



# CodeWarrior™ Development Studio

## EVB912UF32 Evaluation Board

### Quick Start

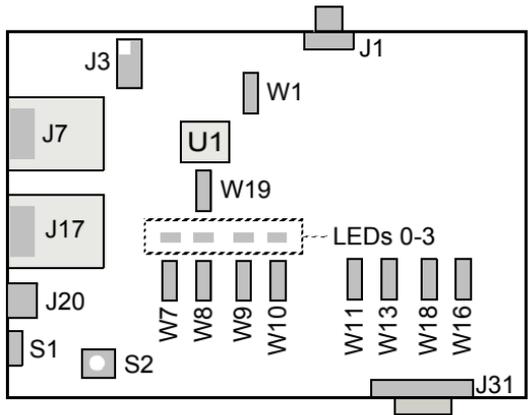
SYSTEM REQUIREMENTS	
<b>Hardware</b>	<ul style="list-style-type: none"><li>• 500MHz Intel® Pentium® II processor or AMD™-K6™ class processor or higher</li><li>• 128MB RAM</li><li>• CD-ROM drive for installation</li><li>• USB port</li></ul>
<b>Operating System</b>	Microsoft® Windows® 98/NT® 4.0/2000/XP
<b>Disk Space</b>	At least 500MB hard disk space

This Quick Start explains how to prepare the EVB912UF32 evaluation board, install the CodeWarrior software, then create, build, and run a sample EVB912UF32 project.

### Section A - Preparing the EVB912UF32 Board

In this section, you connect the EVB912UF32 board to your computer and prepare the board to communicate with the CodeWarrior IDE.

**EVB912UF32 Evaluation Board**





1. **Unpack the EVB912UF32 board**
2. **Make sure power switch S1 is in OFF position**
3. **Set jumper headers**
  - a. Make sure a jumper is between pins 1-2 of header W1 (CLK jumper)
  - b. Verify jumpers are on LED headers W7-W10
  - c. Verify a jumper is between pins 1-2 of header W11 (VREGEN jumper)
  - d. Verify a jumper is between pins 2-3 of header W19 (VDD3X jumper)
4. **Set jumper headers for normal single chip mode**
  - a. Verify a jumper is between pins 1-2 of header W13 (MODC jumper)
  - b. Verify a jumper is between pins 2-3 of header W18 (MODB jumper)
  - c. Verify a jumper is between pins 2-3 of header W16 (MODA jumper)
5. **Connect Multilink BDM to J3 and USB port on host-computer**

---

**NOTE** Be careful to line up pin 1 of J3 with pin 1 of the connector cable.

---

6. **Connect power supply**
  - a. Connect 12-volt power supply to J20 of EVB
  - b. Plug power supply into surge-protected strip
  - c. Connect surge-protected strip to AC outlet

## Section B - Installing and Registering Software

1. **Install CodeWarrior software**
  - a. Insert **CodeWarrior for HC(S)12 v3.1** CD into CD-ROM drive — CW Auto Install begins

---

**NOTE** If Auto Install does not start, run launch.exe, which is located in the root directory of the CD.

---

- b. Follow setup program's on-screen instructions

## 2. Register CodeWarrior software

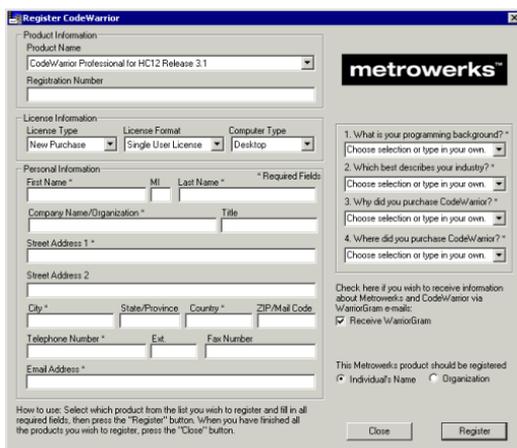
---

**NOTE** You can register the CodeWarrior software as part of the installation process. Alternatively, you can register the software after installation.

---

- a. If **Register CodeWarrior** window is not open, from Windows desktop click **Start > Programs > Metrowerks CodeWarrior > CW12 V3.1 > Register CodeWarrior** — Register CodeWarrior Window appears

### Register CodeWarrior window



**Register CodeWarrior**

Product Information  
 Product Name: CodeWarrior Professional for HC12 Release 3.1  
 Registration Number: \_\_\_\_\_

metrowerks™

License Information  
 License Type: New Purchase License Format: Single User License Computer Type: Desktop

Personal Information  
 First Name \* MI Last Name \* \* Required Fields  
 Company Name/Organization \* Title  
 Street Address 1 \*  
 Street Address 2  
 City \* State/Province Country \* ZIP/Mail Code  
 Telephone Number \* Ext. Fax Number  
 Email Address \*

1. What is your programming background? \*  
 Choose selection or type in your own.

2. Which best describes your industry? \*  
 Choose selection or type in your own.

3. Why did you purchase CodeWarrior? \*  
 Choose selection or type in your own.

4. Where did you purchase CodeWarrior? \*  
 Choose selection or type in your own.

Check here if you wish to receive information about Metrowerks and CodeWarrior via WarsoGram e-mails  
 Receive Info/ansoGram

This Metrowerks product should be registered  
 Individual's Name  Organization

Close Register

How to use: Select which product from the list you wish to register and fill in all required fields, then press the "Register" button. When you have finished all the products you wish to register, press the "Close" button.

- b. Select Professional, Standard, or Special edition from Product Name pull-down menu
- c. Select New Purchase, Renewal, or Evaluation from License Type pull-down menu
- d. Fill in all other fields of registration window
- e. Click **Register** button — **Registration Method** dialog box appears
- f. Select **E-Mail** option button

- g. Click **OK** button — **Registration Method** dialog box closes; program sends information to Metrowerks; Metrowerks emails license key to you

---

**NOTE** In case of difficulty, run `MWRegister.exe`, located in the Licensing directory. Email licensing questions to `license@metrowerks.com` or `license_europe@metrowerks.com`. You can also e-mail your registration file. The registration file is a text file. The filename begins with `MWRegistration`. You can find the registration file in the following directory: `{install_directory}/Other Metrowerks Tools/MWRegister/CW12_V3.1`

---

- h. Click **Close** button — Registration window closes

3. **Restart your computer — operating system reboots which ensures that CodeWarrior IDE finds newly installed drivers**

## Section C - Installing CodeWarrior License Key

---

**NOTE** You receive a license key by e-mail after you register your product. You must place the key in the license file (`license.dat`) in order to use the CodeWarrior IDE.

---

### 1. Open license file

Click **Start > Programs > Metrowerks CodeWarrior > CW12 V3.1** — menu appears

#### License file menu selection



- i. Select **License File** — Notepad starts and opens `license.dat` file

## 2. Copy license key to new line at bottom of `license.dat` file

---

**NOTE** If you are adding a license key for an upgrade, paste the new license key above the other keys in the `license.dat` file.

---

## 3. Save `license.dat` file

## 4. Close `license.dat` file – license is installed; IDE uses new license when you start the CodeWarrior IDE

---

**NOTE** Do not move or delete the `license.dat` file. If you receive additional keys in the future for other CodeWarrior components, you can add the additional keys to the `license.dat` file.

---

## Section D - Installing Support Software for the UF32 Derivative

---

**NOTE** You can find software support (service packs) for additional HC12 derivatives on the Metrowerks website or on the HC(S)12 Service Pack CD.

---

### 1. Install the service pack needed for UF32

- a. Insert HC(S)12 Service Pack CD into CD-ROM drive
- b. In Windows desktop, double-click **My Computer** icon — **My Computer** window appears
- c. In **My Computer** window, double-click drive letter corresponding to CD-ROM drive — contents of CD-ROM appear in window
- d. Proceed to Section E if CD-ROM does not contain `CW12_V3_1_UF32_SP.exe` file; if this filename appears in CD-ROM contents, proceed to Step 2.



## 2. Install service pack

- a. CodeWarrior IDE for HC12 v3.1 must be installed before you can install a service pack.
- b. In the window displaying CD-ROM contents, double-click `CW12_V3_1_UF32_SP.exe` filename Installation wizard starts
- c. Follow on-screen instructions of installation program

## Section E - Run an Example Project

The following procedure explains how to open the example project, and use the USB Multilink device and CodeWarrior software to download code to the board.

### 1. Open example project

- a. Insert Documentation CD into CD-ROM drive of host-computer
- b. Double-click `EVB912UF32_demo.exe` file
- c. Click **Unzip** to extract all files of `EVB912UF32_demo.exe` file to the `EVB912UF32_Demo` directory
- d. Open `EVB912UF32_demo.mcp` file that you extracted — CodeWarrior IDE starts and opens example project

### 2. Switch EVB power switch (S1) to ON

### 3. View main.c file

- a. Click on **Sources** folder tree control in **Project** window — contents of **Sources** folder appears
- b. Double-click the `main.c` file — **Editor** window appears showing contents of `main.c`

### 4. Set Target to P&E

- a. Select **P&E ICD** from the **Targets** menu in the toolbar of the **Project** window — **P&E ICD** appears in the toolbar

## 5. Start Debugger

- a. Select **Project > Debug** from IDE main menu bar — debugger initiates communication with board; **Real Time Debugger** window appears

---

**NOTE**      The IDE loads the demo code to the flash memory of the evaluation board. If you start the debugger when the board is not powered the IDE displays a series of error messages.

---

## 6. Start the demo

- a. Select **Run > Start/Continue** from main menu of **Debugger** Window — LED sequencing demo starts

## 7. Stopping and restarting the program

- a. Click the **Kill** button in the **Debugger** window. Since the program has been loaded into flash you can power down the EVB, disconnect the Multi-Link device, power the board back up, and the LED test program should resume. Pressing and releasing the **Reset** switch (**S2**) will halt and restart the program.

## 8. Modifying the source code

You can change the frequency at which the LEDs are sequenced by modifying the source code and recompiling the program. To do this from CodeWarrior IDE:

- a. Double-click the `main.c` file in the **Sources** folder — the file opens.
- b. Search for the line of code beginning with `#DEFINE COUNTER` — `COUNTER` is defined on several lines, but only one is not commented out. Place comment marks (`//`) on the current line and uncomment a different `#DEFINE COUNTER` line to change the LED frequency
- c. Select **Project > Make** from IDE main menu bar — the IDE recompiles the program.
- d. Follow steps 5 through 6 to run the modified program.



---

## **Congratulations!**

**You successfully setup your development system  
and used the CodeWarrior IDE to run a program on the  
EVB912UF32 Evaluation Board.**

---