

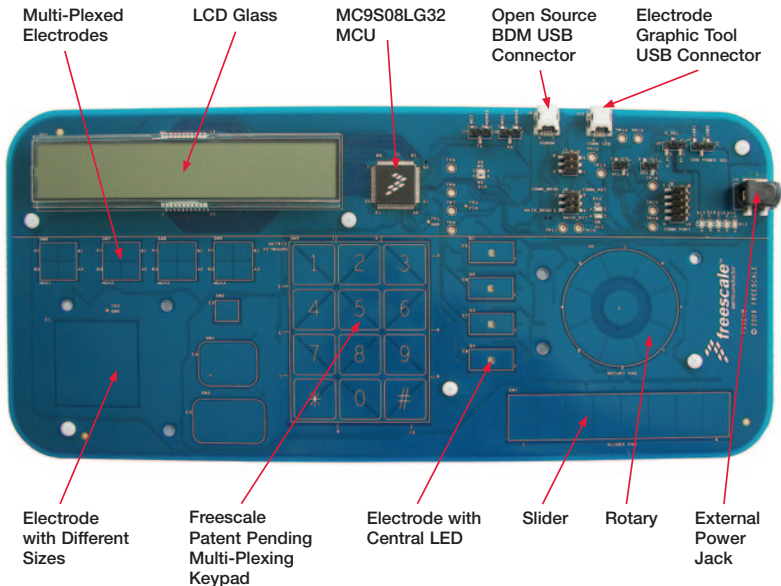


Touch-Sensing Software
Evaluation board Quick Start Guide





Get to Know the Touch-Sensing Tools



Introduction

The touch-sensing evaluation board (TSSEVB) contains everything you need to get started with a touch-sensing application. The software enables capacitive sensing for the entire Freescale S08 family of microcontrollers (MCUs), providing commonly used touch sense decoding structures such as keypad, rotary and slider.

This Quick Start Guide is designed to get you ready to develop your touch-sensing application using the MC9S08LG32 MCU within minutes.

The TSSEVB includes two MC9S08JM60 MCUs. One is an open source BDM that is used to program and debug, while the other is used to communicate with the electrode graphing tool GUI on a PC.

The TSSEVB also contains an on-board display that allows you to explore software development combining the integrated LCD driver with the touch-sensing software.

Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to set the TSSEVB and run the default touch-sensing demonstration.

Install CodeWarrior Development Studio Special Edition

CodeWarrior is a powerful tool designed to help you maximize your time to market. CodeWarrior installation is a one-time required step before connecting the board to your computer.

1. Insert the Getting Started DVD in your computer and a menu will appear.
2. Click on the appropriate link to install CodeWarrior.
3. Follow the on-screen instructions to complete installation.

After installation is complete, take advantage of several CodeWarrior tutorials that will walk you through various development tool features, such as C programming, assembly programming, using Processor Expert and more. Simply open CodeWarrior via the **Start > Programs > Freescale CodeWarrior > CW for Microcontroller V6.3 > CodeWarrior IDE.exe** path. Click Run Getting Started Tutorial from the startup dialog, select a tutorial and follow the on-screen instructions.

**STEP
2**

Copy TSSEVB Materials

The Getting Started DVD included with the demo board kit contains the Touch-Sensing Software Suite and TSSEVB demo board materials under the Documentation tab. For your reference, the documentation contains:

- Touch-Sensing Software Evaluation Board Schematics
- Touch-Sensing Software Evaluation Board Users Guide (TSSEVBUG)
- Designing Proximity-Sensing Electrodes Application Note (AN3863)
- Touch-Sensing Electrode Graphing Tool Users Guide (TSSEGTUG)
- TSSEVB Demo Application Guide

**STEP
3**

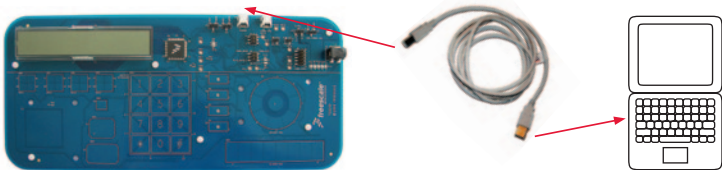
Connecting the TSSEVB

The TSSEVB demo board can be powered either through the integrated USB_BDM interface or through the barrel connector.

In case the board is powered through the USB_BDM, you will be asked to install the USB driver. The USB driver installation is a one-time required step that requires CodeWarrior installation first.

1. Remove board from anti-static pouch.
2. Connect provided USB cable from a free USB port on your computer to the USB connector on the board.
3. The operating system will recognize your board as new hardware and will prompt you to install the USB drivers. Select Recommended Option to install

continued on next page



the software automatically. USB drivers for your board were pre-loaded in the CodeWarrior installation.

4. Follow the on-screen instructions to complete USB driver installation.

In case the board is powered through the barrel connector, make sure that the demo application code has been previously loaded to the TSSEVB evaluation board.

1. Remove board from anti-static pouch.
2. Connect the external power supply to the barrel connector.
3. Start testing the TSSEVB.



Run and Debug Demo Application

Code on Board

The TSSEVB comes with a pre-loaded demo application that allows the user to start testing the board as soon as it is connected. In case the demo application does not start, the user will have to load the program using the CodeWarrior for

Microcontrollers integrated development environment (IDE).

1. Start CodeWarrior by selecting it from the Start menu.
2. From the CodeWarrior main menu, click **File > Open**, search the TSSEVB.mcp file, and click on the **Open** button. The project window will appear. This is the board example you copied from the Getting Started DVD included with the TSSEVB demo board kit.
3. The user-written C code of this example is contained in the main.c file.
4. From the main menu, click **Project > Debug**. The CodeWarrior compiles the source code, generates an executable file and downloads it to the demo board.
5. A new debugger environment opens. To execute the program in a real-time environment, click **Run > Start/Continue** from the main menu.
6. To stop the program execution, click **Run > Halt** from the CodeWarrior main menu. The next instruction to be executed is highlighted in the Source window.

7. From the main menu, click **Run > Single Step**. The instruction highlighted in the Source window is then executed, and the program execution is stopped immediately after.
8. From the main menu, click **Run > Start/Continue**. The application restarts from where it was previously stopped.

After completing the software and hardware setup successfully, test your board by running the demo board application pre-loaded in the MCU's on-chip flash memory. For information on how to use the demonstration code, refer to the TSSEVB Demo Application Guide that comes with the demo software files, or visit freescale.com.



Learn More: For more information, visit freescale.com or freescale.com/touchsensing.

Freescale, the Freescale logo, CodeWarrior and ColdFire are trademarks of Freescale Semiconductor, Inc., Reg. U.S. Pat. & Tm. Off. All other product or service names are the property of their respective owners. © 2009, 2010 Freescale Semiconductor, Inc.

Doc Number: TSSEVBQSG / REV 2
Agile Number: 926-78366 / REV C

