SISMO SOLUCIONES

Plug & Fly

737NG PEDESTAL ETHERNET

USER MANUAL

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Ed.:		02

HISTORY

Edition	Date	Description	Author
01	April 2010	First Edition	Juan Carlos Fernández
02	February 2014	Ethernet Version	Mauricio Pacheco

TABLE OF CONTEST

1 INTRODUCTION

This product has been designed following the last PEDESTAL product mounted in the new B737NG. The equipment is full scale 1:1 and has been made to fulfill the customer expectations.

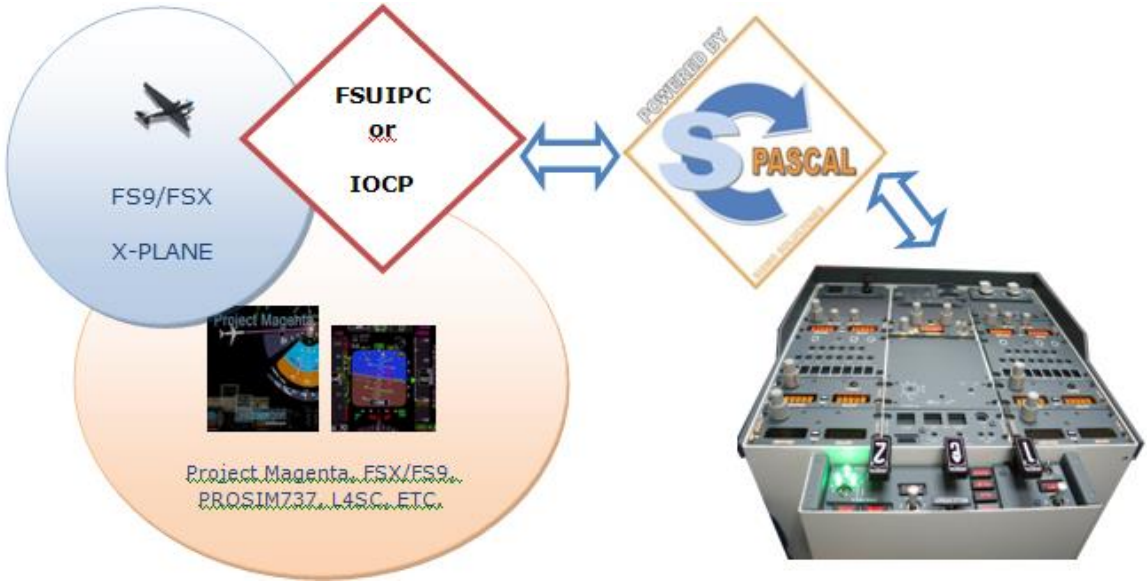
The metal casing makes that the product were robust and adaptable to different environments and cockpits.

PEDESTAL Plug&Fly is ready to be connected to your computer via ETHERNET. Follow the next simple steps to configure it.

SC Pascal also allows to all users to make modifications to adapt, modify or make new functions for increasing the power of your PEDESTAL.

***Note**: With the new version of SC Pascal 5.1 Build 765 or superior, the scripts are deployed as .exe files. This is easier for standards users, allowing once the equipment is well configured, that the script can be run automatically when starting or rebooting the computer.*

The following image shows the general scheme for PEDESTAL –software connection.



2 COMPATIBILITY

	FLIGHT1 SOFTWARE	ProSim:737	project magenta	PMDG	Sim Avionics
FS9	✓	✓	✓	✓	✓
FSX	✓	✓	✓	✗	✓
X-Plane	✗	✗	✓	✗	✗

✓	Add-On fully compatible with Sismo Products and **recommended** by Sismo.
✓	Add-On fully compatible with Sismo Products.
✓	Add-On compatible with Sismo Products. The available functionality depends on the public offsets delivered by the Add-On Company
✗	No information available about the compatibility of this Add-On with Sismo Products

Please CHECK FOR UPDATES

3 PREVIOUS REQUIREMENTS

The new PEDESTAL is compatible with any operating system; it only is necessary to have a computer with an ETHERNET free port. It is also possible to use a SWITCH (AutoSense) with free ports that allow to centralize the wired up of a network and to be able to extend it.

There are two ways of connecting the PEDESTAL to the control computer:

1. By direct way with only a cable: it is necessary a crossed cable type that connects the PEDESTAL with the computer (included with the purchase).
2. By means of a SWITCH: it can be used indistinctly a crossed cable or a normal cable (recommended).

The easiest situation is that the PEDESTAL is connected to the computer where Microsoft Flight Simulator is installed, because it must accede to its functions through the IOCP or of FSUIPC communication protocol which is going to be used. Nevertheless, in network configuration, the equipment can be connected to other computers, but for that purpose the network must be configured adequately, and this is not inside the area of this manual. Anyway, this manual will be useful for orientating to the user how he must do it.

Others requirements:

1. Download the last free Build of the SC-Pascal editor/compiler (download section from Sismo Web).
2. Install the last version of "**FSUIPC**" for FS9 and/or FSX. More info at: http://www.schiratti.com/dowson.html.

4 INSTALLATION

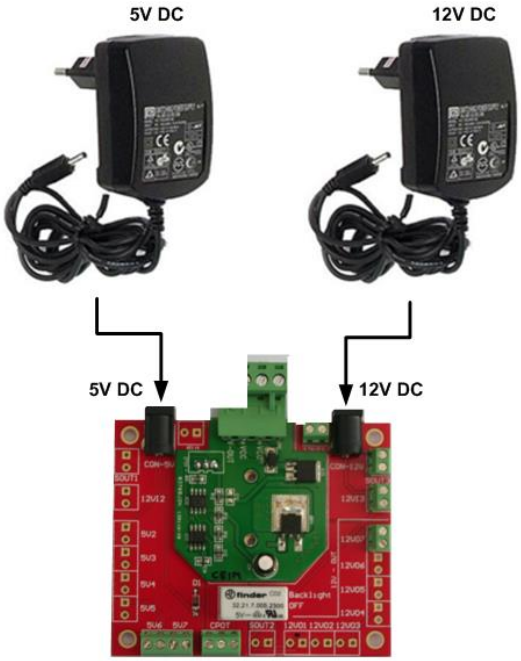
1. Locate the 5V DC (**only old equipments. In case of any doubt please ask Sismo Soluciones**), 12V DC (Backlighting) and Ethernet connectors.

2. 5VDC Power Supply: the 5VDC power supply must be connected to the "dimming circuit" at the 5V DC Connector, which is inside of the hole of the Pedestal. Be careful and be sure about that you choose the correct 5V DC Connector, otherwise the equipment can be damaged! (see the next diagram)

IMPORTANT: A lower voltage than 5V DC is not enough for a well functioning of the equipment and a higher voltage can damage the connected components.

3. Backlighting – 12VDC Power Supply: plug also the 12V DC Power Supply on the "dimming circuit" at the 12V DC Connector, which is inside of the hole of the Pedestal. Be careful and be sure about that you choose the correct 5V DC Connector, otherwise the equipment can be damaged! (see the next diagram)

IMPORTANT: A lower voltage than 12V DC is not enough for a well functioning of the equipment and a higher voltage can damage the connected components.



4. Connect the computer, which you want to control the hardware, to the Pedestal via Ethernet cable. As previously indicated, there are 2 ways to do it, directly to your computer through the Ethernet port computer, or indirectly through a SWITCH.

IMPORTANT: The latest versions of PEDESTAL have only one wire to be plugged directly to 220V AC. In case of any doubt please contact Sismo Soluciones before to avoid any damages.

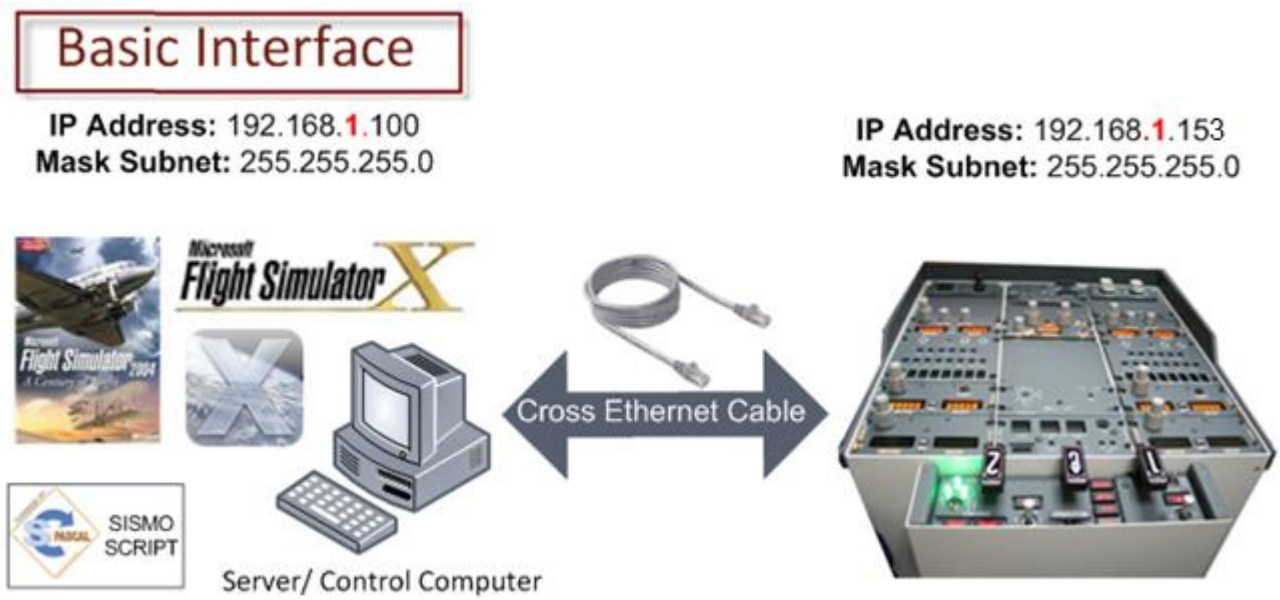
5 CONFIGURATION

5.1.1 Configuration Page and IP Address of the PEDESTAL

5.1.1.1 IP Address by Default

The default IP address of the PEDESTAL is **192.168.1.153**. This data is important in order that the first time the PEDESTAL is read. In this case the computer (or the network) in which we connect the equipment must have the same range of IP address, that is to say, **range 1**.

As an example, the diagram below shows the items required to configure a basic network or local network (1 computer only). Later, another diagram will illustrate a more complex network (multiple computers).



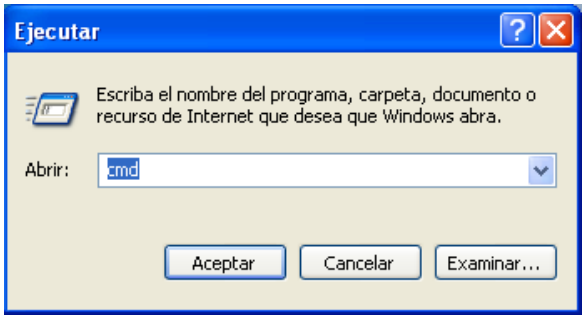
See in the above example that the IP address range of the control computer, which is marked in red (range 1), is the same that in the PEDESTAL. This specification is a condition necessary to enable that the network communication occurs between the PEDESTAL and other equipments.

Note: It's essential to disable the DHCP on the computers that you are going to connect with SC-Pascal scripts to avoid IP address conflicts.

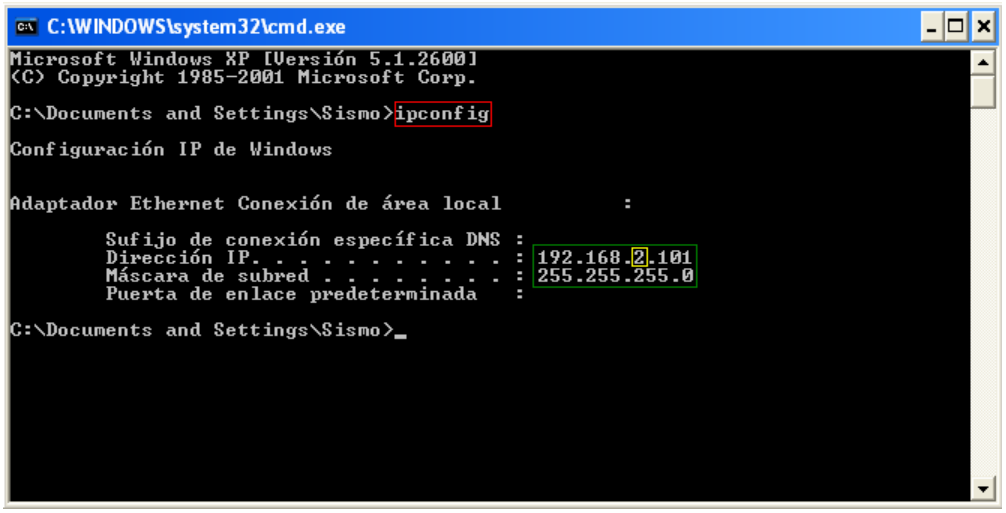
Like the PEDESTAL has by default an IP address of range 1, the first thing that the user must do is to check if the IP address of the control computer has also range 1.

Here's one way to know the personal IP address of your computer:

1. Go to: Start ->Run. An input box will appear with a flashing cursor.
2. Type: **cmd**. Click on OK or press the Enter key on your keyboard.



1. A new black color window is opened. Here type: **ipconfig**
2. Press the "Enter" key on your keyboard and IP Address will be shown.



The user does not have to change the IP address of the control computer if it turns out to be range 1. That is to say, that the equipment is already configured with a right IP address.

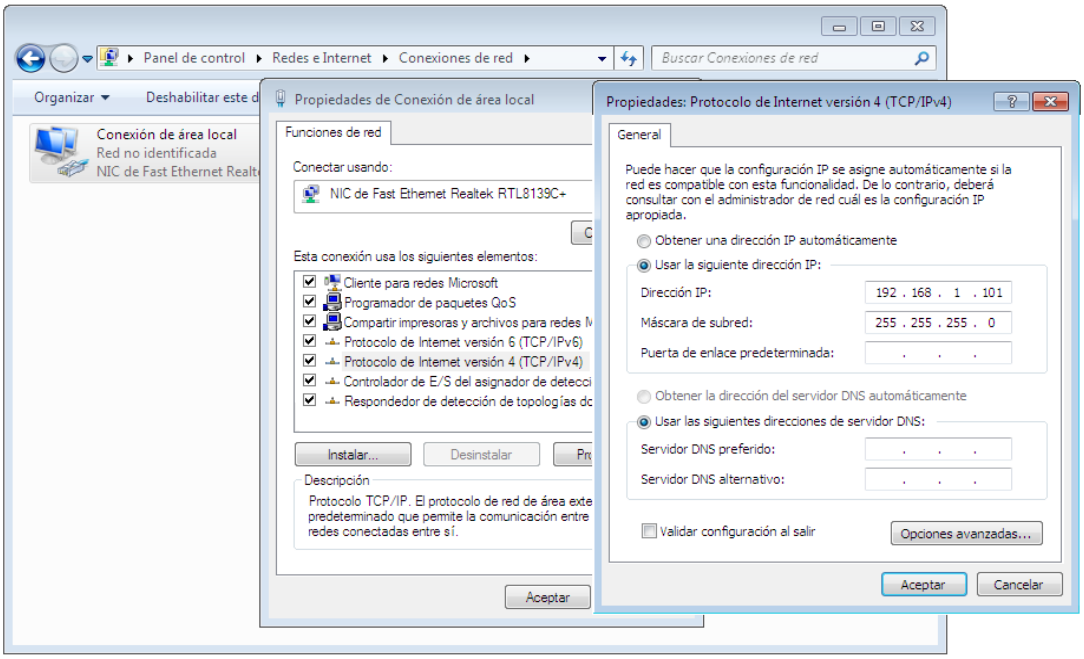
If the control computer does not have range 1 as in the previous example which the IP address is range 2 (see green box and inside yellow box), the user must temporarily change the IP address of his control

computer to range 1 in order that the card can be read by the computer the first time, because as it was noted above, the PEDESTAL comes with a default IP address of range 1.

Follow the next steps to change the IP address of the control computer:

E.g. for Windows 7:

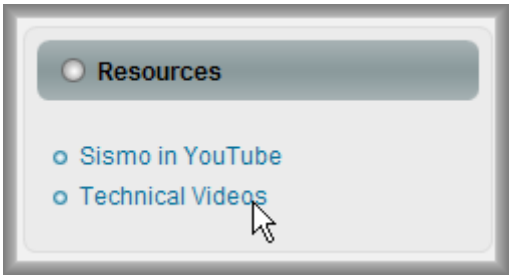
1. Go to: Start -> Control panel ->*Network and Sharing Center*->Configuración del adaptador.
2. Press with the right button of the mouse on the icon of "*Local Area Connection*" and later press on General Properties.
3. After a window is opened. Make double click on "Internet protocol v4 (TCP/IPv4)".
4. Again a new window is opened. Mark the option "Use the following IP Address" in order that the zone where it will be possible to write the new IP address of the control computer is enabled (Ej: IP address **192.168.*1.101***).
5. As “subnet mask” to write for example **255.255.255.0**and in the third field**192.168.1.1**



6. Finally, the windows will be closed when "Ok (Aceptar)" has been pressed. From this moment the change has been saved.
7. Once the process has finished, both the IP address of the equipment and the IP of the control computer will have the same range, in this case ***range 1***. Now to accede to the configuration page of the PEDESTAL will be possible.

Note1: This is only an example for Windows 7 in an orientated way. The way of changing the IP for other operating systems can be found into multiple tutorials or Internet.

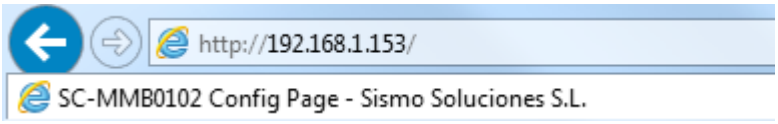
Note2: Find also video tutorials at the section of "YouTube" of SISMO in which how to change the IP is shown. Learn better how to configure the PEDESTAL, etc.



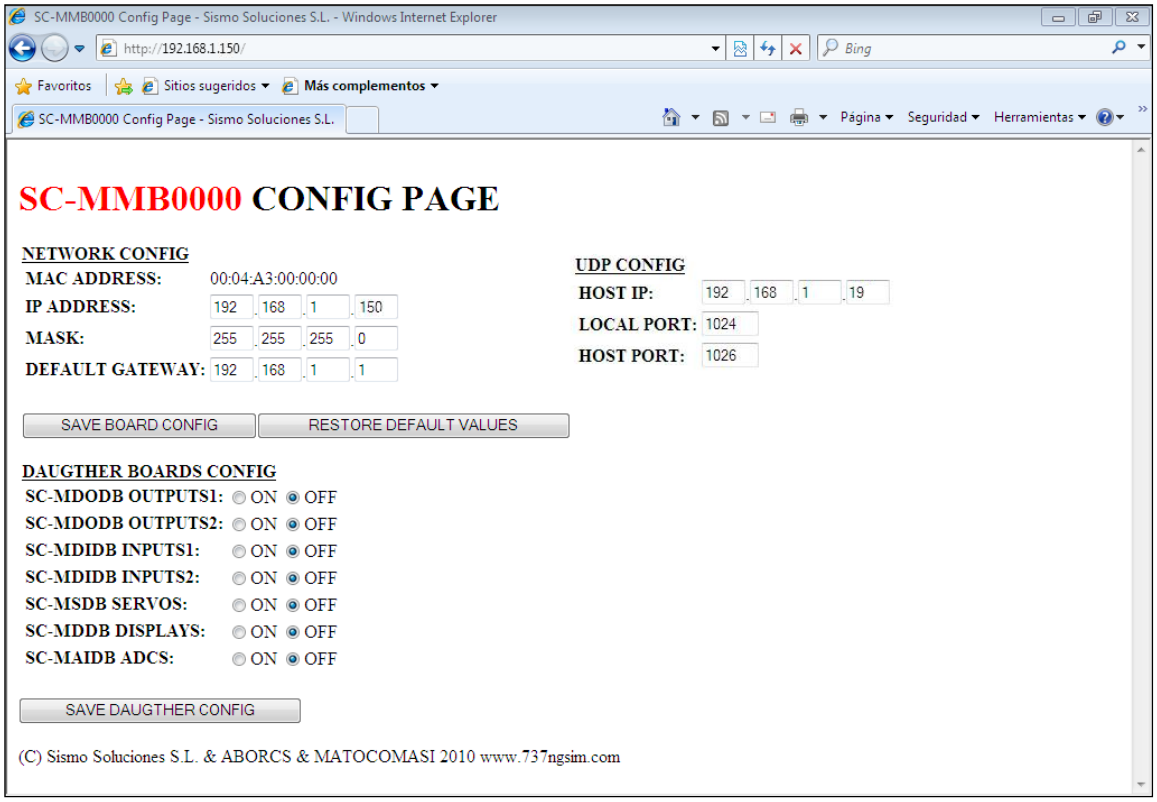
As we will see along the manual, this provisional change in the IP address does not suppose a problem for the configuration of the rest of equipments that the user had previously, because once we accede to the configuration page of this equipment, it will be possible to restore the previous IP addresses as well as give a new IP address to the PEDESTAL with the IP range that the user wants to use in the set of his equipments.

Now, for being able to accede to the configuration of this equipment is necessary to open Internet Explorer. Write inside of the address bar in Internet Explorer the IP of the PEDESTAL:

http://192.168.1.153/



The configuration page is loaded and as headline appears the serial number of the this equipment in red color in addiction of the **CONFIG PAGE** words which indicate that effectively the configuration page of the PEDESTAL has been charged.



Three configuration fields appear: **NETWORK CONFIG**, **UDP CONFIG** and **DAUGHTER BOARDS CONFIG**. All these fields have the values by default. For its correct configuration, there is detailed the meaning, content and way to proceed in each item:

5.1.1.2 Network Config

The serial number of the PEDESTAL will serve you to access to the features when set in SC Pascal, or configure the software interface provided by SISMO (scripts).

MAC ADDRESS: it is the hardware address of the PEDESTAL and therefore, it is unique and cannot be modified.

The last four digits are in hexadecimal and give name to the variable part of the serial number of the equipment. The invariable part is fixed as SC-MMB:

SC-MMBnnnn

The serial number of the PEDESTAL will be useful to accede to all the functionalities of this equipment when someone is going to program with SC-Pascal or configuring the software interface provided by Sismo (scripts).

IP ADDRESS: this section is used to modify the IP address of the equipment which has by default 198.168.1.153.

In case of being modified, do not forget that it must have the same IP range that the IP address of the control computer. It is the moment to proceed to restore the IP address which the user had configured its equipment.

Note1: the new assigned IP address of the PEDESTAL must not be repeated in any other hardware or equipment of the network, otherwise it will create conflict and will not load correctly. It you forgot this instruction, you must remove the power supply and return to connect it in order to solve the problem and the equipment can be recognized.

Example:

1. Before the control computer had the next IP address: 192.168.2.200.
2. We must remember that for acceding to the configuration page, the IP of the control computer must have the same range that the PEDESTAL. Therefore, proceed to change the IP address of the computer to 192.168.***1***.200.
3. Go to the configuration page with the direction: http://192.168.1.153/
4. Change the default IP of the PEDESTAL to 192.168.2.155 bearing in mind that is not repeated by other one of the equipments that are used in the network.
5. Change again the IP address of the control computer to the same one that the user had before.
6. Go to the configuration page with the direction: http://192.168.2.153/

*see video tutorials at “YouTube” SISMO section

DEFAULT GATEWAY: puede ser usado para enviar datos a través de internet. Si no se hace uso dejar el valor que viene por defecto: 192.168.1.1 (más información contacte con Sismo Support)

MASK: in this section we advise to put the same number of mask that you have in the control computer of the network. By default it is: 255.255.255.0

DEFAULT GATEWAY: it can be used to send information through Internet. If you are not going to use it, leave the value by default: 192.168.1.1 (more info ask for to Sismo Support)

5.1.1.3 UDP Config

HOST IP: it is the IP address of the control computer where the PEDESTAL will send all the information. As already it has been mentioned, the IP address of the computer must have the same range that the IP address of the PEDESTAL named in the section IP ADDRESS. The value that can appear by default is any of **range 1**.

LOCAL PORT: if you are going to use the Sismo scripts, leave by default this value (to 1024).

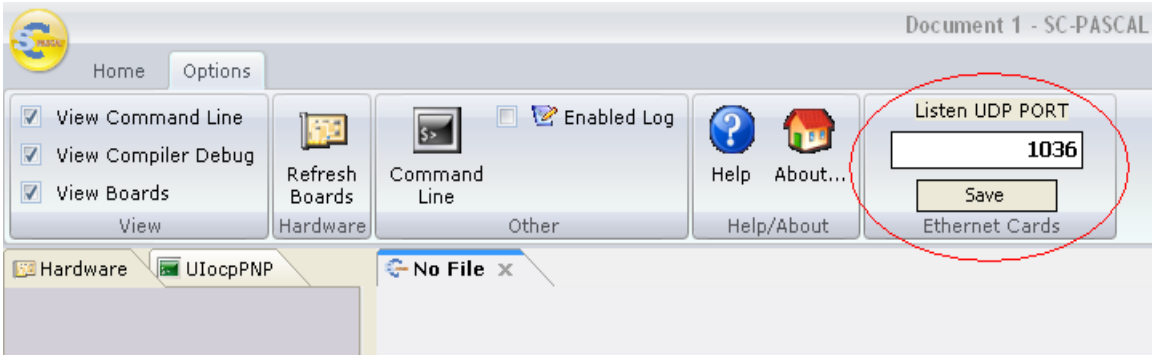
*This port can be modified for those users who want to use its own editor/compiler and not SC-Pascal, because the LOCAL PORT is the port where the PEDESTAL receives the data from the control computer.

HOST PORT: it is the port where the control computer is going to get the information from the PEDESTAL. In case of using SC-Pascal, the port used by default is; ***1153***.

This port must be opened (without to be used for any other program and enabled/opened in order the data can be received).

If the port 1153 is occupied, it will be necessary to indicate another port which the user must choose (e.g. 1036, 5001…).

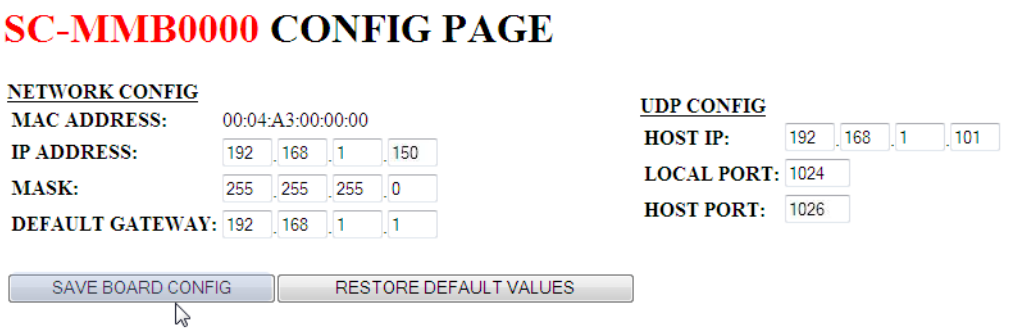
The SC-Pascal V5 Build 765 or superior allows to the user to change the Host Port in the field "List UDP Port". In order this equipment and SC-Pascal are communicated, the port indicated in the configuration page in the field HOST PORT and the port where SC-Pascal listens, which is indicated in "List UDP Port ", must be the same.



The normal situation is that the port is enabled/opened, but it is possible that the control computer has this port closed. In order to assure it works, it must be enabled (see chapter 3.7, “FAQ” and know how to open ports in computers).

Once all the sections are correctly filled out in this manual has been described, proceed to press on SAVE BOARD CONFIG to save the new configuration of the PEDESTAL.

***Note**: Wait at least 5 seconds while the data are saved at the Internet browser.*



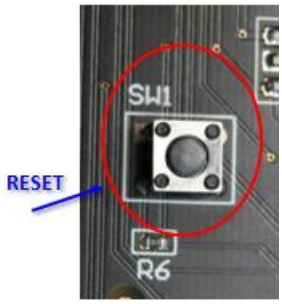
In order that it makes effect and once saved, it is indispensable to close Internet Explorer and to return to opening. After that the new IP address of the PEDESTAL must be indicated on the bar of directions. This step must be done necessarily due to the exigency of the Internet protocol Explorer.

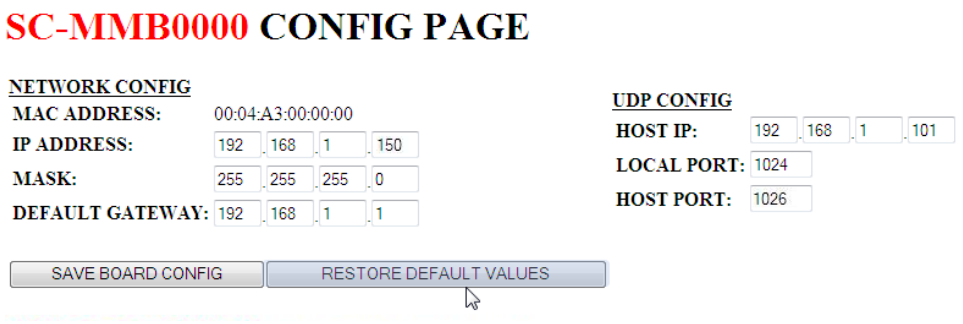
Once the page has been correctly loaded with the new IP address, the information of configuration will be visualized.

At this moment you can choose 3 options:

1. Return to modify again some section in which the configuration has not been the required one by the user and later to save again the new information pressing with the mouse on SAVE BOARD CONFIG.

2. Make a reset of the PEDESTAL. It returns to the configuration by default. It is made on having pressed with the mouse on RESTORE DEFAULT VALUES in the configuration page or opening the back metal cover of the PEDESTAL Module and pressing manually more than 10 seconds on RESET button placed physically on the Simcard Ethernet. To make this step, the equipment must be correctly connected to the power supply. With both methods we make the erased EEPROM (Electrically Erasable Programmable Read-Only Memory).



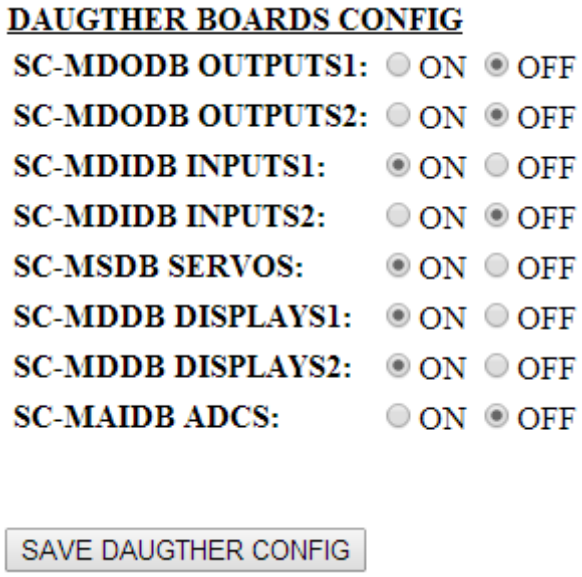


3. Finish the main configuration.

Again, and in order that it makes effect, in any of the options 1 or 2 that we have chosen, do not forget to close and re-open Internet Explorer indicating on the bar of directions the new IP address of the already configured in the equipment.

5.1.1.4 Daughter Board Config

At this field, if the user has acquired an PEDESTAL line which also includes the gauges by servo, the SC-MSDB SERVOS must be also pressed to ON. Afterwards, press SAVE DAUGHTER in order to save automatically the configuration. Now, it is not necessary reboot Internet Explorer.



You must not any more do the configuration of this equipment once the PEDESTAL configuration has been correctly done and saved.

> ***Note**: Once the equipment was configured, and unlike the USB Systems, you will never have any problems when recognizing the equipment and overloads, that is one of the advantages to have PEDESTAL by Ethernet connectivity.*

**if in some of the necessary steps to configure this equipment appears signs of difficulty of load at the Configuration Page, do not worry, it is normal and is due to the Internet Protocol Explorer. For solving this problem, Internet Explorer must be closed and rebooted indicating IP address of the PEDESTAL on the directions bar. If this method does not work, proceed to remove the power supply and restart to connect everything again.*

5.1.2 Connection Scheme Type (Local Network)

Below, there is an example of a network configuration consisting of 2 computers that control 2 different equipments (PEDESTAL and MCP&2EFIS). For this particular case, there may be 2 types of configuration:

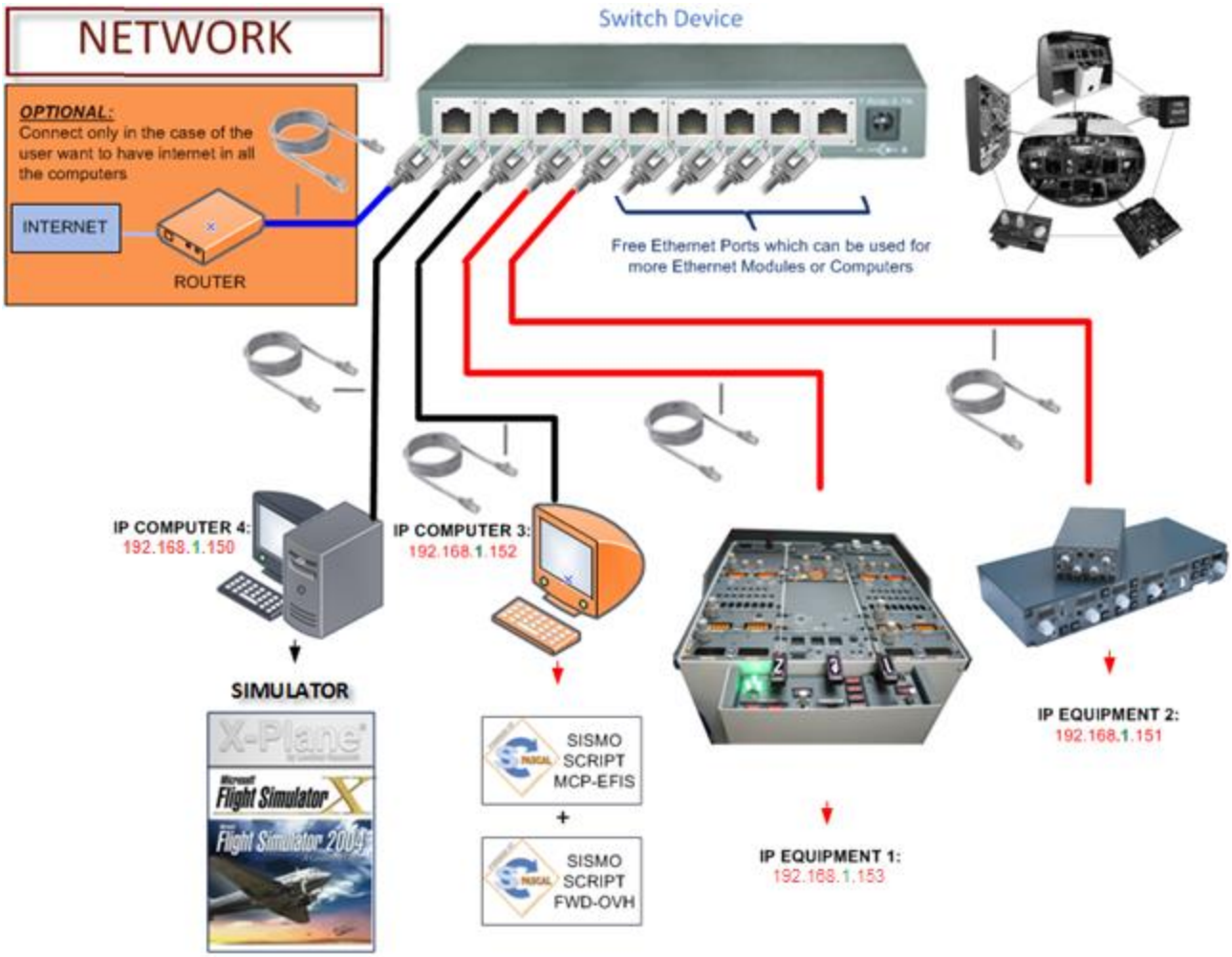
a) 1 computer controlling both equipments.
b) Each computer controls only one equipment (*recommended setting*).

The only requirement for being networked is that the 4 elements must have the same IP range.

For example, the configuration **a)** could be the following one:

192.168.1.153 (PEDESTAL) 192.168.1.151 (MCP&2EFIS)

192.168.1.150 (computer 1) 192.168.1.152 (computer 2)



Each computer and each equipment must have an Ethernet port (normally used for connecting to the internet).

4 Ethernet cables will connect each of these 4 equipments to a SWITCH device (with Auto-sense) in order to allow the communication between them.

The Ethernet cable, which is used to provide internet connection to the network, can also be connected to the same SWITCH.

6 TESTING AND VERIFICATION

The language of programming that specifically has developed Sismo Soluciones is SC-Pascal and in spite of the fact that the PEDESTAL can be controlled for any another language previous its appropriate configuration, in this manual only and exclusively is indicated the necessary requirements to control the equipment with the SC-Pascal editor/compiler, being enough for every user who want to interact with the simulator.

There is a function within SC Pascal for the verification of hardware (Inputs, Outputs, Displays, Servos and Analog Inputs or Pots) for PEDESTAL, which allows hardware checking. It shows the active inputs, switches on/off the outputs, and verifies the displays, servos and analog inputs.

Check the SimCard SC-MB Ethernet User Manual for further information.

For being able to do these checks, download the last version of SC Pascal V5.1 Build 765 or superior which is available at the download zone of the web www.sismo-soluciones.com.

*For further info, read the manuals and tutorials of SC-Pascal.

7 CONTACT MAP

Available for customers under request.

8 FAQS

 # ¿How can the user enable/open any port in the computer?

As example, the necessary steps to open manually ports in Windows XP will be explained. For others operating systems, it can be done after to look for easily how to do it through any internet browser.

1. Click Start, and then click My Network Places.
2. Under Network Tasks, click View Network Connections. (Or, right-click My Network Places on the desktop, and then click Properties.)
3. Right-click the connection that you use for the Internet, and then click Properties.
4. Click the Advanced tab, and then click Settings.
5. Note if the Settings button is unavailable, ICF is not enabled on this connection, and you do not have to open any ports (because they are all already open).
6. Click Add to open a new port.
7. In the Description box, type a friendly name. For example, type File Sharing: Port 445.
8. In the Name or IP address of the computer hosting this service on your network box, type 127.0.0.1.
9. Note: You can specify the IP address of an internal computer. But you typically will use 127.0.0.1.
10. In the External port and Internal port boxes, type the port number. Generally, this number is the same.
11. Click UDP, and then click OK.
12. Repeat steps 1 through 9 for each port that you want to open.

Advice: disable completely the Firewall Windows in case to have more than an equipment connected to the network and improve the communications.

END OF DOCUMENT