

## TMS320F243 Flash Programming Utilities

# Quick Start Guide

This document is aimed to kick start the user with the 'F243 Flash Programming Utilities, based on the JTAG Connection, either with the XDS510 or the XDS510PP (the parallel port version). For more detail on any section refer to the README2.PDF

### Check-list: Before you get started, go over the following points:

1. Make SURE you have the version of Tools intended for the specific part you want to program !  
i.e. if you want to program F240 get F240 tools, F241/3 Rev 2.x get rev 2.x tools  
241/3 rev1.1 get F241/3 Rev 2.x parts and tools.
2. Make sure the Vccp control jumper on your EVM or target is set to Vccp=high(5V). With a custom target make sure that the Vccp pin is TIED high DIRECTLY, NOT pulled high (thro' a resistor).
3. Make sure that the Processor is in MC=MICROCONTROLLER mode, NOT in MP (microprocessor mode).
4. Make sure that the crystal / oscillator / other clock going into the DSP is 5 MHz, so that the CPUCLK is 20 MHz ( since the PLL is a fixed X4 on these devices).
5. Ensure that NMI is inhibited, i.e. PULLED HIGH (tied/pulled high thro' appropriate resistor both are fine).
6. Make sure that all RESET sources are disabled during programming. This may include for example another host processor resetting the device, hitting the reset button, and so on.
7. Make sure you have obtained 'F243 Tools NOT F240 Tools.
8. Follow the steps below to program the flash.

### Programming Flash

1. Plug in the JTAG cable to the EVM (=target).
2. Plug in the power cable to the EVM. Turn on power switch.
3. From your Windows Explorer, or from Command Prompt, run EMURST.EXE. This will reset the Emulator. In case of parallel port version, run EMURSTPP.EXE. Make sure the Emulator is reset before proceeding further. In case this does not work check steps 4 and 5 as applicable.
4. In case of XDS510PP only, (and not in XDS510) make sure that the settings in the file XDS510PP.INI are good for your computer:  
    'port = 378' gives the port address of the parallel printer port the XDS510PP is plugged in,  
    'mode = epp' is the port mode, you must make sure the bios port type and this line match.  
    'speed = 10' is how fast (or slow) to communicate with the port, a setting of 10 is SLOWER than a setting of 3, (FASTER).
5. In case of XDS510 (the card + pod interface) make sure that the -p XXX in the batch file is set to -p AAA where AAA is the base address of the XDS card. For more detail refer to the *XDS51x emulator Installation Guide* ( SPNU070A).
6. Run BTEST.BAT. This loads a dummy program just to verify the JTAG link. This runs, and says "Finished" when done. If this fails, (gives an error message) you need to check the connections and so on and make sure this works correctly before proceeding to the next step. Once your setup is up and working you don't need to run this step everytime.
7. These utilities have three more batch files which you run **EVERY TIME IN THE SAME SEQUENCE**. These are BC0.BAT , BE0.BAT, and BP0.BAT.
8. Run BC0.BAT . It Clears the Flash array and sets it all to zeros. It must run successfully, i.e. say "Finished", before running the next step. If any error messages occur refer README2.PDF and correct before proceeding.
9. Next Run the batch file BE0.BAT. This runs and sets all the bits in the flash array to ones, i.e. erases the flash. This too must be completed successfully, i.e. say "Finished".
10. Once this is done run the Batch file BP0.BAT which will program a COFF file ( the '?????.out' file) into the flash array. This file has the line  
    prg2xx -p 240 -m 0x0006 -w 6 src\c2xx\_bpX.out 18kn.out  
Change 18kn.out to whatever coff file you have generated from your code. This must be copied to the flash util directory or point to it with a complete path e.g.  
    prg2xx -p 240 -m 0x0006 -w 6 src\c2xx\_bpX.out c:\myproj\final\motor.out  
where the file "motor.out" is in c:\myproj\final.
11. Always follow the CLEAR-ERASE-PROGRAM sequence in steps 8 to 10. Do not do erase without clear or any other sequence.