How to program a LF240xA device using the SCI port and Codeskin programmer

It can be hard to locate JTAG based debug tools for LF240xA devices, in order to program the on-chip flash memory. A simpler option would be to leverage the SCI-bootloader in the on-chip boot-ROM and Codeskin's free Flash Programmer for TI MCU's which can be downloaded at http://www.codeskin.com/programmer

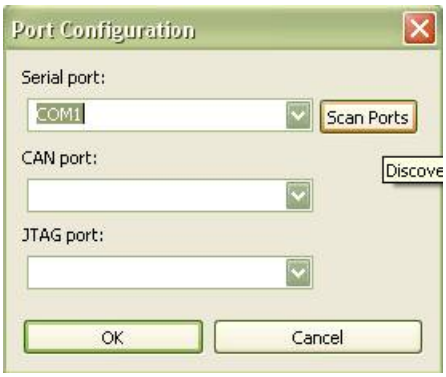
After you have installed tool from the link above, you need to invoke C2Prog.exe and follow the following steps:

1. Once you invoke C2Prog.exe the screen below should pop up.

2. Select the Target from the pull down menu as shown above.

3. On an erased part, the flash password locations are FFFF,FFFF,FFFF,FFFF. So, we need to populate Key1/2/3/4 with FFFF,FFFF,FFFF,FFFF.

4. Click Configure ports. Click Scan Ports and then select COM1 from the drop down menu and click OK.



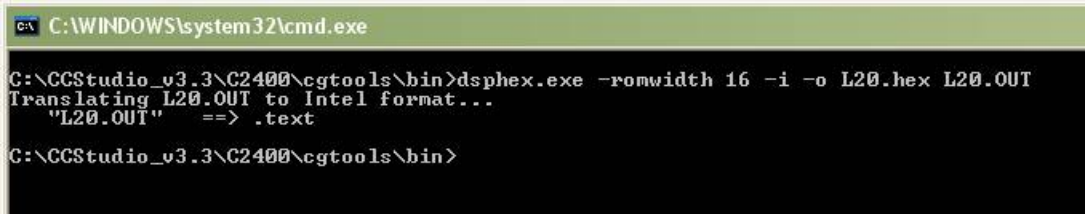
5. Make sure to pull BOOT_EN and SPISIMO pins LOW on the LF240xA. This would put the device in SCI boot-mode.

6. Connect host (PC) and the target using RS-232 port.

7. C2Prog supports Intel-Hex files with 16 bit address and data widths. We need to use dsphex.exe to convert .out file into Intel hex format. So, copy your COFF file (.out file) into C:\CCStudio_v3.3\C2400\cgtools\bin. We need to convert the .out file into Intel Hex format.

(HEX2000.exe shipped with later versions of CCS will not work)

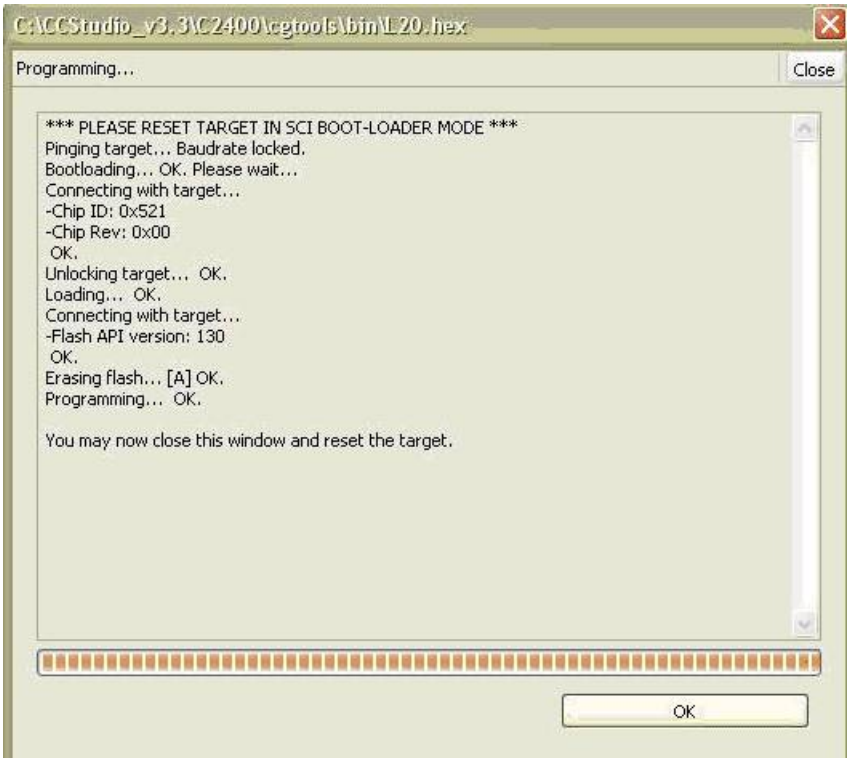
8. Type the following command as shown below dsphex.exe -romwidth 16 -memwidth 16 -i -o filename.hex filename.out



9. Select the hex file to be programmed using Select file option provided in the Codeskin programmer.

10. Power up the device.

11. Click Program and you should see this window pop up.


C:\CCStudio_v3.3\C2400\cgtools\bin\L20.hex
Programming...
Close
*** PLEASE RESET TARGET IN SCI BOOT-LOADER MODE ***
Pinging target... Baudrate locked.
Bootloading... OK. Please wait...
Connecting with target...
-Chip ID: 0x521
-Chip Rev: 0x00
OK.
Unlocking target... OK.
Loading... OK.
Connecting with target...
-Flash API version: 130
OK.
Erasing flash... [A] OK.
Programming... OK.
You may now close this window and reset the target.
OK