



MCF54x5 LogicLoader Procedures

Application Note 257

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REVISION HISTORY

REV	EDITOR	DESCRIPTION	APPROVAL	DATE
A	Aaron Stewart	Release	BDR	08/20/2004
B	Bruce Rovner, James Wicks, Aaron Stewart	Updates for new boot flash base address; added baud rate note to Section 2.1; added note to Section 2.3 step 3; updated for LoLo version 1.5.2, added Freescale link	ME	12/3/2004

1 Introduction

This application note describes three different options for restoring or updating the software on your kit:

- Logic Product Development's LogicLoader Section 2.1
- Freescale's m54x5evbup Updater Section 2.2
- Freescale's dBUG (only used for updating LogicLoader) Section 2.3

Important Note: *If the software on your board has been completely erased, you must use the steps outlined in Section 2.2, "Using S-Record Files with Freescale's m54x5evbup Updater."*

The directions herein assume that you are familiar with the *Zoom ColdFire Development Kit QuickStart Guide* and with using LogicLoader.

1.1 Instructions and Background Information

ColdFire Development Kits are shipped with dBUG starting at 0xff800000 in boot flash and LogicLoader starting at 0xff840000. Please use the procedures outlined in this application note to update or restore the software on your kit should those files get damaged or erased.

Please locate the group of S-record files and a readme.txt file available for download on our download site at <http://www.logicpd.com>. In order to access these files, you must first register your kit. Please consult the readme.txt file so that you can map the part number based filenames of the S-record files to the description of their contents.

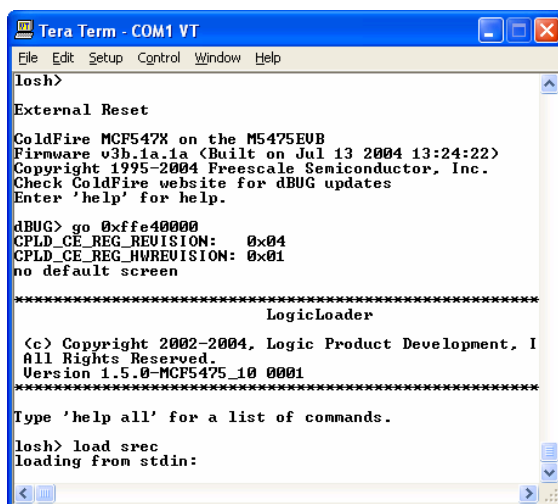
2 MCF54x5 Restore and Update Procedures

2.1 Using S-Record Files with BoLo/LoLo

This section describes how to use LogicLoader to restore or update the software on your kit. You may use LogicLoader with any S-record file. In addition to S-record files there are other file formats (.elf, .raw, .bin) supported by the 'load' command in LogicLoader. For a more detailed description of the 'load' command, please consult the *LogicLoader User's Manual*.

Note on Baud Rates: LoLo always uses a baud rate of 115200. However, the dBUG software defaults to a baud rate of 19200. Therefore you will need to adjust your terminal emulator's settings when switching between the two pieces of software. You may change dBUG's baud rate using its "set baud" command. Developers using both dBUG and LoLo may want to set dBUG to use a baud rate of 115200 to save time.

1. At the dBUG> prompt type 'go 0xff840000'. This will launch the LogicLoader software.
2. Adjust the terminal emulator's baud rate setting if necessary.
3. Once LoLo has booted up at the losh> prompt, type 'load srec' (see Figure 2.1, below).



```
Tera Term - COM1 VT
File Edit Setup Control Window Help
losh>
External Reset
ColdFire MCF547X on the M5475EUB
Firmware v3b.1a.1a <Built on Jul 13 2004 13:24:22>
Copyright 1995-2004 Freescale Semiconductor, Inc.
Check ColdFire website for dBUG updates
Enter 'help' for help.

dBUG> go 0xffe40000
CPLD_CE_REG_REVISION: 0x04
CPLD_CE_REG_HWREVISION: 0x01
no default screen

*****
                        LogicLoader
*****
<c> Copyright 2002-2004, Logic Product Development, I
All Rights Reserved.
Version 1.5.0-MCF5475_10 0001
*****
Type 'help all' for a list of commands.

losh> load srec
loading from stdin:
```

Note: LoLo version may differ from the one presented in this example image

Figure 2.1 Launching LogicLoader from dBUG, then loading an S-record file from LoLo

4. With the 'send file' function of TeraTerm, download an S-record file using LoLo. Use *Binary mode to download*. (Binary box **checked**).

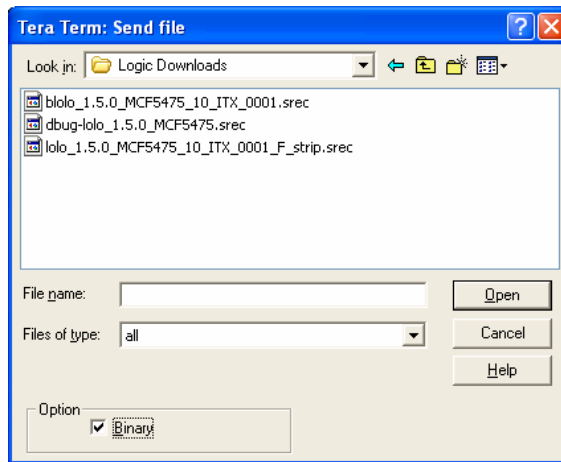


Figure 2.2 Selecting a file to send from TeraTerm using the Binary option

5. Select the S-record you want to download.
6. After the file has finished downloading, type 'burn'. If you are overwriting block 0, LoLo will insist that you answer 'y', then type 'confirm'.
7. The S-record file that you selected is now burned into flash.

2.2 Using S-Record Files with Freescale's m54x5evbup Updater

This section describes how to use Freescale's m54x5evbup Updater to restore or update the software on your kit. You may use the Updater with any S-record file. Documentation for the Updater program is available from Freescale.

1. Download the file M54X5EVBUPTATER.zip from Freescale's website at: www.freescale.com
2. Run the setup.exe application and follow the instructions contained in the readme file to correctly install the application.
3. Connect the BDM cable to your computer and your kit. If you have not previously used the BDM cable, consult the *Zoom CDK QuickStart Guide* for instructions.
4. Now run the program M54X5EVB Updater. Run the program by selecting the icon on your desktop or select: 'Start | Freescale | M54X5EVB Updater' on your menu.
5. The updater program supports both the 5475 and 5485. Hit the '...' button that corresponds to your kit to navigate to the S-record file that you want to burn to flash.
6. Power on your Freescale CDK and click the '**Update!**' button that corresponds with your kit.

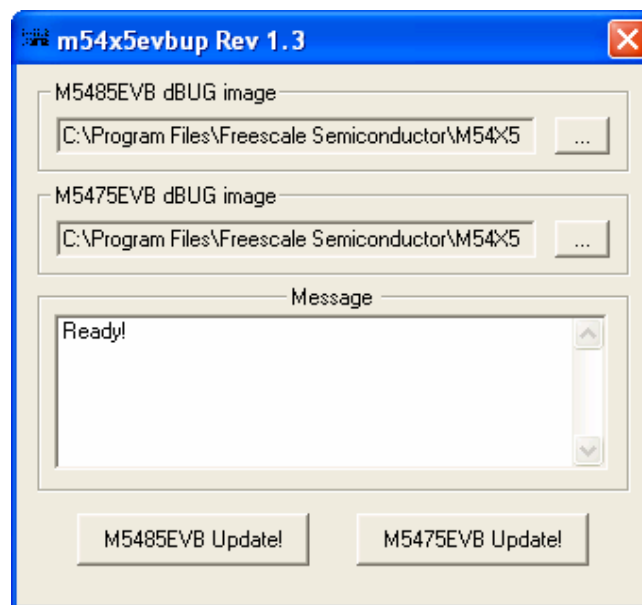


Figure 2.3 The m54x5bup Updater user interface

7. When the message window displays 'Done', the file has burned into flash.

2.3 Using the 'lolo_xxx.srec' File with dBUG

This section describes how to use Freescale's dBUG to restore or update software on your kit. These instructions show you how to restore or update LogicLoader using the dBUG program. Documentation for the dBUG program is available from Freescale.

The offset portion of the command in step one is added to the image start address in order to avoid dBUG and place the image in a safe location in ram.

1. At the dBUG> prompt type 'dl 0x800000'.
2. With the 'send file' function of TeraTerm download the S-record file using dBUG. *Use ASCII mode to download.* (Binary box **unchecked**).

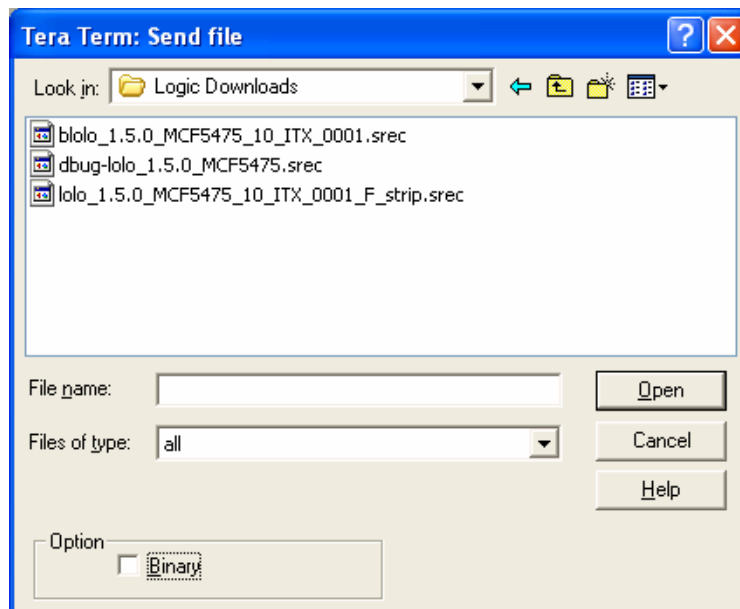


Figure 2.4 Selecting a file to send from TeraTerm in ASCII mode

3. Burn the image to flash. The length is the size of the .raw file in bytes and is listed in the 'Notes' section of the readme.txt file. At the dBUG prompt type 'fl w 0xff840000 0x40000 [length in hex]'.

Note: To derive the numbers provided in step 3, right click on the .srec file and open it with a text editor (S-record files are in ASCII).

4. When prompted to continue, type 'y'.
5. To jump to LoLo type 'go 0xff840000' (see Figure 2.5, below). If your terminal program displays gibberish, you may need to adjust the serial port settings. Please refer to the *Zoom ColdFire Development Kit QuickStart Guide* for more information.

Note: The lolo_xxx.srec is the only file in this set that is intended to be used from within dBUG.

```
Tera Term - COM1 VT
File Edit Setup Control Window Help

External Reset
ColdFire MCF547X on the M5475EUB
Firmware v3b.1a.1a <Built on Jul 13 2004 13:24:22>
Copyright 1995-2004 Freescale Semiconductor, Inc.
Check ColdFire website for dBUG updates
Enter 'help' for help.

dBUG>
External Reset
ColdFire MCF547X on the M5475EUB
Firmware v3b.1a.1a <Built on Jul 13 2004 13:24:22>
Copyright 1995-2004 Freescale Semiconductor, Inc.
Check ColdFire website for dBUG updates
Enter 'help' for help.

dBUG> go 0xffe40000
CPLD_CE_REG_REVISION: 0x04
CPLD_CE_REG_HWREVISION: 0x01
no default screen

*****
                        LogicLoader
*****

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Version 1.5.0-MCF5475_10 0001
*****

Type 'help all' for a list of commands.

losh> █
```

Figure 2.5 Launching LogicLoader from the dBUG prompt

3 Summary

This application note has described three different ways to accomplish a software update or restoration on a Freescale development kit. The first two methods, LogicLoader and the Updater, will work for any S-record file. The third option, dBUG, may be used to update or restore LogicLoader.