

Controller Continuum

CodeWarrior™

Development Studio

for Microcontrollers V6.3



Quick Start

CodeWarrior™ Development Studio for Microcontrollers V6.x Quick Start

SYSTEM REQUIREMENTS

Hardware	PC with 1 GHz Intel® Pentium® compatible processor 512 MB of RAM (1 GB recommended) CD-ROM drive Depending on host-target connection: Parallel Port, 9-pin Serial Port, or USB Port
Operating System	Microsoft® Windows® XP or Microsoft Windows Vista® Operating Systems 32-bit (Home Premium Edition and Business Edition)
Disk Space	2 GB total 400MB on Windows system disk

This Quick Start explains how to install the CodeWarrior Development Studio for Microcontrollers V6.x software, and how to use the IDE to create, build, and debug a project.

Section A: Installing CodeWarrior Software

NOTE You must install the CodeWarrior software on the equipment on which you intend to use the software.

1. Insert CodeWarrior Development Studio CD into CD-ROM drive — CW Auto Install begins

NOTE If Auto Install does not start, run `launch.exe`, which is located in the root directory of the CD.

The CodeWarrior software may be part of a DVD included with your kit. In this case, click **Install CodeWarrior Development Studio for Microcontrollers**, follow the on-screen instructions, and skip to step "Check for updates".

2. Follow setup program's on-screen instructions

NOTE Special Edition: The Special Edition license is automatically installed with your product and you do not need to register it. This license allows you to develop projects with unlimited assembly code, up to 32KB of C code for HC(S)08/RS08 derivatives and up to 64KB of C code for ColdFire V1 derivatives.

NOTE Evaluation Edition: The Evaluation license is automatically installed with your product and you do not need to register it. This license allows you to develop projects as Professional Edition within the 30-day evaluation period. After 30 days, the license works as Special Edition license (free permanent, but feature limited) which supports unlimited assembly code, up to 32KB of C code for HC(S)08/RS08 derivatives and up to 64KB of C code for ColdFire V1 derivatives.

Section B: Creating and Building a Project

1. Create a project
 - a. Select **Start > Programs > Freescale CodeWarrior > CW for Microcontrollers V6.x > CodeWarrior IDE** — IDE starts and displays startup dialog box.

Startup Dialog Box



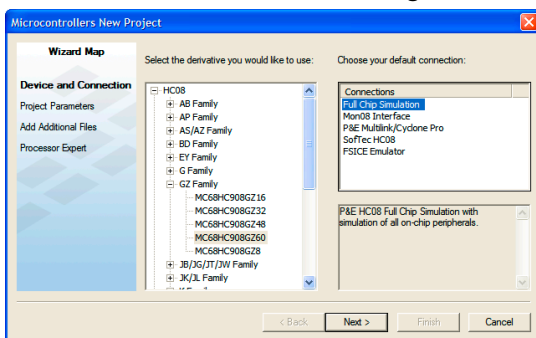
- b. Select **Create New Project** — the Microcontrollers New Project **Device and Connection** dialog box appears.

NOTE This section of the quick start demonstrates using the New Project Wizard. We use an **MC68HC908GZ60** target as an example.

- c. Expand **HC08** and **GZ Family** and select **MC68HC908GZ60** derivative.

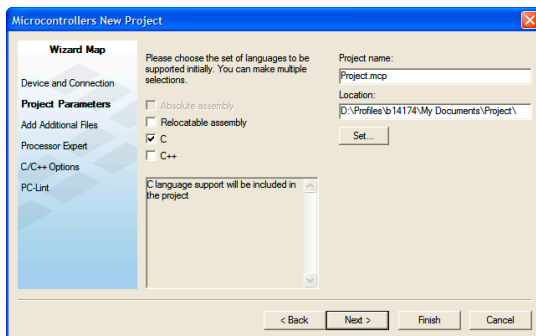
NOTE If your MCU is missing from the list, download a service pack for that device at <http://www.freescale.com/codewarrior/downloads>.

Device and Connection Dialog Box



- d. Select **Full Chip Simulation** as your default connection.
e. Click **Next** — the **Project Parameters** dialog box appears.

Project Parameters Dialog Box



- f. In **Project name** text box, the IDE supplies a default project name. Enter a project name of your choice.

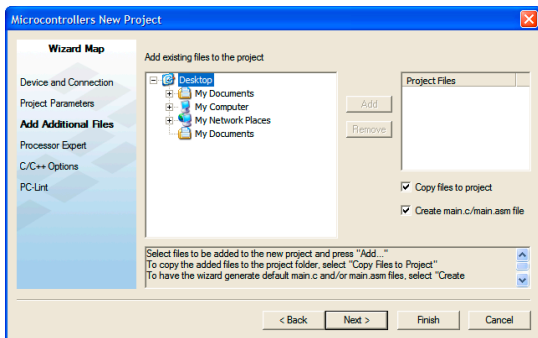
NOTE The IDE automatically creates a folder with the same name in specified location. The IDE automatically adds `.mcp` extension when it creates project.

- g. In **Location** text box enter location to store project, click **Set** to browse to folder location
- h. Select **C** as language to be supported by project.

NOTE You can click **Finish** to accept defaults for remaining options.

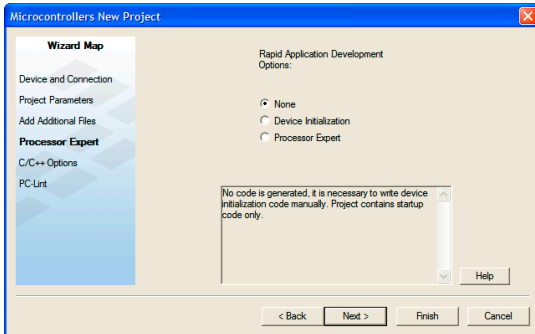
- i. Click **Next** — the **Add Additional Files** dialog box appears.
This dialog box lets you browse folders and add or remove files to or from the project.

Add Additional Files Dialog Box



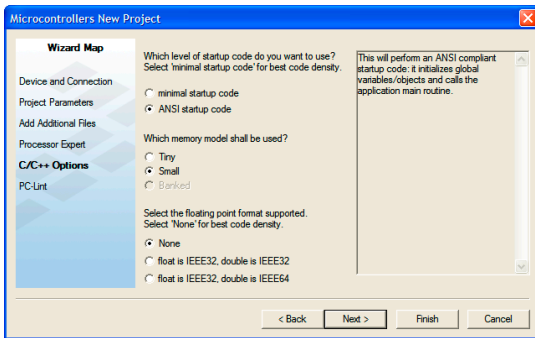
- j. Click **Next** — the **Processor Expert** dialog box appears.
This dialog box let you specify whether you want your project configured to use Device Initialization or Processor Expert.

Processor Expert Dialog Box



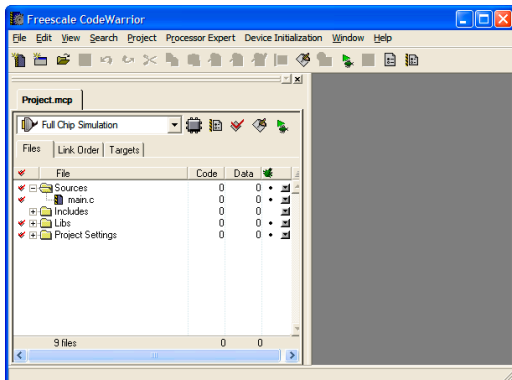
- k. Select the **None** option button.
- l. Click **Next** — the **C/C++ Options** dialog box appears. This dialog box allows you to specify C/C++ Options.

C/C++ Options Dialog Box



- m. Select **ANSI startup code** as code, the New Project Wizard will place in your project as startup code.
- n. Select **Small** as memory model to use.
- o. Select **None** for floating point format to support.
- p. Click **Finish** — the IDE creates your project according to your specifications; Project window appears, docked at left side of main window.

Project Window



NOTE To undock project window, double-click the double gray lines.
To re-dock window, right click in title tab and select **Docked**.

2. Select connection

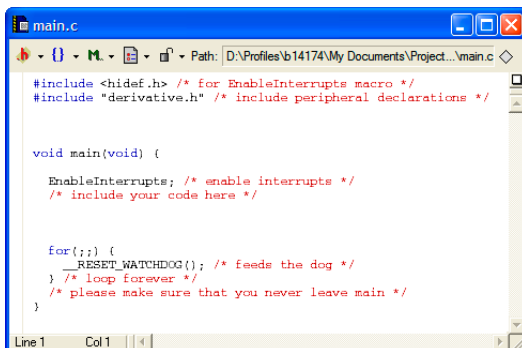
For this example, we specified Full Chip Simulation (FCS).

- To change MCU and connection, select **Project > Change MCU Connection**.
- Make sure Full Chip Simulation is selected in drop-down list.

3. Edit source code

- Double click `main.c` in **Sources** folder — the **Editor** window opens displaying contents of file.

main.c in Editor Window

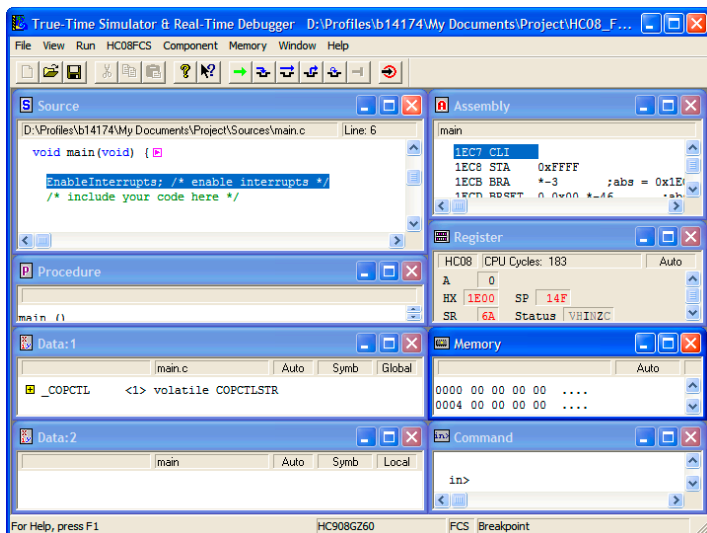


- b. Make changes to contents of `main.c` file, if desired.
 - c. From the IDE main menu bar, select **File > Save** — the IDE saves changes.
4. Add files if appropriate
 - a. In the project window, select a folder.
 - b. From IDE main menu bar, select **Project > Add Files**.
The **Select files to add** dialog box appears.
 - c. Navigate to the directory that contains file you want to add.
 - d. Select the filename of file you want to add to project.
 - e. Click **Open** — the **Project Messages** window appear indicating access path has been added to target, if the path is new to the project.
 - f. In the project window, filename of the added file appears under the selected folder.
5. Build project
 - a. From IDE main menu bar, select **Project > Make** — the IDE builds (assembles, compiles, and links) project; **Error & Warnings** window opens showing any error messages and warning messages

Section C: Debugging Your Application

1. Start debugger
 - a. Click on project window title bar to ensures that window is active project
 - b. From main menu bar, select **Project > Make**.
 - c. From main menu bar, select **Project > Debug** — the **True-Time Simulator & Real-Time Debugger** window opens.

True-Time Simulator & Real-Time Debugger Window




NOTE The **Source** and **Assembly** panes display the `main.c` program and code.

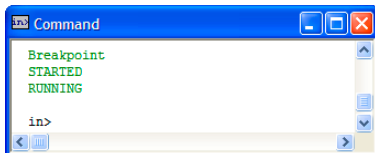
2. Set breakpoint



- Point at a C statement in **Source** window and right-click — the **Source** context menu appears.
- Select **Set Breakpoint** — a permanent breakpoint mark is set.

3. Run application

- From the **True-Time Simulator & Real-Time Debugger** window, select **Run** — the **Run** menu appears.
- Select **Start/Continue** or click on **Start/Continue** icon  — the Program executes till the first breakpoint; **Command** pane displays program status

Debugger Simulator Command Pane



4. Click the **Start/Continue** icon  — the simulator resumes program execution.
5. Click the **Halt** icon  — the Simulator stops program execution.
6. From the **True-Time Simulator & Real-Time Debugger** window toolbar, select **File > Exit** to exit the debugger.
7. From IDE main Window toolbar, select **File > Exit** to exit the CodeWarrior IDE.

Congratulations!

You have successfully created, built, and run an HC08 application with the CodeWarrior for Microcontrollers V6.x software!

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