

# Freescale Semiconductor 56F8367EVM 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 56F8367 Evaluation Module (EVM) with the CodeWarrior IDE. This EVM supports application evaluation and development for the following processors: 56F833x, 56F834x, 56F835x, 56F836x, and 56F813x, 56F814x, 56F815x, 56F816x.

For detailed information about this EVM refer to the *56F8367 Evaluation Module Hardware User's Manual*:

Launch CodeWarrior IDE Select **Help > Freescale 56F83xx PDF Index**

## Help

If you have any questions regarding the hardware kit, software development tools or need assistance with this EVM, please contact the Technical Information Center:

[www.freescale.com/support](http://www.freescale.com/support)

CodeWarrior Updates:  
[www.metrowerks.com/download](http://www.metrowerks.com/download)

Processor Expert Updates:  
[www.processorexpert.com/mc56800updates.html](http://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<sup>1</sup> functionality for up to 8K Words of Program memory and 2K Words of Data memory
  - 32K Words License - Enables full CodeWarrior and Processor Expert<sup>1</sup> functionality for up to 32K Words of Program memory
  - 64K Words License - Enables full CodeWarrior and Processor Expert<sup>1</sup> functionality for up to 64K Words of Program memory
  - Full License - Enables full CodeWarrior and Processor Expert<sup>1</sup> 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<sup>2</sup>, 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<sup>2</sup>, 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](mailto:license@metrowerks.com)

## 2 Connect the 56F8367EVM Using:

### USB to JTAG Adaptor (sold separately)

1. Make sure CodeWarrior 7.2 or later is installed
2. Connect the USB to JTAG adaptor to the USB port of your computer
3. Connect JTAG cable from USB adaptor to JTAG header J3
4. Place jumper onto "CC DIS" header JG3
5. Plug the power supply to P1 on the 56F8367EVM.
6. Plug the +12V DC power supply into an AC outlet.

### Parallel Port

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 P2 on the 56F8367EVM.
3. Plug the power supply to P1 on the 56F8367EVM.
4. Plug the +12V DC power supply into an AC outlet.

**TIP:** To protect the equipment from power source surges, the +12V DC power supply should be plugged into a surge-protected power strip.

### 3

#### 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 **MC56F83xx > MC56F8367** from the **New Project** window and click **OK** ( please refer to Section 4 if using an alternate DSC).

The project window opens and displays the file contents of your new CodeWarrior project.

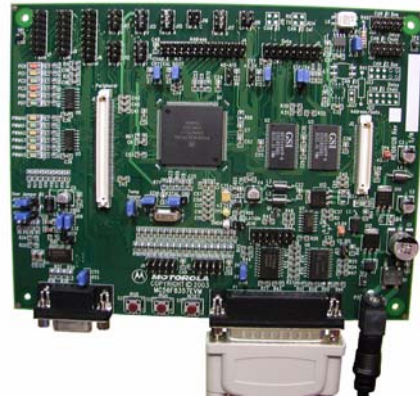
6. Choose **Project > Make**. Processor Expert generates appropriate initialization and configuration files.
7. Expand the **User Modules** folder in the project window by clicking on the plus (+) sign.
8. Double click **projectname.c** to open it.
9. Add any additional code as indicated by comments:

```
/*write your own code here*/
```

10. Save your change and close the editor window.
11. Choose **Project > Debug**.

Your code downloads to the 56F8367EVM 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.



### 4

#### Software Development using alternate DSCs

The 56F8367 Digital Signal Controller (DSC) is a feature super set of the 56F833x, 834x, 835x, 836x and 56F813x, 814x, 815x, 816x controllers. The 56F8367EVM was, therefore, designed to support software development for all of those DSCs. Users can work with this EVM and simply not utilize those features not present on the alternate DSC. The best way to disable these features is to use Processor Expert. In step 5 of the Section 3, instead of selecting the MC56F8367 stationary, the user should select the DSC that will be used in the final application. For example, if the application is intended for the 56F8346 DSC, then the user would select MC56F83xx > MC56F8346 stationary.

In this example Processor Expert will only allow the user to select features that are present on the 56F8346 controller while allowing generated code to execute on the 56F8367 EVM.

##### Additional Information:

1. CodeWarrior debugger must be told the 56F8367EVM is being used when selecting stationary for any DSC other than the 56F8367. Steps:
  - a Once a new project is created and loaded in IDE, select **Edit > Target Setting (Alt + F7)**
  - b Select **Debugger > M56800E target settings**

- c Change Initialization file name to **56836x\_flash.ctg** or **56836x\_ext\_xp.ctg** (depending on target)
- d Click **OK**

2. Processor Expert Flash security functionality may not work properly due to the differences in memory sizes between the 56F8367 DSC and the other controller. It is recommended that functionality be tested on the final hardware/application.

##### Additional Resources

- Code examples can be accessed in **Processor Expert Examples Stationery** by selecting **File > New**.
- Additional training, tutorials, code examples, and documentation can be found on the Resource CD-ROM.
- Additional Freescale 56800/E hardware and chip documentation is available from: [www.freescale.com/dsc](http://www.freescale.com/dsc)