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## STLUX/STNRG demo board - Serial update procedure

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A design tip is a description of an application oriented, technical implementation that leads to a specific benefit. For more information or support, visit [www.st.com](http://www.st.com)

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Main components	
STEVAL-ILL075V1	STLUX385A demo board
STEVAL-ISA164V1	STNRG388A demo board
STSW-STLUXDEV01.HEX	Firmware to download on the demo board

### Purpose and benefits

This Design tip describes the procedure to change/upgrade the FW loaded into the STLUX-STNRG chip mounted on the STEVAL-ILL075V1 demo board or the STNRG STEVAL-ISA164V1 demo board.

The firmware is downloaded through the serial line.

### Description

The STSW-STLUXDEV01.zip file includes the entire program required to upload a new FW into either the ILL075V1 or the ISA164V1 demo board. The firmware is the same for all the STLUX-STNRG part numbers. The user unzips the received file into a dedicated directory. The step-by-step procedure is:

1. Connect the PC to the demo board using a USB-MINIUSB cable. After this action the PC starts to install the appropriate driver (only the first time you connect one new board). In case the automatic procedure should miss the correct driver, contact your IT services.
2. Identify the COM line connected to the demo board. Please see the "Found the COM line" section next in this document for any clarification.
3. Double click on the "Program\_UsingBL.bat" program.
4. A DOS shell starts. Please type your serial line number identified in point 2. In this example the number is "34".
5. Push and hold the reset button on the demo board.

6. Release the reset button and immediately type one char on the PC. These two actions have to be performed in a sequence in less than 1 second (release reset first and type a char on PC – in this order)
7. The download procedure starts automatically.

The result is shown in Figure 1. Look for “OK” as the result of the downloading and verifying procedure.

At this point, the FW on the demo board is updated to the latest release. Type any character to close the batch window.

In case of error during the initialization phases, a message shows on the DOS window and the user restarts at the reset of the devices (point 5 on the procedure). In case the serial line number is bad or busy, another message is shoved and the batch file exits.

Figure 1 – batch file output

```

C:\Windows\system32\cmd.exe
-----
This is the ST-LUX-STNRG serial loader batch file
-----
Please enter your COM number: 34
1- Press and HOLD the reset button ..
2- Release the reset button and press any key on the PC keyboard
   (within one second from releasing the button)
Press any key to continue . . .
Opening Port                               [OK]
Activating device                            [OK]

DOWNLOADING ...
downloading  page 0      00x  8000  size 1.00(KB) [OK]
downloading  page 1      00x  8400  size 1.00(KB) [OK]
downloading  page 2      00x  8800  size 1.00(KB) [OK]
downloading  page 3      00x  8C00  size 1.00(KB) [OK]
downloading  page 4      00x  9000  size 1.00(KB) [OK]
downloading  page 5      00x  9400  size 1.00(KB) [OK]
downloading  page 6      00x  9800  size 1.00(KB) [OK]
downloading  page 7      00x  9C00  size 1.00(KB) [OK]
downloading  page 8      00x  A000  size 1.00(KB) [OK]
downloading  page 9      00x  A400  size 1.00(KB) [OK]
downloading  page 10     00x  A800  size 0.39(KB) [OK]

VERIFYING ...
verifying    page 0      00x  8000  size 1.00(KB) [OK]
verifying    page 1      00x  8400  size 1.00(KB) [OK]
verifying    page 2      00x  8800  size 1.00(KB) [OK]
verifying    page 3      00x  8C00  size 1.00(KB) [OK]
verifying    page 4      00x  9000  size 1.00(KB) [OK]
verifying    page 5      00x  9400  size 1.00(KB) [OK]
verifying    page 6      00x  9800  size 1.00(KB) [OK]
verifying    page 7      00x  9C00  size 1.00(KB) [OK]
verifying    page 8      00x  A000  size 1.00(KB) [OK]
verifying    page 9      00x  A400  size 1.00(KB) [OK]
verifying    page 10     00x  A800  size 0.39(KB) [OK]
Your code is running...
Press any key to continue . . .
  
```

## Found the COM line

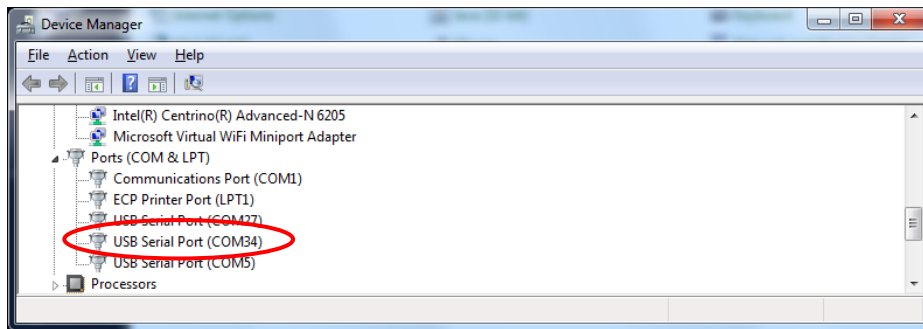
To upload the FW into the demo board, it is necessary to know the correct serial line. To find it (if you do not know) open the “Control Panel->System->Device Manager->Ports” and look for the new serial port to appear when the USB cable from the PC is connected to the demo board. Figure 2 shows the result.

In case there is more than one serial line connected on the PC, to identify the correct number, disconnect and reconnect the USB cable. The correct line disappears and reappears.

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On this example, the correct serial line is COM34.

Figure 2 - Identify the correct serial COM port



## Support material

Related design support material
STEVAL-ILL075V1 demo board
STEVAL-ISA164V1 demo board
Documentation
Data brief DB2710: STLUX385A evaluation board
Data brief DB2732: STNRG388A evaluation board
Application note, AN4656: Bootloading procedure for STLUX™ and STNRG™ digital controllers

## Revision history

Date	Version	Changes
10-Nov-2020	1	Initial release.

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