

PROJECT: HANDLE THE USB PORT IN BOLT 18F2550 SYSTEM AS IF IT WERE A SERIAL PORT.

Bolt 18F2550 system has a built in USB port that may be handled like a serial port from both sides: the microcontroller and the PC. This is done thanks to Microchip's USB stack and libraries provided for the microcontroller, and the windows drivers provided for the PC.

This project was originally developed by Microchip for the Demo board PICDEM FSUSB for the 18F4550 microcontroller. The Project includes a VC++ test software for a Windows PC, and the firmware for the microcontroller board, which includes complete C18 files for the USB stack and the so called *USB-UART functions* to easily program the USB port in ANSI C, as if it were a serial port.

Some changes were made to the source code firmware program and to the linker script for compatibility with *Bolt 18F2550* hardware and bootloader firmware.

Instructions:

1. Go to link: <http://puntoflotante.net/BOLT-18F2550-USB-PROJECT.htm>
In the bottom of this page, download file:
<http://puntoflotante.net/BOLT-18F2550-USB-PROJECT.zip>
There, you will find all files and programs mentioned in this guide.
2. Connect Bolt 18F2550 or Bolt v.Lite system to Windows PC using the USB cable.
3. Load *BOLT-18F2550-USB.hex* file from PC to Bolt 18F2550 system using software Bolt v.1.0.1 and execute the program. (moving jumper JP2 and reset)
4. Windows OS automatically looks for Microchip's driver and installs it. You will see the leds B0 and B1 of Bolt board flashing alternately when installation is succesfully done and the USB connection is ready. This driver creates a virtual port COM to handle the USB port.
5. Execute the PC software "Dynamic CDC Demo" application file. The program opens an application window. Program is plug and play, that is, recognizes the Bolt board automatically.

- 6.** Toggle several times microswitch SW1 of Bolt board. You will see the legend “Button Pressed –“
- 7.** Write an ‘A’ and click button “Send Data”. The character is sent via the USB port and the 18F2550 system adds +1 to the received ASCII code and echoes the result, so you will see a ‘B’ in the program window.
- 8.** You may test again sending the message “GNK@”. This time the Bolt board will add +1 to each of the received ASCII codes and respond with the message “HOLA”.
- 9.** Source files of both, the PC software and the microcontroller firmware are included so that user may make changes according to his own requirements.