

Programming the DSP

24 June 14

Introduction

The usual burning (programming) procedure is the 14 steps described on pages 1-5. Appendix **A** is required only in case your PC's COM1 is not available for RS232 communication.

Appendix **B** is required only in case your USB-to-Serial adapter was placed by the system at COM5 or higher.

Appendix **C** is required only in case you want to check whether your PC is able to implement the burning process faster.

Burning Procedure

1. Put the firmware file to be burnt in the proper path:

Recent firmware files are available in IMS site and/or on your CD, under the folder:

LCIC-WIM - xxx

LCIC-WIM - xxx - Board_Firmware_Update-Up-to-date_Version

(xxx is the specific type of your board)

For example,

LCIC-WIM - WiM-mode

LCIC-WIM - WiM-mode - Board_Firmware_Update-Up-to-date_Version

Copy this folder to your hard disk, let's say under disk C:

C:

LCIC-WIM - WiM-mode

LCIC-WIM - WiM-mode - Board_Firmware_Update-Up-to-date_Version

Copy the file to be burnt (for example, LCIC3.121.out) to the folder "C:\CCStudio_v3.1" and rename it to LCIC.out.

For example:

a. If the file C:\CCStudio_v3.1\LCIC.out' exists, then delete it.

b. Copy the file LCIC_3.121.out

from

C:\

LCIC-WIM - WiM-mode\

LCIC-WIM - WiM-mode - Board_Firmware_Update-Up-to-date_Version

to

C:\CCStudio_v3.1.

c. Rename

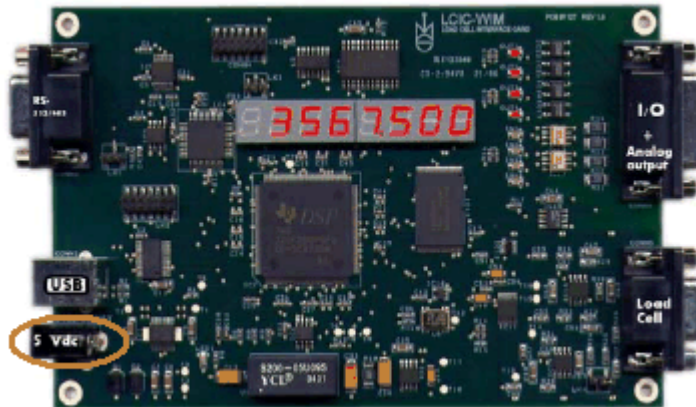
C:\CCStudio_v3.1\LCIC_3.121.out

to

C:\CCStudio_v3.1\LCIC.out

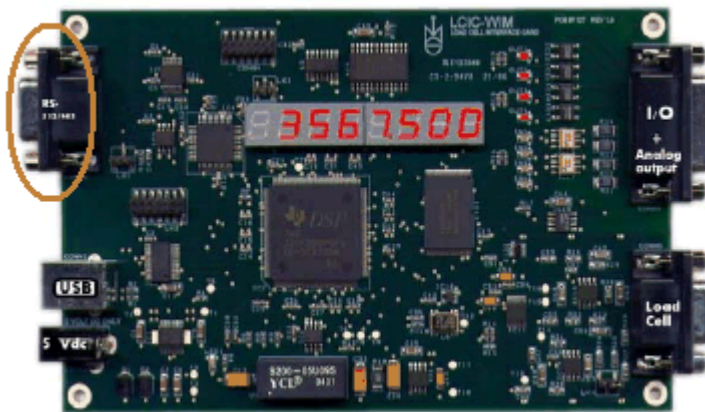
C:\CCStudio_v3.1\LCIC.out will be the file to be burnt by the SDFlash utility.

2. Unplug card's power (5V) cord from CONN1:



3. Connect a 3 wire RS232 cable between COM1 of the PC and CONN3 of the LCIC-WIM:

- * The RS232 cable should be straight (not crossover).
- * If COM1 is not available, refer to appendix A, below.



4. Move the LK3 jumper to the right side:



5. Re-connect the power (5V) cord to CONN1.
Only LED1 (marked below) should light:

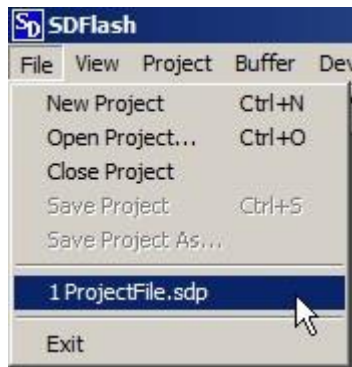


6. Double-click the 'Shortcut to SDFlash.exe' button on the desktop:

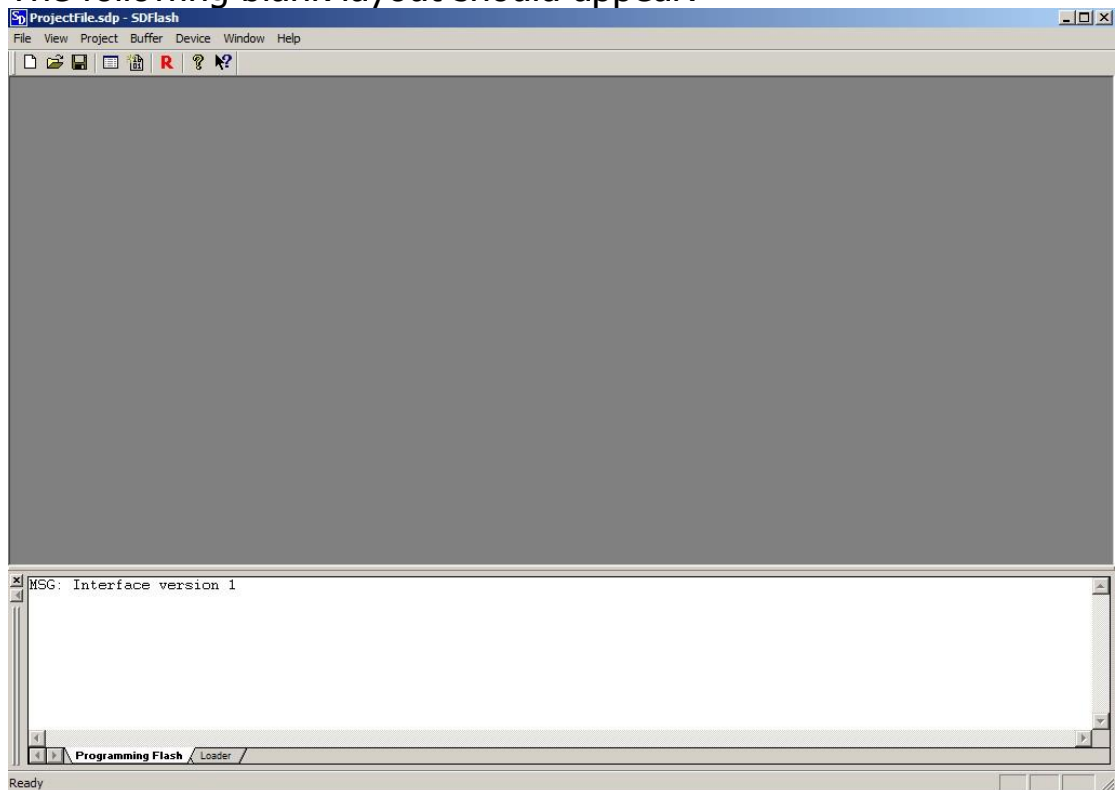


(Do not confuse with 'SdConfig'.)

7. Click 'File' and the .sdp file:



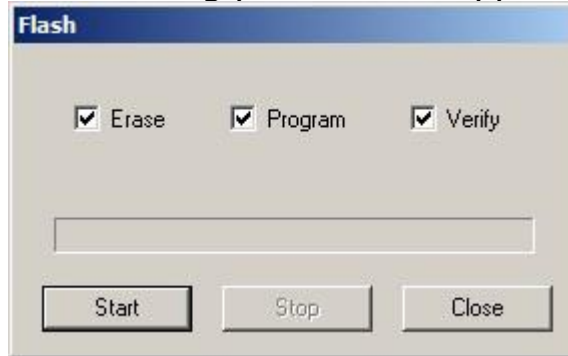
The following blank layout should appear:



8. Click 'Device' and 'Flash...':



9. The following panel should appear:



On the bottom panel there should be a message such as:
[Program C:\CCStudio_v3.1\LCIC.out loaded successfully.](#)
→ Click 'Start'.

10. The process takes some seconds.

Finally the bottom panel should look like this:



11. Exit the 'SDFlash' Program.

12. Unplug card's power (5V) cord (as in step #1).

13. Move the LK3 jumper (that you changed in step #4)
back to the left side.

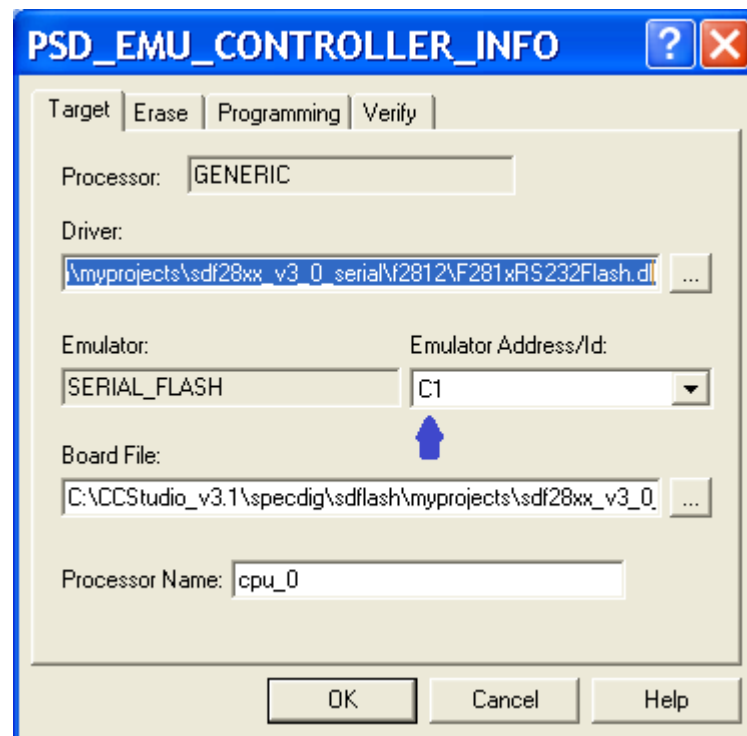
14. Re-connect the power (5V) cord.

Appendix A: Changing the PORT Selection

When COM1 is not available you may use COM2, COM3 or COM4 instead.

If you use a USB-to-Serial adapter and the system automatically placed it at a higher COM location (for example, COM5), refer to appendix B.

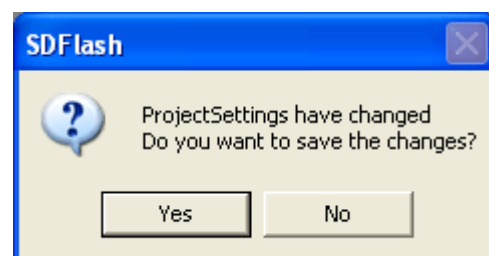
Click on **Project / Settings...** and you should see the following tabbed option screen:



The default port address to communicate with the board (in order to burn the DSP) is COM1 (abbreviated to 'C1', as pointed by the blue arrow in the screenshot). You may change it to COM2, COM3 or COM4 by selecting C2, C3 or C4 (instead of C1).

If you change this setting and wish that SDFlash will 'remember' the new setting upon next activation, click **File / Save Project**.

If you do not click **File / Save Project**, you may be asked later:



Select 'Yes' if you want to use the new COMx permanently.

DO NOT CHANGE ANY OTHER ITEM ON THE 'Target' TAB.

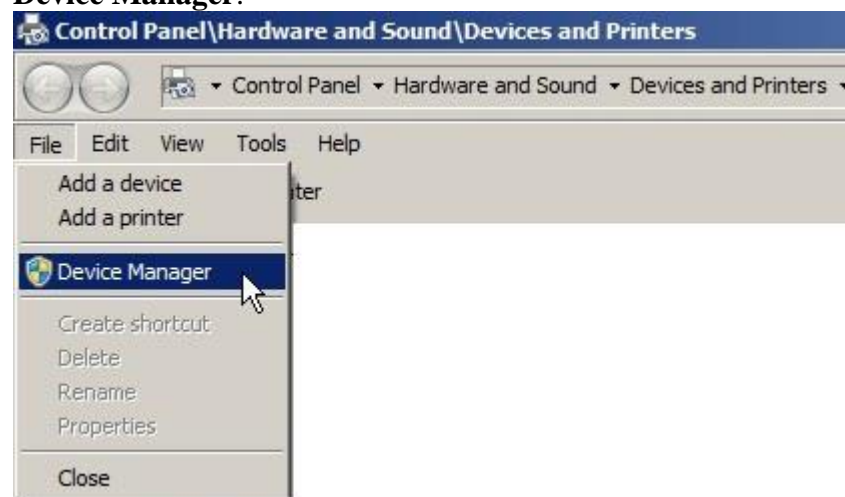
Appendix B: How to change COM Port Number

Q.: I use a **USB-to-Serial adapter** in order to communicate with my LCIC-WIM board through its RS232 port. Indeed, the supplied applications such as LCIC-WIM-CALIBRATION work fine. However, when I tried to upgrade board's firmware, I realized that the SDFlash utility supports only COM1 → COM4, while the system automatically placed my adapter at COM18. Is there a way to change my adapter's COM Port Number?

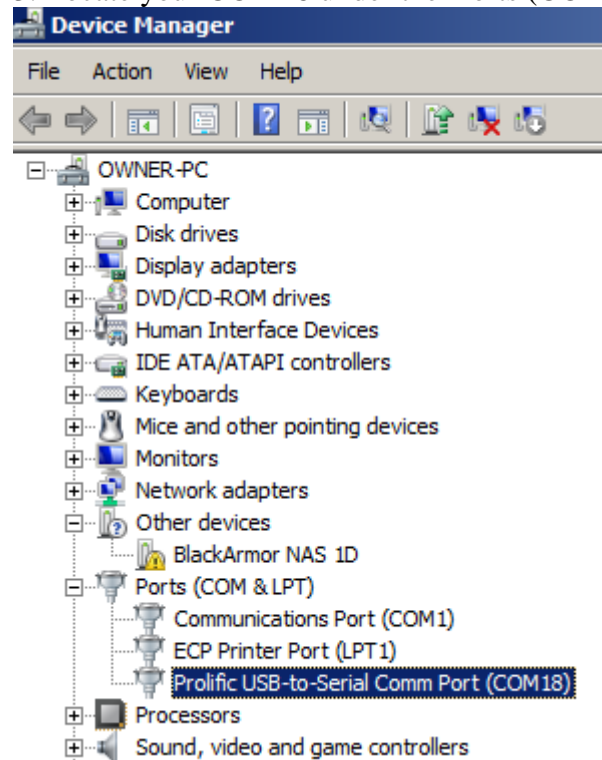
A. Yes. The following description shows how to change adapter's COM Port Number from 18 to 2:

(This demonstration was run on Windows 7 / 64-bit. The interface on another OS will probably be somewhat different, but the principle will remain the same.)

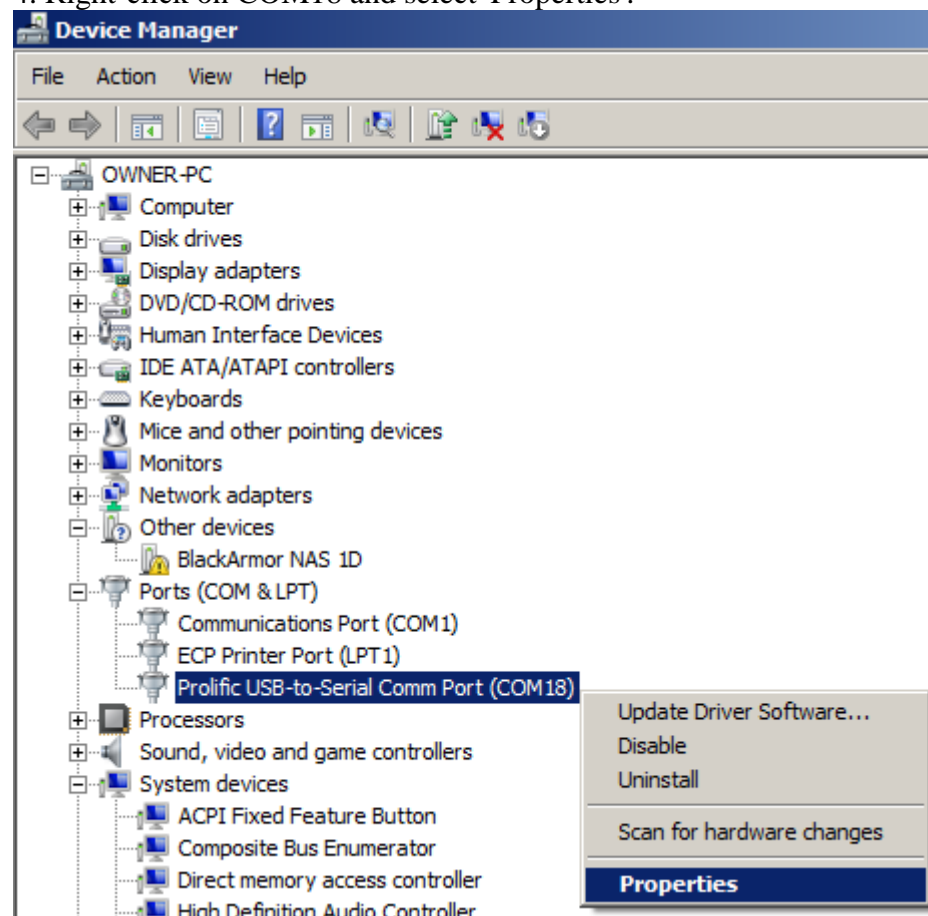
1. Make sure you are not communicating with the adapter by any application (for example, LCIC-WIM-CALIBRATION, RS232 terminal, etc.).
2. Run your Device Manager, for example by **Control Panel / Devices and Printers / Device Manager**:



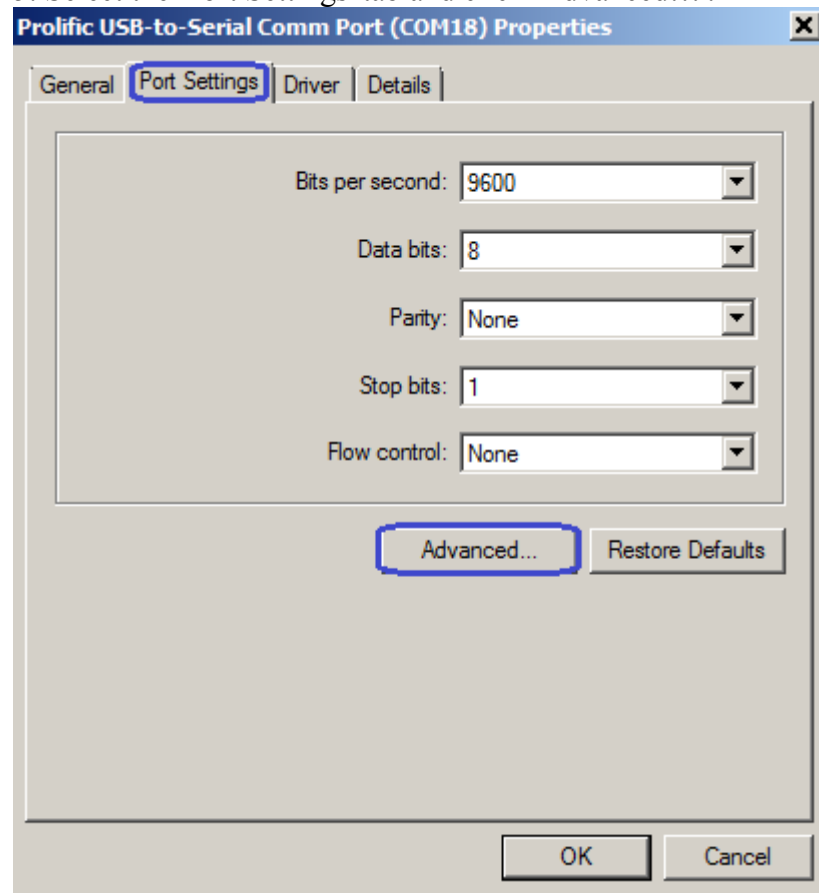
3. Locate your COM18 under the 'Ports (COM & LPT)' section:



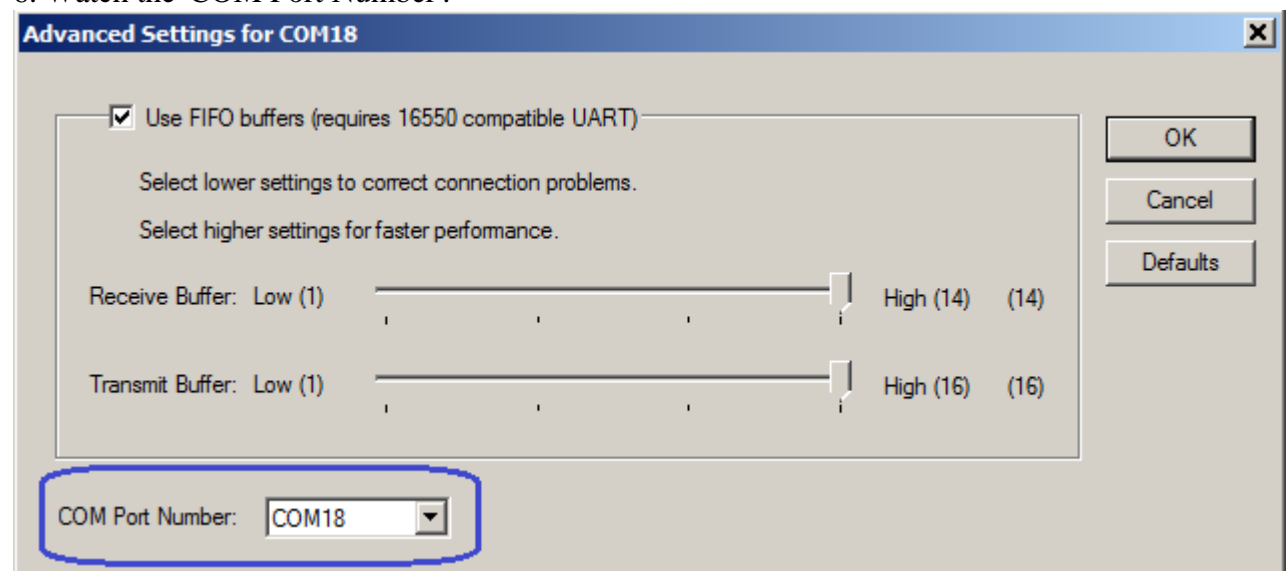
4. Right-click on COM18 and select 'Properties':



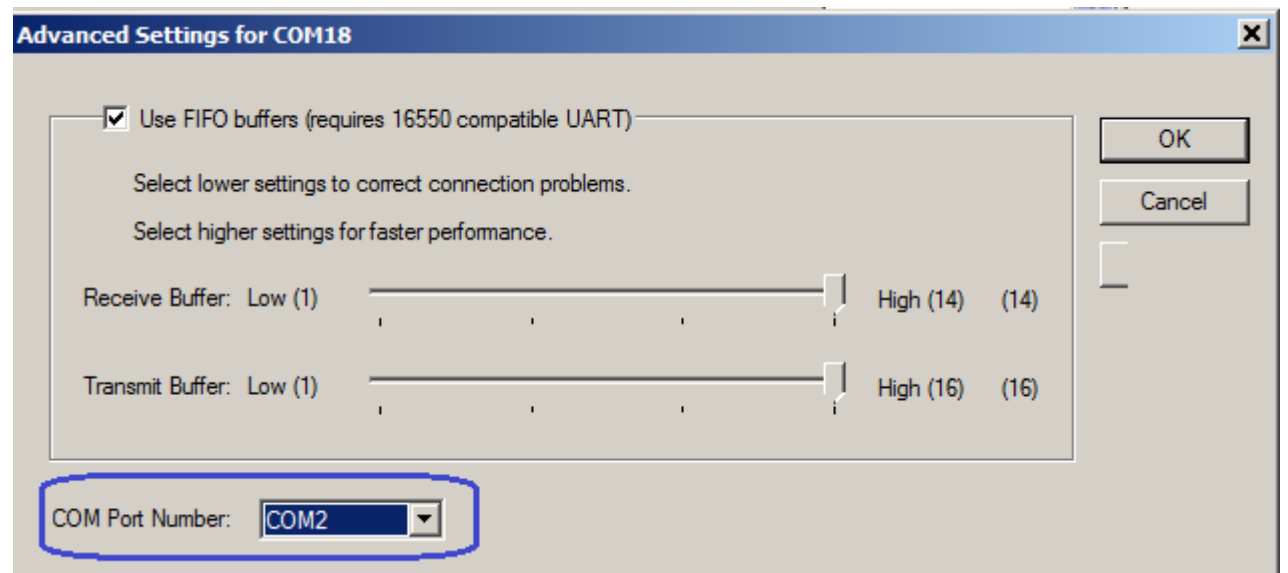
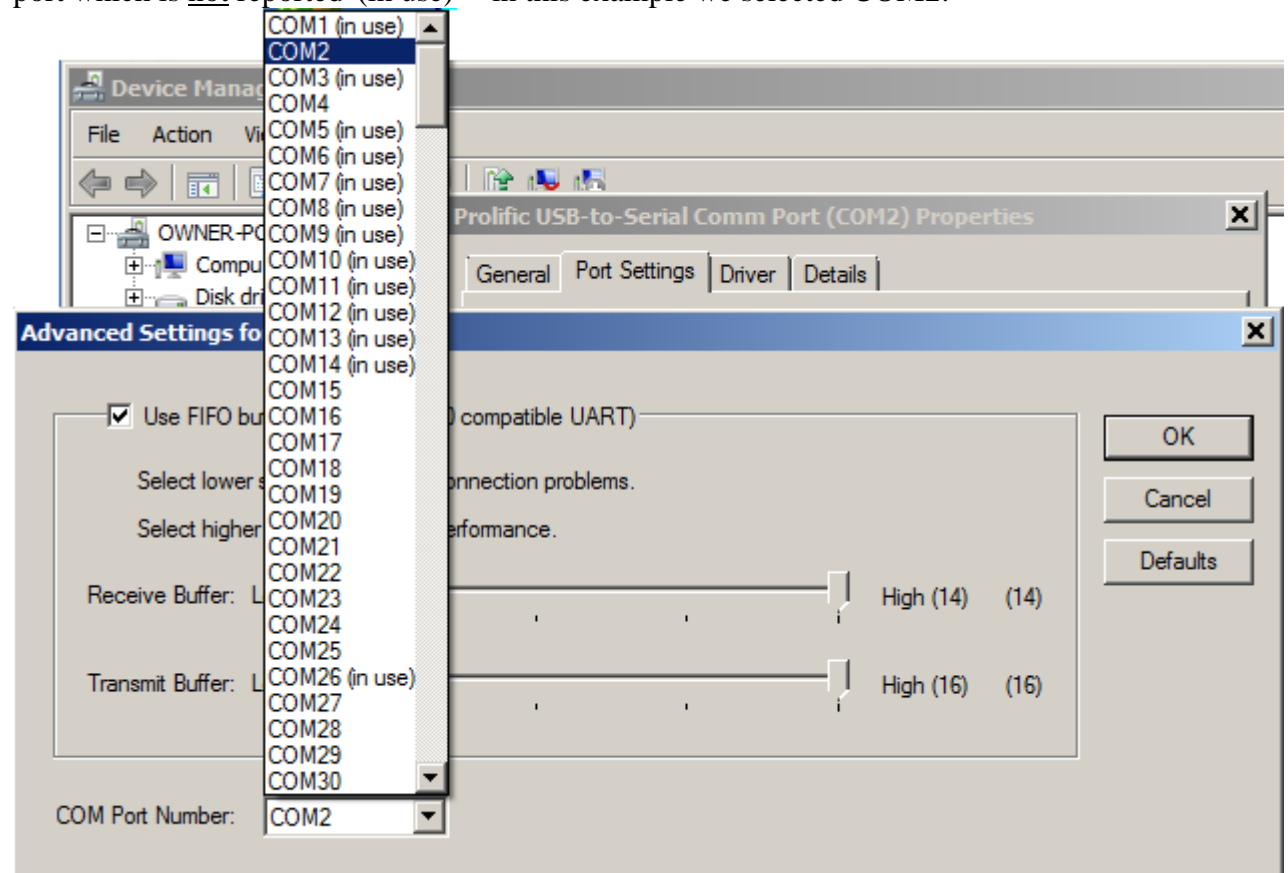
5. Select the 'Port Settings' tab and click 'Advanced...':



6. Watch the 'COM Port Number':

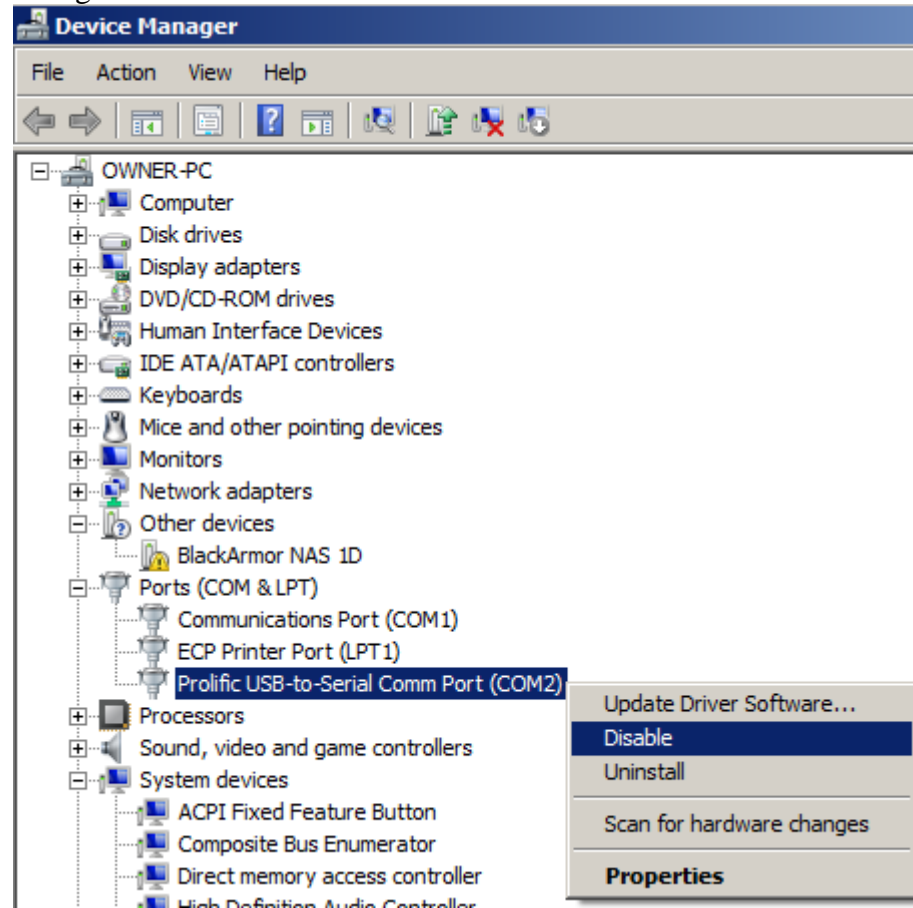


7. Replace COM18 by another port between COM1 and COM4. Make sure to select a port which is not reported '(in use)' – in this example we selected COM2:

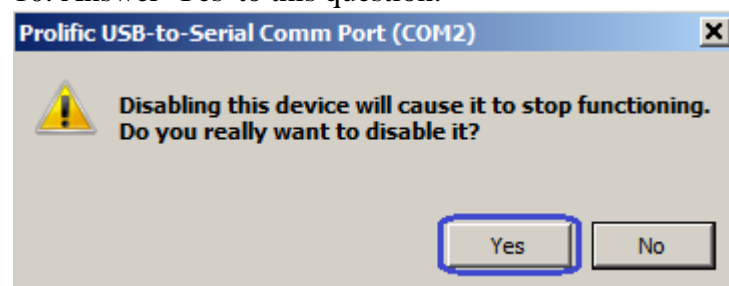


8. Click 'OK', 'OK'.

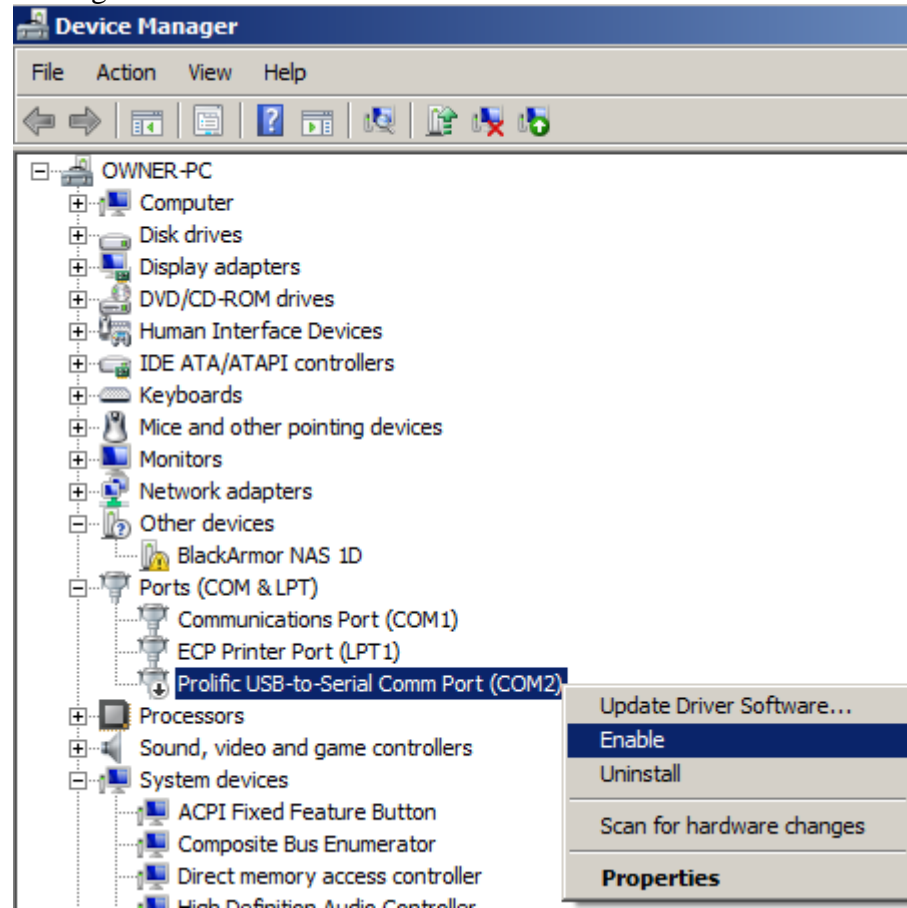
9. Right-click on COM2 and select 'Disable':



10. Answer 'Yes' to this question:



11. Right-click on COM2 and select 'Enable':



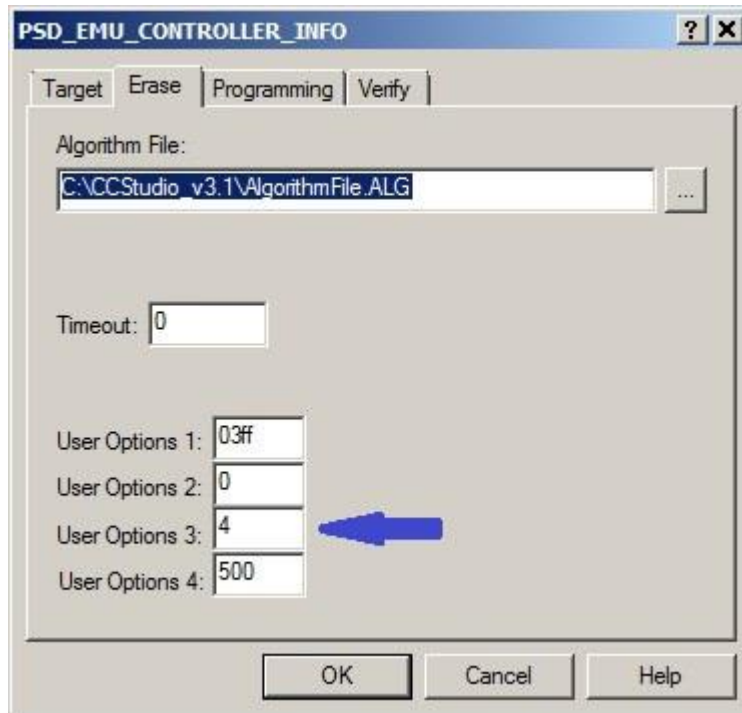
12. Now you should communicate with your board – through the USB-to-Serial adapter – using COM2. First of all, verify proper communication using a known application (such as LCIC-WIM-CALIBRATION). Next, run the SDFlash. Make sure, under 'Project'/'Settings...', in the 'Emulator Address/Id' box, to select C2 (standing for 'COM2'), as described in appendix A:



Now you are ready to burn, using the standard burning instructions (the 14 steps described on pages 1 → 5).

Appendix C: Changing the BAUD RATE Selection

Sometimes you may make the burning process faster:
Click on **Project / Settings...** and select the 'Erase' tab:



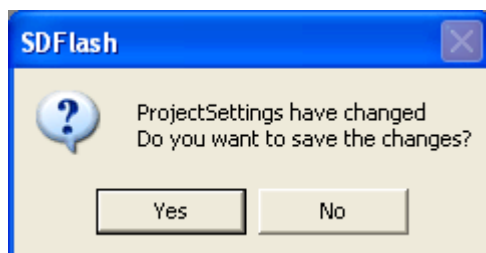
Use '**User Options 3**' to set the baud rate. Although this is on the 'Erase' tab, it applies to all operations (Erase, Programming and Verify). Enter a number 1 → 4 that sets the baud rate that SDFlash will attempt to communicate with the DSP boot loader:

- 1 = 57600 baud
- 2 = 38400 baud
- 3 = 19200 baud
- 4 = 9600 baud (Default)

Due to hardware, connectors, transceiver, PC UART, etc., you may need to lower the baud rate in order to successfully communicate with the DSP. **Therefore, the default baud rate is set to the minimum.**

If you change this setting and wish that SDFlash will 'remember' the new setting upon next activation, click **File / Save Project**.

If you do not click **File / Save Project**, you may be asked later:



Select 'Yes' if you want to use the new baud rate permanently.