS A:** Arms the automatic pilot in CONTROL WHEEL STEERING mode (CPT)
    - **CWS B:** Arms the automatic pilot in CONTROL WHEEL STEERING mode (FO)
11. **COURSE:** Shows the selected VOR or ILS course (FO).
12. **COURSE SELECTOR:** To select the course (CPT).
13. **F/D:** FLIGHT DIRECTOR arm switch (CPT).
14. **N1:** Pushbutton for N1 mode.
15. **SPEED:** Pushbutton for the SPEED mode (uses the selected speed with (16)).
16. **SPEED SELECTOR:** To select the speed.
17. **LVL CHG:** Pushbutton for the LEVEL CHANGE mode (not acts if don't have changes on ALTITUDE).
18. **HEADING SELECTOR:** To select the heading to follow by the aircraft.
19. **HDG SEL:** Pushbutton to arm the HEADING roll mode.
20. **APP:** Pushbutton to arm the APPROACH mode (needs an ILS selected and active on NAV radio).
21. **VOR LOC:** Pushbutton to arms the VOR LOCALIZER mode (needs a VOR selected and active).
22. **ALT HLD:** Pushbutton to hold the altitude of this moment.
23. **V/S:** Pushbutton for the VERTICAL SPEED mode.
24. **V/S SELECTOR:** With this Wheel we select the vertical speed.
25. **DISENGAGE:** Deactive any automatic pilot mode, except the speed.
26. **F/D:** FLIGHT DIRECTOR arm switch (FO).
27. **COURSE SELECTOR:** To select the course (FO).

HARDWARE INSTALLATION

The hardware comes already assembled; to make it work we only have to connect it to the computer and to a 5V DC power supply.

In the rear there is an output with an USB cable; and an input for the power supply with a 3, 5 mm jack.

We shall connect the USB cable either directly, either through a HUB, to an USB port in the PC. Normally the voltage received from the USB port is not enough, and it is recommended the use of a self alimented HUB, or the use of a 5V power supply, of no less than 500 mA. Please note that the positive must be at the end. Our store can provide the right power supply.

MODULE CHECKING

Use the check application for the MCP module, included in the zip file and also downloadable from the "download" tab at the MCP purchase page.

SOFTWARE INSTALLATION

Like other Opencockpits modules and because of the number of different add-ons that are offered for Flight Simulator, it is impossible for Opencockpits to provide coverage for all, because the software is always developed by third parties and Opencockpits has no liens with them.

Nevertheless, Opencockpits has made an effort in trying to integrate its hardware with all these external packages, although sometimes it has been very difficult to do so with certain products.

The basic management software of the Opencockpits MCP is ready for the FS2004 and FSX default airplanes, although none of them manages the B737MCP exactly like the real plane.

The first part of this installation should be done by downloading the "OPENCOCKPITS MCP B737.zip" file from the selling page of the MCP in our site www.opencockpits.com.

Unzip the file in an easy to find location (i.e. C: \); it will create a folder called OPENCOCKPITS MCP B737. Inside, you will find the files further detailed.

Among others, there are three logical ways to configure the software to run on our MCP :

- Build or own configuration creating our own script
- Using the files already configured by Opencockpits
- Using the Opencockpits Auto-Configurator

OUR OWN CONFIGURATION

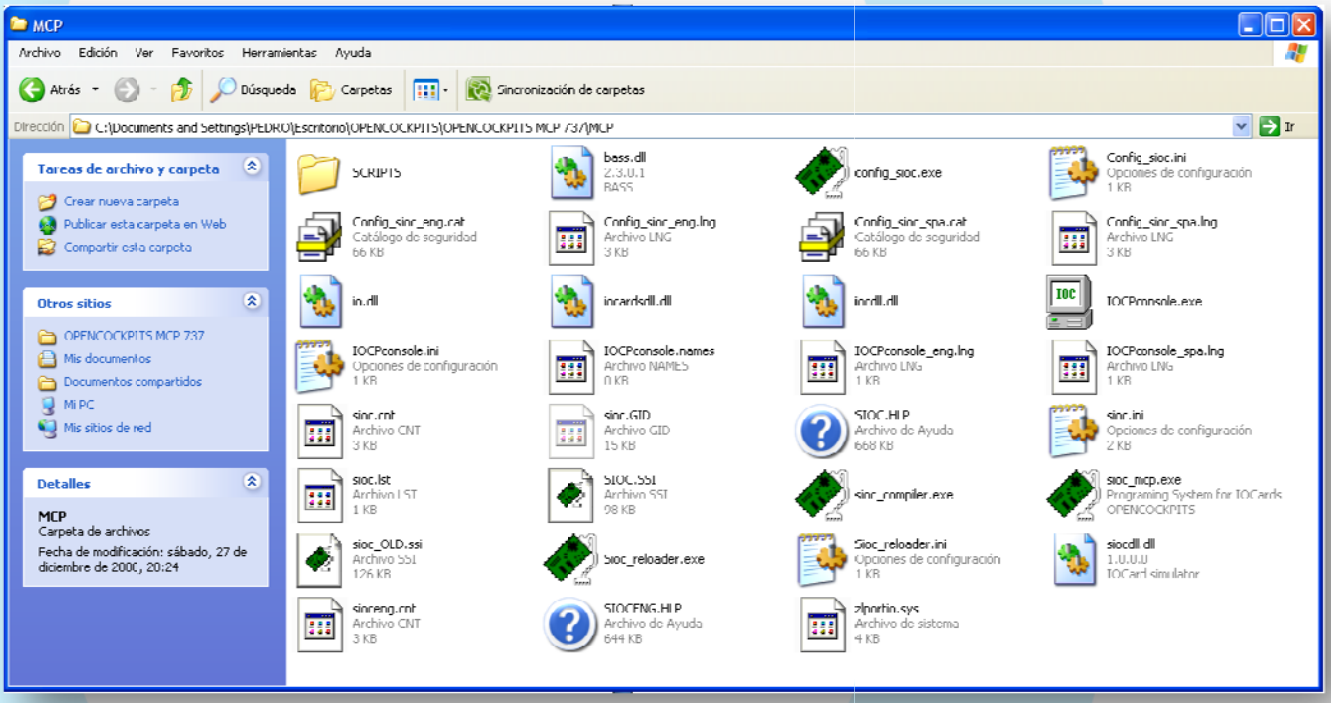
To do this we create our own script, either using the config_sioc.exe or using any text editor and writing the script as we would do with any other programming language, and finally compiled in .ssi and run with sioc.exe.

There is no need to be an advanced user as the tools and the many examples of the script that exist in different forums, including Opencockpits, does not make building our own script very difficult, in any case we describe two easy methods to carry out this task.

USE OF FILES CONFIGURED BY OPENCOCKPITS

The Zip file containing this manual also contains the following folders and files:

- A folder called MCP that contains those files needed to run the scripts
  - Inside this folder we find another folder called SCRIPTS that contains several scripts to use depending what add-on or software we want to use:
    - sioc mcp ogs.txt = for OGS software
    - sioc mcp magenta.txt = for Project Magenta software
    - sioc mcp pmdg.txt = for PMDG 737NG software
    - sioc mcp fds.txt = for Flight Deck Software
    - sioc mcp fs2004.txt = for default 737 from Flight Simulator 2004
    - sioc mcp fsx.txt = for default 737 from Flight Simulator X



- And as we said before, it also includes this manual.

Once unzipped, open the folder MCP and edit the file sioc.ini with a text editor, the default Windows Notepad is perfect,

Inside we find a line like this:

CONFIG_FILE=.\scripts\xxxxxxx.txt

This will replace the "x" for the file among the above ones that we want to use in our Opencockpits MCP, for example:

CONFIG_FILE=.\scripts\sioc mcp fs2004.txt

And so we set our MCP 737 to work with the default Flight Simulator 2004.

Then simply run the application sioc_mcp.exe, which is in the MCP folder and this will make our MCP fully operational for the chosen software.

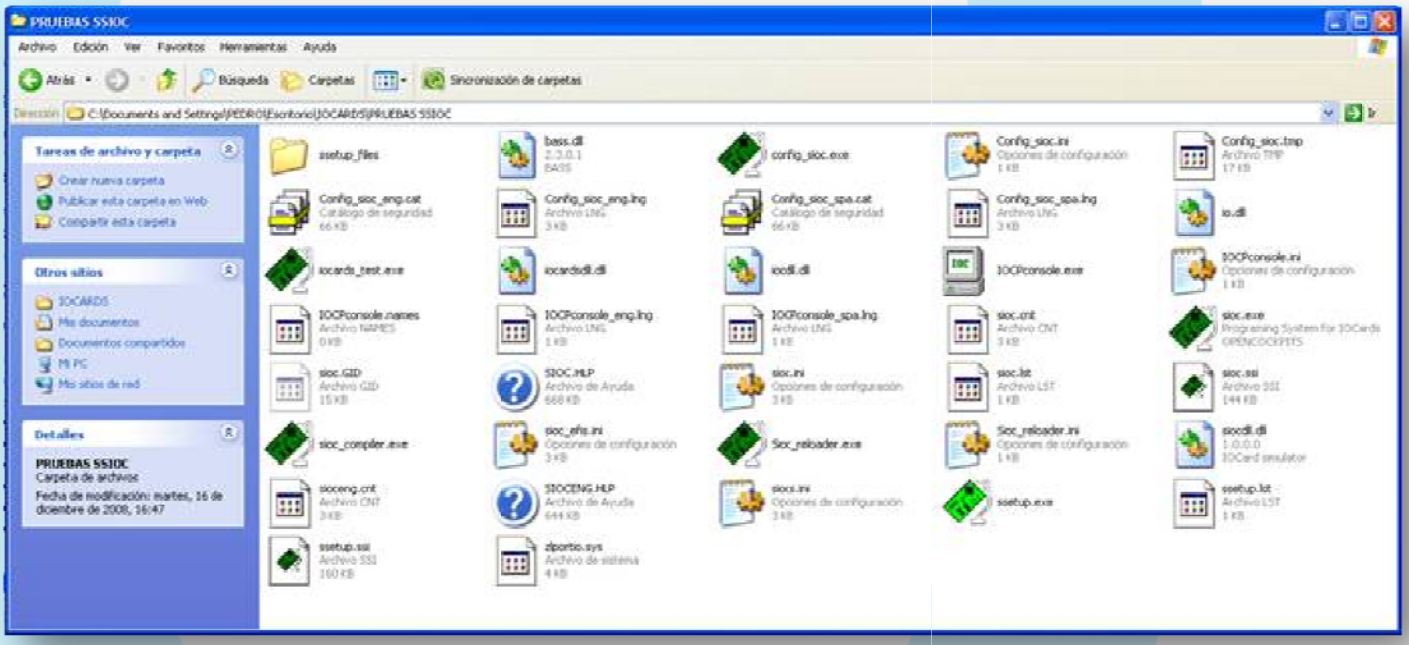
NOTE: Once you run this application, in the folder called scripts a new compiled file with the .ssi extension will be created, this is normal because SIOC really works with compiled files, even if we are using text (.txt) files for this configuration.

The only special requirement, and only because of the own idiosyncrasies of PMDG's software, is that we must set the keystrokes in Flight Simulator-> PMDG-> Keyboard commands, as indicated in the annex at the end of this document.

THE AUTO-CONFIGURATOR FROM OPENCOCKPITS

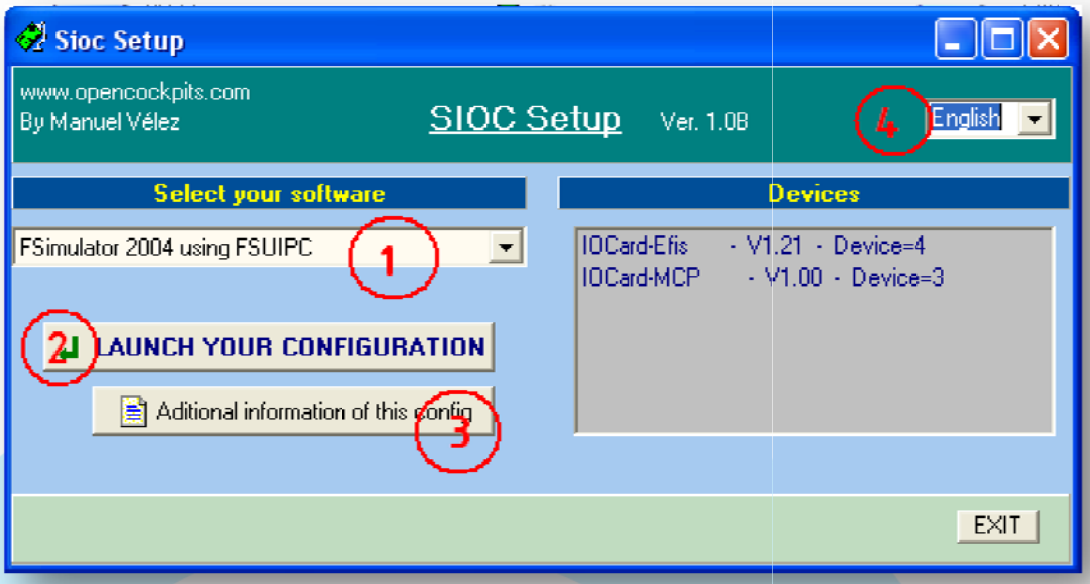
We have included the application in the same zip, in a folder called SSETUP.

It must be unzipped inside the same folder where the application sioc.exe is, leaving the folder something like the following image (in this image all unnecessary files were deleted), but not necessarily the same you can see on your computer:



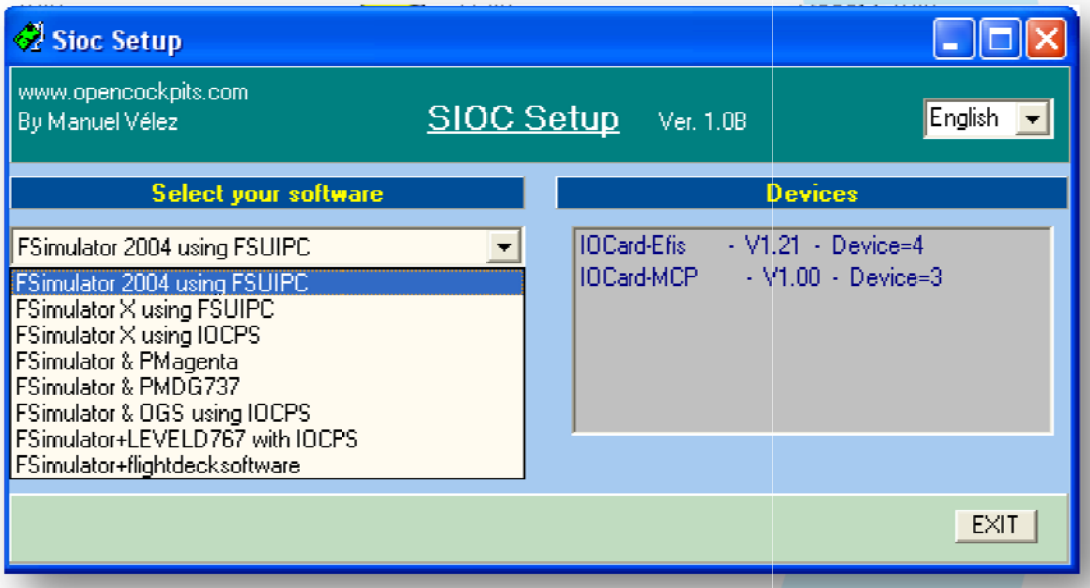
Where you can see that a new icon called ssetup.exe has been created and a folder called ssetup_files, which contains all the files for the MCP.

Next is to run ssetup.exe and we will see a screen like this:



Where we see that the language can be changed (4); we also have a drop-down with different software options (1), a button to launch the configuration and start our module (2) and finally a button to see some additional information about each of the configurations (3).

Clicking on (1) shows us the following list:



In this list the different options are shown. We simply choose the most suitable for us or the one we need to use at this time, and then click on the button to launch (2) and our MCP shall become alive and show appropriate information in accordance with the software that has been previously chosen.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
We see the error "Could not bin socket. Address and port are already in use".	We have assigned the same port in two different sioc.ini and we intend to run both simultaneously.	Open sioc.ini and change this number for other unused port number
We run sioc_mcp.exe and the MCP comes alive, but does not actuate in FS	Device number is badly assigned.	Delete device number in sioc scripts or assign in sioc.ini MASTER line a 0 to the first number (MASTER=0,5,1,0)
We run sioc_mcp.exe but the MCP does not light up and does not actuate in FS.	We don't have properly configured the Device number and sioc does not find the MCP module.	Assign in sioc.ini the right numbers.
We run sioc_mcp.exe and nothing happens.	The MCP is not powered.	Make sure the MCP receives 5V DC and enough amperage to operate (500mA min.).
Digits fluctuate or sectors fail. The MCP becomes unstable	Low power.	Use external power supply or self powered USB HUB.

TECHNICAL SPECIFICATIONS:

- Connection to PC by USB port (does not need drivers).
- Can connect with X-Plane, FS98, FS2000, FS2004 and FSX through FSUIPC or IOCP.
- Displays Brightness by software.
- No need of additional cards to work.
- Manage decimal point and minus sign.
- Interconnection capacity with other Opencockpits modules or from other manufacturers.
- Totally programmable.
- Assembled module, with or without box.
- Power consumption 5V minimum 1A.
- Sizes 470x78x150 mm. (WidthxHighxDeep) without box the deep is 40 mm.

ANNEX I

KEYSTROKE COMMANDS IN PMDG

MCP Press APDISCON = Ctrl + Shift + Y
MCP Press AT = Shift + R
MCP Press N1 = Ctrl + Shift + N
MCP Press SPD = Ctrl + M
MCP Press CO = Shift + I
MCP Press LVLCHG = Ctrl + I
MCP Press VNAV = Ctrl + V
MCP Press LNAV = Ctrl + N
MCP Press VORLOC = Ctrl + O
MCP Press APP = Ctrl + A
MCP Press HDGSEL = Ctrl + H
MCP Press ALTHLD = Ctrl + Z
MCP Press VS = Ctrl + P
MCP Press CMD L = Ctrl + Shift + A
MCP Press CMD R = Shift + F4
MCP Press CWS L = Ctrl + F4
MCP Press CWS R = Ctrl + Shift + F4
MCP Press FD L = Ctrl + F
MCP Press FD R = Ctrl + Shift + F3
MCP Increase Bank Limiter = Ctrl + Shift + L
MCP Decrease Bank Limiter = Ctrl + F11
MCP Increase Course = Shift + F3
MCP Decrease Course = Ctrl + F5
MCP Increase Altitude = Ctrl + Shift + Z
MCP Decrease Altitude = Ctrl + F2
MCP Increase Speed = Ctrl + Shift + V
MCP Decrease Speed = Shift + F11
MCP Increase Heading = Ctrl + Shift + H
MCP Decrease Heading = Ctrl + F8
MCP Increase VS = Ctrl + Shift + P
MCP Decrease VS = Ctrl + Shift + F11

EFIS Press Mins = Shift+Tab+M
EFIS Increase Mins = Ctrl+shift+M
EFIS Decrease Mins = Shift+F12
EFIS Reset Mins = Ctrl+,
EFIS Press Baro = Ctrl+Shift+F1
EFIS Increase Baro = Ctrl+Shift+B
EFIS Decrease Baro = Shift+B
EFIS Reset Baro STD = Ctrl+3
EFIS Press FPV = Ctrl+4
EFIS Press MTRS = Ctrl+5
EFIS Increase NavL = Ctrl+Shift+1
EFIS Decrease NavL = Ctrl+1
EFIS Increase NavR = Ctrl+Shift+2
EFIS Decrease NavR = Ctrl+2
EFIS Increase ND Mode = Ctrl+Shift+4
EFIS Decrease ND Mode = Ctrl+Shift+5
EFIS Press ND Mode CTR = Ctrl+Shift+,

EFIS Increase ND Range = Ctrl+Shift+0
EFIS Decrease ND Range = Ctrl+Shift+3
EFIS Press ND Range TFC = Ctrl+Shift+.
EFIS Press WXR = Ctrl+Shift+Tab+5