

DEMO9RS08KA8

Quick Start Guide

Rev. 1.1

0. Introduction

This quick start guide will walk you through setting up your demo board, connecting it to the PC, and launching the provided example. For more information, please read the demo board's user's manual.

1. Run the Factory Programmed Example (Standalone Mode)

1. Ensure that all of the "ENABLE" jumpers in the "MCU AND I/O" area are inserted.
2. Ensure that all of the "ENABLE" jumpers in the "SERIAL" area are inserted.
3. Ensure that the "POWER SEL" jumper selects the "UNREG" position.
4. Power on the Demonstration Board through the 12 V DC plug-in power supply.
5. The green "POWER" LED on the board should turn on.
6. Press the "SW0" push-button. Rotate the potentiometer. The "LED0" will blink with a frequency related to the potentiometer value.
7. Press the "SW1" push-button. The "LED1" will blink with a frequency related to amount of light hitting the photoresistor.
8. The value of the potentiometer or the light sensor is also sent to the RS-232 port (baud rate = 9600, data bits = 8, parity = N, stop bits = 1).

2. Host Mode

The same example above can be run from the host PC. To do this, the CodeWarrior Development Tools and the SofTec Microsystems Additional Components must be installed first.

Install CodeWarrior Development Studio

To install the CodeWarrior Development Studio Special Edition, insert the CodeWarrior CD-ROM into your computer's CD-ROM drive. A startup window will automatically appear. Follow the on-screen instructions.

If present, make sure to install all available service packs or other components for the MC9RS08KA8, available either on the CodeWarrior CD or on the Freescale website (www.freescale.com).

Install SofTec Microsystems Additional Components

The SofTec Microsystems "System Software" CD-ROM contains other required components to your hard drive. These components include:

- SofTec Microsystems DLL for DEMO9RS08KA8 support;
- Examples;
- Demonstration Board's user's manual;
- Demonstration Board's schematic;
- Additional documentation.

To install the required components, do the following:

1. Insert the SofTec Microsystems “**System Software**” CD-ROM into your computer’s CD-ROM drive. A startup window will automatically appear.
2. Choose “**Install Instrument Software**” from the main menu.
3. Click on the “**Copy SofTec Microsystems DLL to \CodeWarrior for Microcontrollers V6.1\prog\gdi**” option. An Explorer window will open. Copy the “**inDART_RS08.dll**” file to your PC in the “**\CodeWarrior for Microcontrollers V6.1\prog\gdi**” folder, relative to the CodeWarrior installation path.
4. Click on the “**Copy examples for CW08 V6.1**” option. An Explorer window will open. Copy the “**DEMO9RS08KA8**” folder to your PC, in a location of your choice. These are the examples specific for the demonstration board, and will be used later in the step-by-step tutorial.

Note: to install the Additional Components on Windows 2000 or Windows XP, you must log in as Administrator.

First Connection with the PC

Note: before to connect the board to the PC, it is important that you install the required system software as described in the previous section.

The Evaluation Board connects to a host PC through a USB port. Connection steps are listed below in the recommended flow order:

1. Install all the required system software as described in the previous section.
2. Make sure the “POWER SEL” jumper is in the “USB” position.
3. Insert one end of the USB cable into a free USB port.
4. Insert the other end of the USB cable into the USB connector on the Demonstration Board.
5. The first time the Demonstration Board is connected to the PC, Windows recognizes the instrument and starts the “**Found New Hardware Wizard**” procedure, asking you to specify the driver to use for the instrument. Follow the wizard steps, choosing to install the software automatically when requested.

The Evaluation Board’s USB driver is now installed on your system.

Step-By-Step Tutorial

1. Make sure that the “POWER SEL” jumper selects the “USB” position.
2. Ensure that the Demonstration Board is connected to the PC (via the USB cable) and that the board is powered.
3. Start CodeWarrior by selecting it in the Windows Start menu.
4. From the CodeWarrior main menu, choose “**File > Open**” and choose the “**DEMO9RS08KA8\C\Demo\Demo.mcp**” file. This is the board example you copied from the SofTec Microsystems “**System Software**” CD-ROM.
5. Click “**Open**”. The *Project* window will open.
6. The C code of this example is contained in the “**main.c**” file. Double click on it to open it.
7. From the main menu, choose “**Project > Debug**”. This will compile the source code, generate an executable file and download it to the demo board.
8. A new debugger environment will open. From the main menu, choose “**Run > Start/Continue**”. The program will be executed in real-time.
9. From the main menu, choose “**Run > Halt**”. The program execution will stop. The next instruction to be executed is highlighted in the *Source* window.
10. From the main menu, choose “**Run > Single Step**”. The instruction highlighted in the *Source* window will be executed, and the program execution will be stopped immediately after.
11. From the main menu, choose “**Run > Start/Continue**”. The application will restart from where it was previously stopped.