Using the Template

The directory template contains a template, which can be used as the basis of a TMS320LF2407 DSK project.

The template combines some of the code supplied by Spectrum Digital inc.

Using the Template

Suppose we wish to set-up the project named `first`

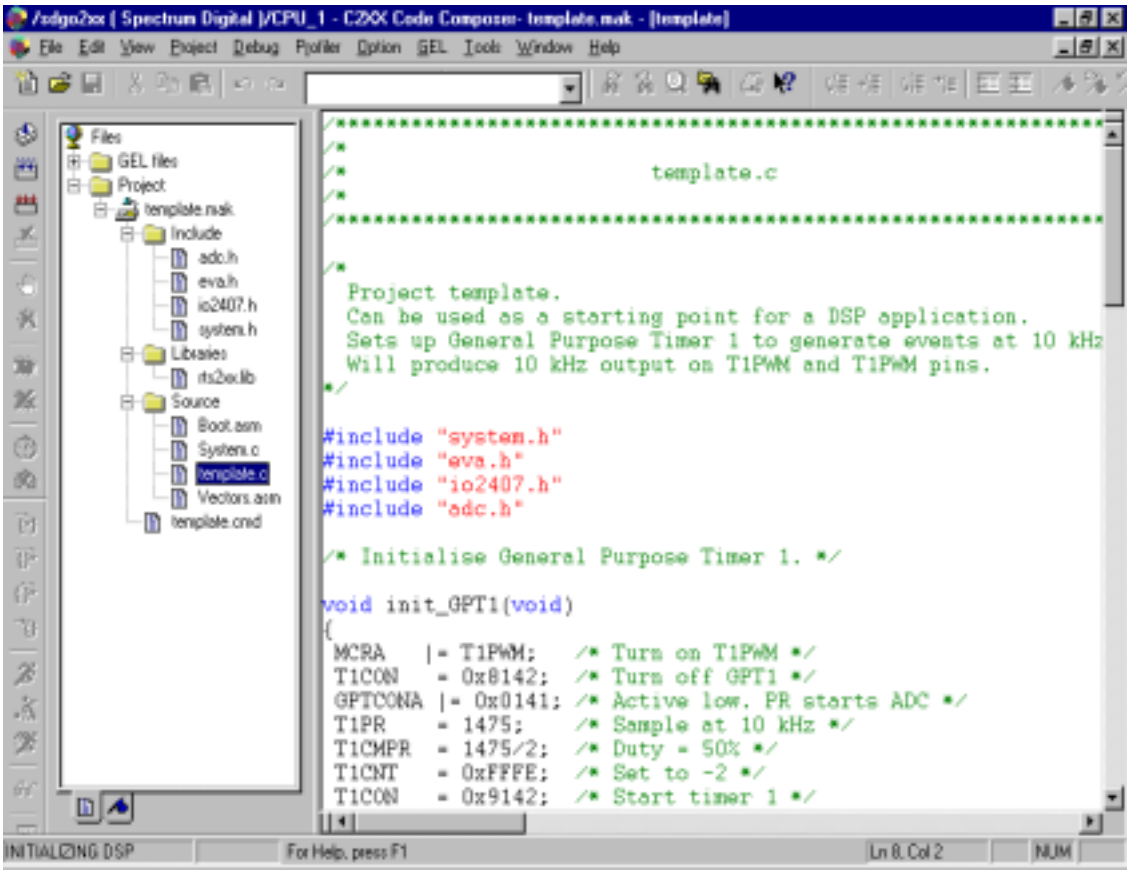
1. Start Windows Explorer
2. Select the directory where the project is to be stored, for example `C:\tic2xx\myprojects`
3. Create a new folder using File -> New -> Folder. Rename this folder to `first`
4. Copy all the files from the template directory to the directory where the project is to be stored e.g. `C:\tic2xx\myprojects\first`
5. Make the file containing the project e.g. `C:\tic2xx\myprojects\first` the current directory.
6. Rename `template.c` to `first.c`
7. Rename `template.cmd` to `first.cmd`
8. Open the file `first.cmd` by double clicking on it.
9. Change the line `-o template.out` to `-o first.out`
10. Change the line `-m template.map` to `-m first.map`
11. Save the changes to the file `first.cmd using` File -> Save
12. Close Windows Explorer
13. Start Code Composer Studio for 2000, e.g. from the icon CC ‘C2000
14. Select Project -> New. Select the directory `first` as the “Save in” directory. The “File name” to be entered is `first`. This creates the makefile for the project, which is `first.mak`
15. The required files in the directory `C:\tic2xx\myprojects\first` must now be added to the project. Select Project ->Add Files to Project. The “Files of type” should show “C Source Files (*.c)”. Use ctrl + mouse left click to highlight the files `first.c` and `system.c`. Then click on the Open button.
16. Select Project->Add Files to Project. Use the downwards arrow in “Files of type” to select “Asm Source Files (*.a*, *.s*)”. Using ctrl + left click highlight `boot.asm` and `vectors.asm`. Click on the Open button.
17. Select Project->Add Files to Project. Use the downwards arrow in Files of type to select “Object and Library Files (*.o*, *.lib)”. Left click to highlight `rtx2xx.lib`. Click on the Open button.

18. Select Project->Add Files to Project. Use the downwards arrow in "Files of type" to select "Linker Command File (*.cmd)". Using left click, highlight `first.cmd` Click on the Open button.
19. All the files have now been successfully added to the project. Note that there is no need to add the `*.h` files because these are automatically added when the project is built.
20. Click on Project-> Build. This will compile, assemble and link all the files.
21. There should be 0 Errors and 0 Warnings.
22. Select File -> Load Program. Select `first.out` as the "File name".
23. If the DSK is connected, Select Debug -> Go Main
24. It should now be possible to step through the code using StepInto or F8.
25. You may wish to put some code into the template, for example at the line "Processing goes here" and to change the references from `template`.
26. Select Option-> Program Load. Ensure that the box Load Program After Build is ticked. This will automatically load the program when changes have been made.

What the Template Contains

The template contains the following files:

system.c	System files for setting up speed of processor and to turn on various options e.g. timers, ADC.
template.c	Main files for user program. Rename to that of program
boot.asm	Contains code to initialise the processor e.g. to set up the stack and initialise RAM to known variables.
vectors.asm	Vector table for interrupts. Will need to be modified to put in handlers for specific interrupts.
adc.h	Header file for the Analog o Digital Converter. The ADC is used to meaure input signals.
eva.h	Header file for Event Manager A. This controls General Purpose Timers GPT1 and GPT2.
io2407.h	Header file containing input output port settings. Many of these are specific to the TMS320LF2407
spi.h	Header file for optional external digital-to-analog converter (DAC).
system.h	Header file for system.c
rts2xx.lib	Library file containing C functions, multiply and divide routines etc.
template.cmd	Linker command file. The name needs to be changed to that of the project.



Click To View

Template…… A basic project for the TMS320LF2407 DSK. Configures an analog-to-digital converter and generates a pulse width modulation (PWM) output.

To View Applications Please Click

Signal Generation……... TMS320LF2407 DSK: Sine

Audio Interface……..…… TMS320LF2407 DSK: FIR
TMS320LF2407DSK: IIR
TMS320LF2407 DSK: FFT

Motor Control……...TMS320LF2407 DSK: Stepper Motor
TMS320LF2407 DSK: DC Motor

Click here to view..... Route Map