



737NG MIP Ethernet

User Manual

S737-MAN-MIP-MD-E-19-0189



LOG

Rev.	Date	Description
1.0	January 2008	First Edition
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1 DEFINITIONS AND ACRONYMS

1.1 DEFINITIONS

Item	Definition
Backlight	Lighting which illuminates the letters, lines or other features of a panel from the inside or back of the module.
Switch and Hub Device	A device for connecting many Ethernet cables. For use when you want to connect many Ethernet devices to a single computer.
SC Pascal	A programming language and a high level editor/compiler. All script provided by Sismo are programmed in this language. There are manuals for learning this language on our website.
Crossed Ethernet Cable Standard Ethernet Cable	A type of Ethernet cable used to connect a module directly to a computer. If you are using a standard Ethernet cable, you should connect the module to a Hub/Switch or to your Router (and not directly to the computer)
Mother - Daughter	Master - Slave board. (Mother - daughter)
Ethernet	Local area network data transfer protocol. An alternative to USB.
IOCP	Input/output completion port (IOCP) is an API for performing multiple simultaneous asynchronous input/output operations in Windows NT.
FSUIPC	Flight Simulator Universal Inter-Process Communication. For controlling asynchronous input/output operations in flight simulation.
UDP	A protocol within the TCP/IP protocol suite
DHCP	Dynamic Host Configuration Protocol, A protocol that provides a means to dynamically allocate IP addresses to computers on a local area network. To be deactivated or the IP addresses will change!
Script	A program which controls the SC-MB and allows the user to assign the functions of one of the Plug&Fly Modules (AFT, FWD, etc.) to the Motherboard.
Add-on Software	ProSim, iFLy, PMDG. They are companies which interface the hardware with the flight simulation software.
Autosense	It is a feature found in network adapters that allows them to automatically recognize the current local network's speed and adjust its own setting accordingly
Plug&Fly Modules	They are full modules which are ready to plug in and fly. They have a high level of realism and do not require knowledge of electronics. Examples: AFT and FWD Overhead, MIP, Pedestal, MCP and EFIS
Jumper	Electronic component used to enable or disable a particular circuit and functionality on a PCB.
Dimming	Adjusting the brightness of the Backlight

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1.2 ACRONYMS

Item	Definition
PCB	Printed Circuit Board.
SC	SimCard.
SC-MB	SimCard Ethernet Motherboard. Also known as a Motherboard, Simcard Ethernet or SC-MB.
SC-Daughter	SimCard Ethernet Daughter. A daughter or slave, complementary to the SC-MB. These are used to increase the functionality of the SC-MB, daughter cards for Inputs, Outputs, Servos, Analog Inputs and Displays are available.
GND	Ground - the point of return for electric current in a circuit.
PRM	Plug Ready Modules only need to be connected to a control card before use.
ADC	Digital to analog converter.
GIC	General Interface Card, a kind of adapter for users using free wiring. See SC-MB Features Manual.
ICF	Internet Connection Firewall (Microsoft Windows XP).
MIP	Main Instrument Panel.

2 PURPOSE OF THIS DOCUMENT

This manual has been designed for the user to acquire basic knowledge about the MIP Plug&Fly Module, and it also contains all the information required for first set-up.

The software configuration for the modules is contained in “User Manual – SC-MB Configuration”. In there you will find out all relevant information about IP addresses, Ethernet, SC-Pascal and other configuration necessary to start flying. Each Add-on Software also has its own configuration manual.

This manual is exclusively for hardware issues.

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3 INTRODUCTION

This product has been designed according to the latest MIP Module mounted on the real Boeing 737NG. The scale of this equipment is 1:1 and it has been designed with the client's high standards in mind.



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

The MIP Plug&Fly is ready to be connected to your computer via an Ethernet Bus and an RJ45 cable.

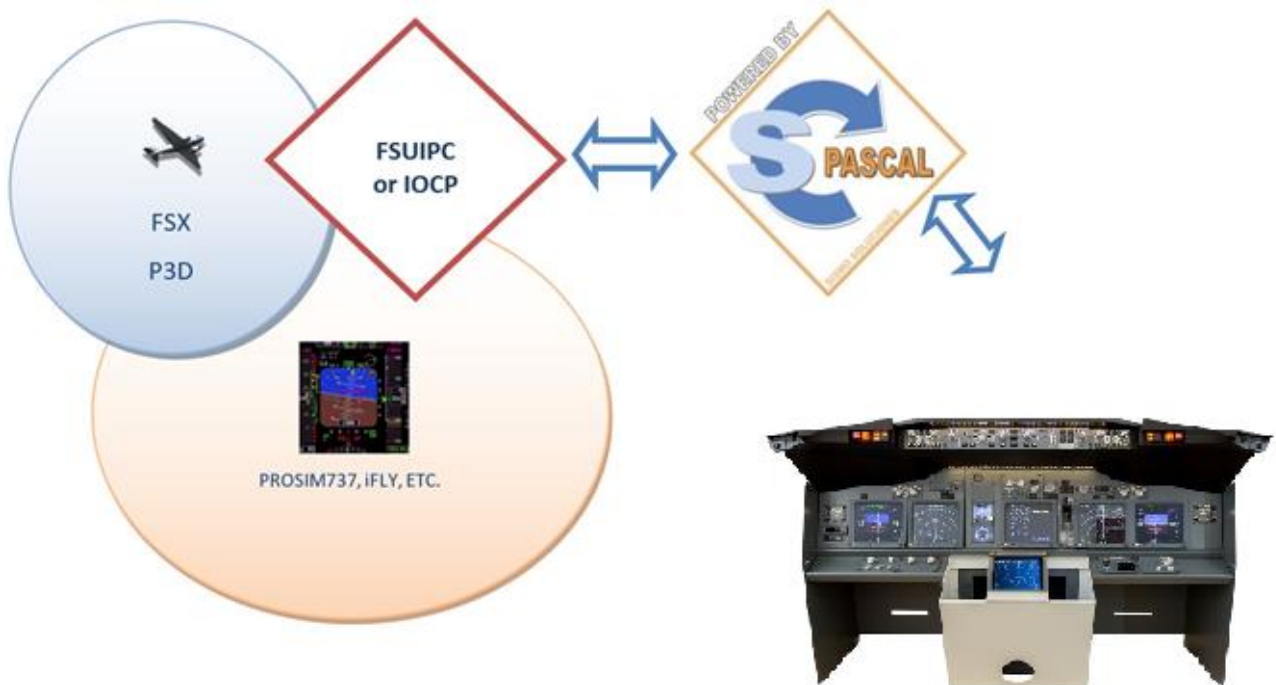
No programming is necessary with this module thanks to the scripts developed by Sismo, so long as you are using an Add-on software which we support. Check out our compatibility below.

The MIP is controlled by the family of cards called SimCard Ethernet, which have been specially designed and produced by Sismo for Simulators.

The SC Pascal programming language also permits users to make modifications to adapt, modify or create new functions for increasing the power of your MIP. You can learn SC-Pascal on our website.

Note: With the latest version of SC Pascal 5.1 Build 765 or higher, the scripts are deployed as .exe files. This makes it easier for standard users, once the script has been configured, it will run automatically when starting or rebooting the computer.

The following image shows the general layout for a MIP Overhead software connection







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4 COMPATIBILITY

	 	 	 	 	 
 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

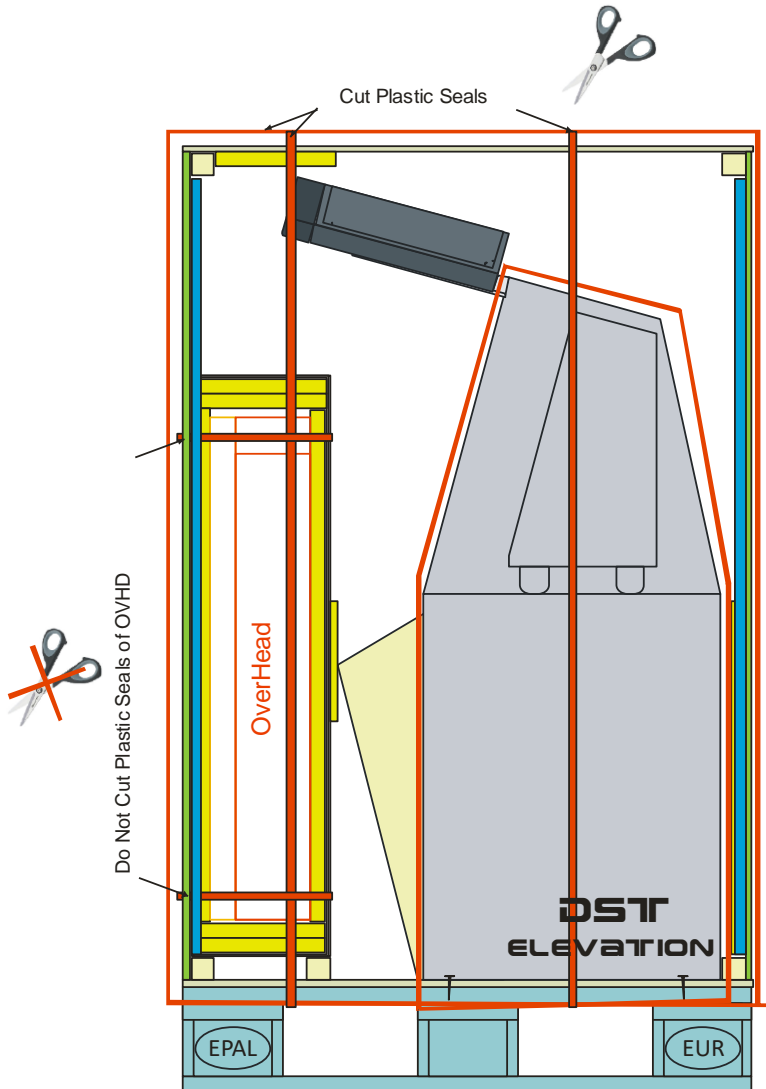
PLEASE CHECK FOR UPDATES

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5 UNPACKING

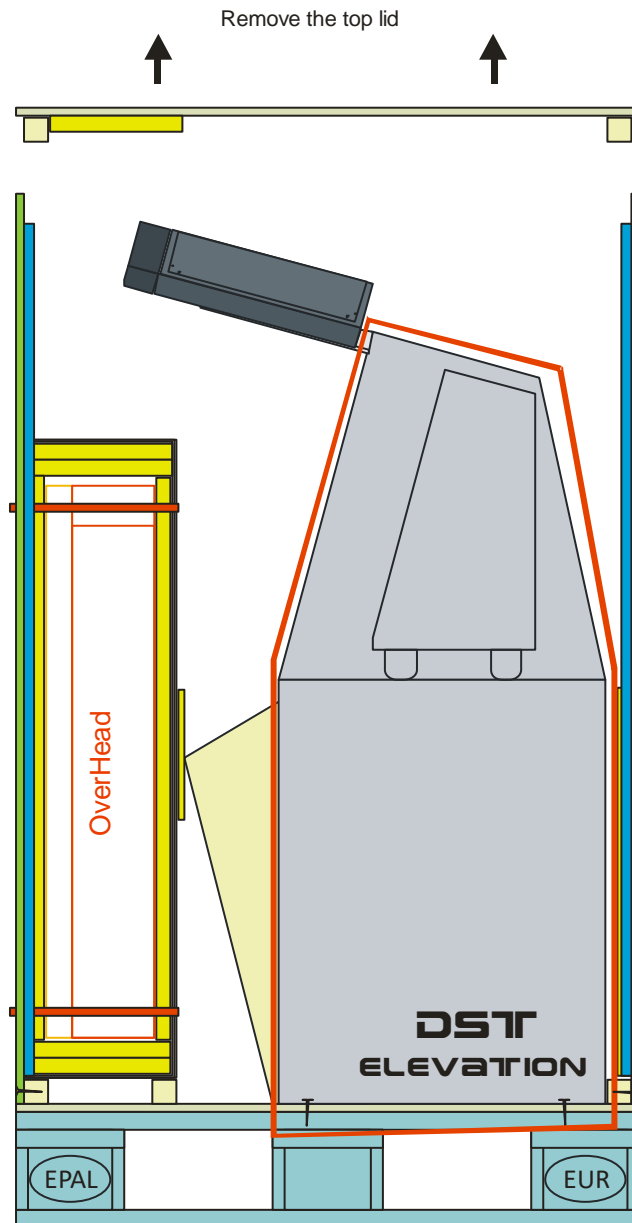
If you have purchased a MIP alongside a FWD Overhead module, you may want to follow the steps related to the unpacking of the equipment.

1. Cut only the seals of the box of Wood as the picture. Do not cut the front seals which support the packaging of the Overhead.



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2. Lift up and remove the top lid.



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6 INSTALLATION

There are three connection processes to the installation:

- Ethernet cables
- VGA Cables
- Power supplies

6.1 ETHERNET CABLES



An Ethernet cable or RJ45 Cable is of standard use in the computing industry. You will recognize it as the type used to connect a router or modem.

In order to use the MIP, you must connect an Ethernet cable from your computer to the MIP. You can do this directly, or indirectly.

To connect the MIP directly to your computer, you must use a Crossed Ethernet Cable. The downside of this option, is that your computer will run out of available RJ45 Sockets very quickly, which is why we recommend the second approach.

You can connect the MIP indirectly through a Switch, Router or Hub device (with Autosense) by using a standard Ethernet cable (or a crossed Ethernet cable, here it doesn't matter). You can connect all your Ethernet devices and modules to the same Hub, simplifying the connections.

There is a single Ethernet cable to control the whole MIP. However, if you also have the MCP of Sismo Soluciones, you will need to connect the MIP with the MCP via an Ethernet cable. The sockets for each cable are well marked.

6.2 VGA CABLES

There are four VGA cables to connect from the MIP.

These need to be connected to the graphics card of the control computer (i.e. the computer which holds the Add-on Software you are using).

You have two options here as well.

You could buy a graphics card which has four available ports for VGA Cables, thus enabling you to control the whole MIP with the control computer.

You could also connect the VGA cables to different graphic cards on different computers. If you are doing that, you will need to create a local network with more than one computer, where there is a control computer which gives instructions to the other computers in a Master-Slave(s) relationship. The full details of how to do this configuration depend on the Add-on you are using and we recommend you search their manuals on how to set up the equipment.



NOTE: You may need to remove certain parts of the casing to access the VGA sockets.

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6.3 POWER SUPPLY

Locate the power socket. It is on the lower backside of the central MIP Casing. In the case of the MIP Desktop the socket is located in the backside of the Captain.

You will see a single Jack for 220 V for the DST and SST MIP. Once you have this connected the monitors will turn on and the digits on the displays of the MCP (if connected) will show an 't'. This is not a mistake, it just means that the MCP has not been configured.

In the case of the MIP Desktop, you will find in the backside a connector to use a power supply of 12V, and also the Jacks for the monitors.



IMPORTANT: The latest MIP versions have a power strip where the monitors and the power supply must be connected, plugged directly to 220V AC. They use a 12V power supply. However, the previous versions used 12V DC power supply for the backlight and a 5V DC power supply for other parts of the MIP. In case of any doubt about the version you have, get in touch with Sismo. We can also send you the previous manual if you require it.

7 CONFIGURATION

The configuration for all the SimCards, in this case for the MIP, can be consulted in the 'User Manual – SC-MB Configuration'.

Here is a friendly reminder of the details which are specific to the MIP:

The IP address of the MIP by default is 192.168.1.152.

The Host Port by default is 1152.

Daughter Board Config

In this field, if the user has acquired an MIP Alpha line the user must activate the following daughter boards:

- SC-SERVOS

8 FAQ

What is the next step?

Once you have connected the Ethernet cable and the power supplies, the next step is the configuration of the SC-MB. Please refer to 'User Manual – SC-MB Configuration'.

One of the electronic components is broken.

No matter which component has apparently broken, we will ask you to perform the same test.

Open SC-Pascal and perform a hardware test (instructions in the 'User Manual – SC-MB Configuration'). If the activation on SC-Pascal of this element of the module yields no results, we can confirm that there is a hardware problem. Otherwise, if there is a reaction, it signifies a configuration error.

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The hardware is not recognised by ProSim/iFLy.

This is outside the scope of this manual. In any case, before concluding that there is a software problem with the MIP, you must perform a test in SC-Pascal. Once you have run a full test of the hardware, please get in touch and we will help you troubleshoot.

I have an older version of the MIP. Do I need a different script?

In order for us to know whether the version of our scripts you are using is correct, we need to know the version of Sismo products you are using. The contact map has changed over time and if you can tell us the serial number of your SC-MB, we can send you the right script.

Is the MIP Fully functional?

Yes.

Please note that the MCP, EFIS Modules and Clocks are not included in the MIP Plug&Fly Module.

Displays screens not working on the MIP even though the equipment is connected.

Head to the ProSim window. Under the configuration window, head to Analog settings, you will see a list of options. We would like you to switch the monitors' brightness setting. Change them from IOCP or any other setting into [not connected]. Do this step for all the displays on the MIP which aren't working. Close and save your settings.

Go to System in the main ProSim window>MIP; scroll to the bottom and you will see 5 or 6 brightness bars to be controlled manually. What we suggest you do is to adjust the settings you would like for the displays manually and see if they turn on.

9 RELATED DOCUMENTATION

ID	DOCUMENT	Revision
01	User Manual - SimCards Features	See the latest on our website
02	User Manual – SC-MB Configuration	See the latest on our website
03	FS Connections Layout	See the latest on our website
04	Datasheet – SimCards Ethernet UDP Protocol	See the latest on our website
05	Technical Report - Using Prosim737 v2 with Sismo Modules Ethernet	See the latest on our website
06	Starting with SC-Pascal Scripts	See the latest on our website
07	Programming SC-Pascal – Vol I and Vol II	See the latest on our website
08	Consult all datasheets of the MIP modules to see the contact maps	See the latest on our website

END OF DOCUMENT

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