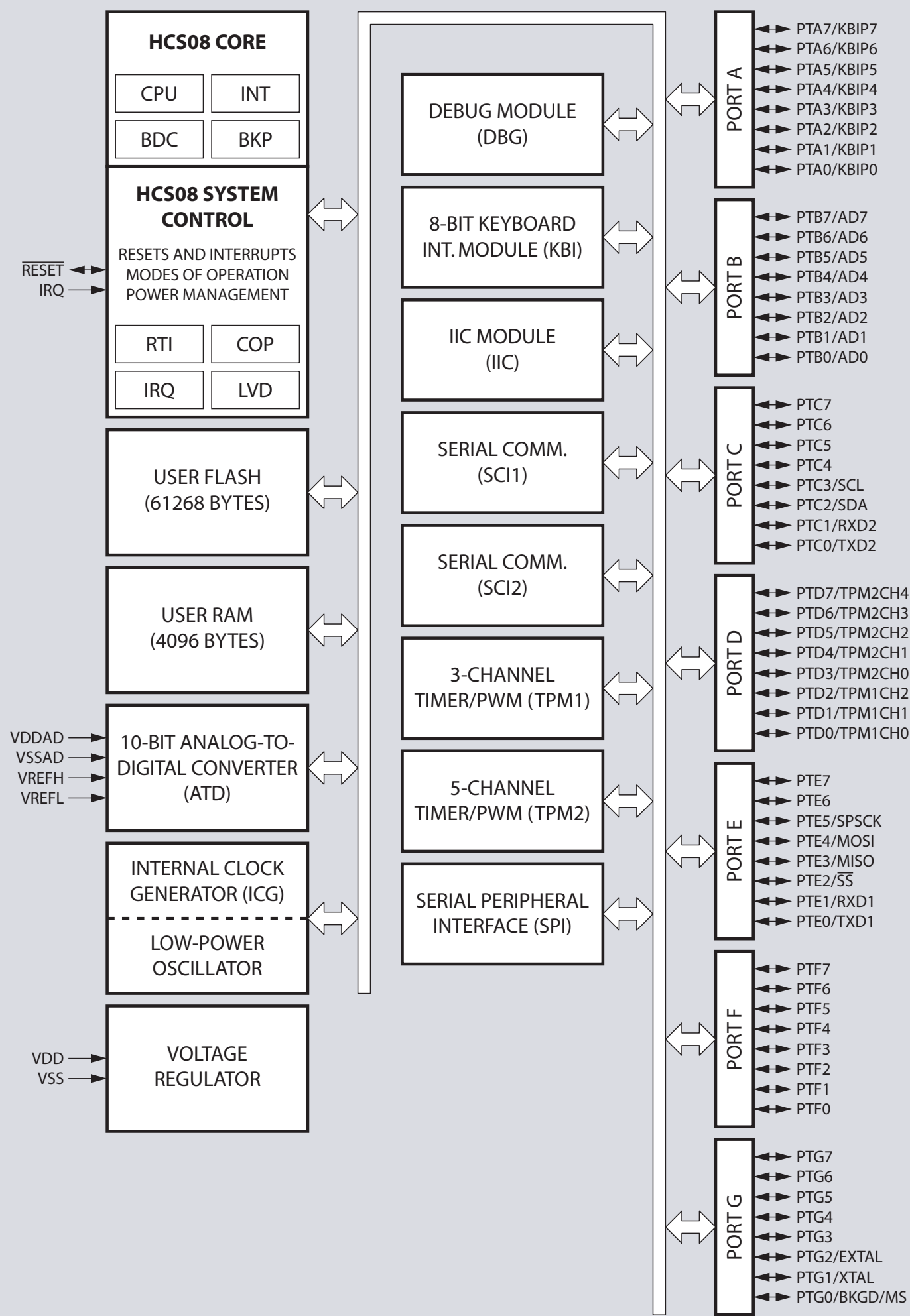


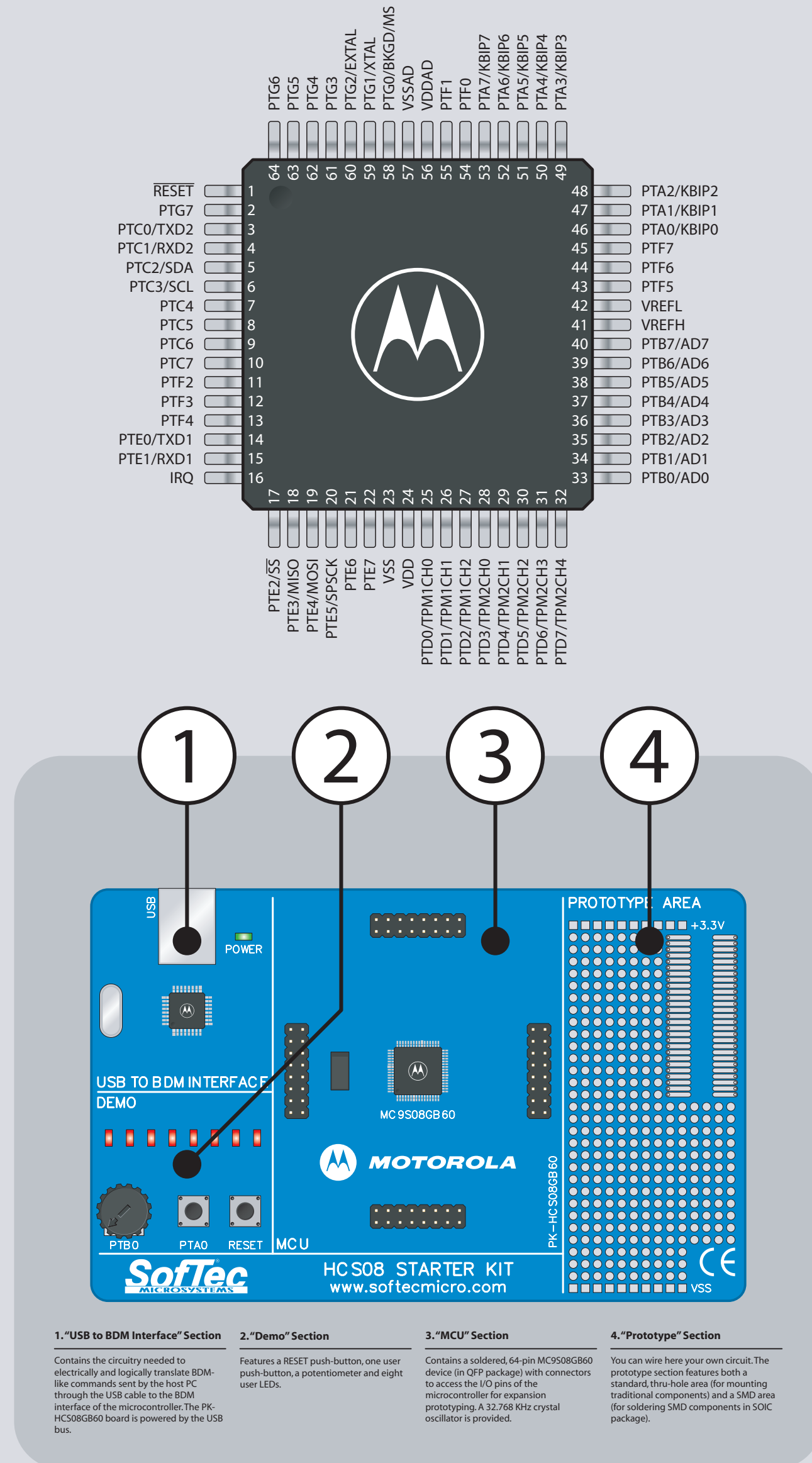
MC9S08GB60

Easy Reference

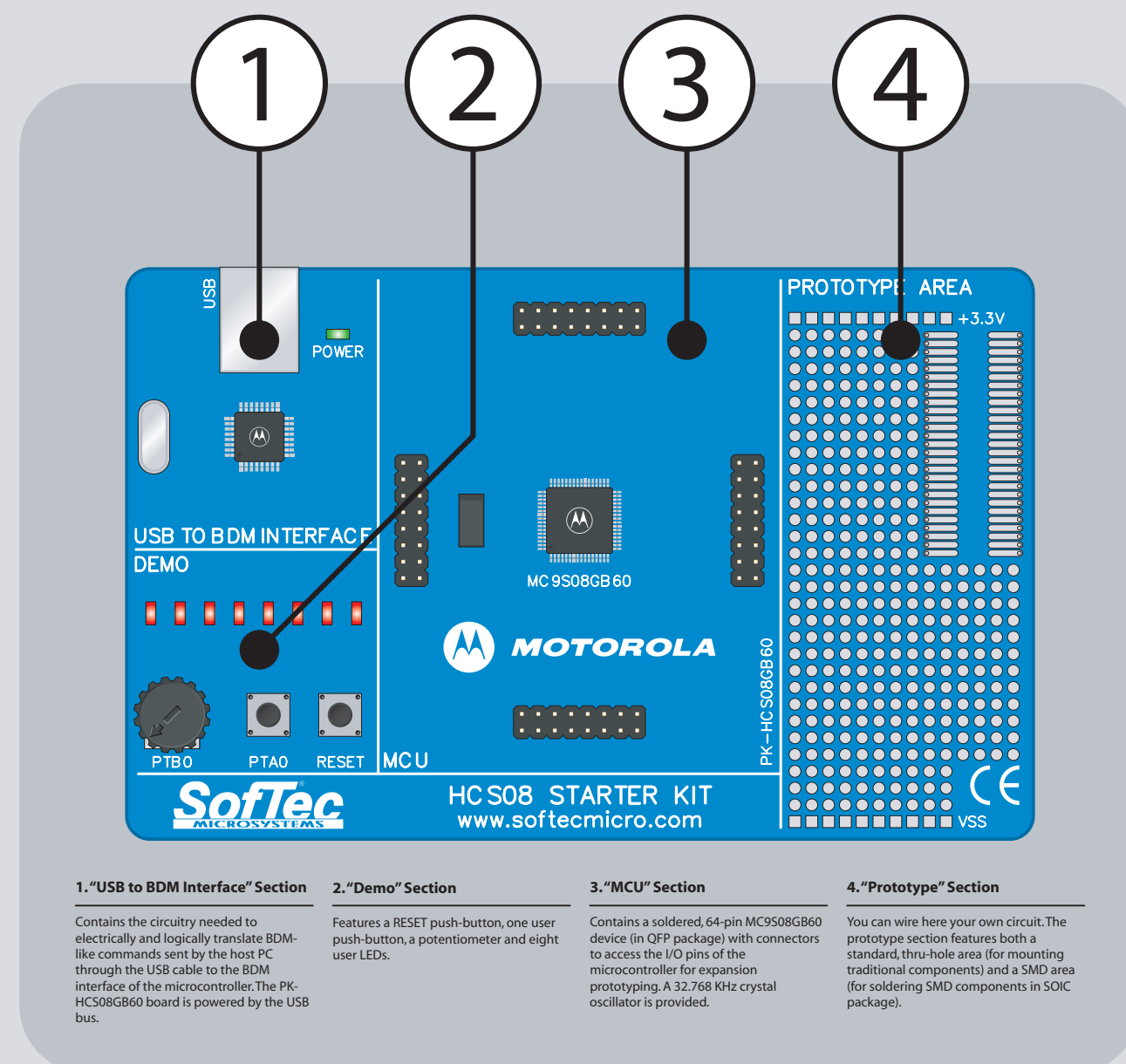
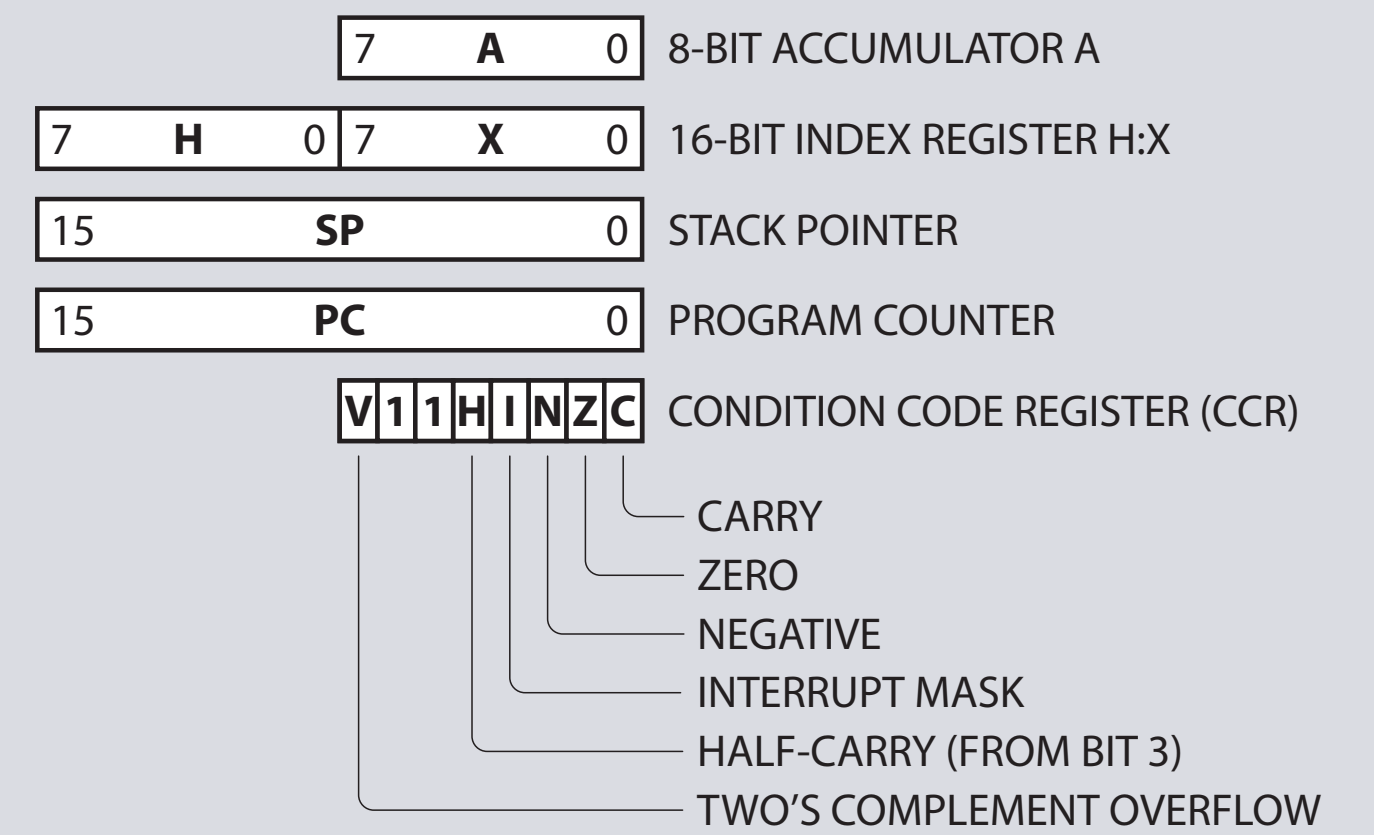
Block Diagram



64-Pin QFP Package

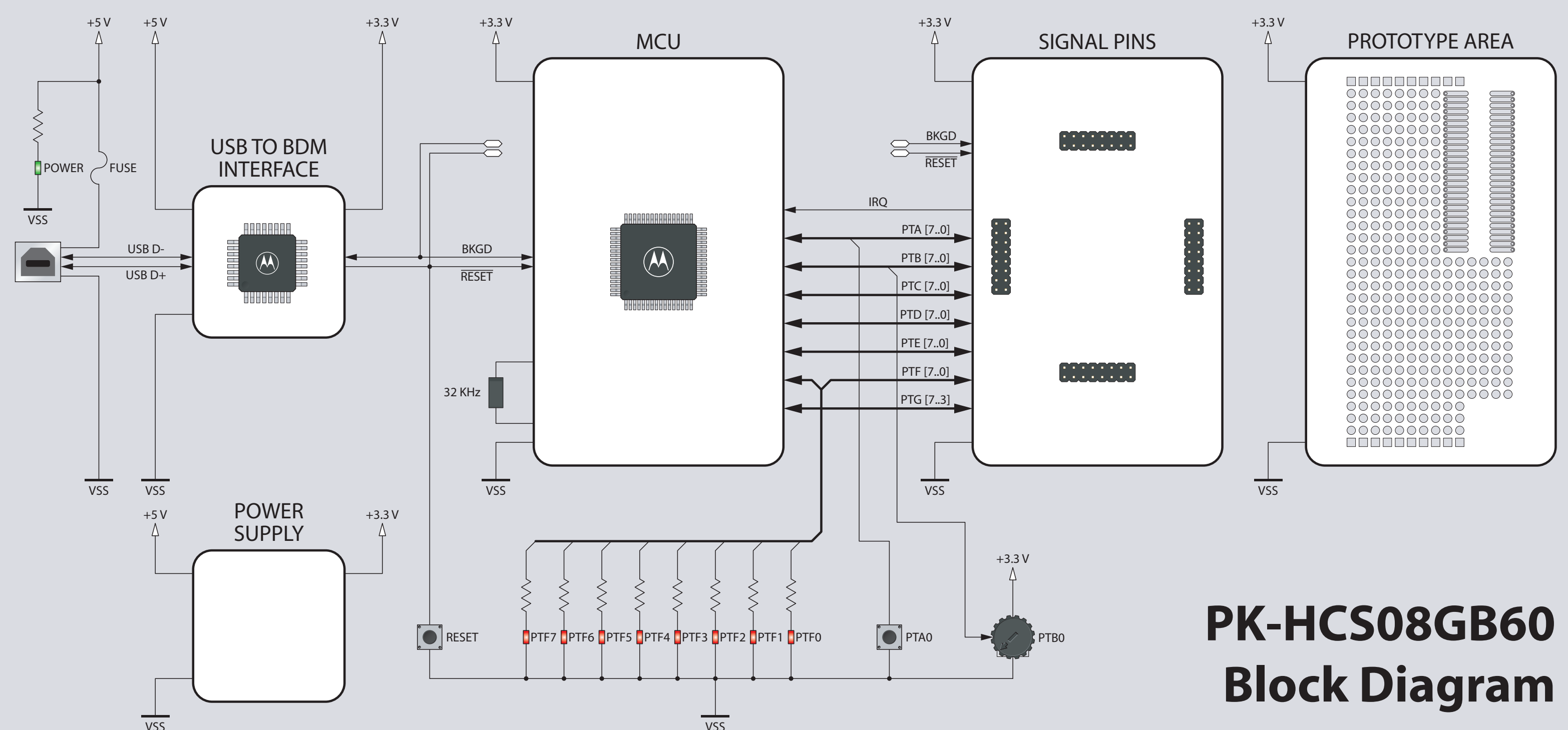
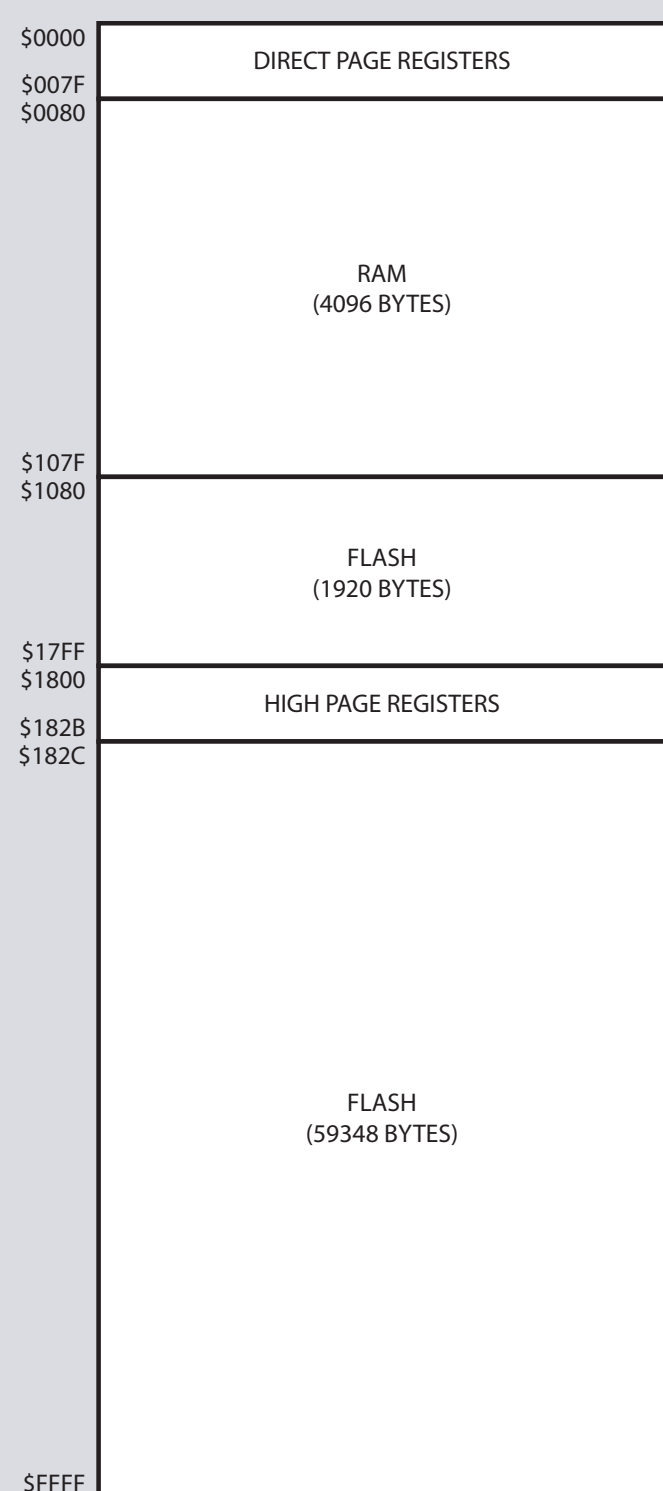


CPU Registers



For the latest software releases, new products, new supported devices, discussion forums and FAQs, log on to <http://www.softecmicro.com/>

Memory Map



PK-HCS08GB60
Block Diagram

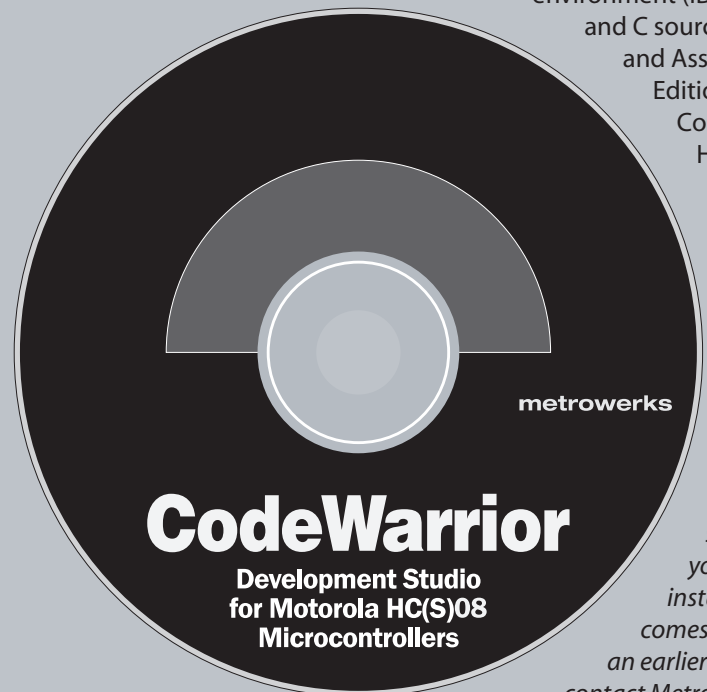
PK-HCS08GB60 Quickstart Tutorial

1 Install CodeWarrior for HC(S)08

PK-HCS08GB60 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); 4 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.



Note: PK-HCS08GB60 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 PK-HCS08GB60. If you purchased an earlier CodeWarrior version, we advise you to contact Metrowerks to have your license extended to the new version.

2 Install Additional Components

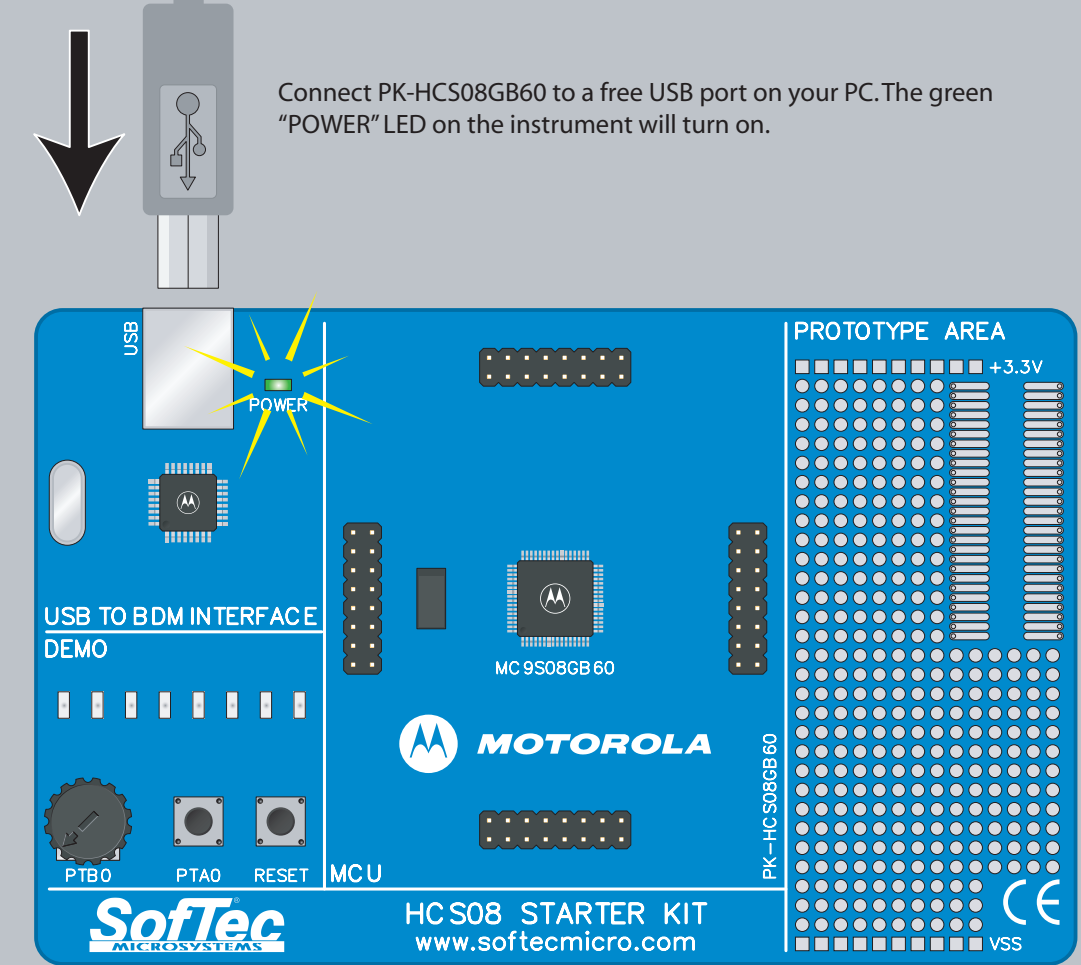
SoftTec Microsystems Additional Components include the PK-HCS08GB60 USB driver, the PK-HCS08GB60 software plug-in for CodeWarrior HC(S)08, SoftTec Microsystems DataBlaze programming utility, examples and documentation in PDF format.

To install the SoftTec Microsystems Additional Components, insert the SoftTec 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. Click on the "PK-HCS08 Series Additional Components" option. Follow the on-screen instructions.



3 Connect the Board to the PC

Connect PK-HCS08GB60 to a free USB port on your PC. The green "POWER" LED on the instrument will turn on.

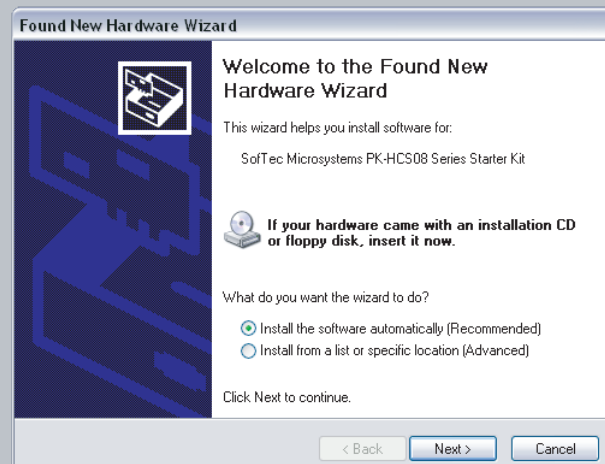


4 Found New Hardware Wizard

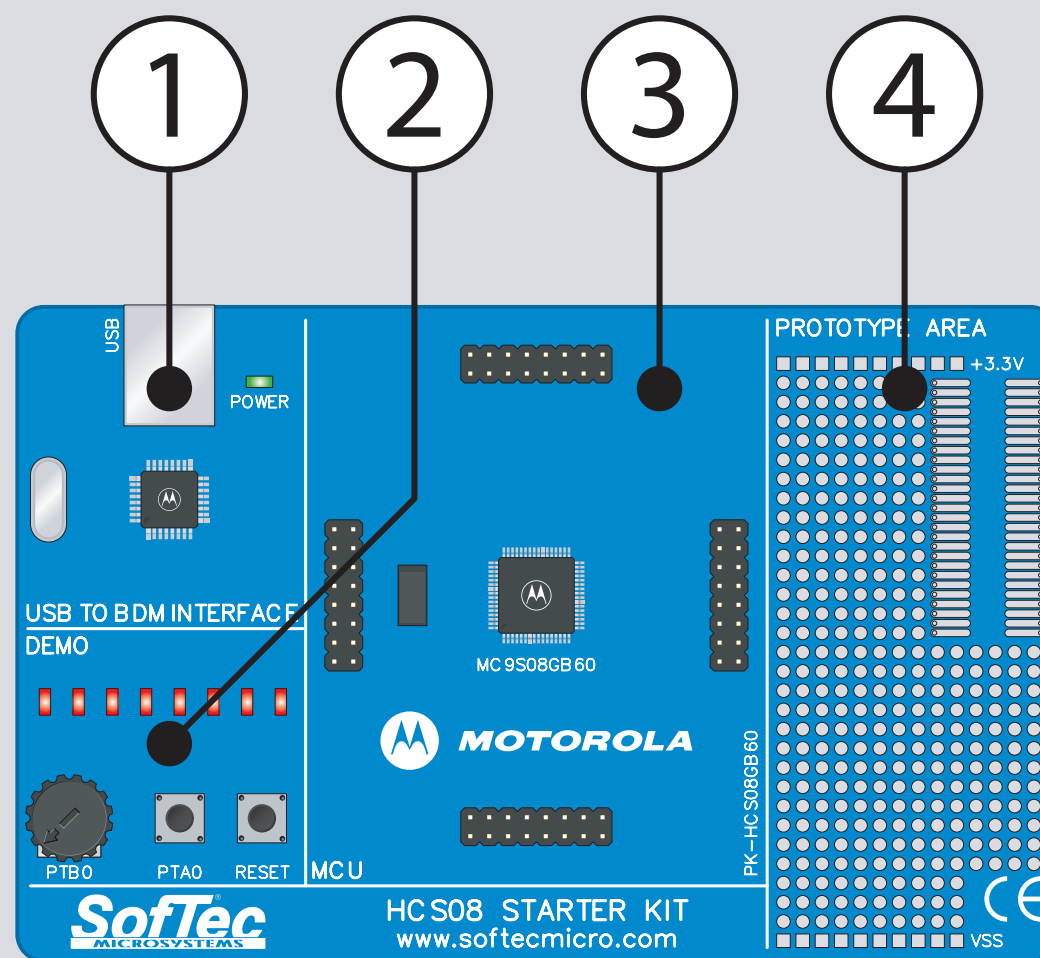
The first time PK-HCS08GB60 is connected to the PC, Windows recognizes the instrument and starts the "Found New Hardware Wizard" procedure, asking you to specify the drivers to use for the instrument.

The procedure is slightly different on each version of Windows. On Windows XP, select the "Install the software automatically" option and click on the "Next" button.

Be sure not to specify any drive or optional location where to look for the driver, since it has already been installed on your hard disk by the PK-HCS08 Series Additional Components setup.



Note: both Windows 2000 and Windows XP may issue a warning during the "Found New Hardware Wizard" procedure. This warning is related to the fact that the USB driver used by PK-HCS08GB60 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 SoftTec Microsystems.



- 1. "USB to BDM Interface" Section**
Contains the circuitry needed to electrically and logically translate BDM-like commands sent by the host PC through the USB cable to the BDM interface of the microcontroller. The PK-HCS08GB60 board is powered by the USB bus.
- 2. "Demo" Section**
Features a RESET push-button, one user push-button, a potentiometer and eight user LEDs.
- 3. "MCU" Section**
Contains a soldered, 64-pin MC9S08GB60 device (in QFP package) with connectors to access the I/O pins of the microcontroller for expansion prototyping. A 32.768 KHz crystal oscillator is provided.
- 4. "Prototype" Section**
You can wire here your own circuit. The prototype section features both a standard thru-hole area for mounting traditional components and a SMD area (for soldering SMD components in SOIC package).

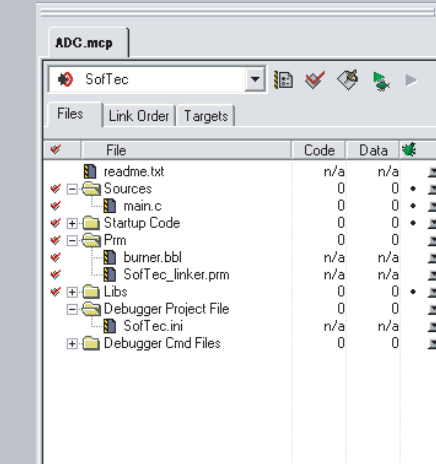
5 Run CodeWarrior and Open the Example

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.

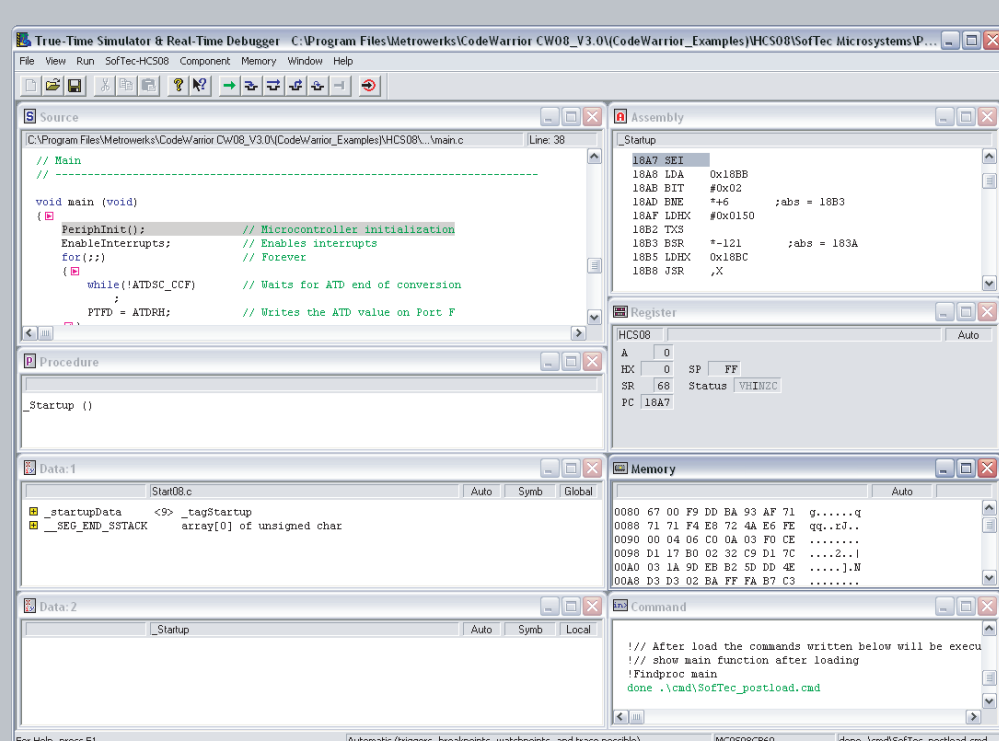
Select the "ADC.mcp" workspace file that is located in the "(Programs Folder)\Metrowerks\CodeWarrior CW08\ (CodeWarrior_Examples)\HCS08\SoftTec Microsystems\ PK-HCS08GB60\CADC" folder.

Click "Open".



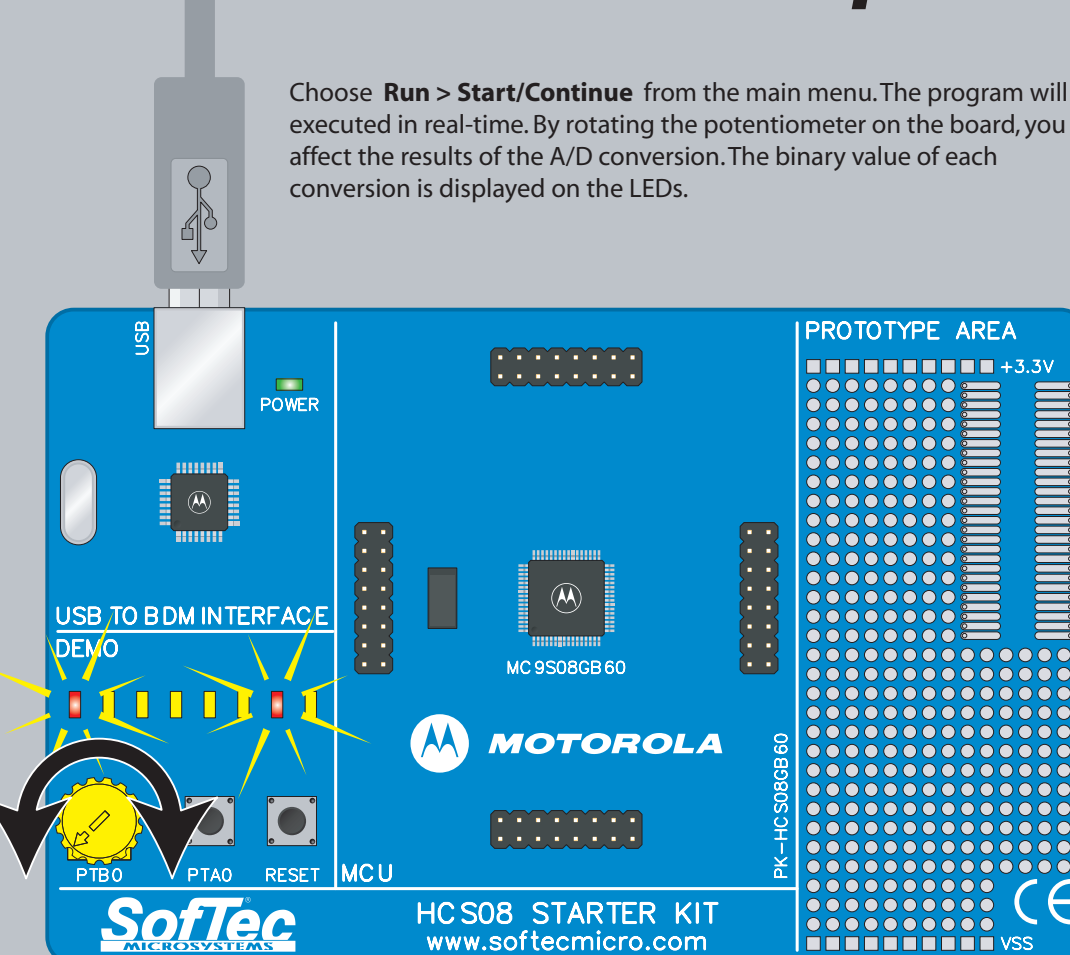
6 Start a Debugging Session

Choose **Project > Debug** from the main menu. This will generate an executable file and will download it to the board. A new debugger environment will open.



7 Run the Example

Choose **Run > Start/Continue** from the main menu. The program will be executed in real-time. By rotating the potentiometer on the 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 (more examples for the PK-HCS08GB60 board are provided, including an example created with Processo Expert) and discover its potentialities (step commands, breakpoints, watch windows, etc.) on your own.

Please also read carefully all of the PK-HCS08GB60 documentation.

For the latest software releases, new products, new supported devices, discussion forums and FAQs, log on to <http://www.softecmicro.com/>