



# Opencockpits



## Installation and Use Manual for B737 MCP V3.

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## Introduction:

The MCP is a system of instruments commonly called cockpit autopilot which the crew can handle different flight modes.

### MCP V3 B737:

The Opencockpits MCP V3 module is ideal for managing these modes flight simulation. This module has been developed from version 2 with users in mind who want a real simulation in both functionality and aesthetics adding features like BANK ANGLE, F / D indicators, warnings of low and high speed and details as guards for Flight Director switches that the previous model did not have.



Thus, if we have a simulator software that supports these functions can handle the plane as if it were the real autoflight concerned.

### Specifications:

- Retroiluminación potente mediante leds (fuente de alimentación externa a 6V incluida).
- 1 Salida con cable USB.
- 1 Entrada de corriente del alimentador.
- Pintura Boeing con acabado mate.
- Caja metálica.

### Appearance and measures:

- Measures: 475x75x155mm.
- Weight: Aprox. 3.5Kg.

The set is shipped with the following items:

- B737 MCP module with box (optional).
- USB cable.
- Power supply 6V, 2A.

## Description of buttons:

Note: All components of the module and its operations, are subordinated to MCP and model airplane and / or add-on that is used.



1. **COURSE:** It shows the course of the VOR or ILS selected (CPT)..
2. **A/T ARM:** arming switch for Auto / Throttle.
3. **Indicator** for armed Auto/Throttle.
4. **C/O o CHANGEOVER:** Button to switch between IAS and MACH.
5. **IAS/MACH:** It shows the selected speed and warnings of excess or lack of speed (no warnings available in V2).
6. **SPD\_INTV:** Pushbutton speed intervention (not available in V2).
7. **VNAV:** Pushbutton for armed mode pitch VERTICAL NAVIGATION.
8. **HEADING:** It shows selected heading.
9. **HEADING SELECTOR:** To select the heading for the plane.  
**BANK SELECTOR:** Pressing it select the maximum angle of roll or bank angle (not available in V2).
10. **LNAV:** Key for the armed mode roll LATERAL NAVIGATION.
11. **ALTITUDE:** It shows the selected altitude.
12. **ALTITUDE SELECTOR:** With it select cruising altitude.
13. **ALT\_INT:** Pushbutton of altitude intervention (not available in V2).
14. **VERT SPEED:** It shows the selected vertical speed.
15. **A/P ENGAGE:**
  - **CMD A:** Arm autopilot mode COMMAND (CPT).
  - **CMD B:** Arm autopilot COMMAND mode (FO).
  - **CWS A:** Arm autopilot STEERING WHEEL CONTROL mode (CPT).
  - **CWS B:** Arm autopilot STEERING WHEEL CONTROL mode (FO).
16. **Indicator** of FO Flight Director armed (FO F/D, no available in V2).
17. **COURSE:** It shows the course of the VOR or ILS selected (FO).
18. **COURSE SELECTOR:** To select the course (CPT).
19. **Indicador** of CPT Flight Director armed (CPT F/D, no available in V2).
20. **F/D:** Arming Switch for Flight Director (CPT).
21. **N1:** Button for N1 mode.
22. **SPEED:** SPEED mode Pushbutton (using speed selected with the number 23).
23. **SPEED SELECTOR:** To select the speed.
24. **LVL\_CHG:** Button for LEVEL CHANGE mode (no effect if there is no change in altitude).
25. **HDG SEL:** Key for the arming mode roll HEADING.
26. **APP:** Pushbutton to arm the approach mode (requires an active and selected ILS in NAV radio).
27. **VOR LOC:** Pushbutton for the armed LOCALIZER VOR mode (requires an active and selected VOR).
28. **ALT HLD:** When pressed maintains the aircraft's altitude at the time.

29. **V/S:** Button for mode pitch VERTICAL SPEED.
30. **V/S SELECTOR:** With the wheel select vertical speed.
31. **DISENGAGE:** Disable any autopilot mode, except the SPEED.
32. **F/D:** Arming Switch for Flight Director (FO).
33. **COURSE SELECTOR:** To select the course (FO).

## Starting the MCP:

We already have our V3 B737 MCP we unpacked and visually inspected, now we have to install and configure. The hardware is mounted, the only thing we have to do is plug it into the computer and the included power supply to power the backlight and module electronics.

In the back provides a connection to a cable with USB connector and a power input for a mono jack plug 3.5 mm diameter.

The USB cable connector will connect either directly or through a USB HUB (preferably self-powered) to a computer's USB port, the power received from the USB port itself is not enough.



## Checking the module:

The V3 MCP version requires the use of SIOC 4.3 or higher software. SIOC 4.3 is available on the product page of the MCP, in the "Downloads" and in the support area.



When the module is connected Monitor recognizes it and if you press the buttons and switches, the program will identify the number of each button and switch to test well on and off the indicators and displays.

## ***Installing the software:***

As to what happens in other modules Opencockpits and due to the number of different add-ons that can be offered for Flight Simulator, it is impossible Opencockpits can give coverage all because the software is always the work of others and Opencockpits has no relationship with them.

Yet Opencockpits has made the effort to try to integrate their hardware with all these external packages, although with certain products has been very difficult to do.

The basic software for the management of Opencockpits MCP V3 is ready for the "MCP" add-ons of ProSim, Ifly \*, Project Magenta \* and PMDG NGX \* with their restrictions and limitations (\* on the programming process at the date of this manual).

We will need to install a protocol to communicate with the simulator, the best known are the FSUIPC and IOCPSServer (the latter integrated into the latest versions of SIOC), although it is not necessary to have them both installed. The FSUIPC is a third-party payment software that must be installed and legalized for some of Opencockpits products work.

To download SIOC visit the Opencockpits store or the software downloads/help page, descend the latest version and install it (all you need is also in the downloads tab of product sheet).

There are two ways to configure the software to run our MCP V3:

- Set it ourselves creating our own script.
- Using files configured by third parties or Opencockpits.

## ***Our own configuration:***

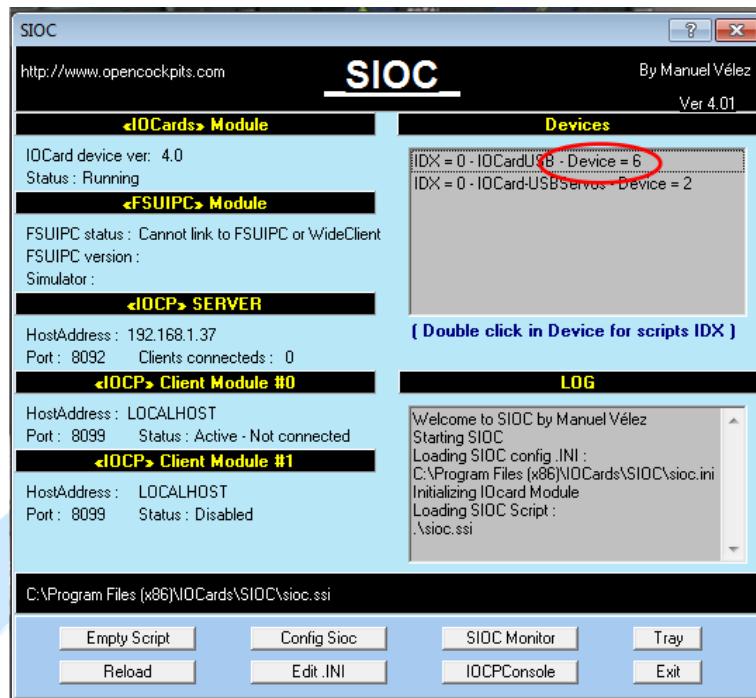
To do this we will create our own script, either using the config\_sioc.exe or using any text editor and will write the script as we would any other programming language, finally will compile to .ssi and would execute with SIOC.exe.

It does not take an advanced user as the tools and the multitude of examples in different forums, including Opencockpits own, doing our own script is not very difficult, yet detailed below an easier method to carry this task.

## ***Use of files configured by third or Opencockpits:***

Once downloaded the programs and scripts we will use (available in the "Downloads" tab of module web page).

Connect the module to the PC B737 MCP V3, run Sioc.exe, we see on the upper right window the value of USB (Device) where the module is connected and note the number,



press the button "Edit. INI" and change in the following line:

**CONFIG\_FILE=.\scripts\xxx.txt**

xxx.txt file by filename. txt defining the add-on you want to use, for example:

**CONFIG\_FILE=.\scripts\sioc MCP V3 ProSim.txt**

and on the declaration line of the IOCards device will put 15 for V3 B737 MCP:

**MASTER=15,15,1,XX**

where xx is the USB port number we've seen in the window of SIOC.

Save the changes and close the editor, reload parameters with the Sioc "Reload" button and will configure SIOC to us to use our MCP with ProSim (in this particular example) or other add-on, just have to start the simulator, the add-on and test the MCP. The add-on must be configured for the same parameters IOCP port and IP SIOC server.

## Specific configurations for add-ons:

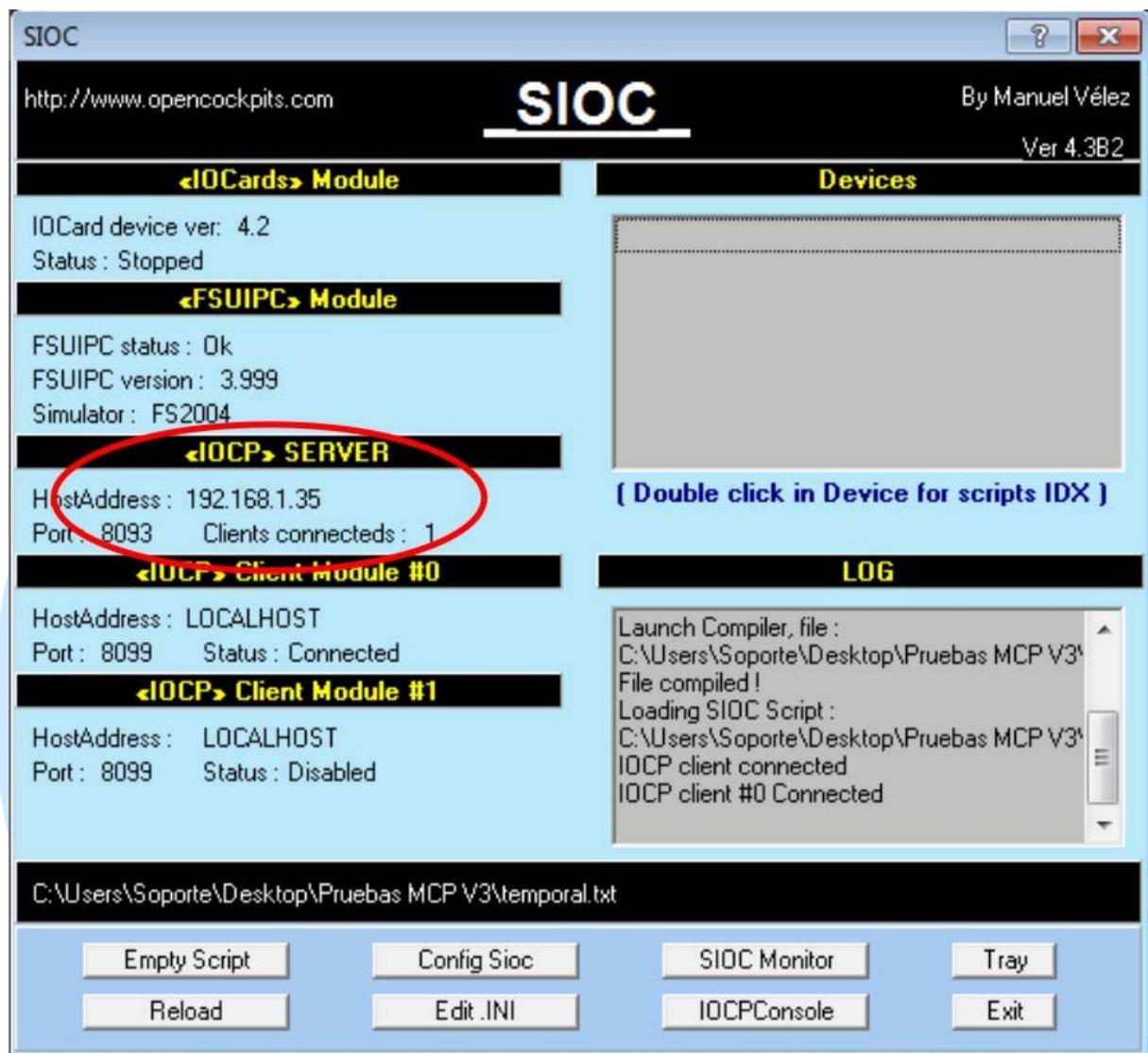
Keep in mind that some add-on need special configurations or specific drivers such as ProSim, PMDG 737NGX or iFly 737 which we have the drivers in Opencockpits help page and in the "Download" tab of product page.

We will always have the simulator and the add-on running before launching the software SIOC and intermediates.

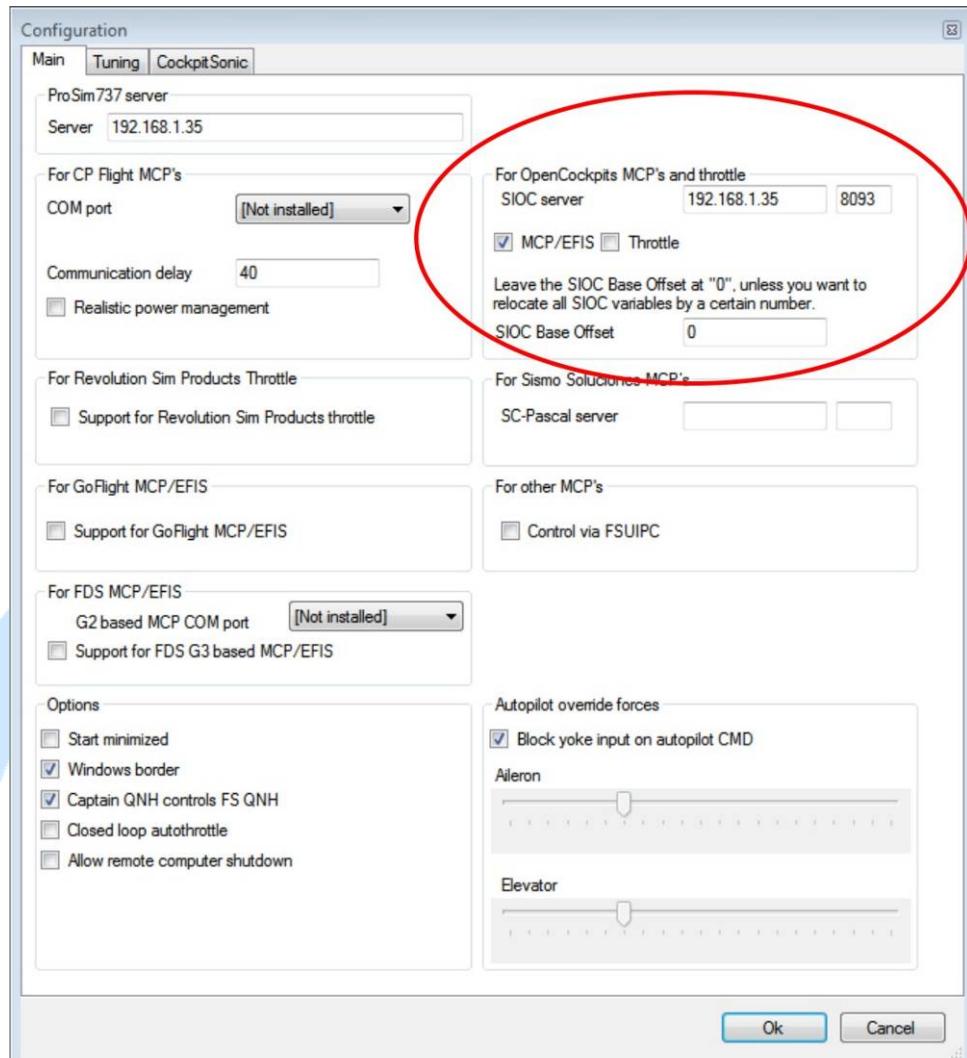
**1.- ProSim:** This add-on has its own software with specific support for our MCP modules V2 and V3 and includes in ProSim MCP folder the appropriate script to run both versions.

The user who uses ProSim should be familiar with its configuration and method of work, so we will not delve into how to set ProSim and let's move directly to configure our MCP V2 and V3 for use with this add-on (the script is the same for both versions and includes two control EFIS and CDU / FMC V3 also).

Assuming that ProSim is properly configured about IOCP server IP address and port, the only configuration to make is into the software ProSimMCP.exe, where we enter the value of the IOCP server IP address and port (those in the SIOC window):

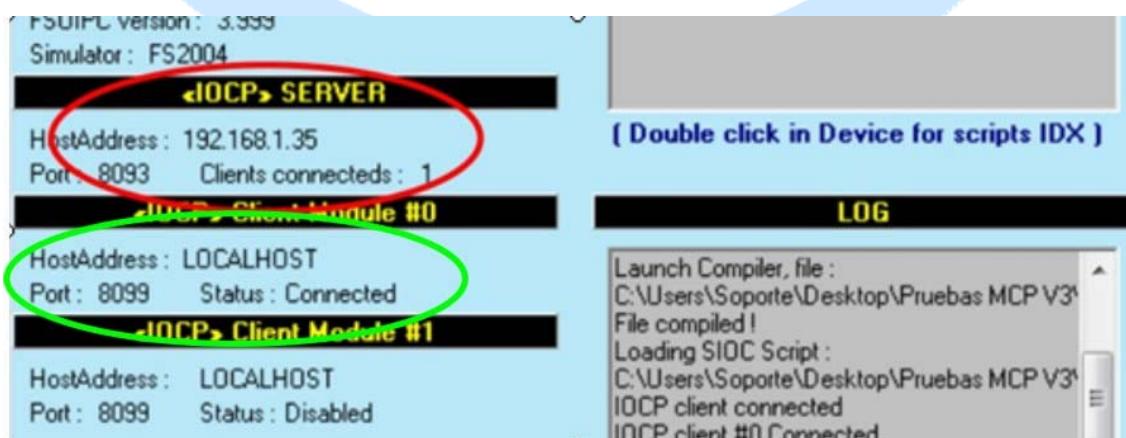


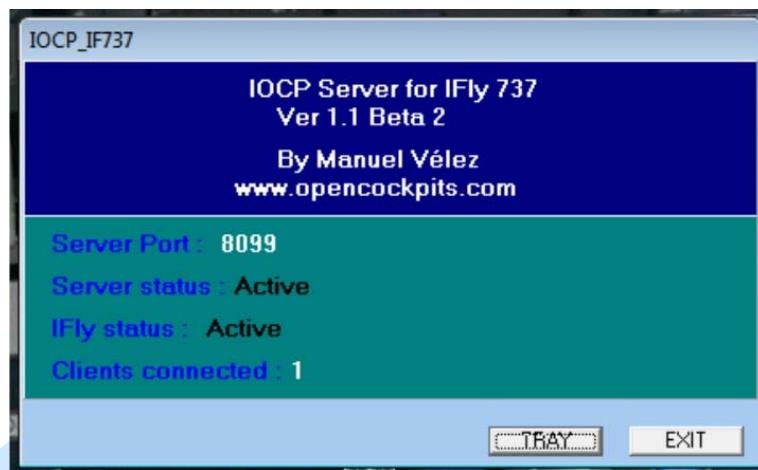
In ProSimMCP.exe be copied the same configuration of ports and ip:



**2.- iFly:** This add-on requires an intermediary IOCP client software. In the market there are various and almost all free. Some are more popular than others by the amount of offsets that implement, Opencockpits offers one free but not all operational offsets, the IOCP\_if737.exe, downloadable from the Opencockpits support page.

For the MCP V2 and V3 work with iFly just have to have loaded the specific iFly script on Sioc.exe and have the intermediate software running with ip and port settings correct (green circle):





**3.- PMDG 737NGX:** This add-on requires a client software like iFly without need FSUIPC. Currently only there is available a program called OC4BA (Opencockpits for Boeing Airplanes).

This software has different requirements than the above concerning the configuration of Sioc. First launch SIOC and will note the DEVICES showing for each module, after sioc.ini file must strictly follow the specifications requested by the OC4BA, which are (for MCP):

MASTER=0,5,1,xx : for MCP V2.

MASTER=0,15,1,xx : for MCP V3.

For others there are other lines MASTER modules but if we are not connected void erasing those lines or annulling them putting brackets

[MASTER=1,7,1,yy]

[MASTER=2,7,1,nn]

[MASTER=13,13,1,zz]

If not OC4BA will fail to launch Sioc. Once changes are made, we will launch the simulator with add-on, launch the OC4BA, we click on the plane going to fly (1) and make another click on the cockpit of the 737 that appears in the background of the program (2),



in this way will launch the SIOC with the configuration established and we can enjoy our module.

**4.- Project Magenta:** This add-on requires only load the specified script and Project Magenta software.

Bank Angle function is activated leaving pressed and rotating button number 9.

With this gives end to this manual, we invite you to read the manuals of the others Opencockpits elements and of the SIOC software and give you the thanks for trusting in we.

## Links of Interest:

Support area for clients:

<http://www.opencockpits.com/catalog/info/>

