



Version 2.0 – August 2011

CodeWarrior for Microcontrollers v10 brings in several new features, and the Open-Source BDM firmware found on some evaluation boards may need to be updated to take advantage of these additional features. This document describes how to determine which version of OSBDM is on your board, and how to update it.

OSBDM version 30.7 is the latest version as of this writing, and is required when using Linux or 64-bit platforms. Also TWR-MCF51CN boards sold before May 2010 need to be updated to OSBDM version 20.1 or later to work with CW10. OSBDM version 30.7 is backwards compatible with previous versions of CodeWarrior. You can always find the latest drivers and firmware at http://www.pemicro.com/osbdm

OSBDM Firmware Updater Program:

First download the latest **P&E Firmware Updates and Recovery** program which can be found at <u>http://www.pemicro.com/osbdm</u>

It will install 3 programs onto your computer that will assist in updating OSBDM

- P&E Firmware Information Utility
- P&E Firmware Recovery Utility
- P&E Firmware Updater Utility

OSBDM Version:

Run the P&E Firmware Information Utility. It will report the current OSBDM version on your board

Multilink Universal / Osbdm / Osjtag - Firmware Information Utility v1.00 💻 This application displays all Universal Multilink, Osbdm, and Osjtag devices currently connected 🖄 Universal Multilink : Click this link for more information on this hardware Cyclone Stand-Alone Programmer and Debug Interface : Click this link for more information of miller Osbdm / Osjtag Embedded Design : Click this link for more information on this hardware Device 0 : Embedded CFV234 OSBDM/OSJTAG Device (Firmware Version 30.7) Firmware Build : 30 Firmware Revision : - 7 Firmware Target : CFV234 Embedded Firmware Type : Hardware Board ID : 0

Freescale Semiconductor Inc.



If you see the following message, then you have an OSBDM version prior to 20.1.

🗭 Multilink Universal / Osbdm / Osjtag - Firmware In		
This application di Universal Mult Cyclone Stand Osbdm / Osjta	splays all Universal Multilink, Osbdr ilink : <u>Click this link for more informa</u> I-Alone Programmer and Debug Inte g Embedded Design : <u>Click this lint</u>	
Device O : Embedded OSBI Firmware Build : Firmware Revision : Firmware Target : Firmware Type : Hardware Board ID :	DM/OSJTAG Device 0 : O CFV234 : O	

If you see the following message, then OSBDM is not being properly detected. Make sure you have the latest drivers, which can be found at http://www.pemicro.com/osbdm

🕿 Multilink Universal / Osbdm / Osjt

	This application displays all Univ Universal Multilink : <u>Click thi</u> Cyclone Stand-Alone Progra Osbdm / Osjtag Embedded
No Devices Found	

Updating OSBDM Firmware:

Make sure your tower board is plugged in, and run the **P&E Firmware Updater Utility** to use the OSBDM boot loader to upgrade to the latest OSBDM version.

Under "Select Hardware Type" make sure OSBDM/OSJTAG is selected. It should automatically detect your board settings and fill out the rest of the fields automatically and select the latest OSBDM version available for your hardware. The result for a TWR-MCF52259 board would be:



🛥 Multilink/Osbdm Firmware Update and Architecture Selection Utility - Version 1.04 🛛 📃 🗖 🔯		
New versions of P&E's software products automatically update the firmware of the different hardware interfaces as necessary. This application allows updating/configuration of the hardware for use with older applications which do not have this capability. (C)opyright 2011, P&E Microcomputer Systems, Inc. http://www.pemicro.com		
1. Select Hardware Type : OSBDM/OSJTAG - Embedded debug circuitry in Freescale Tower boards 💌		
Freescale embeds an open source debug processor in many of it's Tower cards and Demonstration boards. P&E has taken a leading role, along with the open source community, in maintaining and updating the firmware of this hardware. This utility allows updating of the firmware of these boards. The Multilink Universal is a much higher speed, more fully featured, interface designed to work either with the tower cards or the user's own target hardware.		
Information : Click this link for more information on this hardware		
2. Select Device : Embedded CFV234 OSBDM/OSJTAG Device (Firmware Version 30.7) Refresh list of devices		
3. Select Architecture to Support : ColdFire V234		
 4. Firmware File Selection : Automatic osbdmens_embedded_cfv234.3007 Choose Firmware Update File or S-Record Select Unselected 		
Update Firmware Ready		

Click on "Update Firmware" to update the firmware. It will prompt you to disconnect the USB cord from your computer, and then short the JM60 boot loader jumper header for your particular board. It is the jumper labelled **BTLD** on the silk screen. For example, on the TWR-MCF52259 it is J20. On the TWR-MCF51CN it is J16. On the MCF52259DEMO it is J5. Then re-connect the board to your computer.

The firmware will then be updated on your board. When it is finished, it will prompt you again to disconnect the USB cable, remove the jumper, and then re-connect the board again. OSBDM is now updated.



Bootloader Errata:

OSBDM releases prior to 20.1 have a bug in the OSBDM bootloader. The OSBDM firmware can only be updated one time if using the bootloader. During that initial upgrade, the bootloader is corrupted, and later upgrades to future versions are not possible using the above steps.

A work-around if you wish to upgrade again is to program the OSBDM firmware using a P&E USB Multilink tool for S08/V1 devices. This will allow you to update to the bootloader section of the OSBDM firmware, and thus fix the bootloader bug. Use the 6-pin header footprint labeled **OS_BDM** to update the JM60 using this method.

This bootloader bug affects only affects MCF52259DEMO, TWR-MCF52259, and TWR-MCF51CN128 boards sold prior to May 2010.

Open the **P&E Firmware Recovery Utility** and click on the **Select...** button to choose the correct version of OSBDM for your board. For the TWR-MCF52259 and MCF52259DEMO boards, that would be **osbdm-jm60_cfv234_emb_build26_rev0.s19**. For the TWR-MCF51CN128 it would be **osbdm-jm60_cfv1_build26_rev0.s19**.

Connect the P&E USB Mulitlink to the OS_BDM header on the board, and then click on Update Firmware. After programming, it will display "Success"

😽 OSBDM Firmware Update Utility - Version 1.03	- http://www.pemicro.com 📃 🗖 🔀
Update Methodology Use a P&E USB Multilink (USB-ML-12E), or a USB Multilin OSBDM/OSJTAG firmware	ik Universal, to update the embedded
This is a fail safe way to reprogram the firmware existing in an OS blank OSBDM JM60 device with the selected firmware. This requ	BDM design. This method will re-program a working, corrupted, or uires a P&E USB Mulitlink.
The P&E USB Multilink should be connected via a USB cable to cable. Make sure to connect it to the 6-pin header used to progra headers on a reference or tower design). Make sure the OSBDM illuminated which indicates power is detected on the OSBDM de:	the PC and connected to the OSBDM design via the six pin ribbon am the OSBDM 9S08JM60 device (often there will be multiple 6 pin design has power. The yellow LED on the Multilink should be sign.
Firmware file to program : osbdm-jm60_cfv234_emb_build Select	d26_rev0.s19
Current Status of the P&E Programmer Not Running.	
-Last result of P&E Programmer Success.	Show Logfile
Update Firmware	Copyright 2010, P&E Microcomputer Systems, Inc http://www.pemicro.com

Thank you again for your interest in Freescale solutions!