



3Com MSR Family Release Notes Software Version 5.20

**3Com MSR Models 20-20, 20-21, 20-40, 30-16, 30-20, 30-40,
30-60, 50-40, 50-60**

Software Version 5.20 Release 1508

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1. Introduction

1.1 Scope

These release notes summarize the operational requirements and known issues for the new 3Com MSR software releases listed in Table 1.

This software release does not apply to previous router releases and past router products are not related to this new series. Software from this release will not operate on older 3Com routers and is not supported on any routers but this new release.

Table 1: Software Release v5.20 Release 1508

Software Release Filenames	Description
MSR50-CMW520-B1508P01-SI.BIN	The software agent which runs on the MSR50 (including bootrom)
MSR30-CMW520-B1508P01-SI.BIN	The software agent which runs on the MSR30 (including bootrom)
MSR3016-CMW520-B1508P01-SI.bin	The software agent which runs on the MSR3016 (including bootrom)
MSR20-CMW520-B1508P01-SI.BIN	The software agent which runs on the MSR20 (including bootrom)

Table 2: Supported Routers

MSR 20-20
MSR 20-21
MSR 20-40
MSR 30-16
MSR 30-16 POE
MSR 30-20
MSR 30-20 POE
MSR 30-40
MSR 30-40 POE
MSR 30-60
MSR 30-60 POE

MSR 50-40 Chassis

MSR 50-60 Chassis

1.2 Online Resources

Visit the 3Com web site for the latest documentation and software updates: www.3Com.com

- Obtain a copy of the 3Com MSR *Installation Guide*, *Command Reference Guide*, or *Configuration Guide*.
- Obtain current software updates (maintenance releases) and associated release notes for the 3Com MSR and other 3Com products.

1.3 System Requirements

The 3Com MSR has these minimum requirements for successful operation:

- 3Com MSR Chassis
- Power Supply
- Loadable software image (includes bootrom)
- Supported Modules as needed

MSR Standard Encryption Accelerator
MSR Advanced Encryption Accelerator
MSR 8-Channel Voice Processor Module
MSR 16-Channel Voice Processor Module
MSR 24-Channel Voice Processor Module
MSR 32-Channel Voice Processor Module
MSR Voice Co-Processor Module
MSR OSM MIM (D:80/M:512/F:256)
MSR OSM FIC (D:80/M:512/F:256)
MSR OSM FIC (D:80/M:1024/F:256)
Router 1-Port 10/100 SIC
Router 1-Port Enhanced Serial SIC
Router 1-Port ADSL2+ SIC
Router 1-Port Fractional T1 SIC

Router 1-Port Fractional E1 SIC
Router 1-Port Analog Modem SIC
Router 1-Port FXS SIC
Router 2-Port FXS SIC
Router 1-Port FXO SIC
Router 2-Port FXO SIC
Router 4-Port 10/100 SIC
Router 4-Port 10/100 POE SIC
Router 9-Port 10/100 DSIC
Router 9-Port 10/100 POE DSIC
Router 1-Port 10/100/1000 SIC
Router 1-Port E1-Voice SIC
Router 1-Port T1-Voice SIC
Router 1-Port ISDN-S/T SIC
Router 1-Port ISDN-U SIC
Router 2-Port 10/100 MIM
Router 2-Port Enhanced Serial MIM
Router 4-Port Enhanced Serial MIM
Router 2-Port CE1/PRI MIM
Router 4-Port CE1/PRI MIM
Router 4-Port ISDN-S/T MIM
Router 1-Port G.SHDSL MIM
Router 2-Port FT1/CT1/PRI MIM
Router NDEC2 Encryption Accelerator MIM
Router 1-Port 10/100/1000 MIM
Router 1-Port FT3/CT3 MIM
Router 1-Port GbE Fiber MIM
Router 1-Port FE3/CE3 MIM
Router 4-Port E1 IMA MIM
Router 4-Port T1 IMA MIM
Router 2-Port FXS MIM

Router 4-Port FXS MIM
Router 2-Port FXO MIM
Router 4-Port FXO MIM
Router 2-Port E&M MIM
Router 4-Port E&M MIM
Router 16-Port 10/100 MIM
Router 16-Port 10/100 POE MIM
Router 24-Port 10/100 DMIM
Router 1-Port E1-Voice MIM
Router 1-Port T1-Voice MIM
Router 2-Port E1-Voice MIM
Router 2-Port T1-Voice MIM
Router 24-Port 10/100 POE DMIM
Router 1-Port E1-Voice FIC
Router 1-Port T1-Voice FIC
Router 2-Port E1-Voice FIC
Router 2-Port T1-Voice FIC
Router 4-Port FXS FIC
Router 4-Port FXO FIC
Router 4-Port E&M FIC
Router 2-Port 10/100 FIC
Router 1-Port 10/100/1000 FIC
Router 1-Port GbE Fiber FIC
Router 16-Port 10/100 FIC
Router 16-Port 10/100 POE FIC
Router 24-Port 10/100 DFIC
Router 24-Port 10/100 POE DFIC
Router 4-Port Enhanced Serial FIC
Router 8-Port Enhanced Serial FIC
Router 4-Port CE1/PRI FIC
Router 8-Port CE1/PRI FIC

Router 4-Port Fractional E1 FIC
Router 4-Port FT1/CT1PRI FIC
Router 4-Port Fractional T1 FIC
Router 4-Port ISDN-S/T FIC
Router 4-Port E1-IMA FIC
Router 4-Port T1-IMA FIC
Router 1-Port FE3/CE3 FIC
Router 1-Port FT3/CT3 FIC
Router 1-Port E3 ATM FIC
Router 1-Port T3 ATM FIC
Router 1-Port OC-3 POS FIC
Router 1-Port OC-3 ATM MM FIC
Router 1-Port OC-3 ATM SM FIC
Router 1-Port OC-3 ATM SML FIC

2. Known Issues for 3Com MSR

2.1 System Management

- The "Remove Slot" command does not remove the module from the H/W inventory list.
- The rlogin command is not supported.
- FTP clients cannot list a directory when the FTP server is not listening on port 21. 3Com recommends that you always configure to port 21.

2.2 Interface Management

- If incoming packets are dropped due to the CPU overloading, the dropped packets are not counted or recorded.
- If load-sharing is configured, packets are counted but the number of flows is not.
- Some CLI commands are only available for certain interfaces, (for example, router or bridge interfaces). If one of these commands is entered from the CLI, but an appropriate interface is not installed, the error message 'unrecognized command' will be displayed.
- 4-Port FSW and 9-Port FSW modules support port mirroring in inbound direction only.

2.3 Link Layer Protocol

- Link auto-negotiation does not succeed between PC and 4FSW / 9FSW SICs if the PC uses the Intel i82555 chipset. Use fixed speed/duplex option in this case.

- Fiber GigE links do not support bridge port link mode.
- GigE combo port is not auto-detectable. By default the port mode is set to copper. If the SFP interface is to be used this must be configured.
- Layer2 FSM modules on different slots cannot communicate with each other.
- In addition to DSS1, QSIG master (network side) is supported on T1 interfaces.

2.4 Network Protocol

- There is a new RIP timer option, "suppress" under the RIP process ID, which is defaulted to 120 seconds. By setting the suppress timer to 0, the RIP route table can get updated immediately.
- The Linux network stack on the OSM module does not fragment packets by default. 3Com therefore recommends that applications running on the OSM do "not" use large packets that require fragmentation.
- SIP and H.323 NAT ALG are not supported. Since ALG is not supported, embedded IP addresses in SIP & H323 do not get translated.
- DHCP will not work for devices attached to interfaces placed in a bridge-set.
- DHCP relay does not work with the Bridge-Template interface.

2.5 Routing Protocol

- This release does not include commands to reset the IPv6-OSPFv3, IPV6-RIPng, and IPv6-ISIS processes or statistics.
- Using a non-existing OSPFv3 process ID in the router configuration does not generate an error message. For example:

```
[5760-GigabitEthernet0/0.1]dis ospfv3 20
Info: No such OSPFv3 process
[5760-GigabitEthernet0/0.1]ospfv3 20 area 10
[5760-GigabitEthernet0/0.1]
```
- Pointing a static route out a physical interface will not work for any network type except a point-to-point network.

2.6 Multicast Protocol

- Multicast is not supported with VLAN interfaces.
- IGMP is not supported in a bridge template.

2.7 Quality of Service (QoS)

- NQA does not support hostnames. Use IP addresses instead.

2.8 MPLS

- The command 'debug mpls ldp pdu interface yyy x/x' will not display received hello messages. The command, without the interface specified (i.e. 'debug mpls pdu), will display received hello messages for all MPLS interfaces.

2.9 Voice and Router Inter-Operability - VCX and NBX issues

- SIP Statistics do not show error events.
- Attendant Call Transfer fails when the destination phone is in the busy state with call waiting enabled.

2.10 Documentation Errors

- Port-id is not required to configure a monitor port in a mirror group.

2.11 Hardware

- The Power Cord Strain Relief Clip that is included in the MSR packaging is designed to be used only in China. Please discard this clip if you are using the product outside of China.

3. Upgrading Software

This section describes how to upgrade the software in your 3Com Router.

3.1 Upgrading with FTP

Use the following procedure to upgrade the software with FTP:

Note: *You must have level 3 privileges.*

- 1 In the User View, enter: ftp <server ip address or hostname>.
 - a. Login to the server.
 - b. Set the transfer mode to binary.
 - c. Use the "get" command to download the new image.
 - d. Exit ftp.
- 2 Remain in the User View.
- 3 Set the router to boot from the new image using "boot-loader file <filename> main".
- 4 Answer "Y" to the confirmation question.
- 5 Reboot the router.

The following example illustrates this procedure:

```
<MSR-50>ftp 172.16.1.254
Trying 172.16.1.254 ... Press CTRL+K to abort Connected to 172.16.1.254.
220 181NAT Microsoft FTP Service (Version 5.0).
User(172.16.1.254:(none)):anonymous
331 Anonymous access allowed, send identity (e-mail name) as password.
Password:
230 Anonymous user logged in.
[ftp]binary
200 Type set to I.
[ftp]get msr50-cmw520-b1508p01-si.bin
200 PORT command successful.
150 Opening BINARY mode data connection for msr50-cmw520-b1508p01-si.bin
(18337204
bytes).
.....226
Transfer complete.
```

```
FTP: 18337204 byte(s) received in 93.557 second(s) 196.00K byte(s)/sec.
[ftp]quit
221
<MSR-50>boot-loader file msr50-cmw520-b1508p01-si.bin main
  This command will set the boot file. Continue? [Y/N]:y

  The specified file will be used as the main boot file at the next
reboot!
<MSR-50>reboot
```

3.2 BOOT Menu

- 1 Start the router, When "Press Ctrl-B to enter Boot Menu" appears, press <Ctrl+B>, you will be prompted to enter the Boot ROM password:

Please input Boot ROM password:

- 2 Once the correct password is entered (there is no password by default), the Boot menu is displayed, as shown below: (Note that the menu may be slightly different depending on the version of code used)

```
===== <EXTENDED-BOOTROM MENU> =====
| <1> Boot From CF Card
| <2> Enter Serial SubMenu
| <3> Enter Ethernet SubMenu
| <4> File Control
| <5> Modify Bootrom Password
| <6> Ignore System Configuration
| <7> Boot Rom Operation Menu
| <8> Clear Super Password
| <9> Device Operation
| <a> Reboot
=====
Enter your choice(1-a):
```

The Boot menu options are described in the following sections.

- 1: Boot From CF Card. (Continue to Boot as normal)
- 2: Enter Serial SubMenu. (see Section 3.3)
- 3: Enter Ethernet SubMenu. (see Section 3.5)

3.2.1 Boot Menu 4: File Control

Routers with more than 8 Mb of Flash provide a dual-image function. The system defines three default application files for booting the router (see below). When these files are loaded to Flash, the file specified by this option is used to boot the router. If you want to change the order or the boot file, you can select this option from the Boot ROM menu and make modifications.

The default names, types, and selected sequence of main, backup, and secure application files are described as follows:

- Main application file: default name is main.bin, file type M. This is the default file the system uses to boot.
- Backup application file: default name is backup.bin, file type B. This file will be used to boot system when the main file fails.

- Secure application file: default name is secure.bin, file type S. This file will be used to boot the router when the main and backup file fails. The system will display a booting failure message if the secure application file also fails.

Note:

- Only the application file types M, B, and S can be used to boot the system. Applications marked as N cannot be used to boot the router.
- The names of the applications in Flash can be modified using CLI commands after the router has started. Refer to the "System Management" document for more information on the CLI commands. The application file types M, B, and N can be modified in either the Boot ROM menu or by the CLI commands after the application is started. Modifications to the file type of applications with type S are not allowed.
- Because the secure boot file is the last file the system uses to boot properly, the file type of secure boot file is not allowed to be changed, nor is it derived from any other type of file. It can only be downloaded via the Boot ROM menu, and its name must be specified as secure.bin. If you change the file name of the secure file using rename command after the system has started, there is no secure boot file in Flash and you need to download it again.
- Only one file of each type (M, B, and S) can exist in Flash. For example, if a file of type M and a file of type B exist in Flash, it is impossible to have a second file type of M or B. If the file type of another application is to be changed to B, the existing file of type B will be changed to N.

When you select option 4 in the Boot ROM menu, the following menu appears (suppose there are four application files stored in Flash, all of which with following types:)

```
=====<File CONTROL>=====
|Note:the operating device is CF Card
| <1> Display All File
| <2> Set Application File type
| <3> Set Configuration File type
| <4> Delete File
| <5> Exit To Main Menu
=====
Enter your choice(1-5): 2
```

The following menu appears if you select 2, through which you can change the application file type of any application file:

```
Please set application file type in cf:

M=MAIN      B=BACKUP      S=SECURE      N=NOTYPE
*****
****
NO.      Size(B)      Time      Type      Name
0      16633532      Oct-20-2006 16:38      B      cf:/MAIN.BIN
1      17646396      Feb-15-2007 11:13      M      cf:/old_image.bin
2      17675028      Mar-16-2007 11:31      S      cf:/secure.bin
3      18260468      Jul-31-2007 08:44      N      cf:/msr50-cmw520-b1508p01-
si.bin
*****
****
Enter File Name: cf:/msr50-cmw520-b1508p01-si.bin
```

You must enter the filename as it appears under "Name." When the filename is validated, the following menu appears:

```
Modify this file Attribute:
  1.  +Main
  2.  -Main
  3.  +Backup
  4.  -Backup
  5.  Exit
Enter your choice(1-5):  1
```

The type of the original main file is changed to N., and cf:/msr50-cmw520-b1508p01-si.bin will be used to boot the router.

A similar process is used to set the configuration file type

3.2.2 Boot Menu 5. Modify Bootrom Password

There is no password set to enter the Bootrom by default. Use this option to change the password as desired.

3.2.3 Boot Menu 6: Ignore System Configuration

In this case, an ignore flag will be set in Flash, and the default factory configuration will be used for booting.

3.2.4 Boot Menu 7: Boot Rom Operation Menu

The Boot ROM menu provides two methods for upgrading the program and the Boot ROM sub-menu operations, which are described in the following subsections.

The Boot ROM Operation Option menu includes:

```
=====<BOOT ROM OPERATION>=====
|Note:the operating device is CF Card
| <1> Backup Full Boot ROM
| <2> Restore Full Boot ROM
| <3> Update Full Boot ROM With XModem
| <4> Update Extended Boot ROM With XModem
| <5> Update Basic Boot ROM With XModem
| <6> Exit To Main Menu
| Note:When Update Full/Extended/Basic BootRom,they are the
|       same file
=====
```

Enter your choice(1-6):

This menu allows you to upgrade, backup, or restore the Boot ROM program.

Exit the Boot ROM menu and reboot the router when complete.

Note: The Boot menu appears only when you press <Ctrl+B> within 3 seconds after the message "Press Ctrl-B to enter Boot Menu..." appears. If you wish to enter the Boot Menu after the program begins uncompressing, you must to reboot the router.

3.2.5 Boot Menu 8: Clear Super Password

This temporarily clears the Super Password if one exists.

3.2.6 Boot Menu 9: Device Operation

Normally not used since only one storage device is supported currently.

3.3 Upgrading Software Using Xmodem

You can use the console port to upgrade the software using Xmodem without the need to set up a network environment.

3.3.1 Upgrading the application image

- 1 Enter the Boot Menu (refer to the "Boot Menu" section) and enter <2> to download an application image using Xmodem. The router supports the following downloading speeds:

```
=====<BAUDRATE SET>=====
|Note:  Change The HyperTerminal's Baudrate Accordingly,
|       Press 'Enter' to exit with things untouched.
|-----<Baudrate Aavailable>-----
| <1> 9600(Default)
| <2> 19200
| <3> 38400
| <4> 57600
| <5> 115200
| <6> Exit
=====
Enter Your Choice(1-6):
```

- 2 Select an option, 5 for 115200 bps for example. The following appears:

Change the baudrate on PC side first!

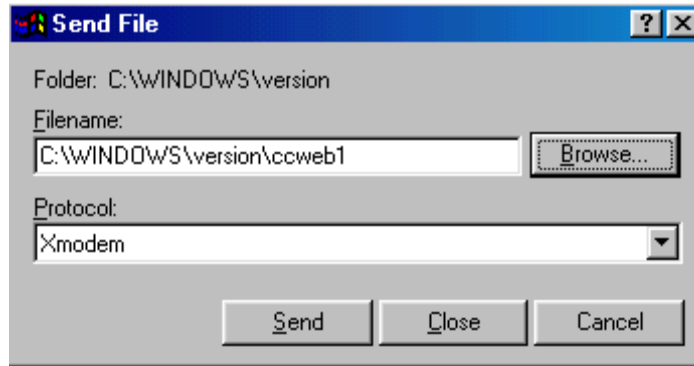
- 3 Change your terminal's baud rate to the same baud rate for software download (115200 bps in this example). After that, select [Dial-in/Disconnect] to disconnect the terminal, and [Dial-in/Dialing] to reconnect it. Then, press <Enter> to continue. The system displays:

```
The current baudrate is 115200
=====<SERIAL SUB-MENU>=====
|Note:the operating device is CF Card
| <1> Download Application Program To SDRAM And Run
| <2> Update Main Application File
| <3> Update Backup Application File
| <4> Update Secure Application File
| <5> Modify Serial Interface Parameter
| <6> Exit To Main Menu
=====
Enter your choice(1-6): 2
```

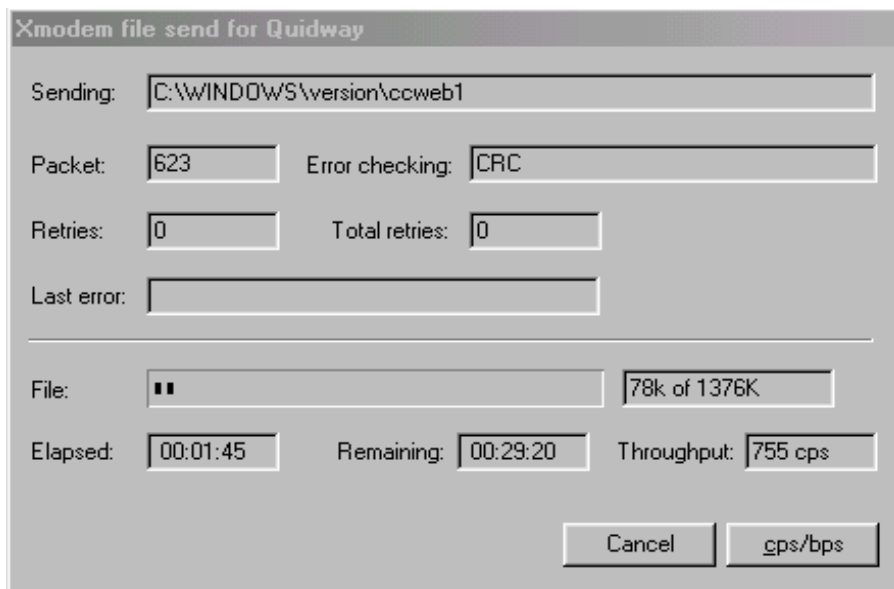
Select program file please.
Waiting...CCCCCCCCCC

Note: The new baud rate takes effect only after you reconnect the terminal emulation program.

- 4 Select [Transfer/Send File] in the terminal window. The following dialog box pops up:



- 5 Click <Browse>. Select the file to be downloaded and set protocol to Xmodem. Click <Send>. The following interface pops up:



- 6 After completing the download, the system begins writing data to Flash memory, and then displays the following information on the screen:

Download successfully!

137680480 bytes downloaded!

Input the File Name: msr50-cmw520-b1508p01-si.bin

Updating File cf:/msr50-cmw520-b1508p01-si.bin

.....

Update Success!

```
=====<SERIAL SUB-MENU>=====
|Note:the operating device is CF Card
| <1> Download Application Program To SDRAM And Run
| <2> Update Main Application File
| <3> Update Backup Application File
| <4> Update Secure Application File
| <5> Modify Serial Interface Parameter
| <6> Exit To Main Menu
=====
```

Enter your choice(1-6): 6

Select option 6 to exit to the Main Boot Menu and then reboot the router from there.

Be sure to change the baud rate of the console terminal back to 9600 bps, disconnect, and re-dial if it was changed to speed up the download. Then you can see the system reboot in progress.

3.4 Upgrading Software Using TFTP (option 1)

Use the following procedure to upgrade the software with TFTP:

- 1 You must have level 3 privileges.
- 2 In the User View, enter: `tftp <server ip address or hostname> get <filename>`.
- 3 Enter the System View.
- 4 Set the router to boot from the new image using “`boot main <filename>`”.
- 5 Exit the System View.
- 6 Reboot the router.

The following example illustrates this procedure:

```
<MSR-50>tftp 172.16.1.254 get msr50-cmw520-b1508p01-si.bin
File will be transferred in binary mode. Downloading file from remote
tftp server, please
wait.....
...../ TFTP:
18337204 bytes received in 194 second(s).
File downloaded successfully.
<MSR-50>boot-loader file msr50-cmw520-b1508p01-si.bin main
This command will set the boot file. Continue? [Y/N]:y

    The specified file will be used as the main boot file at the next
reboot!
<MSR-50>reboot
```

3.5 Upgrading Software Using TFTP (option 2)

Upgrading the application image with the Ethernet SubMenu will use an Ethernet interface to download the application. In this approach, the router is the TFTP Client and needs to connect to a TFTP Server using a fixed Ethernet interface. The following describes how to upgrade the application image with this approach:

- 1 Start the TFTP Server on the host connected to the Ethernet interface on the router. Set the path for the source file to be downloaded.

Caution: No TFTP Server is available on the routers. You must have a TFTP server available.

- 2 In the Boot Menu, select option 3 to enter the Ethernet SubMenu (shown below):

```
=====<ETHERNET SUB-MENU>=====
|Note:the operating device is CF Card                               |
| <1> Download Application Program To SDRAM And Run                 |
| <2> Update Main Application File                                   |
| <3> Update Backup Application File                               |
| <4> Update Secure Application File                               |
```

```
| <5> Change Ethernet Parameter |
| <6> Exit To Main Menu |
| < Ensure The Parameter Be Modified Before Downloading! > |
=====
Enter your choice(1-6):5
```

- 3 Select option 5 (Change Ethernet Parameter) to change the download parameters, as shown in the example below.

Note: To modify the parameter values, enter the new values next to the existing values. Do not use the Delete or Backspace key to erase the existing values.

```
Note: Two protocols for download, tftp & ftp.
      You can modify the flags following the menu except the boot
      device.
      tftp--0x80, ftp--0x0.
```

```
',' = clear field; '-' = go to previous field; Ctrl+D = quit
```

```
boot device          : mottsec0
processor number     : 0
host name            : host
file name            : msr50-cmw520-b1508p01-si.bin
inet on ethernet (e) : 172.16.1.1
inet on backplane (b):
host inet (h)        : 172.16.1.254
gateway inet (g)     :
user (u)             :
ftp password (pw) (blank = use rsh):
flags (f)            : 0x80
target name (tn)     :
startup script (s)   :
other (o)            :
```

Table 5: Description on the download parameters

Parameter	Description
Download boot device	The Ethernet port for downloading; leave the default as is. The physical port is usually the first Ethernet port(Eth 0/0 or GigE 0/0)
Download file name	Name of the image file to be downloaded.
Target file name	File name to be used on the router. If left blank, the current filename for that application type will be used
Inet on ethernet	IP address of interface eth0.
Host inet	IP address of the server where the image is stored.
Gateway inet	You must configure the gateway address if the server and the router are not located on the same segment.

- 4 When the Ethernet SubMenu is re-displayed, select option 2 (Update Main Application File) to download and write the application image to Flash memory. Depending on the running code, the system display would look something like:

```
Attached TCP/IP interface to mottsec0.
```



```
Warning: no netmask specified.  
Attaching network interface lo0... done.  
Loading...  
Done!  
18337204 bytes downloaded.  
Input the File Name: msr50-cmw520-b1508p01-si.bin  
  
Updating File cf:/msr50-cmw520-b1508p01-si.bin  
.....  
Update Success!
```

The system returns to the Ethernet SubMenu. Exit out of there and choose the "Reboot" option.

If you had selected option 1 (Download Application Program To SDRAM And Run) in the Ethernet SubMenu to directly download the application to the RAM and run it there, the downloaded application image cannot survive a reboot because the application is not written to Flash memory.

Note: Upon completion of an application image upgrade, the router reboots and checks the Boot ROM version for consistency. If the version of the current extended Boot ROM image segment is not the same as that of the extended segment to be started, the system automatically updates the Boot ROM image, and displays "Upgrade Bootrom.....! Download completed. Please wait, it needs a long time ##### Writing into Boot ROM Succeeds." The system will then continue the boot process.