How to use CodeWarrior as an Assembler

Objective:

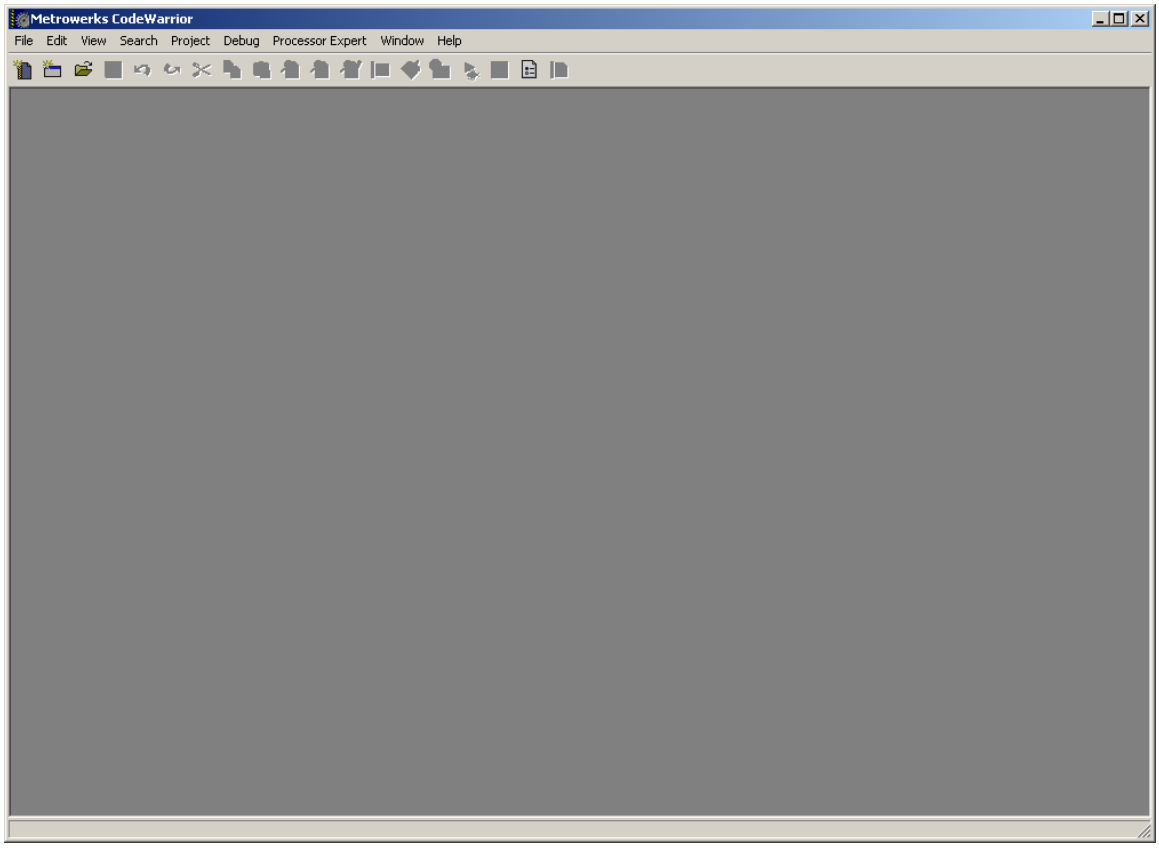
In this example an Adapt812DX is used as the hardware platform along with a LAN application card. The Adapt812DX uses the MC68HC812A4 MCU from Freescale.

Most of the LAN card code has been already developed. The object of this exercise is to show the steps necessary to setup CW then to assembling the program.

This document assumes that CW is already been installed and registered. If it is not done so, please take a moment to install and register.

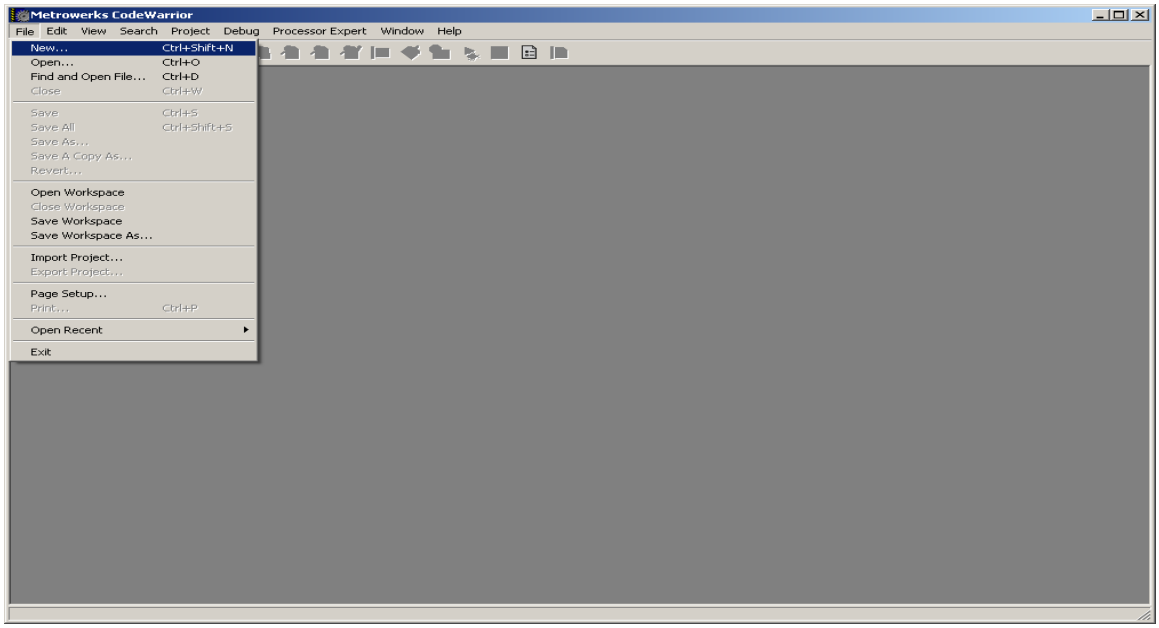
Let start CW by locating the CodeWarrior IDE from Start button – Programs – Metrowerks CodeWarrior – CW12 V3.1 - CodeWarrior IDE. Shown below is the CW IDE.

Note that the working window pane is greyed out. As with any unfamiliar IDE, it is often difficult to start a project. This document will try to show how to use CW and hope to make it easy for anyone to start using this product.

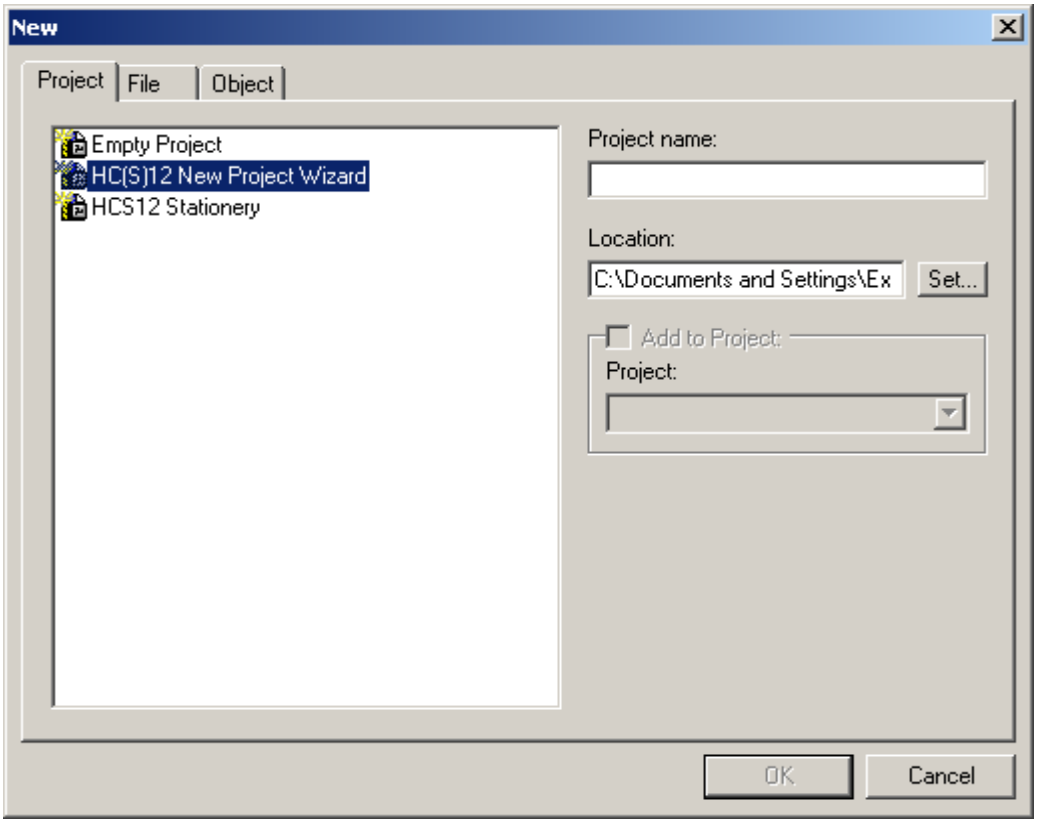


Starting a New Project:

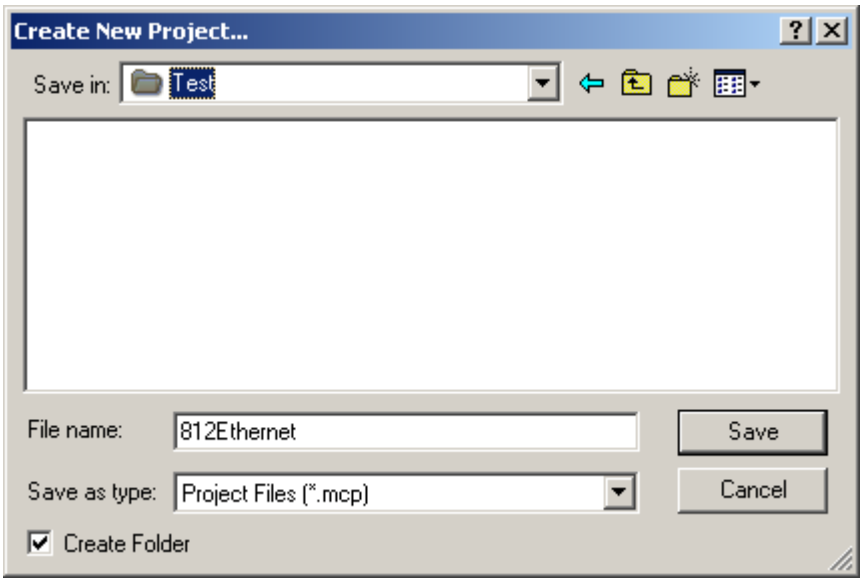
To start a new Project click on File menu – New



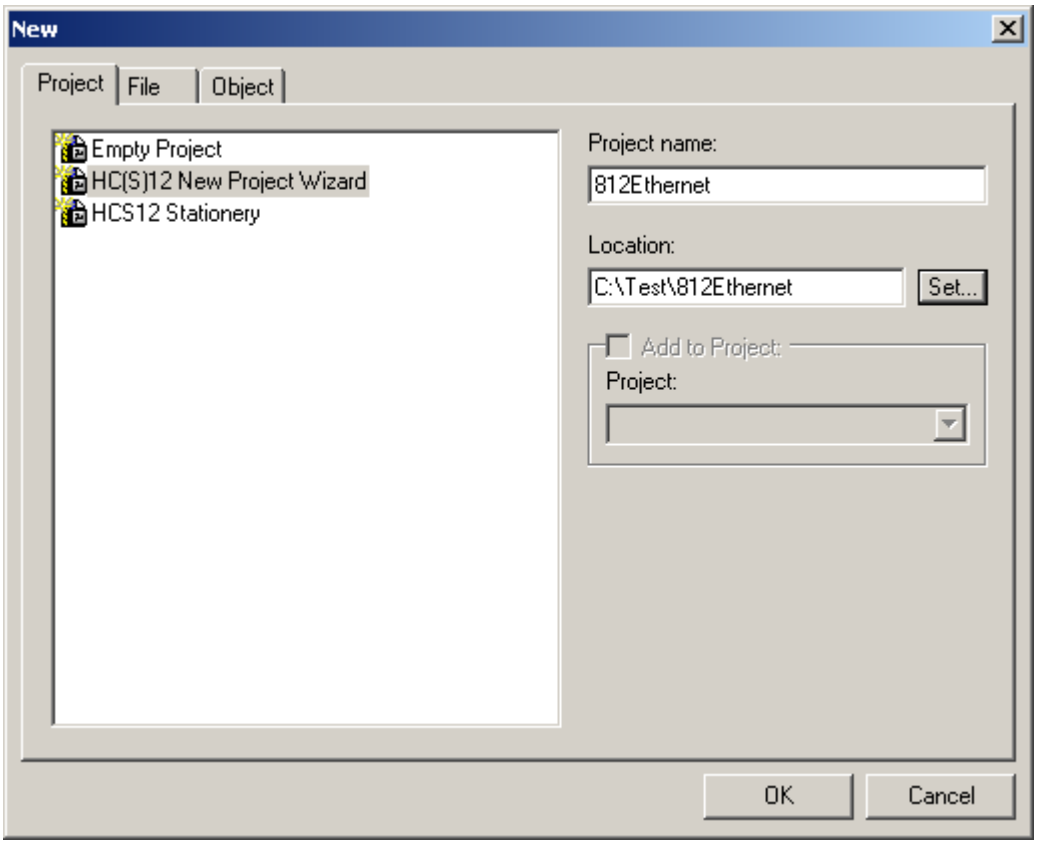
There are 3 ways to create a project. In this example we will choose HC(s)12 New Project Wizard.



We will call the new Project as ***812Ethernet*** and create a directory called ***Test*** to save the project into.

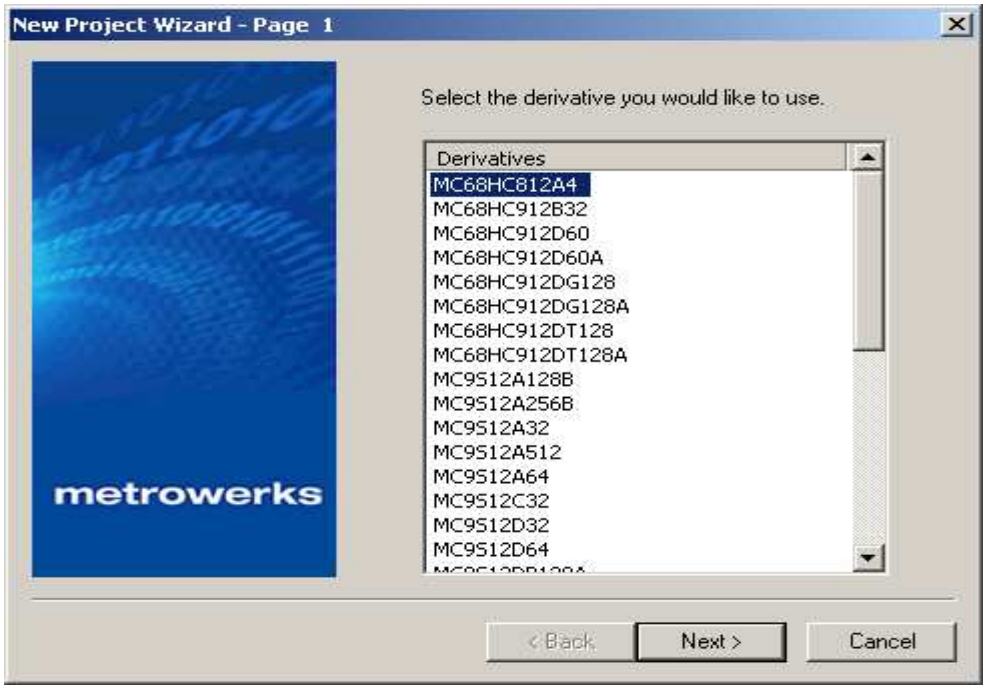


As shown and select OK to go the next step.



Selecting MCU type:

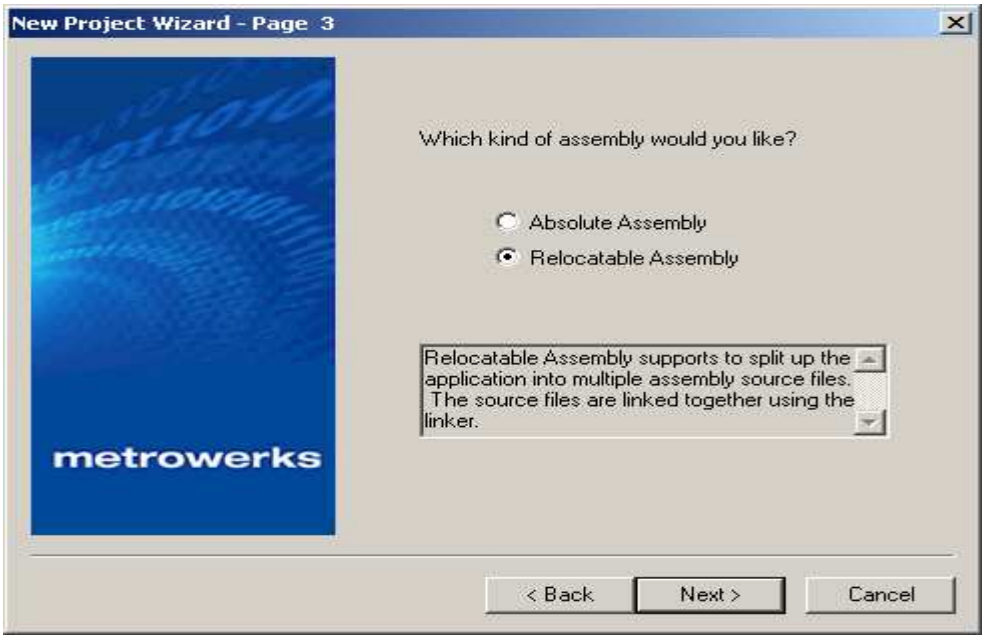
As mentioned above, the Adapt812DX uses Freescale MC68HC812A4 MCU. Highlight MC68HC812A4 then press the ***Next*** button.



Checked marked the Assembly box then press the ***Next*** button.

Relocatable Assembly vs Absolute Assembly:

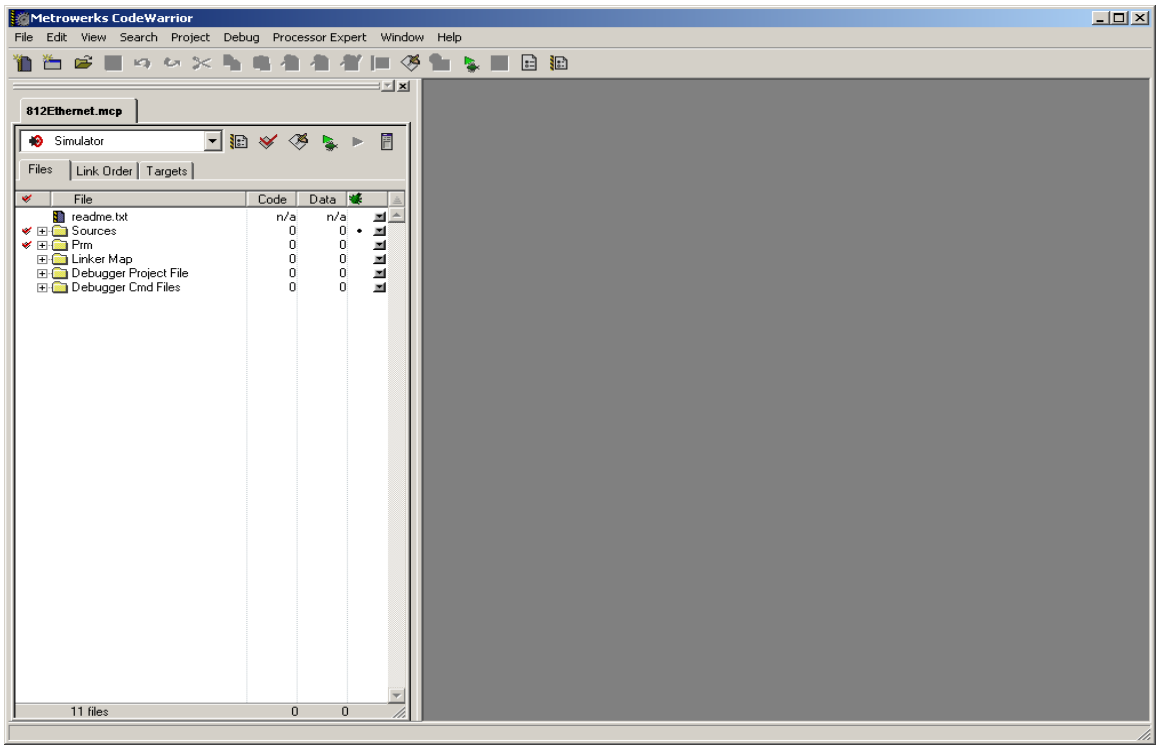
In this example we will be using Relocatable assembly. This selection will allow assembly be files to be modularized. Typically this allows new code to be integrated into an already tested assembly codes. Select Relocatable Assembly as shown then press the ***Next*** button.



This example will not be using any type of Debugging tool. Checked Marked the Metrowerks Simulator to ***Finish*** the setup.

Metrowerks IDE:

Note the 2 window pane. On the right is the working pane, this will be use for files. Left window pane contain tools and folders. The folders will contain the files what will be assembled together.



Target Setup:

The assembling and linking of files need to be setup first. Under the Targets tabs are various parameters to be setup for relocatable assembly.

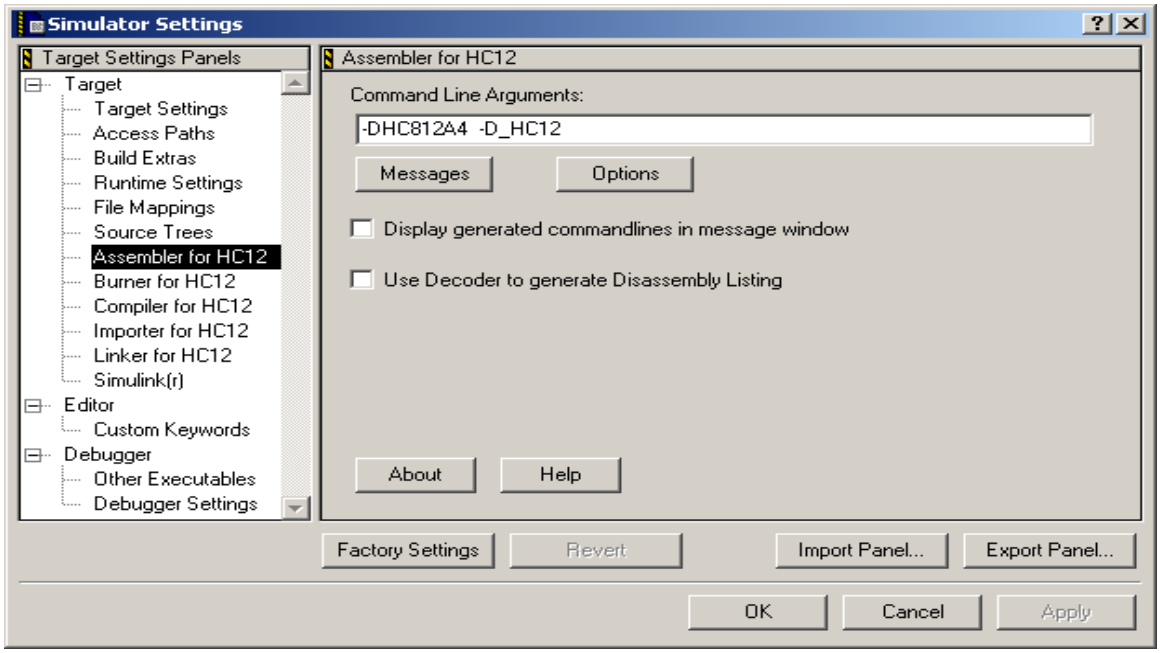
Click on the Targets tab then double click on the ***Sumilator*** Icon. Simulator Settings panel will immediately popup. One has to read the CW document to fully understand why these are needed to be setup. Suffice to say that they must be adjusted and are explained where deemed necessary.

There are 2 main things in the Target to be changed.

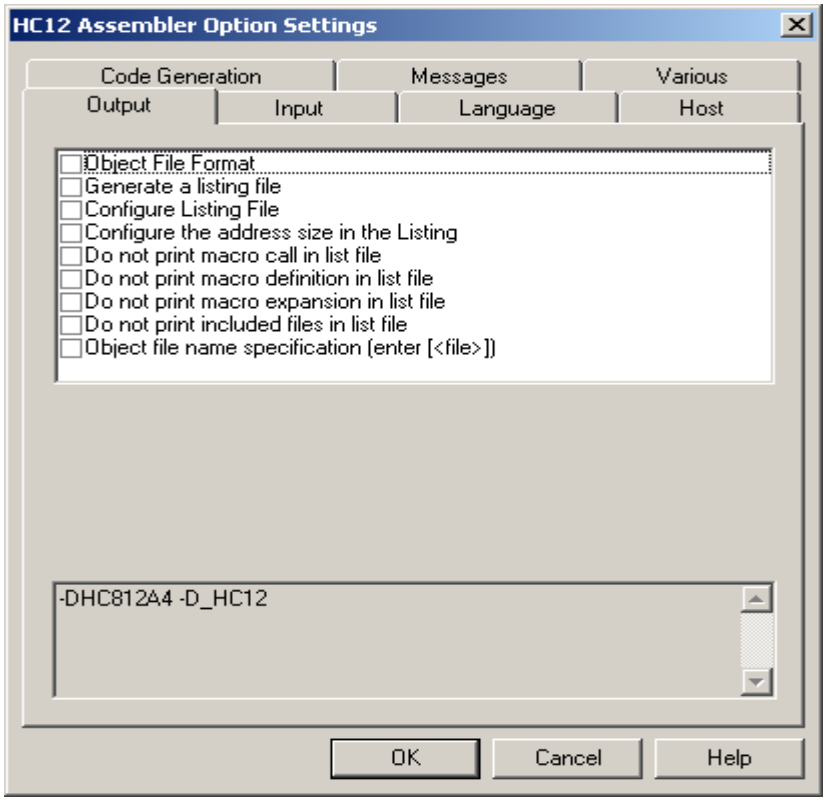
1. Assembler for HC12
2. Linker for HC12

Simulator Settings:

See the Target Settings Panels and select Assembler for HC12.



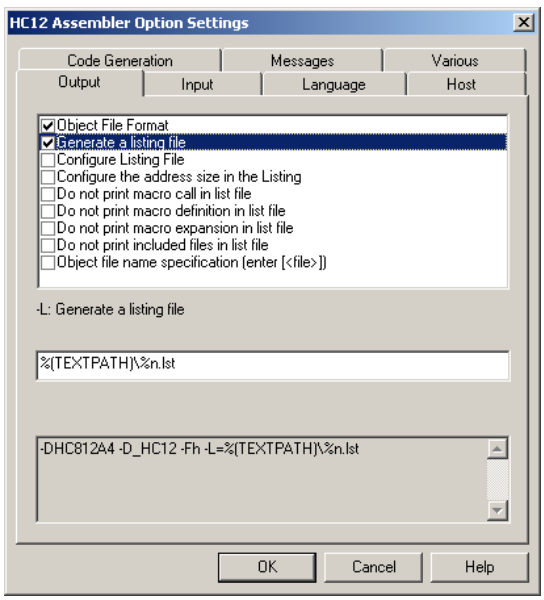
Press and click on the Options button.

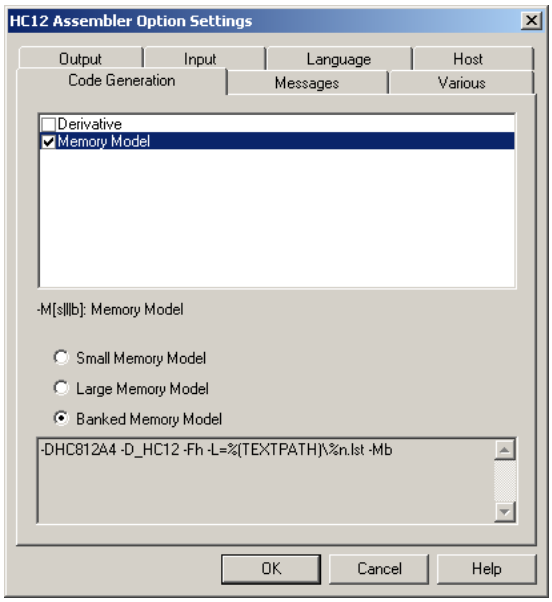


Under Output Tab Select Checked marked the Object File Format and Generate a listing file.

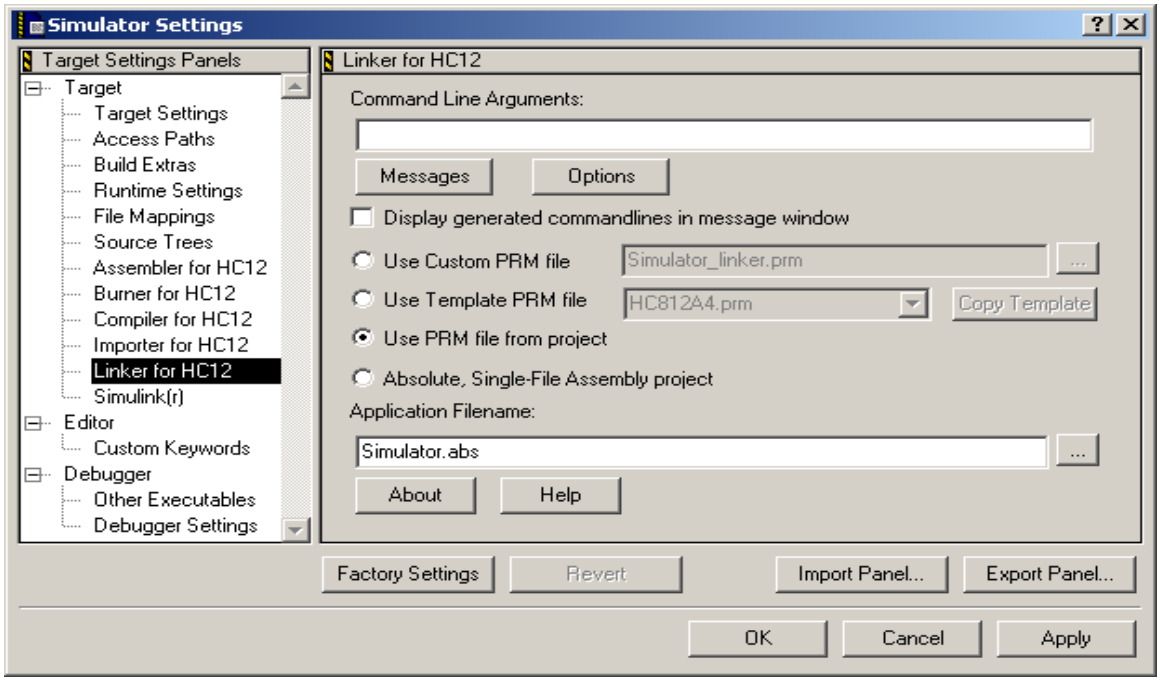
Under Code Generation Tab Checked marked the Memory Model and select Banked Memory Model.

Select OK to confirm changes.

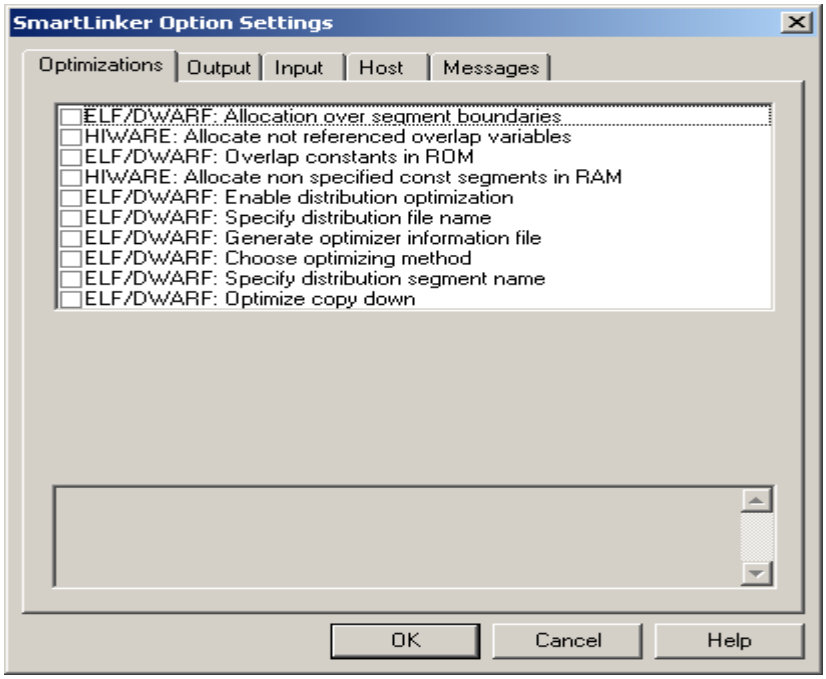




Next Select the Linker for HC12.



Press and click on the Options button.



Under Output Tab Select Checked marked the Generate S-Record File and Generate a map file.

Under Input Tab Checked marked the Object File Format.

Select OK to confirm changes.