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SIMPlugIN-Programmer Utility User Manual.

1 Revision History.

Revision	Description
0.1	First Release.

2 Index.

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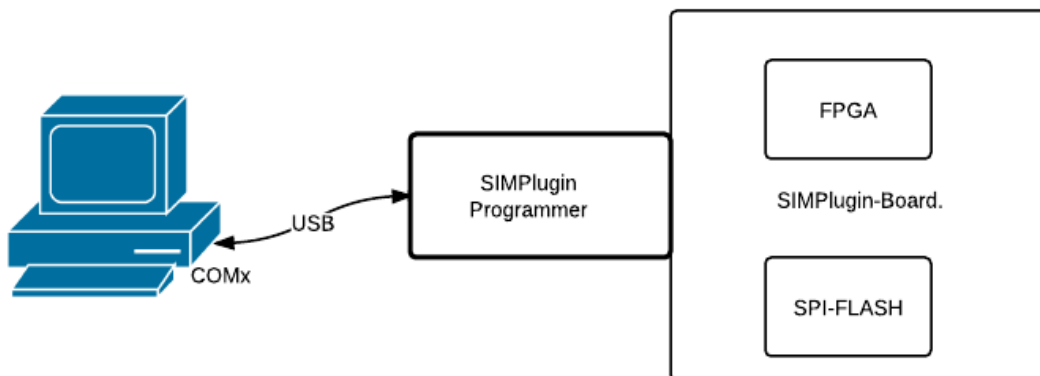
3 References.

Document.	Description.
simplugin_lx45_user_manual_rev_xx.pdf	User manual for the SIMplugin-Lx45 development board.
simplugin_programmer_utility_user_manual_rev_xx.pdf	User manual for the SIMPlugin-Programmer board.

4 Introduction.

The SIMPlugin-Programmer Utility allows:

- Programming the FPGA (spartan6-lx45), loading the correspondent .bit file.
- Programming the SPI Flash provided by the SIMPlugin board.



5 Application's Installation.

5.1 Windows.

It provides a self-installing file that allows an installation guided of the application. The *setup_spprog_v0.x.exe* file will show the typical installation interface for the Windows Operating System. This interface allows to indicate an icon and shortcut to launch the utility.

5.2 Linux.

Coming soon ...

5.2.1 Mac.

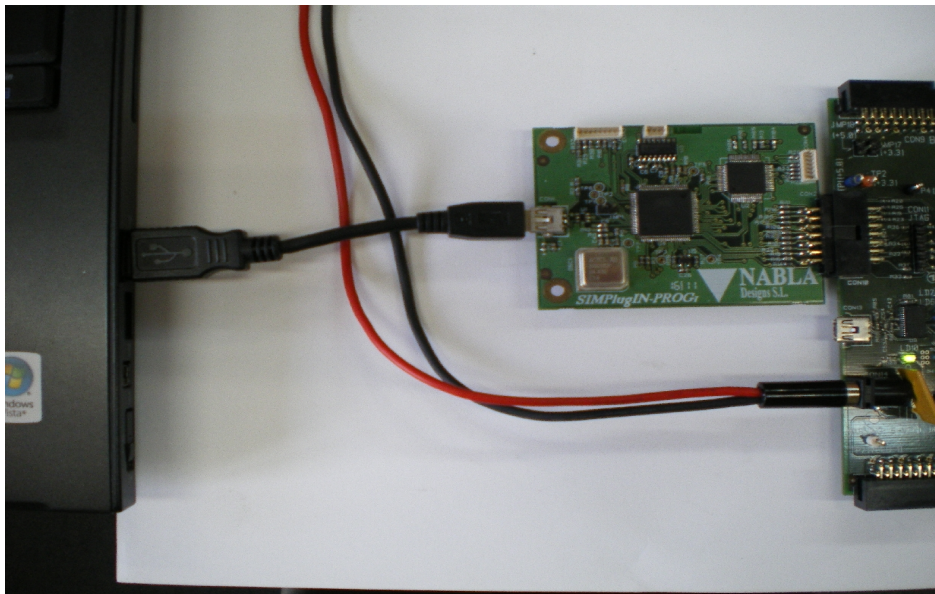
Coming soon ...

6 Driver's Installation.

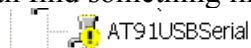
6.1 Windows.

The SIMPlugin-Programmer shows a serial port interface to the computer which is connected. You have to install the appropriate driver following this steps:

1. Plug the SIMPlugin-Programmer to the SIMPlugin-LX45 development board using the connector CON10.



2. Plug the SIMPlugin-Programmer to the PC by mean of the supplied USB cable.
3. Plug the SIMPlugin-LX45 development board to the 5V power supply and switch it on.
4. On the Windows PC, launch the Device Administrator.
5. At *Other Devices*, you can find something like this.:



6. Click on the mouse's right button, and pick the *update controller* option.

Windows XP	Windows 7
You have to choose the option <i>Not at this moment</i> to avoid that Windows try to connect to Windows Update.	You have to choose the option <i>Find the controller software on your computer</i> .
You havet to choose the option <i>Install the driver from a custom path(advanced)</i> .	Select the installation directory of the application.
You have to choose: <i>find the more appropriated driver in these paths</i> . Uncheck the <i>removable media</i> . Check the <i>Include this path on the search</i> and choose the installation directory.	You have to choose <i>Find the driver in this path</i> .

7. The following device will be showed:
Nabla Designs Simplugin Programmer.
8. You can safely ignore the warning about the signed of the driver and accept the installation.
9. Choice the next button to start the driver installation.
10. If the installation success, you can see at the Ports (COM & LPT) section of the Device Administrator the following device (the assigned port is only an example):

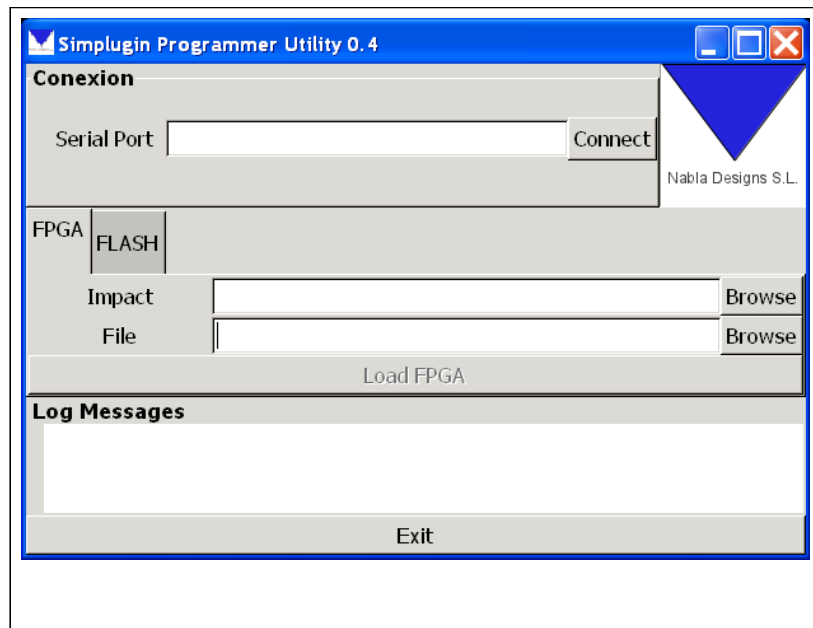


7 SIMPlugin-Programmer Utility.

7.1 User Interface.

To start the utility you can click on the correspondent icon or by mean of *All Programs-> Simplugin Programmer->Simplugin Programmer* shortcut:

You will see a dialog like this:

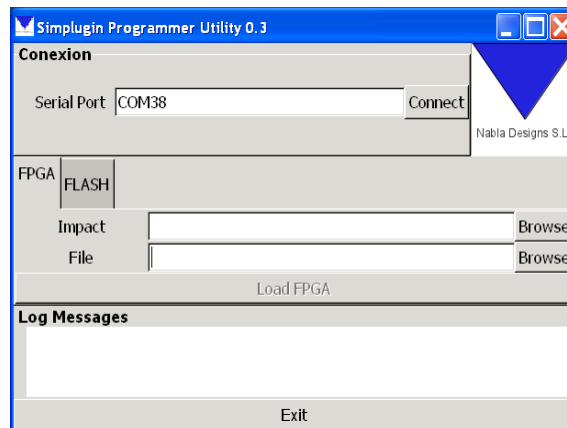


- **Connexion.**
 - **Serial Port.** Here you can introduce the serial port associated with the SIMPlugin-Programmer.
 - **Connect/Disconnect.** With this button you can establish/release the connexion with the SIMPlugin-Programmer board.
- **FPGA.** This tab has two input boxes where you can provide the following data:
 - **Impact.** The SIMPLugin-Programmer board only works with FPGA files in xsvf format. This is the path of the *impact.exe* program used to make the conversion from bit to xsvf format.
 - **File.** File to load on the FPGA, you can provide the *.bit* file or *.xsvf* file.
 - **Load FPGA.** This button launches the load operation over the FPGA. If the file to load has a *.bit* extension, the conversion between *.bit* to *xsvf* will be launched first, then the *xsvf* file will be sent to the SIMPlugin-Programmer board, finally the bit FPGA's DONE bit will be tested to verify the operation result.
- **FLASH.** The tab associated with the SPI Flash has just one input box:
 - **File.** File to program on the SPI Flash, two types of files are allowed : intelx (.hex or .mcs extension) or bin (.bin extension).
 - **Program Flash.** Click on this button to launch the programming process of the SPI Flash with the file indicated in the correspondent input box.
- **Log Messages.** Log Messages Window.
- **Exit.** Exit button, the content of the input boxes is stored in the configuration file `$(HOME)\spprog\spprog.cfg`. These contents are retrieved when the application starts.

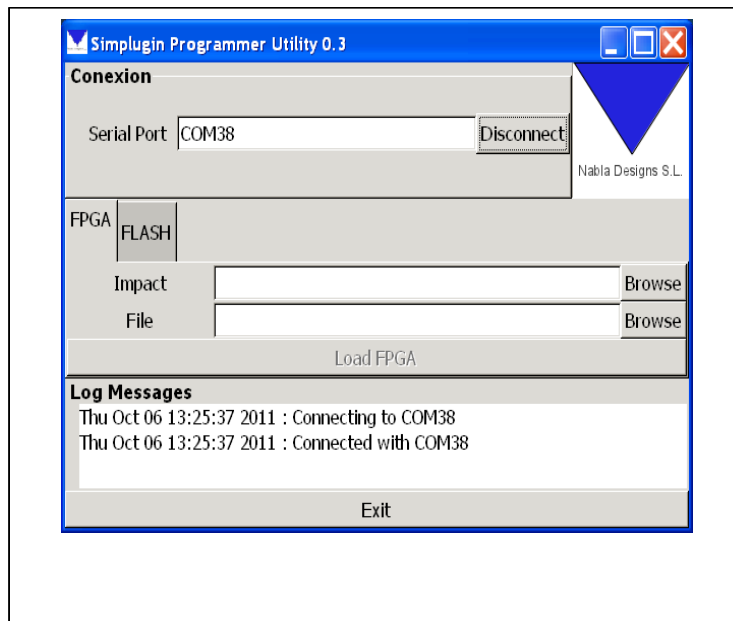
7.2 Connexion with the SIMPlugin-Programmer.

The connexion with the SIMPlugin-Programmer board can be achieved by mean of the *Connect* button. If you leave this field empty, the utility will try to detect which is the serial port automatically; an unsuccessful detection indicate a non connected board or a failure in the driver installation.

You will see a dialog like this (the COM38 port could be any other):



Clicking on the Connect button will launch the connexion process:



7.3 FPGA Load.

Impact Configuration: you have to indicate the path of the *simplugin.exe* program wish is used to make the .bit to .xsvf translation. This file could be usually found at:

- **If you have just the Xilinx Labtools:**

C:\Xilinx\13.X\LabTools\LabTools\bin\nt\impact.exe

- **If you have the ISE development sytem:**

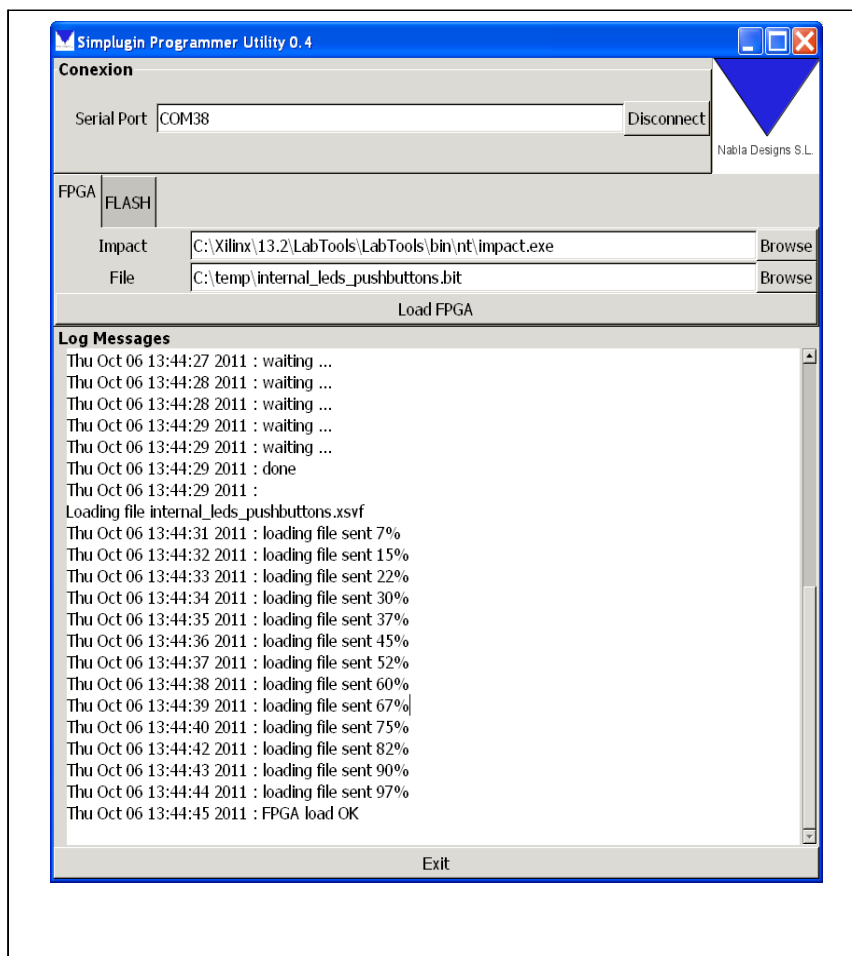
C:\Xilinx\13.X\ISE_DS\bin\nt\impact.exe.

Finally, you can assign the file to load by mean of the button *Browse* associated with the input box *File*.

The *Load FPGA* button will be activated, clicking on it will launch the loading process.

Te picture bellow shows a loading example using one of the available on our web page:

www.nabladesigns.com → *download & support* → *Simplugin_support_1*. This easy example tests the buttons leds and switches of the SIMPlugin-LX45 board.



7.4 SPI Flash Programming.

The SIMPlugin-LX45 board features a flash memory where the FPGA can boot. You can program the intelx file (.mcs or .hex extensions), providing the correspondent file on the File input box (Flash TAB), and clicking on the *Program Flash* button.

