Freescale Semiconductor

56F800 Demo Board Kit Installation Guide

Welcome!

Thank you for choosing this Freescale Development Tools product, featuring the CodeWarrior Integrated Development Environment (IDE). This document provides instructions on how to set up the Freescale 56F800 Demonstration Board with the CodeWarrior IDE. If you have any questions regarding the hardware kit or software development tools, please contact the Technical Information Center:

www.freescale.com/support

Kit Contents

Your 56F800 Demonstration Board kit includes:

Hardware

- 56F800 Demonstration Board
- Parallel cable
- +12V DC power supply

Software

- Metrowerks® CodeWarrior® with Processor Expert™ Development Tools CD-ROM
- Freescale 56800/E Accelerated Development System Resource CD-ROM

Documentation

- *56F800 Demonstration Board Kit Installation Guide* (this document)
- Warranty Registration card

System Requirements

- 133 MHz Intel® Pentium® or compatible processor
- Windows® 98/NT/2000/XP
- 64 MB of RAM
- 350 MB hard drive space
- Parallel port
- CD-ROM drive for installation

Help

To obtain assistance with the DSP56F800DEMO, please contact the Technical Information Center:
www.freescale.com/support

CodeWarrior Updates:
www.metrowerks.com/download

Processor Expert Updates:
www.processorexpert.com/mc56800updates.html

1 Install the CodeWarrior with Processor Expert Development Tools

1. Insert the CodeWarrior CD into your computer's CD-ROM drive.
   If Auto Install is disabled on your computer, run the **setup.exe** program at root on the CD. Follow the CodeWarrior software installation instructions on your screen.

2. Activate your CodeWarrior license key.
   There are several CodeWarrior license key options available:

   8K Words License - Enables full CodeWarrior and Processor Expert[1] functionality for up to 8K Words of Program memory and 2K Words of Data memory

   32K Words License - Enables full CodeWarrior and Processor Expert[1] functionality for up to 32K Words of Program memory

   64K Words License - Enables full CodeWarrior and Processor Expert[1] functionality for up to 64K Words of Program memory

   Full License - Enables full CodeWarrior and Processor Expert[1] functionality with no memory restrictions

1. Some Processor Expert Beans are priced separately

To receive a free, Permanent 8K Words License:

- Go to: **http://www.metrowerks.com/MW/Develop/Embedded/56800/EHybrid**
- Select the appropriate http link to register for the free license
- Fill out your information online and a valid license key will be sent to your email address
- Copy and paste the new key at the bottom of the *license.dat* file[2], located in the CodeWarrior directory

If you decide to purchase a 32K, 64K, or Full License, you can activate your 30-day evaluation key:

- Go to **http://metrowerks.com/key/eval**
- Enter your validation code, located on the CodeWarrior tools CD case
- An evaluation key will be sent to you by email
- Copy and paste the new evaluation key at the bottom of the *license.dat* file[2], located in the CodeWarrior directory

2. Do not move the *license.dat* file after installation. For additional assistance with license issues, email the Metrowerks Licensing Team:
   license@metrowerks.com

DSP56F800DBKIG
Rev. 1, 10/2004

2 Configure the 56F800 Demonstration Board

Jumper Group	Connections
JP1	1 - 2

The 56F800 Demo Board is shipped with all the jumper blocks in the default configuration, which enables stand-alone mode. In this mode, the user can execute a pre-programmed application simply by applying power to the board (see Section 3). To enable this demo board for CodeWarrior development, the JP1 (Host Enable) jumper must be connected.

3 Running the Frequency Spectrum with Amplitude Demonstration Application

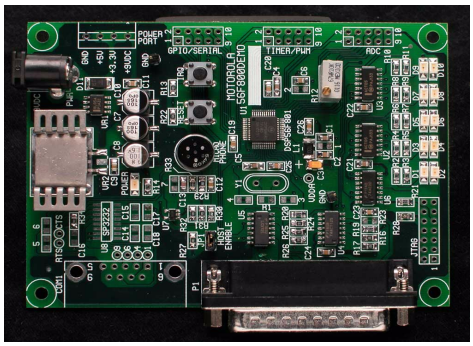
The 56F800 Demonstration Board contains a pre-programmed demonstration application, which can be executed directly from Flash memory:

1. Remove Jumper JG1 to put the Demonstration Board into stand-alone mode.
2. Plug the power supply into PWR on the Demo Board.
3. Plug the +9V DC power supply into an AC outlet
4. Speak into the on-board microphone, located in the center of the Demonstration Board.
5. The LEDs will display the frequency components of the speech.
6. For source code or full documentation, follow these steps:
   a. Launch CodeWarrior IDE
   b. Select **File > New**
   c. Select **Processor Expert Examples Stationery**
   d. Type **Project name** and click **OK**
   e. Select **Demo Applications > 56800 Demo Board Examples Apps > FreqSpectrum**

4 Connect the 56800 Demonstration Board to Your Computer

1. Connect the DB25 end of the parallel cable to the parallel port on your computer.
2. Connect the DB25 receptacle end of the parallel cable to the parallel port connector labeled P1 on the Demonstration Board.
3. Plug the power supply into PWR on the Demonstration Board.
4. Plug the +9V DC power supply into an AC outlet.

TIP: To protect the equipment from power source surges, the +9V DC power supply should be plugged into a surge-protected power strip.



5 Tutorial: Creating a Code Warrior Project

1. Launch the CodeWarrior IDE.
2. Select **File > New**.
3. Select **Processor Expert Stationery** and give your project a name (a project with the *.mcp* extension will be created).
4. Click **OK** in the **New** window.
5. Select **DSP56F80x > DSP56F801_60MHz** from the **New Project** window and click **OK**.

   The project window opens and displays the file contents of your new CodeWarrior project.
6. Choose **Project > Make**.
   Processor Expert generates appropriate initialization and configuration files.
7. Expand the **User Modules** folder in the project window by clicking on the plus (+) sign.
8. Double click **projectname.c** to open it.
9. Add any additional code as indicated by comments:

   ```
   /*write your own code here*/
   ```
10. Save your change and close the editor window.
11. Choose **Project > Debug**.

    Your code downloads to the 56F800 Demonstration Board and the program will stop at *main()* (which appears in the source pane of the debugger window).
12. Choose **Project > Run** (F5) and your program will continue execution until the next breakpoint is encountered.

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