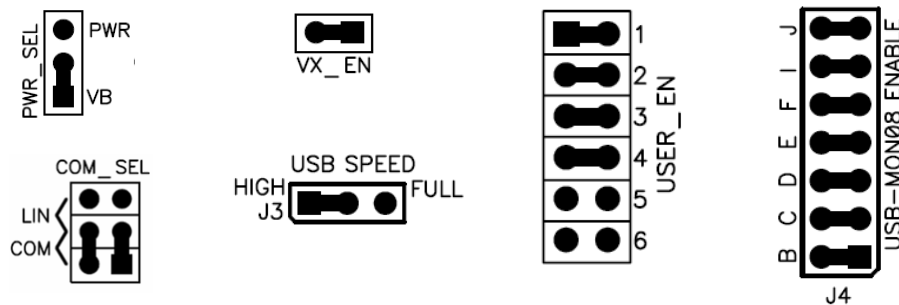


# DEMO908QB8 Quick Start Guide

## Introduction and Default Settings

This kit contains everything you need to get started. This guide will walk you through how to connect the board to your PC, run the LED test program, install the correct version of CodeWarrior Development Studio, and load an ATD (Analog to Digital) test program. Source code for DEMO908QB8\_LED (LED test) and DEMO908QB8\_ATD (ATD test) are provided on the Axiom CD in the “Examples” folder.

Below are diagrams of the default settings for the DEMO908QB8 demo board. Please refer to the DEMO908QB8 User’s Guide on the Axiom CD for information on other configurations. Black blocks indicate the “on” or “installed” position of jumpers. Please check these settings before continuing.



**Figure 1. DEMO908QB8 Default Settings**

## Install CodeWarrior Development Studio Version 3.1 for HC(S)08 and USB Drivers

If you do not have version 3.1 of CodeWarrior for HC(S)08 Special Edition installed on your computer, please refer to the provided “CodeWarrior Development Studio” DVD case and follow the steps in the quick start guide.

After CodeWarrior has been installed properly, please install the HC(S)08 USB 2.0 service pack (CW08\_V3\_1\_P&E\_USB2\_SP.exe) from the CodeWarrior service pack CD. This is required if you want to use the USB-MON08 feature on the DEMO908QB8 board. The HC(S)08 USB 2.0 service pack can also be downloaded from [www.metrowerks.com](http://www.metrowerks.com)

**Important:** You must register and obtain a special edition license key to use CodeWarrior. This license key allows you to experience all the features of the Special Edition CodeWarrior Development Studio.

## Run the DEMO908QB8\_LED program

The DEMO908QB8 is shipped with the DEMO908QB8\_LED program stored in on-chip Flash memory. You may view the source code for this program by accessing the “DEMO908QB8\_LED.zip” file on the Axiom CD (located in the “Examples” folder).

1. Check the jumper settings and make sure they are in the default position. Use figure 1 as a guide.
2. Connect the USB cable to the PC and then to the board. If you are using this board for the first time, please follow the instructions on the screen to install the USB device properly.
3. After the USB drivers are installed correctly, the USB, PWR OUT, and +5V LEDs will be on.
4. Remove jumper B from the USB—MON08 Enable.
5. Press SW1 and LED1 will turn on. Release SW1 and LED1 will turn off.
6. Press SW2 and LED2 will turn on. Release SW2 and LED2 will turn off.

## Use the USB-MON08 to install DEMO908QB8\_ATD program

The USB-MON08 allows a user to program the MCU Flash and debug applications via USB connection.

1. On the Axiom CD (“Examples” folder), copy and open the “DEMO908QB8\_ATD.zip” file to your PC, and extract the files into a working folder on your desktop. **Note:** Be sure to extract, and *not* just copy, the files.
2. Open CodeWarrior HC(S)08 v3.1 and open the “DEMO908QB8\_ATD.mcp” project file.
3. Open “DEMO908QB8\_ATD.c” in the source folder by double clicking on “DEMO908QB8\_ATD.c”.
4. Check the jumper settings and make sure they are in the default position. Use figure 1 as a guide.
5. If you have not already done so, connect the USB cable. The LED, PWR OUT, and +5V LEDs should be on.
6. Click on “Debug” under Project in the menu bar or press “F5.” The True-Time Simulator & Real-Time Debugger interface window will appear. Please follow the instructions on the screen to complete the Flash programming process.
7. If the “Attempting to contact target and pass security...” window appears, please make sure the following options are configured correctly:
  - **Target Hardware Type:** Class 7
  - **Port:** USB1 (Depends on the PC USB Port)
  - **Device Type:** QB8
  - **Device Power:** 5 Volts, provided by P&E Interface
  - **Device Clock:** Clock Driven by P&E Interface on Pin 13
  - **Target MCU Security bytes:** Check the “IGNORE security failure and enter monitor mode” checkbox
8. Click the “Contact target with these settings...” button and follow the instructions on the screen. When the “Erase and Program Flash?” window appears, click the “Yes” button.
9. The “CPROG08SZ Programmer” window should close after the MCU Flash is programmed. You are now ready to run the DEMO908QB8\_ATD code.
10. Install jumper 6 on the USER\_EN header.
11. Click on the green arrow in the toolbar at the top of the screen to run the program. After you click this button, a message in the command window (bottom right-hand side) will say “RUNNING”.
12. LED1 and LED2 will change according to amount of light the photo cell (RZ1) is receiving.

## Troubleshooting

### +5V LED does not turn on

- Make sure the “PWR\_SEL” jumper is in the VB position.
- Change the USB\_SPEED jumper from HIGH to FULL.
- Install the HC(S)08 USB 2.0 CodeWarrior service pack.

### Unable to program the part using USB-MON08

- Install the HC(S)08 USB 2.0 CodeWarrior service pack.
- Make sure the “PWR\_SEL” jumper is in the VB position.
- Change the USB\_SPEED jumper from HIGH to FULL.
- Make sure all the jumpers on the USB-MON08 ENABLE header are installed. Refer to figure 1.
- Make sure USER\_EN jumpers 5 and 6 are not installed.

### Unable to Run the ATD program correctly:

- Make sure USER\_EN jumper 6 is installed.