

# 4 mHz JM60 Bridge

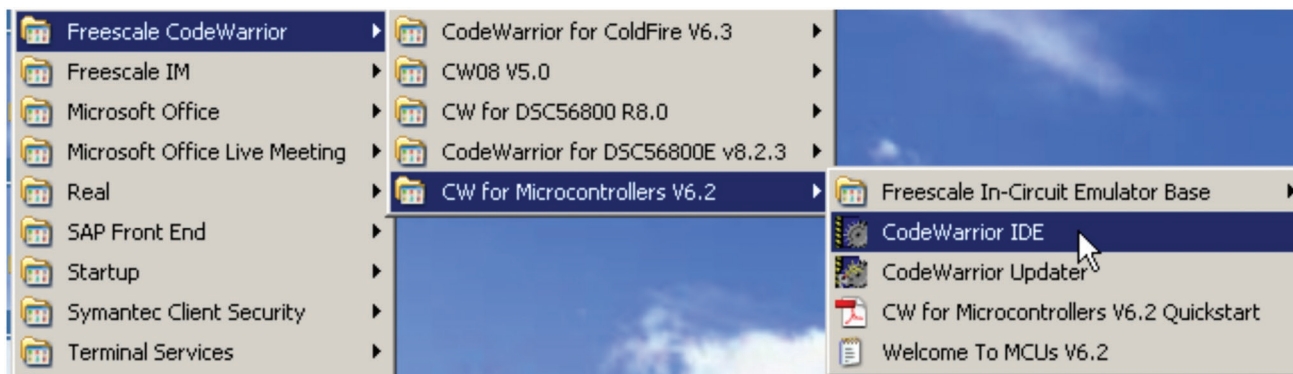
No re-flash of the S08JM60 device should be required unless the desired serial port functionality is not installed. (Some early prototypes may need to be re-flashed). The following pages also cover the USB device driver.

**Skip this page unless you need to re-flash the S08JM60.**

Obtain and install CodeWarrior for Microprocessors Version 6.2. Only S08JM60 needs to be re-flashed.

**Skip this step if no re-flash of the S08JM60 device is required.**

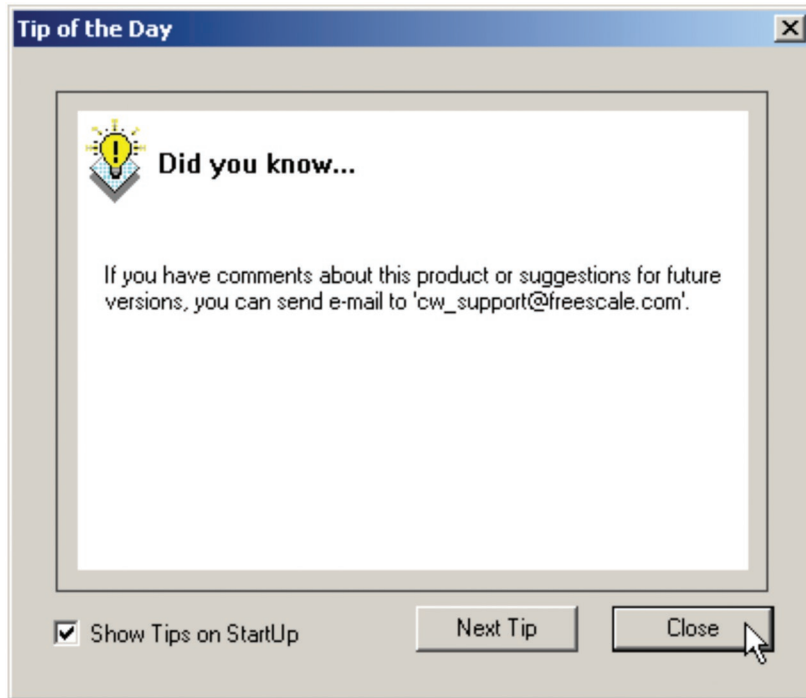
- From the Windows Start Menu, open the IDE for the S08JM60 device
- You will need a USB multilink interface
- Connect this between your PC USB and JM60 DEBUG connector on MC56F8006DEMO, also shunting J3



**Skip this step if no re-flash of the S08JM60 device is required. You may close this tutorial menu.**

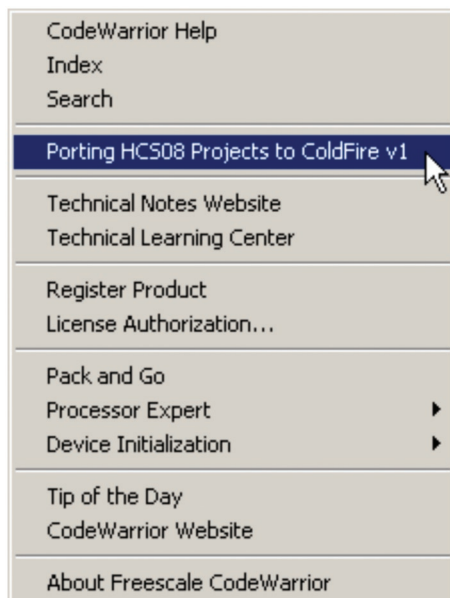


Skip this step if no re-flash of the S08JM60 device is required. You may close this tutorial menu.



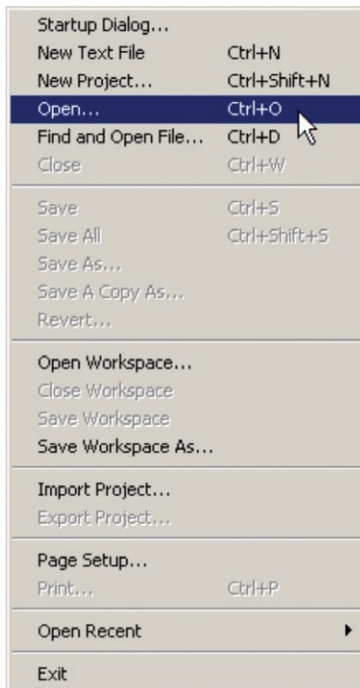
**Skip this step if no re-flash of the S08JM60 device is required**

- Select "Help" to verify correct CodeWarrior version for S08JM60
- If the HCS08 is not mentioned as below, restart this lab from the beginning



### Skip this step if no re-flash of S08JM60 device is required

- Open the Demo Project
  - Ctrl+O
  - or, open File menu and click "Open"
- This will allow a selection of the project to re-flash the S08JM60 with the USB/SCI bridge firmware that can adapt to baud rate settings of programs such as HyperTerminal, part of Windows on a PC



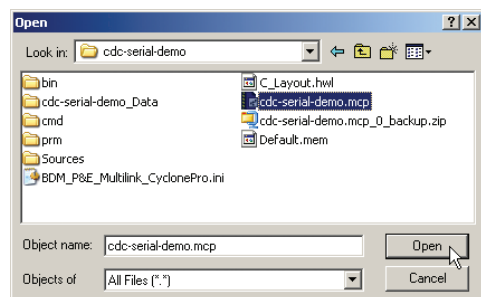
### Skip this step if no re-flash of the S08JM60 device is required

- Browse to the lab subdirectory for the CDC serial demo
- This directory contains the .mcp file for the S08JM60 firmware that you will reflash into the S08JM60, erasing the OSBDM firmware and replacing it with a more flexible serial link firmware
- CW 8.2.3 does not support OSBDM, so this will not need to be undone

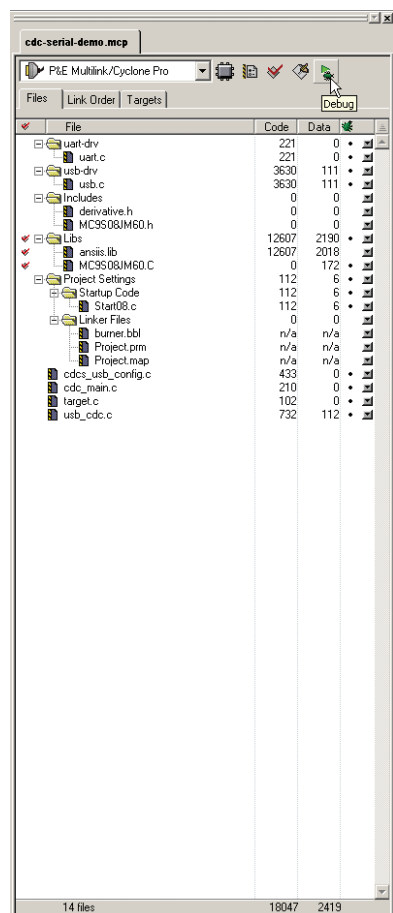


**Skip this step if no re-flash of the S08JM60 device is required**

- Select cdc-serial-demo.mcp
- The .mcp file is the access point for project work to reflash the S08JM60 device on the MC56F8006DEMO USB port
- It is dedicated to this USB port, and gets its power from that port as well
- Power it up by connecting a USB cable from your PC to the USB port of the MC56F8006DEMO
- A second USB cable will be used to connect the multilink to your PC
- These connections must be made at the same time, so two USB cables are required for this lab

**Skip this step if no re-flash of the S08JM60 device is required**

- Inspect the file derivative.h to make sure it appears as in the next page. If not, make it so.
- Click the "Debug" button



## Skip this step if no re-flash of the S08JM60 device is required

- Add the blue text if missing

```

/*
 * Note: This file is recreated by the project wizard whenever the MCU is
 * changed and should not be edited by hand
 */

/* Include the derivative-specific header file */
#include <MC9S08JM60.h>

#define _stop asm ( stop; )
/*!< Macro to enter stop modes, STOPE bit in SOPT1 register must be set prior to executing this macro */

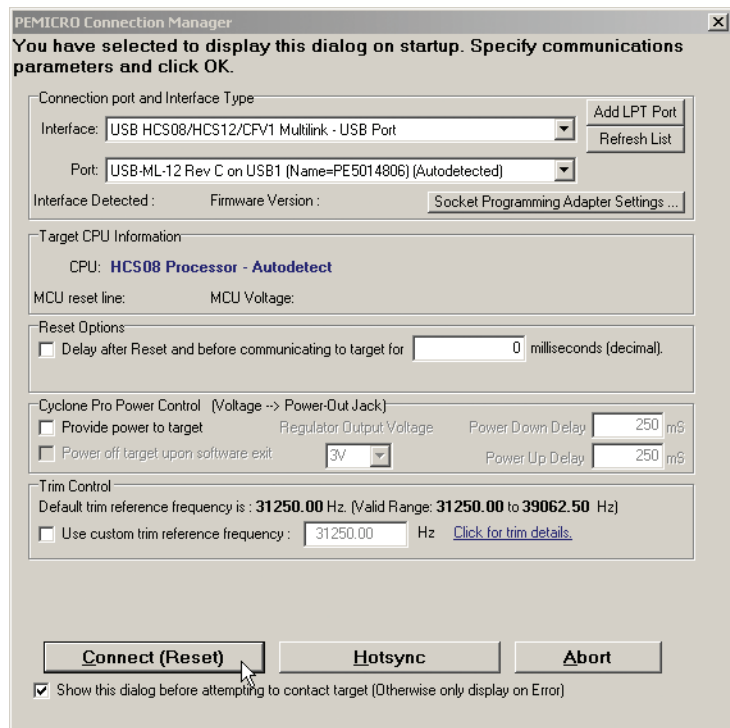
#define _wait asm ( wait; )
/*!< Macro to enter wait mode */

/* Include the derivative-specific header file */
#define BIT0 (1u<<0)
#define BIT1 (1u<<1)
#define BIT2 (1u<<2)
#define BIT3 (1u<<3)
#define BIT4 (1u<<4)
#define BIT5 (1u<<5)
#define BIT6 (1u<<6)
#define BIT7 (1u<<7)

```

## Skip this step if no re-flash of the S08JM60 device is required

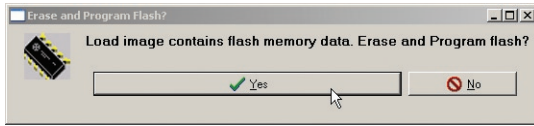
A screen similar to this will appear:



- Did you remember to power the JM60 with a USB cable from your PC to the USB port of the MC56F8006DEMO?
- It is not an option to supply power to the target through the multilink with the MC56F8006DEMO, so make sure this option is not selected. To begin the reflash of the JM60, click "Connect" (Reset)

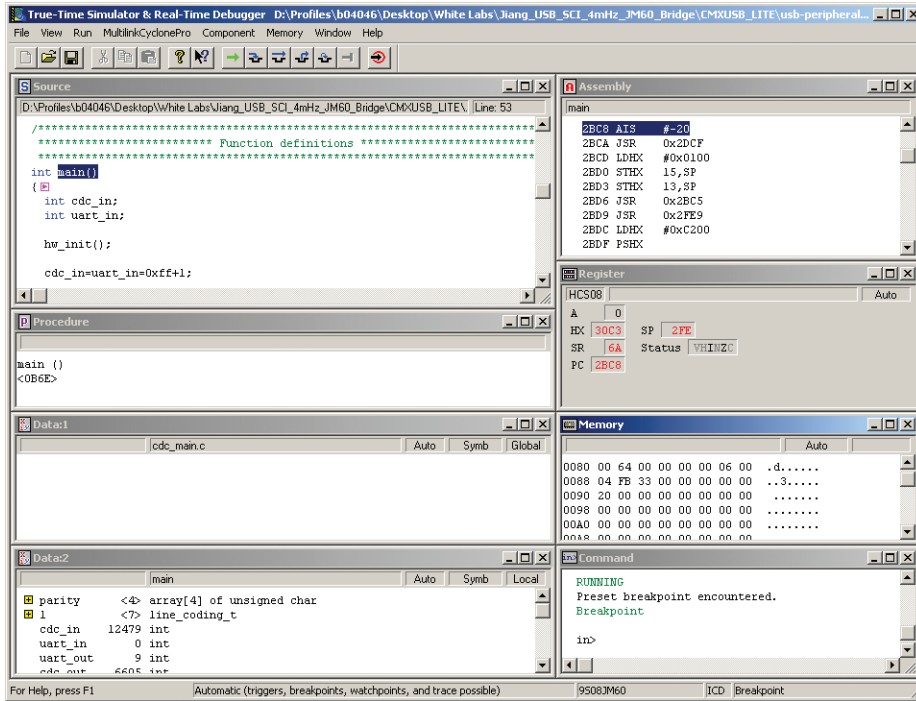
### Skip this step if no re-flash of the S08JM60 device is required

- Erase flash and replace it with USB serial port firmware that can be used with such applications as:
  - Hyperterminal for Windows
  - Freescale's FreeMASTER



### Skip this step if no re-flash of the S08JM60 device is required

The following illustration shows that the reflash was a success

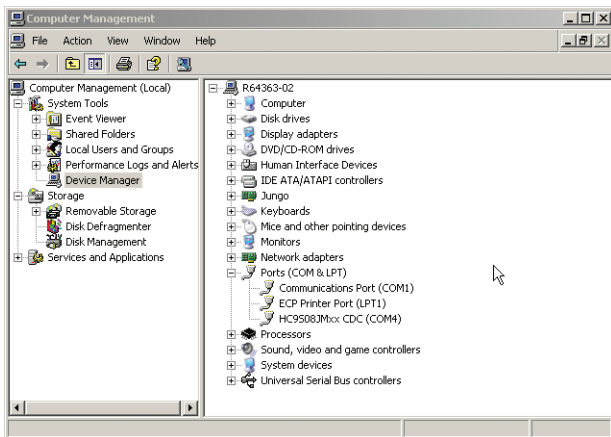
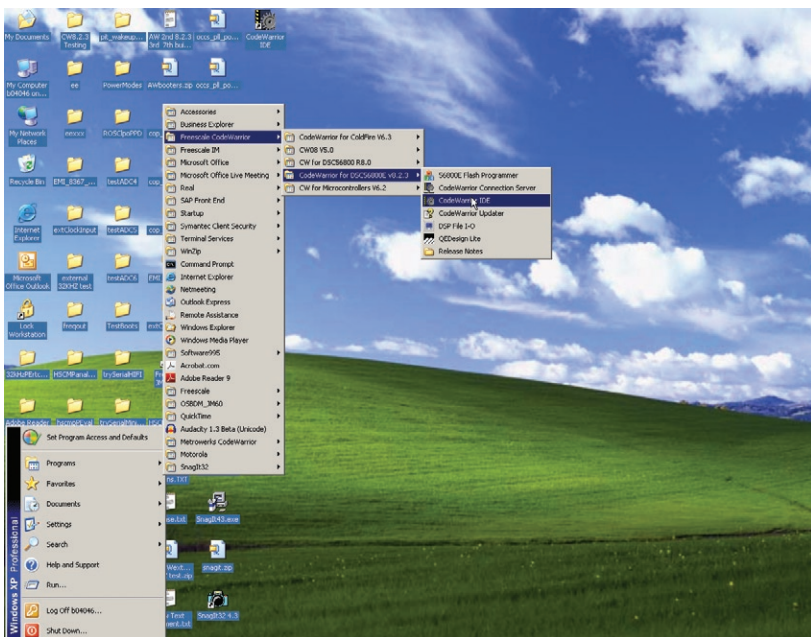


### Skip this step if no re-flash of the S08JM60 device is required

- Close all CodeWarrior windows and projects
- Close CodeWarrior for Microprocessors
- Open CodeWarrior for DSC 8.2.3
- Remove USB cable from MC56F8006DEMO
- Replace USB cable to MC56F8006DEMO and respond to Windows finding new device

### New USB device driver

- The host PC will recognize the new USB device and let you locate the directory of the device driver
- Please browse (or use this link) to "...\\CMXUSB\_LITE\\usb-peripheral\\src\\hc9s08\\cdc-demo" as the device driver directory which contains the driver installation information. Click "OK" to begin installation of the driver

**Note: HC9S08JMxx CDC****Try it: from Windows Start Menu**

Launch the IDE for the Freescale DSC, MC56F8006

**Configure the MC56F8006DEMO**

- Install shunt on JP3 to power the 8006
- Leave or reconnect the USB cable from the PC to the MC56F8006DEMO card
- Attach the USB-TAP to the JTAG connector of the 8006DEMO card and to the PC USB connection
- Connect pins 1 and 2 for both RX\_EN and TX\_EN on the 8006DEMO card

**Run the sci\_echo\_56f8006 demo**

- This demo will be opened with CodeWarrior for DSC 8.2.3 and the debug button used to load it into the 8006
- After loading and running or power cycling the board, characters typed on HyperTerminal will echo back
- Configure HyperTerminal to match the bit rate of the SCI in the DSC project (38400), to 8 bits 1 stop and no flow control