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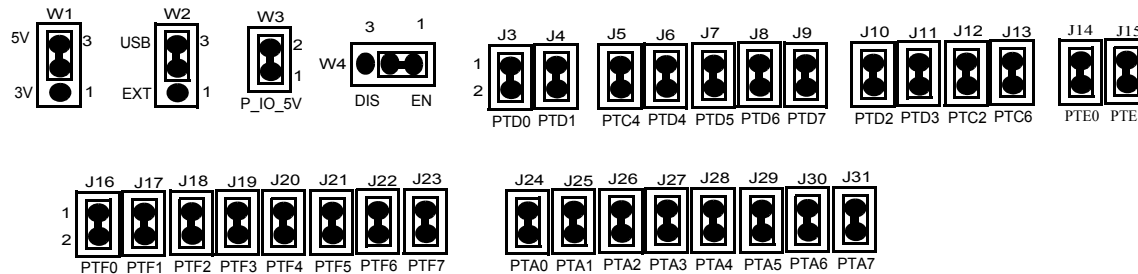


## DEMO9S08AW60E Quick Start Guide

### Introduction and Default Settings

This guide will walk you through how to connect the DEMO9S08AW60E board to your PC, install the correct version of CodeWarrior Development Studio, run the DEMO9S08AW60\_TEST program, and how to program the board with the DEMO9S08AW60\_APP source code. The source code for DEMO9S08AW60\_TEST is provided on the included documentation CD in the "Examples" folder.

Below are diagrams of the default settings for the DEMO9S08AW60E demo board. Black blocks indicate the "on" or "installed" position of jumpers. Please check these settings before continuing.



**Figure -1** DEMO9S08AW60E Default Settings

### Install the MC9S08AW60 Silicon

To protect the MC9S08AW60 silicon it is shipped in a chip case and needs to be installed in the socket U3. Open the chip case and lift the silicon using a vacuum pen or other chip lifting device. Using your thumb and index finger, press down on two corners of the socket U3 until it is completely accuated. Place the MC9S08AW60 silicon in the center of the socket with pin 1 in the bottom left hand corner, towards the USB connector J33. Pin 1 on the MC9S08AW60 silicon is indicated by an indented dot. Release the socket. The MC9S08AW60 silicon should be centered within the socket and firmly held in place.

## Install CodeWarrior Development Studio Version 5.0 for HC(S)08

If you do not have version 5.0 of CodeWarrior for HC(S)08 installed on your computer, please refer to the provided "CodeWarrior Development Studio" DVD case and follow the instructions in the Quick Start Guide. You must have administrator privileges to install CodeWarrior.

## Run the DEMO9S08AW60\_TEST Program

The DEMO9S08AW60E is shipped with the AW60\_TEST program stored in on-chip FLASH memory. You may view the source code for this program by accessing the "AW60\_TEST.zip" file on the included documentation 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. If you have not yet installed CodeWarrior 5.0, you will not have the correct drivers needed to install the USB device.
3. After the USB drivers are installed correctly, the USB, PWR\_OUT, and VDD LEDs will be on.
4. Press SW1 and LED0 on the light bar will toggle.
5. LED7 on the light bar will blink rapidly.

## Use the integrated USB BDM design to install the DEMO9S08AW60\_APP program

The integrated USB-BDM design allows a user to program the MCU FLASH and debug applications via the USB connection.

1. From the included documentation CD, copy the DEMO9S08AW60\_APP.zip file (located in the "Examples" folder) to your PC and extract the files to a working directory on your machine.
2. Open CodeWarrior HC(S)08 v5.0 and open the "DEMO9S08AW60\_APP.mcp" project file.
3. Open "main.c" in the sources folder by clicking the plus sign next to the Sources folder and then double clicking on "main.c". This is the application code.

4. Check the jumper settings and make sure they are in the default position. use Figure 1 as a guide.
5. Connect the USB cable, the USB, PWR\_OUT, and VDD LEDs should be on.
6. Connect a serial cable to the PC and then to the board.
7. Open up a terminal window from within Windows XP by clicking on Start --> All Programs --> Accessories --> Communications --> HyperTerminal
8. Give your terminal connection a name (such as DEOM9S08AW60\_APP) and click the "OK" button.
9. In the "Connect using" pulldown, select the COM port you connected your serial cable to, and click the "OK" button.
10. In the "Port Settings" window, enter the following settings: Bits per second: 9600, Data bits: 8, Parity: None, Stop bits: 1, Flow control: None. Click the "OK" button.
11. From within the Freescale CodeWarrior window, click on "Debug" under Project in the menu bar or press "F5". The True-Time Simulator& Real-Time Debugger interface window will appear.
12. When the ICD Connection Assistant appears, click the "Connect" button.
13. When the "Erase and Program Flash?" window appears, click the "Yes" button.
14. The "CPROGHCS08 Programmer" window should close after the MCU FLASH is programmed. To run the DEMO9S08AW60\_APP code, click on "Start/Continue" under Run in the menu bar or click the green arrow.
15. From the terminal window you set up in steps 7 through 10, you can type characters in your terminal window and they will be echoed. Type "x" when you are ready to move onto the LED/switch demo.
16. Toggle dip switches 0-7 on SW5 to toggle LEDs 0-7 on the lightbar. Press SW1 when you are ready to move on to the push button switch demo.
17. Press SW2 and SW3 to see LEDs 0 and 1 on the lightbar light up. Press SW4 when you are ready to move on to the potentiometer demo.
18. Values will be displayed in the terminal window based on the A to D input of the potentiometer. Rotate the Potentiometer (VR1) and watch the values change. Press SW1 when you are ready to move onto the photocell demo.
19. Values will be displayed in the terminal window based on the amount of light sensed by the photocell IC (U4). Vary the amount of light available to the photocell and watch the values change. Press SW4 when you are ready to move on to the accelerometer demo.

20. Two columns of values will be displayed in the terminal window. The first is the X output of the accelerometer (U5) the second is the Y output. Move the DEMO9S08AW60E in the X and Y directions to see the values change. Press SW1 to complete the demo.

## **Troubleshooting**

### **VDD LED does not turn on**

- Make sure jumper W2 is set to the USB (2-3) position
- Make sure the USB drivers (located on the CodeWarrior 5.0 CD) are installed correctly

### **Unable to program the part using the on board USB-BDM**

- Make sure jumper W2 is set to the USB (2-3) position
- Check that the MC9S08AW60 silicon in the U3 socket is installed correctly (seated well with Pin 1 in the bottom left hand corner towards the USB connector)