

DEMO908AP64

Quick Start Guide

Introduction and Default Settings

This kit contains everything you need to get started minus the power supply. This guide will walk you through how to connect the board to your PC, run the pre-programmed LED test, install the correct version of CodeWarrior Development Studio, and load an ATD (Analog to Digital) test program. Source code for DEMO908AP64_LED (LED test) and DEMO908AP64_ATD (ATD test) are provided on the Axiom CD in the “Examples” folder.

Figure 1 shows the default settings for the DEMO908AP64 demo board. Please refer to the DEMO908AP64 User’s Guide on the Axiom CD for information on other configurations. All diagrams in this guide are oriented with the MON08 header in the upper left-hand corner. Black blocks indicate the “on” or “installed” position of jumpers. Please check the settings before continuing.

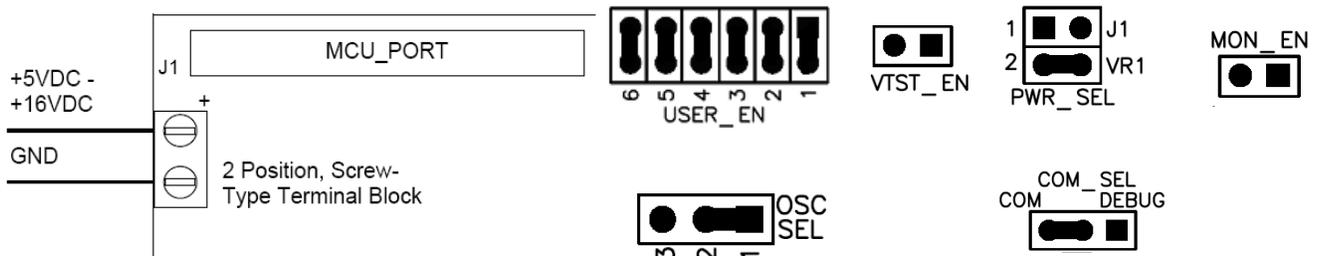


Figure 1. DEMO908AP64 Default Settings

Connect the DEMO908AP64 to your computer and apply power

1. Connect the 9-pin serial cable provided to the COM1 port of the EVB board. Connect the other end to a COM port on your host PC.
2. There are two ways to apply power to the demo board: via the power terminal block or the J1 MCU_PORT. Refer to the DEMO908AP64 User’s Guide about using the MCU_PORT. Otherwise, connect the +9 VDC supply into the screw-type terminal block. Please review the diagram above for wire placement. Apply power to the power and the +5V LED should turn on. If the LED is not on, please check the PWR_SEL jumpers and the placement of the +9 VDC power supply wires.

Run the DEMO908AP64_LED program

The DEMO908AP64 is shipped with the DEMO908AP64_LED stored in on-chip Flash memory. You may view the source code for this program by accessing the “DEMO908AP64_LED.zip” file on the Axiom CD (located in the “examples” folder).

1. Press SW1 and LED1 will turn on. Release SW1 and LED1 should turn off.
2. Press SW2 and LED2 will turn on. Release SW2 and LED2 should turn off.

Install CodeWarrior Development Studio Version 3.0 for HC(S)08

If you do not have version 3.0 of CodeWarrior for HC(S)08 Special Edition installed on your computer, please refer to the provided “CodeWarrior Development Studio for Motorola” CD for HC(S)08 Special Edition Version 3.0 and the included CodeWarrior Quick Start. **Important:** You must register and obtain a license key to use CodeWarrior. You must also obtain another special edition license key, which will allow you to experience all the features of the CodeWarrior debugger (see install, register, and license key instructions in the CodeWarrior Quick Start). After CodeWarrior Development Studio is installed, please install the service pack for the MC68HC908AP64. This service pack will install the proper support files for the MC68HC908AP64.

Use the MON08 Monitor to install DEMO908AP64_ATD program

The MON08 Monitor allows a user to program the MCU Flash and debug application via serial connection.

1. On the Axiom CD (examples folder), copy and open the “DEMO908AP64_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. If you have not already done so, connect serial cable and apply power to the board.
3. In the working folder on the desktop, double click on the “DEMO908AP64.mcp” project file. The CodeWarrior IDE will launch.
4. Open “DEMO908AP64_ATD.c” in the source folder by double clicking on “DEMO908AP64_ATD.c”.
5. Please change the jumpers on the board to ensure proper communication between the PC and DEMO908AP64 board.

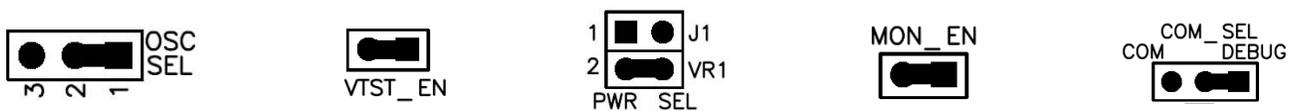


Figure 2. MON08 Debug Setting for Serial Connection

6. Click on “Debug” under Project in the menu bar or hit “F5.” The True-Time Simulator & Real-Time Debugger interface window will appear. The “Attempting to contact target and pass security...” window should appear. Please make sure the following options are configured correctly:
 - **Target Hardware Type:** Class 3
 - **Serial Port:** 1 (Depends on the PC COM Port)
 - **Baud:** 9600 Baud
 - **Target MCU Security bytes:** Check the “IGNORE security failure and enter monitor mode” checkbox
7. 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.
8. To cycle the power, you should remove the VR1 jumper (PWR_SEL port) and reinstall the VR1 jumper (PWR_SEL). This action has turned the MCU supply power off and on. The +5V LED will stay on during this power cycle. Click “OK” in the “Power Cycle Dialog” window.
9. The “CPROG08SZ Programmer” window should close after the MCU Flash is programmed. You are now ready to run the DEMO908AP64_ATD code. Click on the green arrow in the toolbar at the top of the screen to run the program. Once you click this button, a message in the command window (bottom right-hand side) should say “RUNNING”.
10. Turn the RV1 dial (sometimes referred as a pot) and according to the position of the RV1 LED1 and LED2 will be turned on and off.

Troubleshooting

Code will not run after reset

- Make sure the “MON_EN” and “VTST_EN” jumpers are removed and press reset again.
- Reinstall the jumpers to the default position. Refer to [Figure 1](#).

Unable to program the part

- Make sure the jumpers are in the debug position. Refer to [Figure 2](#).
- Make sure the COM port matches the serial port in “Attempting to contact target and pass security...” window.

Unable to compile the DEMO908AP64_ATD.c due to “ERROR: C1815: ADRL0 (or ADR0L) not declared”

- Check your version of CodeWarrior by clicking on Help -> About Metrowerks CodeWarrior
 - If you are using v3.1, please change all references in DEMO908AP64_ATD.c to “ADRL0” to “ADR0L”.
 - If you are using v3.0, please change all references in DEMO908AP64_ATD.c to “ADR0L” to “ADRL0”.

How to Reach Us:

USA/Europe/Locations not listed:

Freescale Semiconductor Literature Distribution
P.O. Box 5405, Denver, Colorado 80217
1-800-521-6274 or 480-768-2130

Japan:

Freescale Semiconductor Japan Ltd.
SPS, Technical Information Center
3-20-1, Minami-Azabu
Minato-ku
Tokyo 106-8573, Japan
81-3-3440-3569

Asia/Pacific:

Freescale Semiconductor H.K. Ltd.
2 Dai King Street
Tai Po Industrial Estate
Tai Po, N.T. Hong Kong
852-26668334

Learn More:

For more information about Freescale Semiconductor products, please visit <http://www.freescale.com>

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.

Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners.
© Freescale Semiconductor, Inc. 2004.