

# FRM220 NMC-R3 Online Upgrade Procedure

The information within this document is intended for experienced service personnel with knowledge of TCP/IP networking, PC networking configuration and operation.

Failure to follow steps precisely could leave the flash on the embedded device in an unusable state, requiring further recovery assistance.

Failure of boot code upgrade requires the factory to physically replace the flash chip, which is a surface mounted component, soldered with RoHS compliant materials (non-lead).

Please be warned and please be careful. **Stable AC power is a MUST!! during flash update**

**Prerequisites:**

- FRM220 Chassis with NMC-R3, (This is third hardware release version of NMC /w 64MB DDR)
- Notebook or PC, TCP/IP ready
- Web Browser (Chrome, Firefox, or IE)
- TFTP server (Free/Open Source Tftpd32 by Ph. Jounin)
- Upgrade firmware, for version 5.xx, released as 'kernel28580.gz' and 'romfs5xx.gz' files which are Unix GZIPped image files (DO NOT UNZIP these files.)

**Important Notice:**

The FRM220 system has been designed for non-stop operation. Un-seating the NMC card, rebooting the card, performing online upgrades WILL NOT affect any other line cards or their traffic. During NMC upgrade, DO NOT power off the chassis (or all line card settings could be lost). During the flash procedure, DO NOT close the web browser window or pull or insert any line cards in the running chassis.

**Online Upgrade Procedure:**

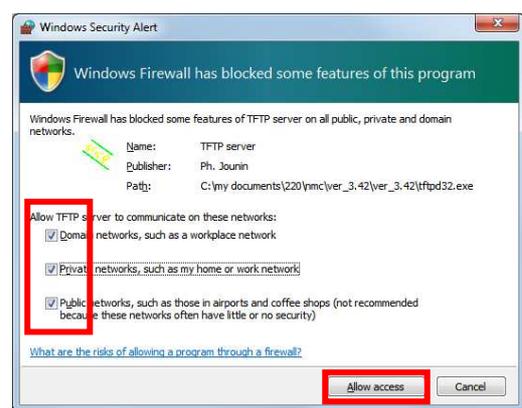
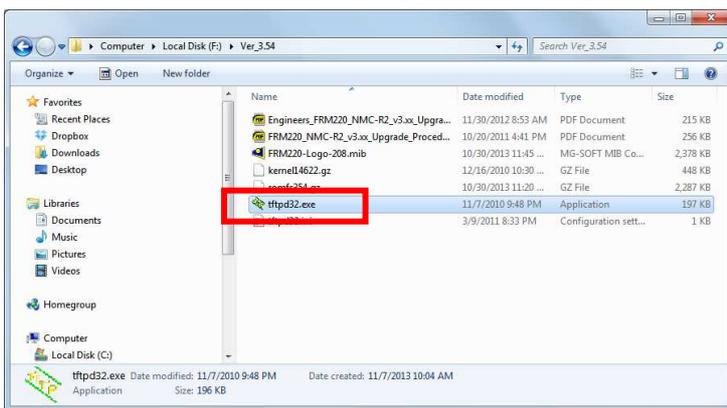
1. Connect the NMC-R3's RJ-45 Ethernet port to the desktop's or Laptop's Ethernet LAN port. Configure TCP/IP settings on the PC as follows: (assumes the NMC card has factory default IP of 192.168.1.1)

- a. static IP 192.168.1.100
- b. subnet mask 255.255.255.0

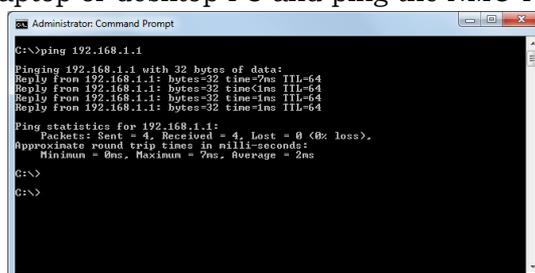


**Notice:** Configure Laptop TCP/IP settings specifically for the network environment, if the NMC is not the factory default IP address. If changing any TCP/IP settings on the NMC, be sure to reboot so those changes become active.

2. Start the TFTP application program by double-clicking it. It was extracted with the upgrade package. If the firewall complains, select 'Allow access'. Make sure the kernel and romfs 'gz' files are located in the same directory as the TFTP application program.

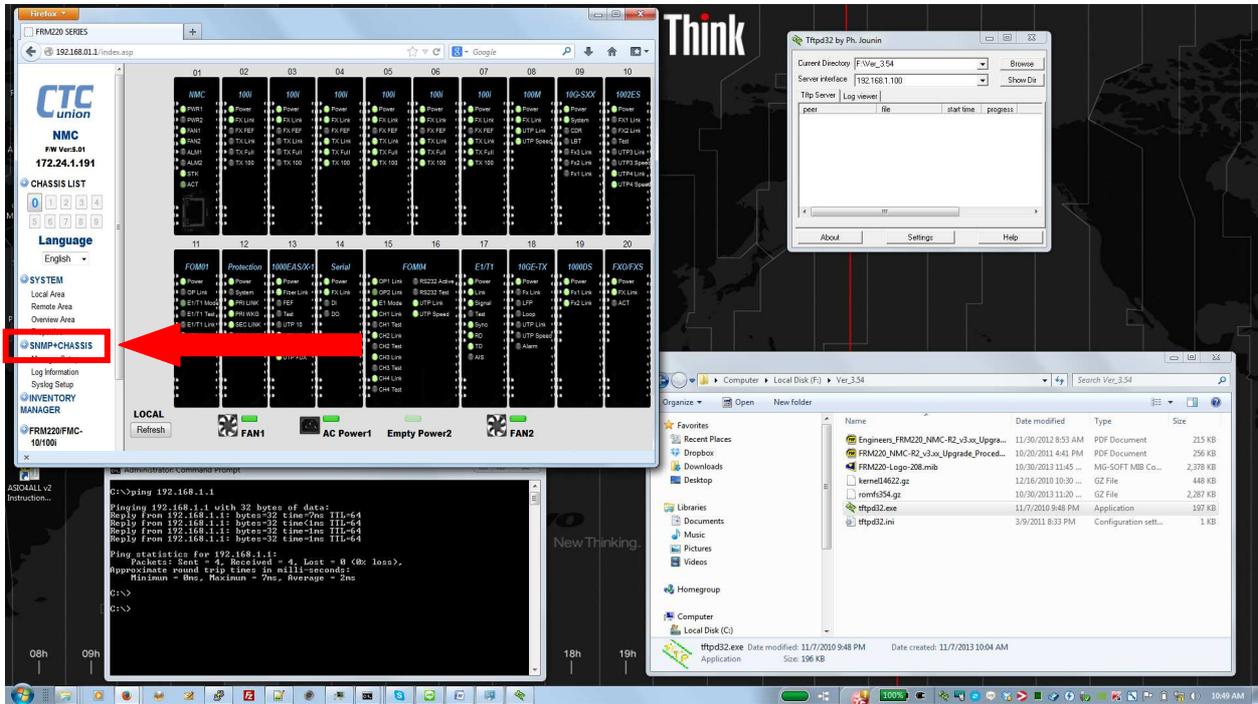


3. Open a command window on the laptop or desktop PC and ping the NMC-R3. Make sure the network connection works and is reliable.

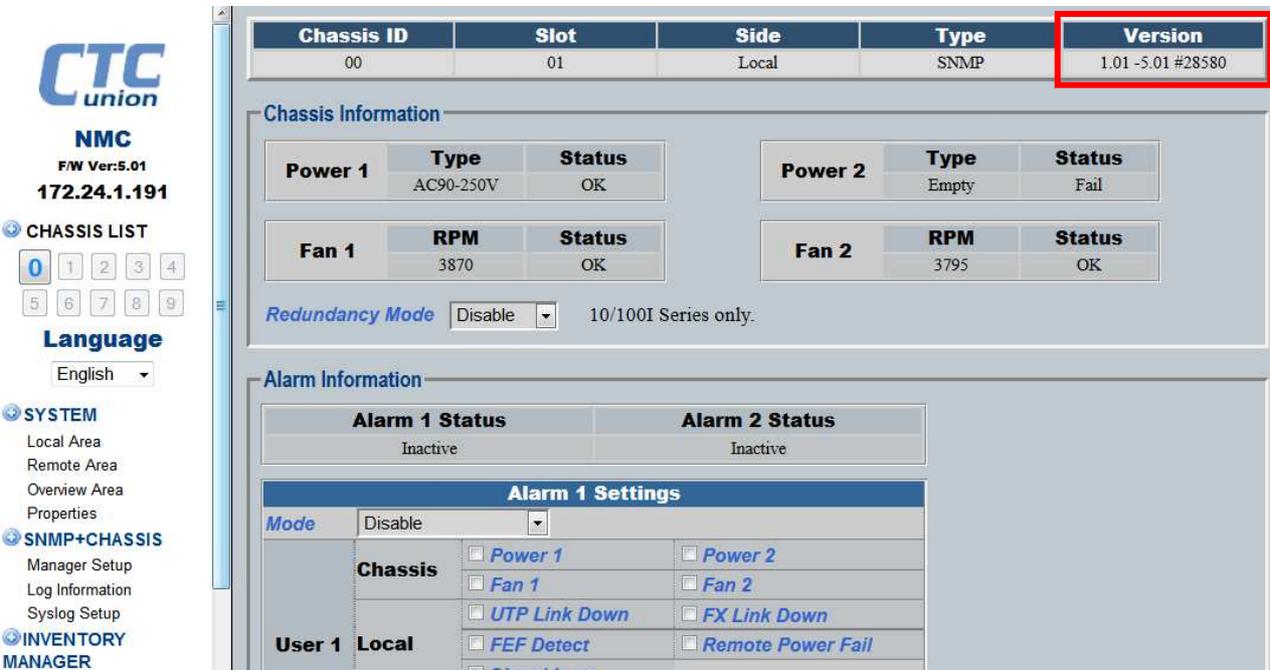


**Check the current NMC-R3 Kernel and Filesystem versions.**

4. Using the web browser of your choice, key in the IP address of the NMC-R3 in the location bar of the browser. Enter any login credentials, if they have been set.



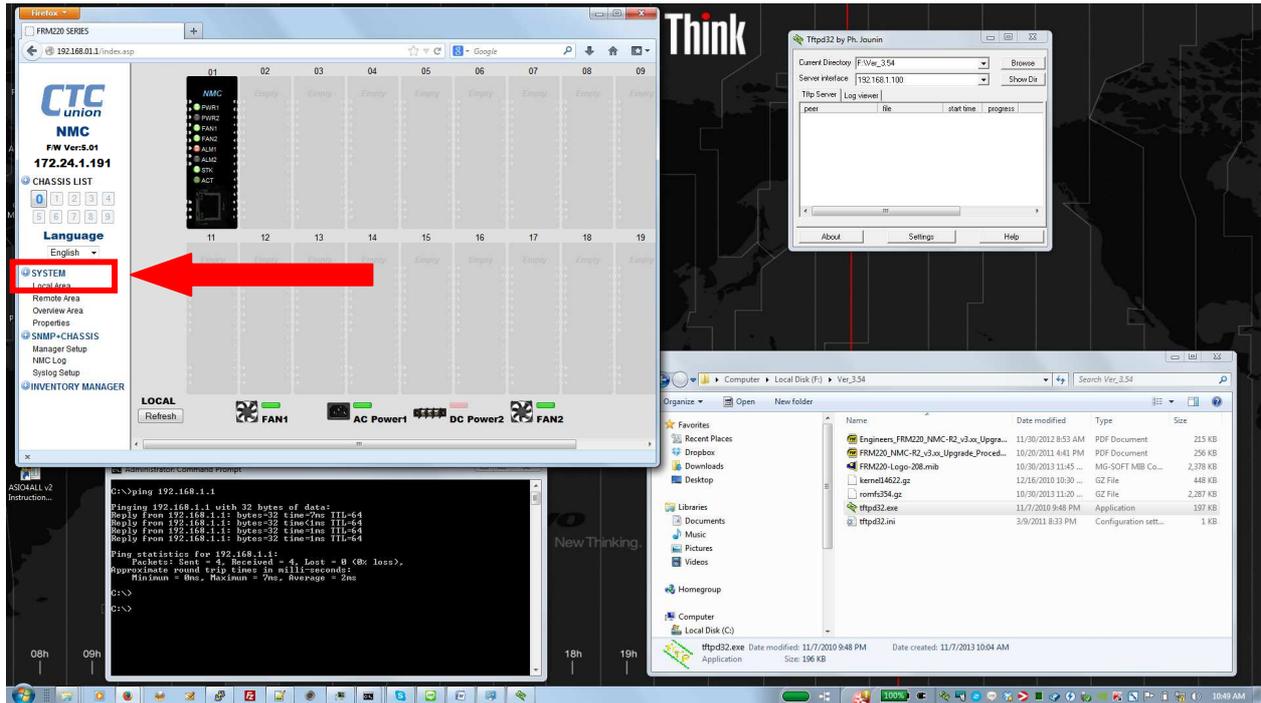
5. From the left menu of NMC web GUI, select the "SNMP+CHASSIS" item.



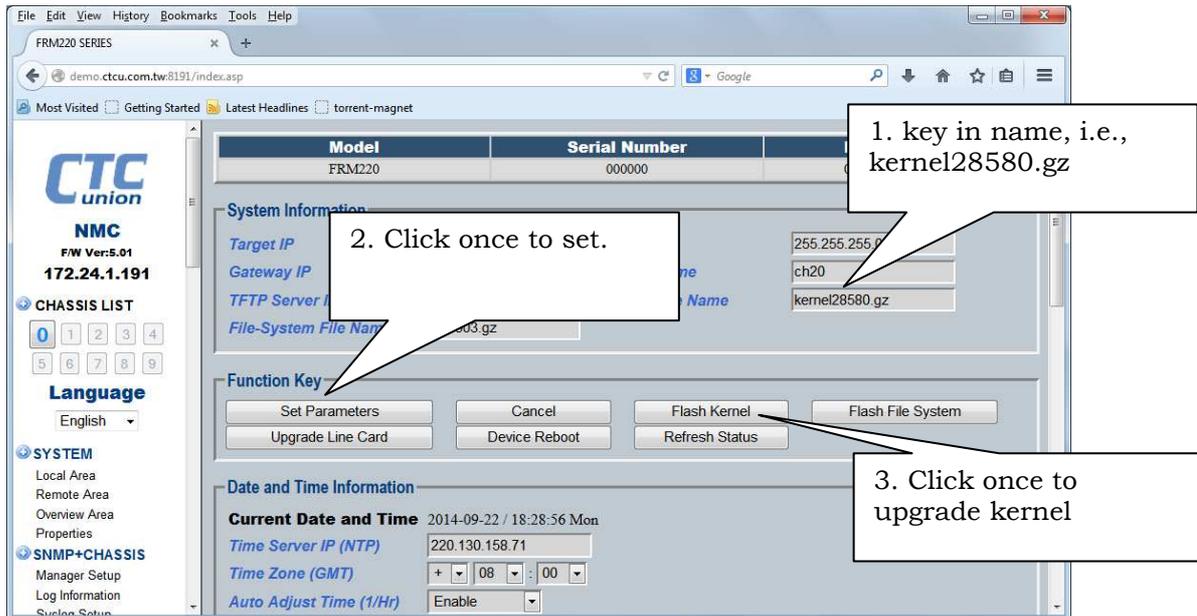
In the above example, 1.01 is the NMC-R3 PCB version. 5.01 is the current Filesystem version, and the Kernel build is 28580.

**If the Kernel build is 28580, please skip directly to [Upgrade the Filesystem](#).**

## Upgrade the Kernel



6. From the left menu of NMC web GUI, select the "SYSTEM" item.

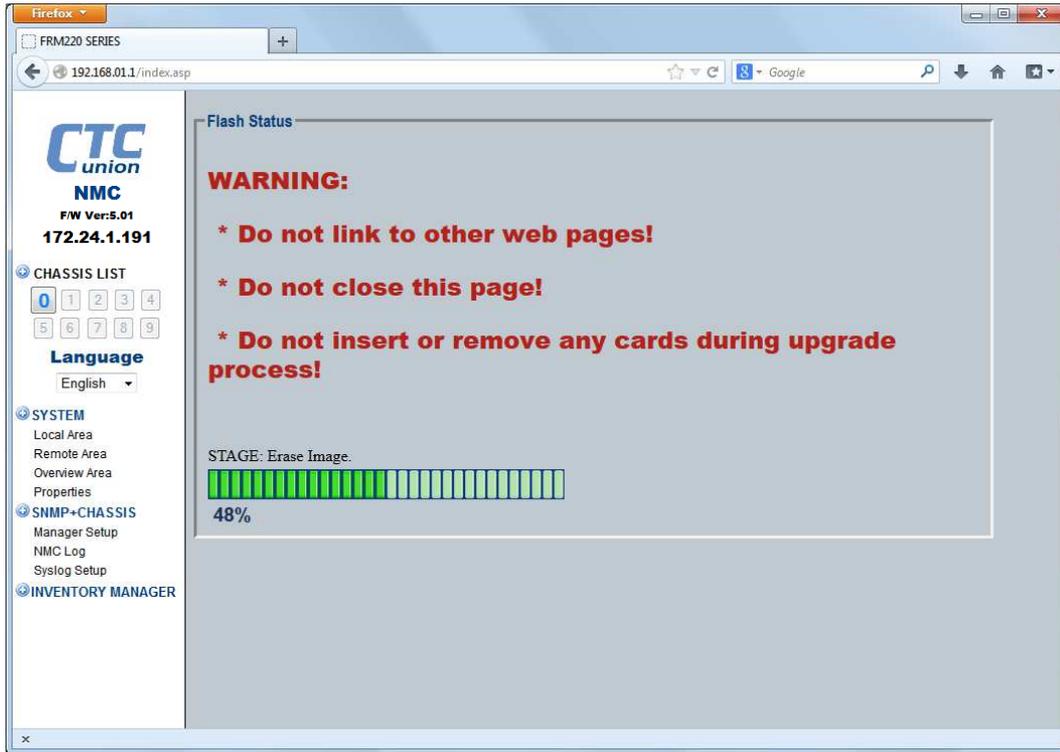


7. There are just three steps to upgrade the kernel.
- key in the correct filename, in this case kernel28580.gz
  - Set the parameter
  - perform the upgrade

Click 'OK' to continue

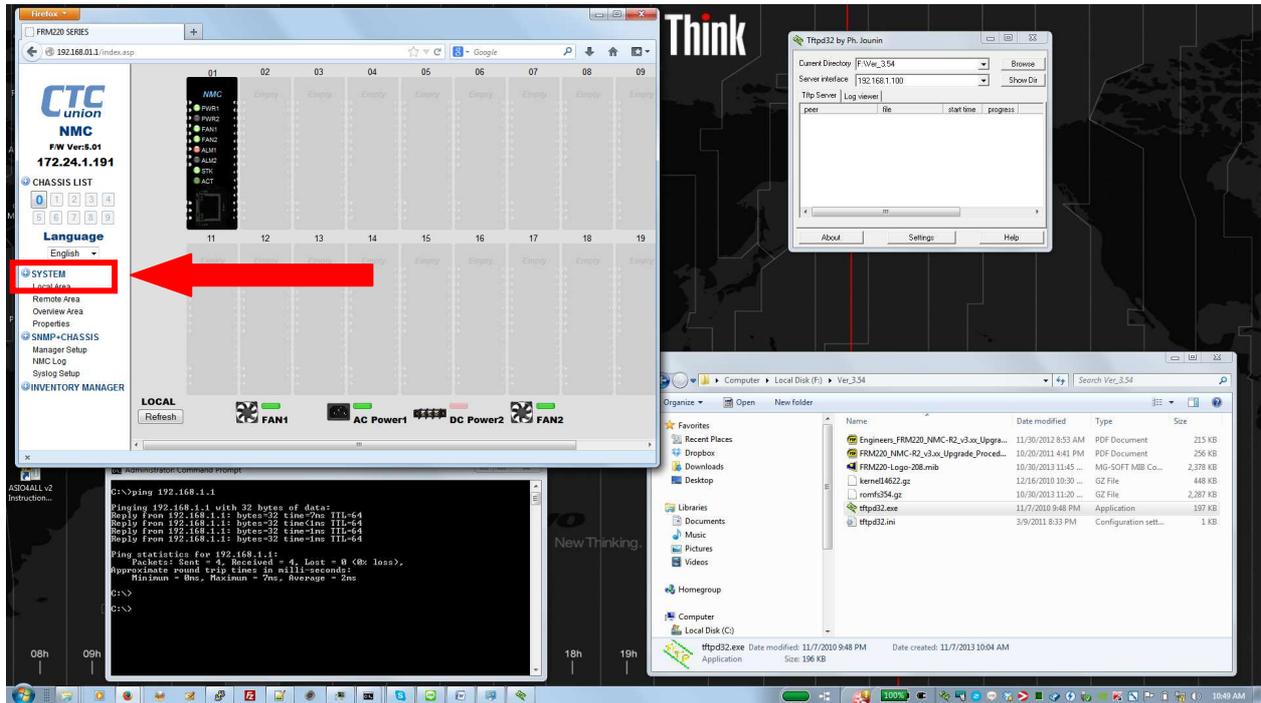


8. Follow these very important instructions.

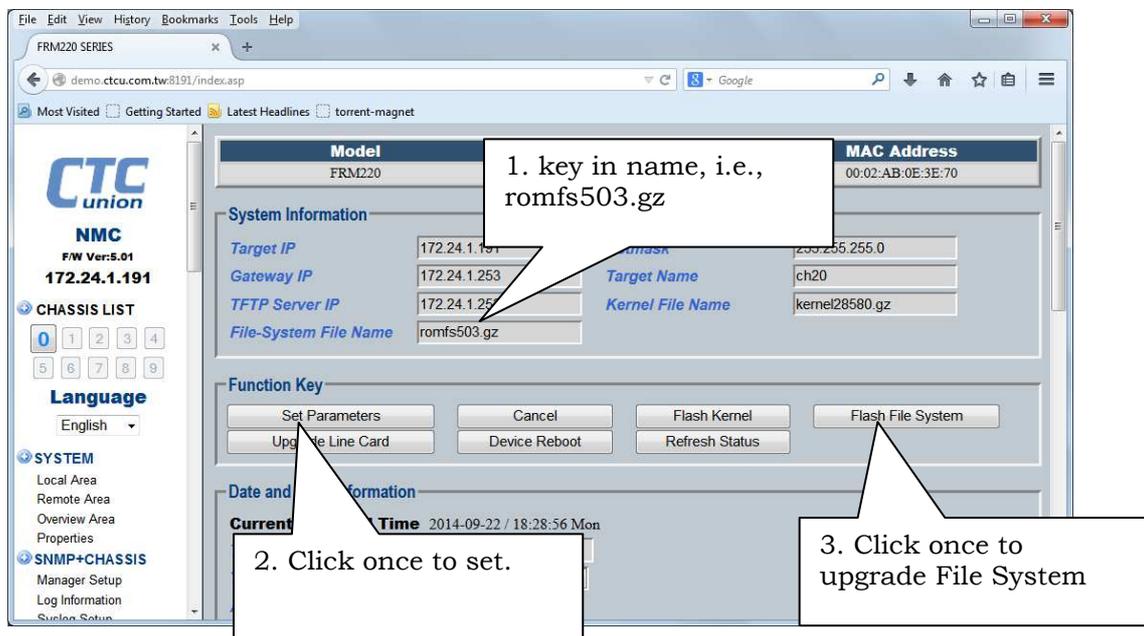


9. After the image is written, the NMC will reboot. (Online traffic will not be affected when NMC is rebooted.) Wait for NMC to reboot then proceed to [Filesystem upgrade](#).

## Upgrade the Filesystem



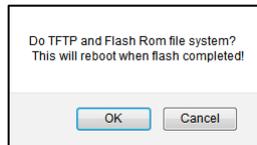
10. From the left menu of NMC web GUI, select the "SYSTEM" item.



11. There are just three steps to upgrade the File System.

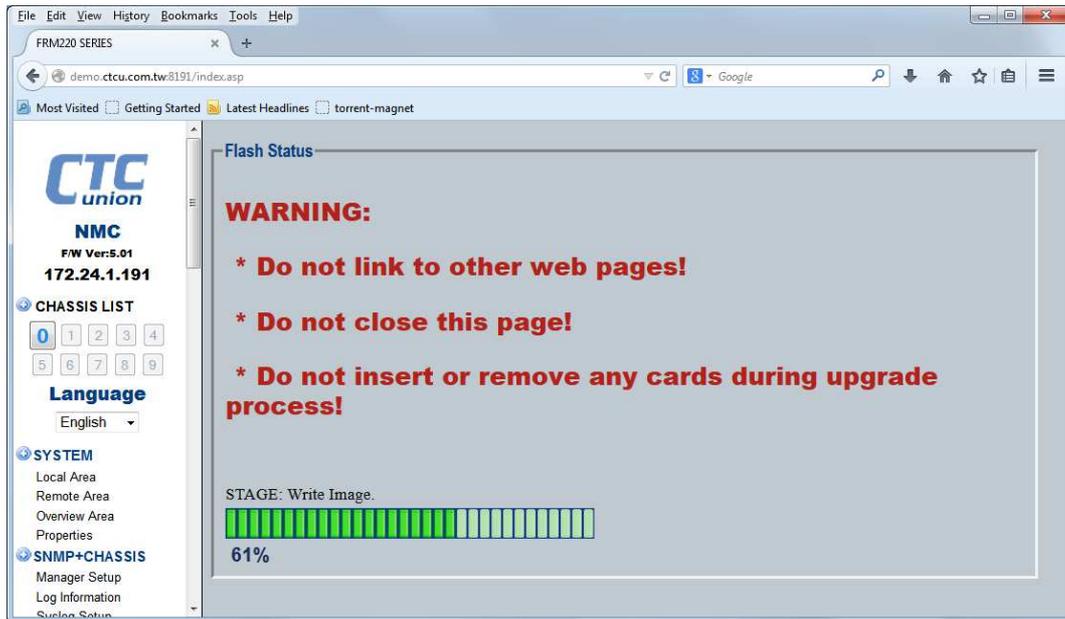
- key in the correct filename, in this case romfs5xx.gz (follow the name in upgrade package)
- Set the parameter
- perform the upgrade

Click 'OK' to continue.



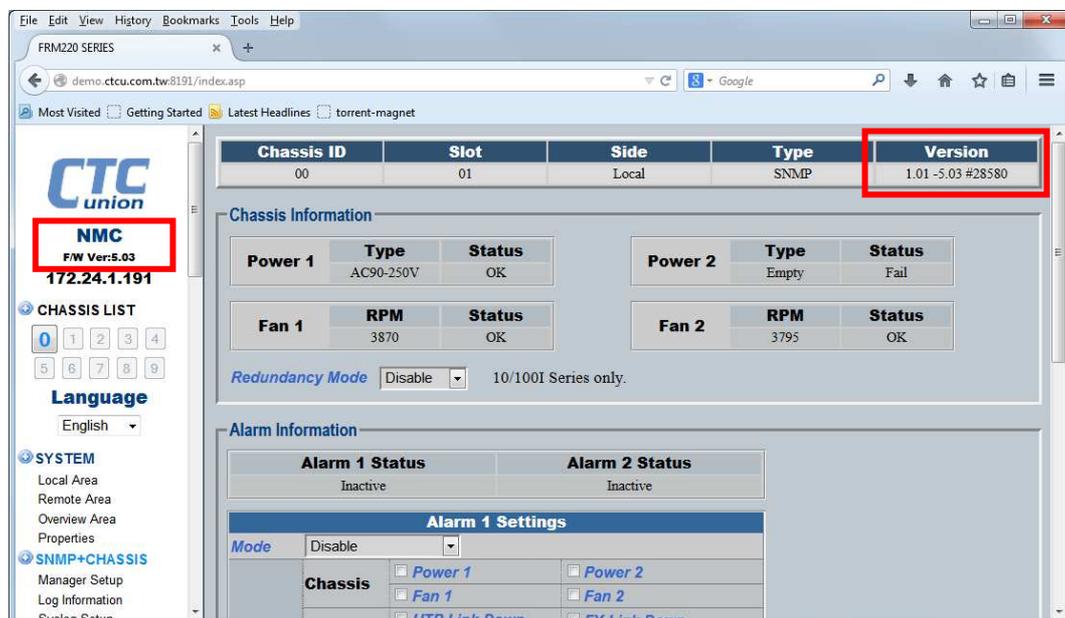
12. Follow these very important instructions.

Note: If a file not found message is displayed, the NMC-R3 was unable to find the image file on the TFTP server. A timeout message would mean the TFTP server was not found.



13. After the image is written, the NMC will reboot. Wait for NMC to reboot. (Online traffic will not be affected when NMC is rebooted.)

14. Check version from "SNMP+CHASSIS" or as viewed in the Web GUI menu.



This completes the successful upgrade of the FRM220 NMC-R3. View the 'CTC\_Union\_NMC-R3\_Release\_Notice.pdf' file in this package for changes in this version.

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## Fiber Series

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