DEMO9S12XEP100

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 the "OSC SEL" jumper selects the "CRYSTAL" position.
2. Ensure that the "XCLKS#=0" jumper is not inserted.
3. Ensure that all of the light sensor "ENA" jumper is inserted.
4. Ensure that all of the "LED ENA" jumpers are inserted.
5. Ensure that the two push-button "ENA" jumpers are inserted.
6. Ensure that the two "RS-232 ENA" jumpers are inserted.
7. Ensure that the "POWER SEL" jumper selects the "UNREG" position.
8. Power on the Demonstration Board through the 12 V DC plug-in power supply.
9. The green "POWER" LED on the board should turn on.
10. Press the "PP0" push-button. Rotate the potentiometer. Its value will be shown on the LEDs.
11. Press the "PP1" push-button. The output of the light sensor will be displayed on the LEDs.
12. 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.

Install SofTec Microsystems Additional Components

The SofTec Microsystems Additional Components install all of the other required components to your hard drive. These components include:

- The Demonstration Board's USB driver;
- The software plug-in for CodeWarrior;
- Examples;
- Demonstration Board's user's manual;
- Demonstration Board's schematic;

- Additional documentation.

To install the SofTec Microsystems Additional Components, insert the SofTec 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. A list of available software will appear. Click on the **"Additional Components"** option. Follow the on-screen instructions.

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 is connected 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. Power the board through the barrel connector (12 V DC). The "POWER" LED will turn on.
3. Insert one end of the USB cable into a free USB port of the PC.
4. Insert the other end of the USB cable into the USB connector on the Evaluation Board.
5. The first time the Evaluation 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 for HCS12(X) Development Studio by selecting it in the Windows Start menu.
4. From the CodeWarrior main menu, choose **"File > Open"** and choose the "**\Program Files\Freescale\CodeWarrior for HC12 V4.5\(CodeWarrior Examples)\HCS12X\Evaluation Board Examples\DEMO9S12XEP100\C\Demo\Demo.mcp"** file.
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.