inDART-HCS08 Design Kit
Quickstart Tutorial

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1 Install CodeWarrior for HC(S)08

inDART-HCS08 comes with a free version of CodeWarrior Development Studio for HC(S)08 Microcontrollers, Special Edition.

CodeWarrior Development Studio for HC(S)08 Microcontrollers, Special Edition, includes the CodeWarrior integrated development environment (IDE); 16 KB code-size limited C compiler and C source-level debugger; macro assembler and Assembly-level debugger . The Special Edition allows you to evaluate CodeWarrior Development Studio for HC(S)08 Microcontrollers at no cost.
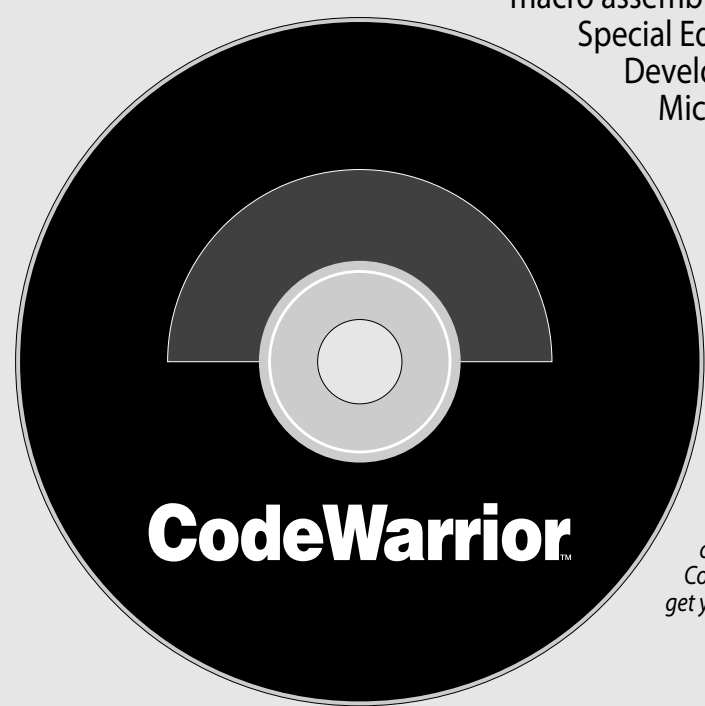
To install the CodeWarrior IDE, insert the CodeWarrior CD-ROM into your computer's CD-ROM drive. A startup window will automatically appear. Follow the on-screen instructions.

CodeWarrior

Note: inDART-HCS08 requires that a CodeWarrior version equal to or greater than 3.0 is present on your system. If you have an earlier version on your system, you must uninstall it and install the new CodeWarrior version which comes with inDART-HCS08. If you purchased an earlier CodeWarrior version, we advise you to contact Metrowerks to get your license extended to the new version.

2 Install Additional Components

SofTec Microsystems Additional Components include the inDART-HCS08 USB driver, the inDART-HCS08 software plug-in for CodeWarrior HC(S)08, SofTec Microsystems DataBlaze programming utility and Documentation in PDF format.

To install the SofTec Microsystems Additional Components, insert the SofTec Microsystems "System Software" CD-ROM into your computer's CD-ROM drive. A startup window will automatically appear. Choose "Install Instrument Software" from the main menu. A list of available software will appear. Click on the "inDART-HCS08 Additional Components" option. Follow the on-screen instructions.

System Software

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SofTec
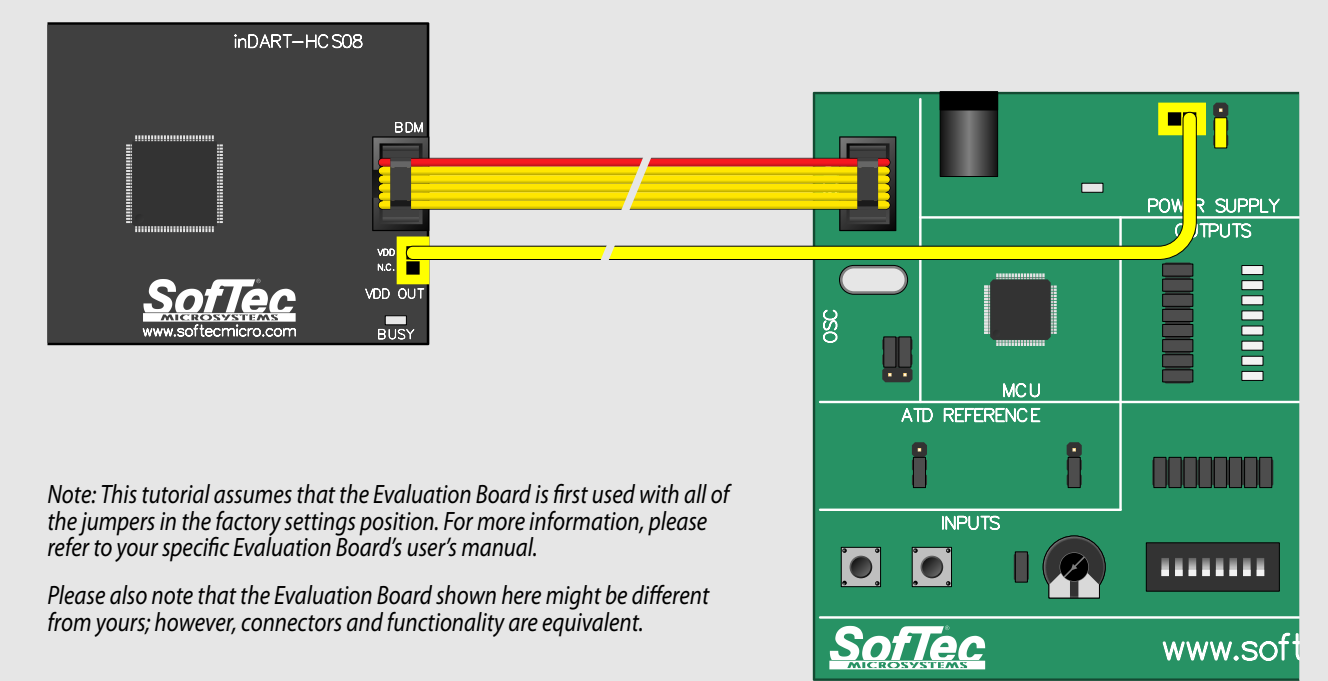*Development Tools for the Embedded World*

3 Connect inDART-HCS08 to the Evaluation Board

Connect inDART-HCS08 to the Evaluation Board via the BDM cable.

Connect the "VDD OUT" cable to inDART-HCS08's "VDD OUT" connector and to the Evaluation Board's "REG. VDD" connector.

Make sure the "VDD SOURCE" jumper on the Evaluation Board selects the "REG." option.

Note: This tutorial assumes that the Evaluation Board is first used with all of the jumpers in the factory settings position. For more information, please refer to your specific Evaluation Board's user's manual.

Please also note that the Evaluation Board shown here might be different from yours; however, connectors and functionality are equivalent.

4 Connect inDART-HCS08 to the PC

Connect inDART-HCS08 to a free USB port on your PC. The green "POWER" LED on the instrument should turn on. Windows will automatically recognize the instrument and will load the appropriate USB driver.

To a free USB Port

Note: both Windows 2000 and Windows XP may issue a warning the first time inDART-HCS08 is connected to the PC. This warning is related to the fact that the USB driver used by inDART-HCS08 is not digitally signed by Microsoft, and Windows considers it to be potentially malfunctioning or dangerous for the system. However, you can safely ignore the warning, since every kind of compatibility/security test has been carried out by SofTec Microsystems. Additionally, under Windows XP, the "Found New Hardware Wizard" procedure may occur twice.

Note: during debugging/programming, inDART-HCS08 draws more than 100 mA from the USB line. As required by USB specifications, the USB voltage provided to the inDART-HCS08 connector must therefore be greater than 4.75 V. It is therefore suggested to connect inDART-HCS08 directly to a PC's internal USB port, or, if you must use an external USB hub, use only a powered hub.
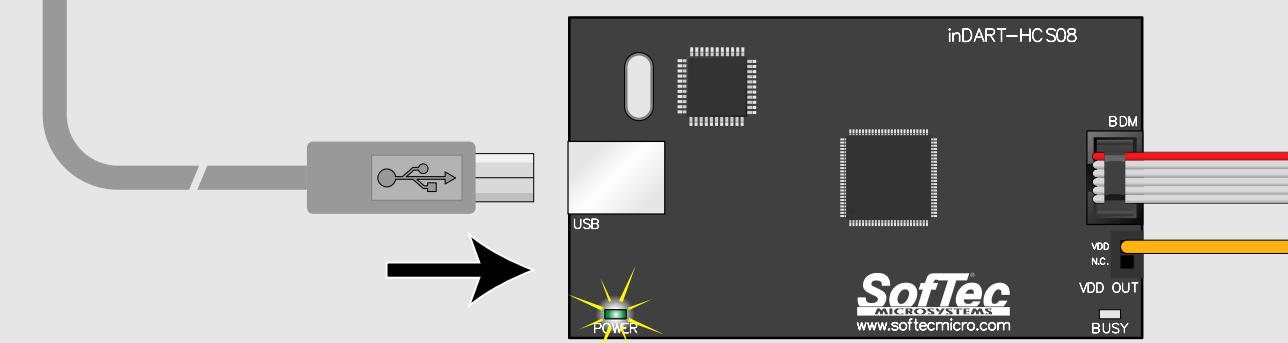
5 Run CodeWarrior/ Open the Example

Start the CodeWarrior IDE by selecting Start > Programs > Metrowerks CodeWarrior > CW08 > CodeWarrior IDE. The CodeWarrior IDE will open.
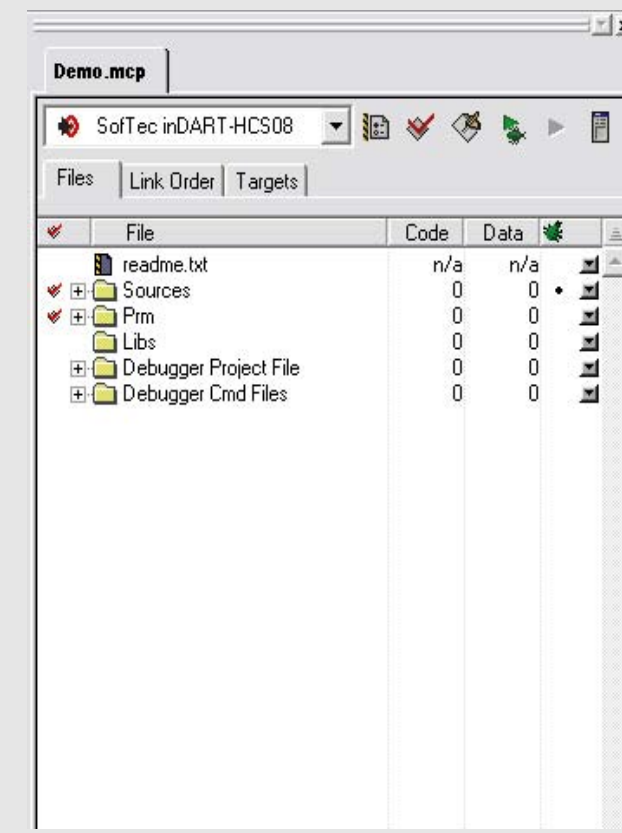
Choose File > Open from the main menu.

Select the "Demo.mcp" workspace file that is located under the "[*Programs Folder*]\Metrowerks\CodeWarrior CW08\ (CodeWarrior_Examples)\HCS08\SofTec Microsystems\inDART-HCS08\ [*Evaluation Board Code*]\Asm\Demo" directory.

Click "Open".

6 Start Debugging Session

Choose Project > Debug from the main menu. This will generate an executable file and will download it to the Evaluation Board.

A new debugger environment will open. In the "Source" window, the first line to be executed is highlighted.
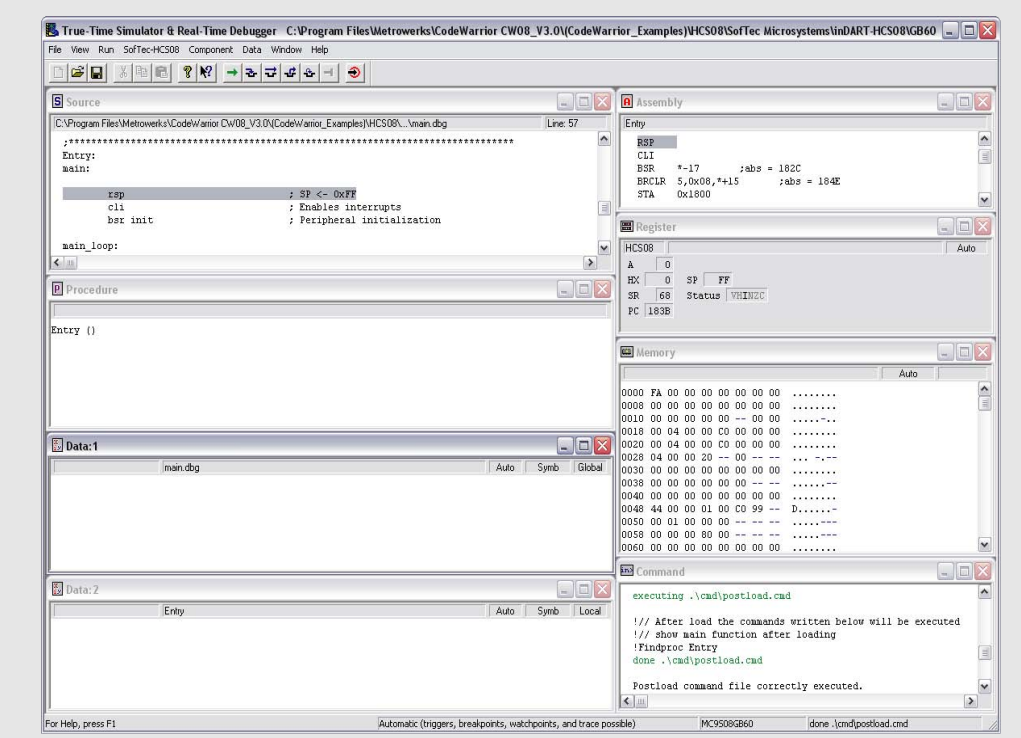
7 Run the Example

Choose Run > Start/Continue from the main menu. The program will be executed in real-time. Note that the "BUSY" LED on the inDART-HCS08 unit turns on. By rotating the potentiometer on the demo board, you affect the results of the A/D conversion. The binary value of each conversion is displayed on the LEDs.
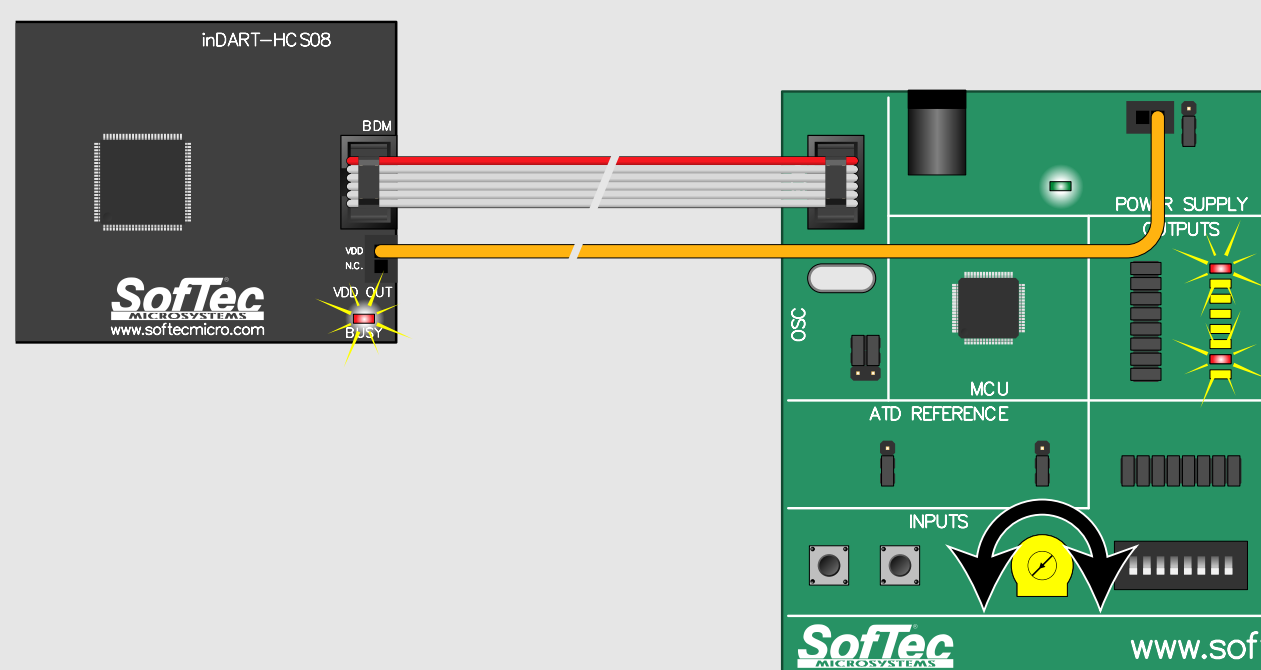
8 Congratulations!

You have successfully completed this tutorial! You can now continue to experiment with the CodeWarrior user interface and discover its potentialities (step commands, breakpoints, watch windows, etc.) on your own. Please also read carefully all of the inDART-HCS08 documentation, in particular:

- inDART-HCS08 User's Manual;
- Evaluation Board's User's Manual;
- Frequently Asked Questions.

For the latest software releases, new products, new supported devices, discussion forums and FAQs, log on to

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