

FRM220 NMC-R3 Password Reset

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

Failure to follow steps precisely could leave the flash on the embedded device in an unusable state, requiring factory 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 CH20 (CH02/NMC, CH04A, CH08) Chassis with **NMC-R3** (The third hardware release version of NMC /w 64MB DDR)

DB9F to DB9M 1:1 cable

Laptop or PC with available **COM port** and **TCP/IP** ready

Console **emulation software** (PuTTY or Tera Term)

TFTP server (Tftpd32 by Ph.Jounin TFTP Server for Windows, found in the package)

Password Reset firmware, which is identified by filename 'romfs.zip' file and which is a Unix GZIPped image file (DO NOT UNZIP this file.)

Latest upgrade package for NMC-R3. (Needed after doing the password reset.)

Procedure:

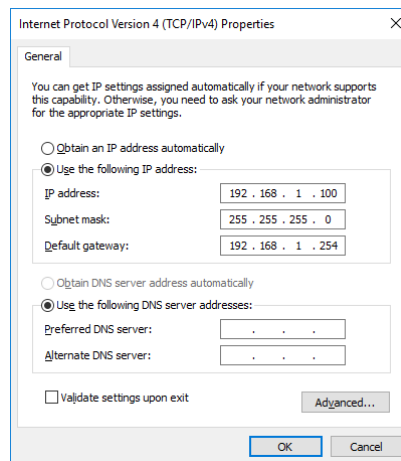
1. Connect the NMC-R3's DB9F serial port to the desktop's or laptop's COM port with 1:1 configuration cable.

2. Start the terminal application and configure it for:

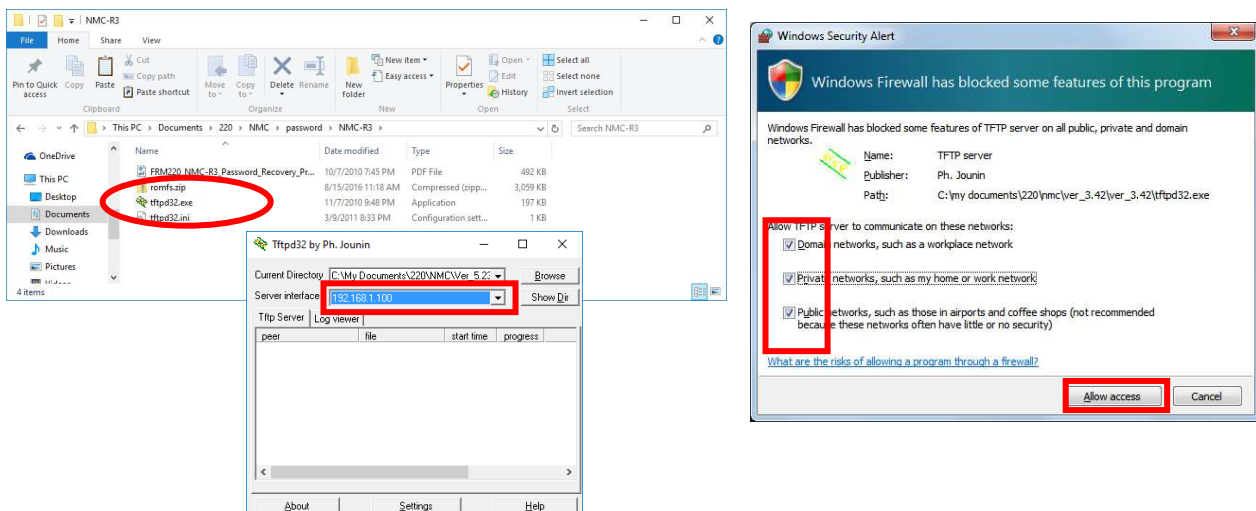
- 115.2k baud
- 8 pits
- no parity
- 1 stop bit
- no flow control

3. 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 to match a default NMC bootloader. We can also adjust NMC at bootloader to match PC's network. In this example, the PC is setup as follows:

- static IP 192.168.1.100
- subnet mask 255.255.255.0
- gateway 192.168.1.254

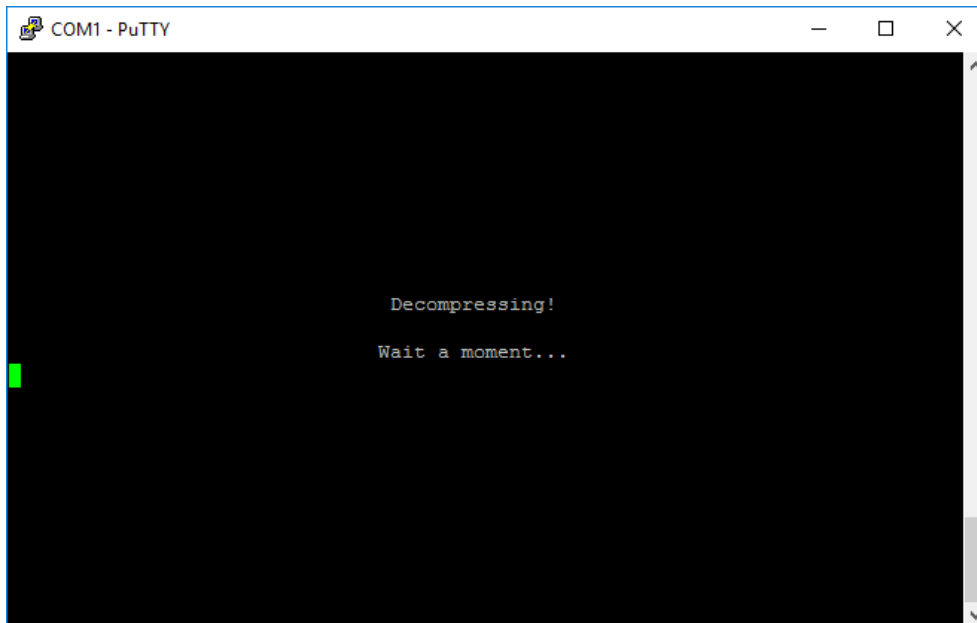


4. Start the TFTP application program by double-clicking. It was extracted with the password reset package. If the firewall complains, select 'Allow access'. Make sure the 'romfs.zip' file is located in the same directory as the TFTP application program. Make sure the Server Interface is bound to the correct IP address (192.168.1.100 in this example).

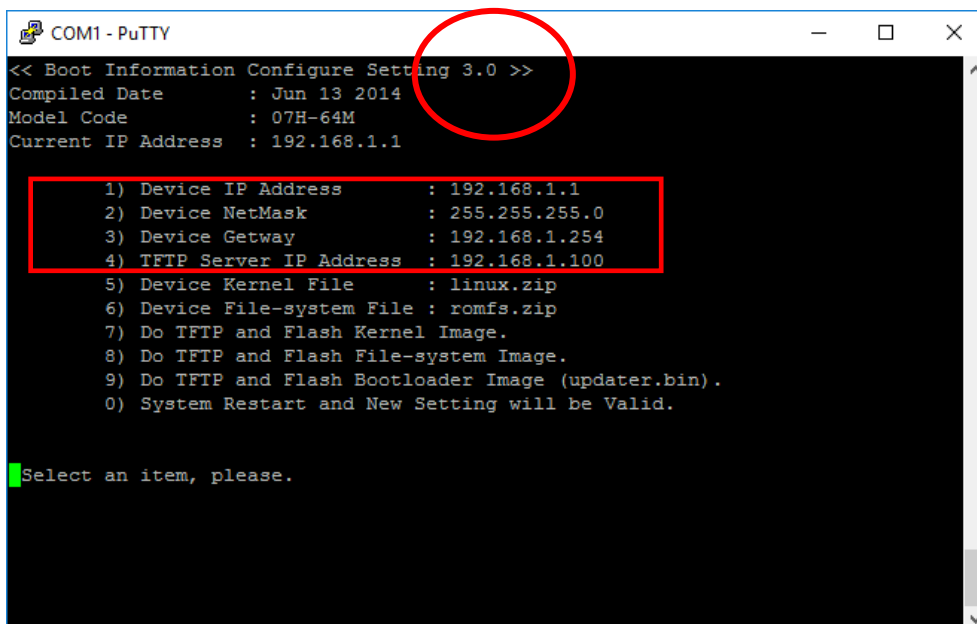


Reset Procedure

5. (NOTE: In a running chassis, only hot plug the NMC card.) Power on the chassis, hot plug the NMC, or reboot the NMC. As soon as you see the below decompressing screen, immediately press the shift-7 key, ("&" on a US keyboard) once. If you see the prompt 'CTCUBoot >>' then you pressed 'shift-7' twice. Enter the 'boot' command and try again. Press 'shift-7' quickly, only once.

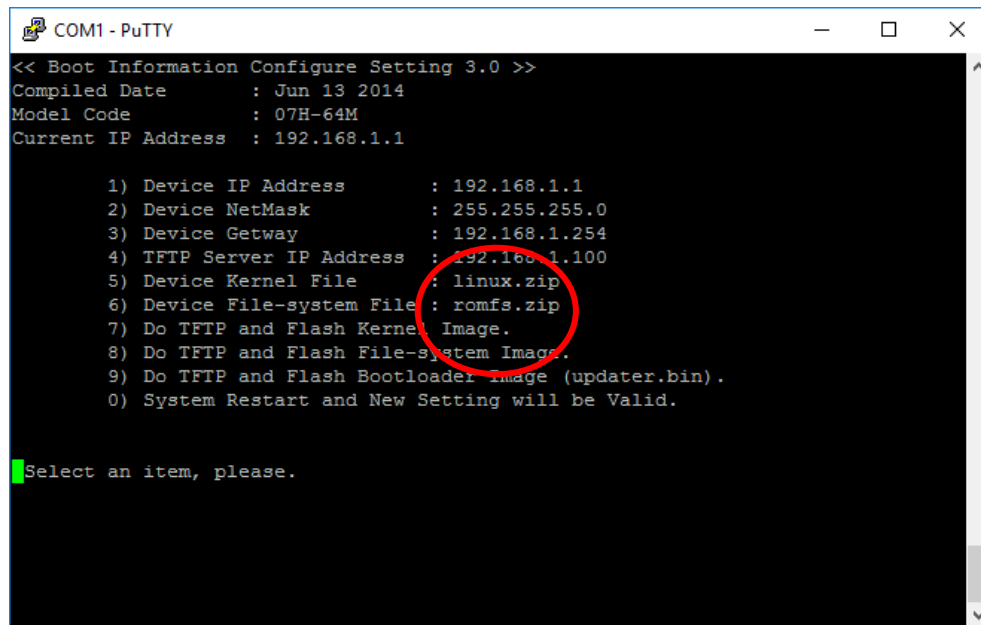


6. If you do not see the following "Boot Information" screen, repeat step 5 again until you see the following display. Check the 'Configure Setting' version. If it is not V 3.0, then DO NOT CONTINUE. If the bootloader is V1.4 then this is original NMC. If the bootloader is V2.0, then this is NMC-R2. This reset procedure works for NMC-R3 only.



7. Start by checking Target IP, Netmask, and Gateway values and changing if required so that NMC-R3 can be accessed from the PC or Laptop computer. In this example, **192.168.1.1** can be accessed from the PC's 192.168.1.100 IP.

8. Next, make sure the name of the Target Filesystem file matches the recovery image. (romfs.zip)



```

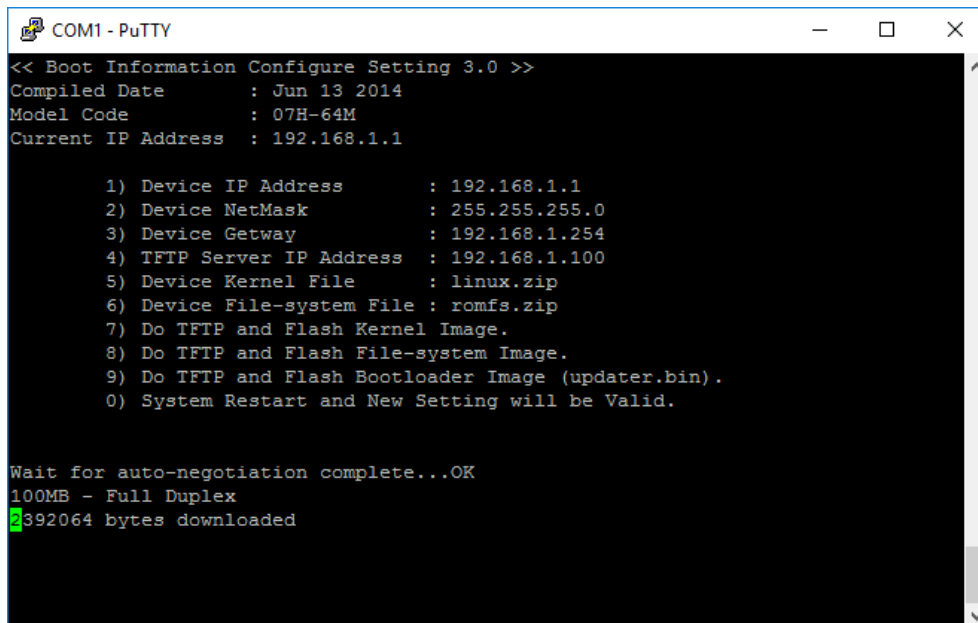
COM1 - PuTTY
<< Boot Information Configure Setting 3.0 >>
Compiled Date      : Jun 13 2014
Model Code        : 07H-64M
Current IP Address : 192.168.1.1

1) Device IP Address      : 192.168.1.1
2) Device NetMask        : 255.255.255.0
3) Device Getway         : 192.168.1.254
4) TFTP Server IP Address : 192.168.1.100
5) Device Kernel File    : linux.zip
6) Device File-system File : romfs.zip
7) Do TFTP and Flash Kernel Image.
8) Do TFTP and Flash File-system Image.
9) Do TFTP and Flash Bootloader Image (updater.bin).
0) System Restart and New Setting will be Valid.

Select an item, please.
  
```

If not, change to romfs.zip. Then press “0” (zero) to restart the system. Press “shift-7” when the decompress message displays on the screen.

9. Start the Filesystem download by selecting the menu item “8”.



```

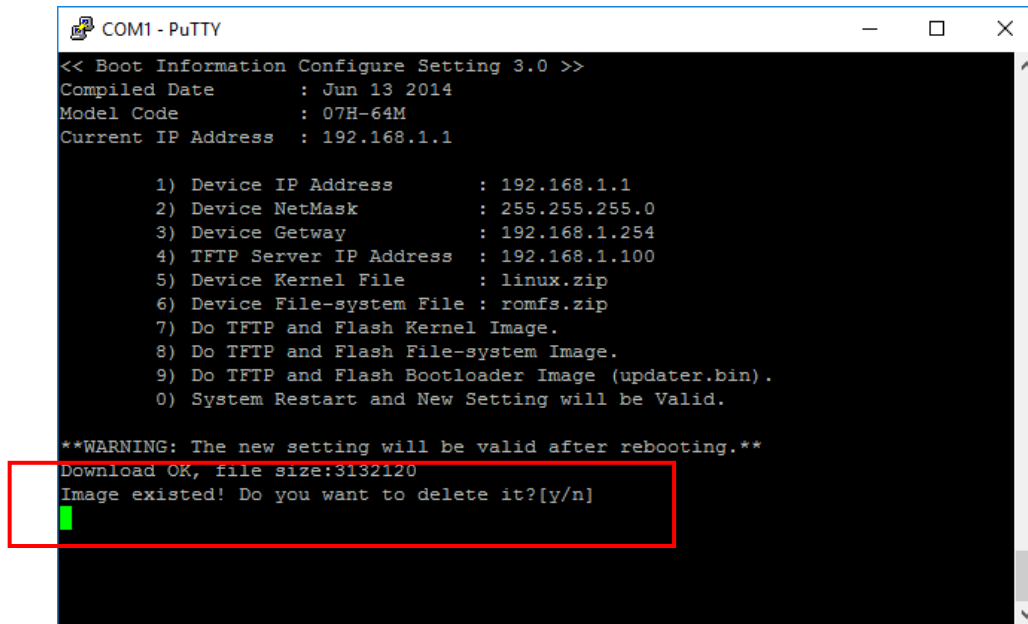
COM1 - PuTTY
<< Boot Information Configure Setting 3.0 >>
Compiled Date      : Jun 13 2014
Model Code        : 07H-64M
Current IP Address : 192.168.1.1

1) Device IP Address      : 192.168.1.1
2) Device NetMask        : 255.255.255.0
3) Device Getway         : 192.168.1.254
4) TFTP Server IP Address : 192.168.1.100
5) Device Kernel File    : linux.zip
6) Device File-system File : romfs.zip
7) Do TFTP and Flash Kernel Image.
8) Do TFTP and Flash File-system Image.
9) Do TFTP and Flash Bootloader Image (updater.bin).
0) System Restart and New Setting will be Valid.

Wait for auto-negotiation complete...OK
100MB - Full Duplex
392064 bytes downloaded
  
```

If you do not see the above screen, press any key and try “8” again. Do this until the download occurs. If this message repeats, double check all Ethernet connections and TCP/IP settings.

10. After the Filesystem image is downloaded, you must confirm to over-write the current Filesystem.



```

COM1 - PuTTY
<< Boot Information Configure Setting 3.0 >>
Compiled Date       : Jun 13 2014
Model Code         : 07H-64M
Current IP Address  : 192.168.1.1

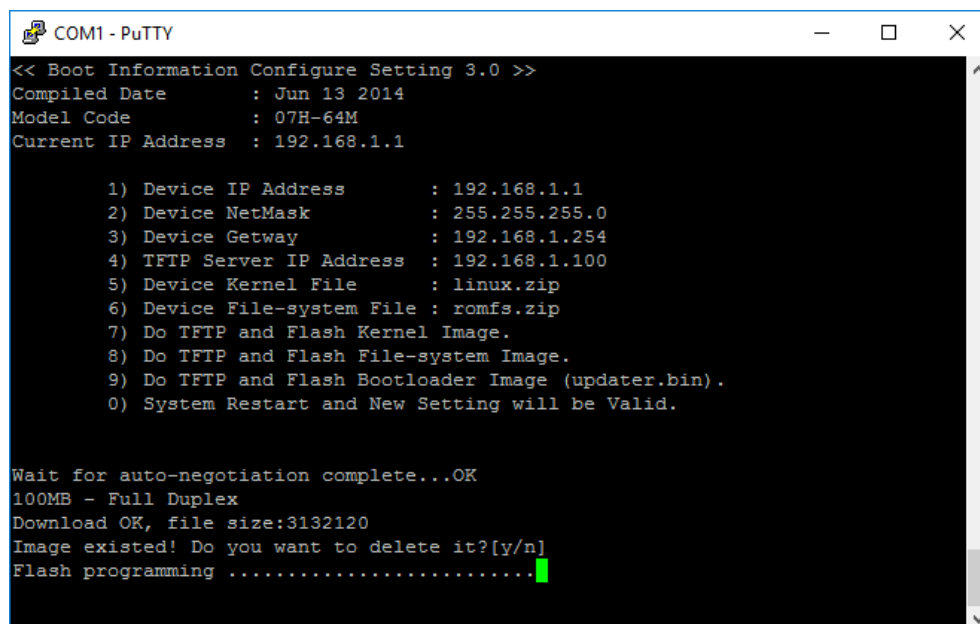
1) Device IP Address      : 192.168.1.1
2) Device NetMask        : 255.255.255.0
3) Device Getway         : 192.168.1.254
4) TFTP Server IP Address : 192.168.1.100
5) Device Kernel File    : linux.zip
6) Device File-system File : romfs.zip
7) Do TFTP and Flash Kernel Image.
8) Do TFTP and Flash File-system Image.
9) Do TFTP and Flash Bootloader Image (updater.bin).
0) System Restart and New Setting will be Valid.

**WARNING: The new setting will be valid after rebooting.**
Download OK, file size:3132120
Image existed! Do you want to delete it?[y/n]

```

Answer “y” to the prompt.

11. The flash will be programmed with the password reset image Filesystem.



```

COM1 - PuTTY
<< Boot Information Configure Setting 3.0 >>
Compiled Date       : Jun 13 2014
Model Code         : 07H-64M
Current IP Address  : 192.168.1.1

1) Device IP Address      : 192.168.1.1
2) Device NetMask        : 255.255.255.0
3) Device Getway         : 192.168.1.254
4) TFTP Server IP Address : 192.168.1.100
5) Device Kernel File    : linux.zip
6) Device File-system File : romfs.zip
7) Do TFTP and Flash Kernel Image.
8) Do TFTP and Flash File-system Image.
9) Do TFTP and Flash Bootloader Image (updater.bin).
0) System Restart and New Setting will be Valid.

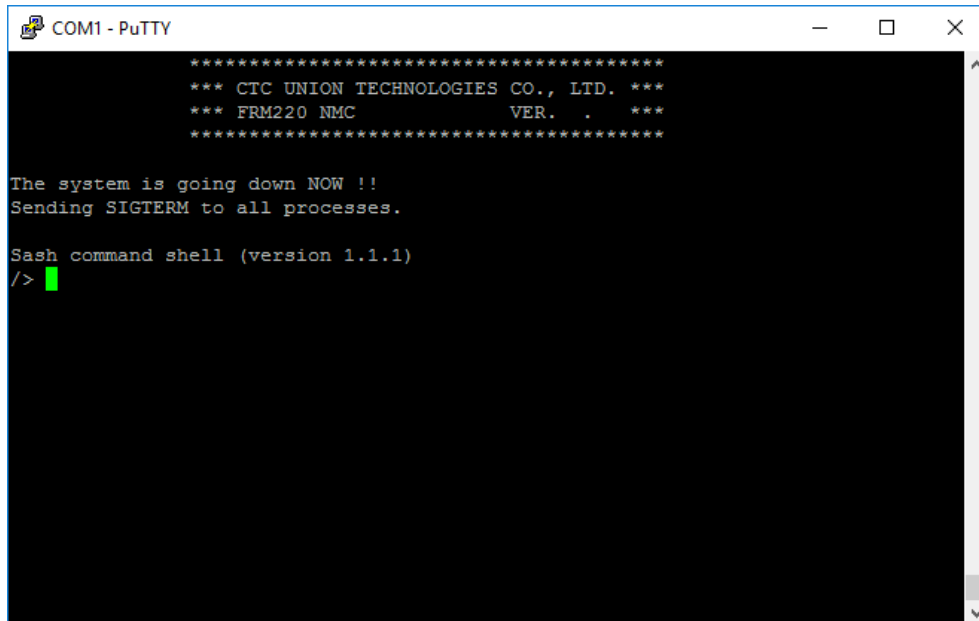
Wait for auto-negotiation complete...OK
100MB - Full Duplex
Download OK, file size:3132120
Image existed! Do you want to delete it?[y/n]
Flash programming .....

```

WARNING!!! Do not allow any power interruption until completed successfully!!!

12. After the flash has been successfully written, press “0” (zero) to reboot the NMC.

The NMC will now cycle through boot up and shutdown and reboot. Technically, once the following screen flashes by, the password data in the NMC has been cleared.



```

*****
*** CTC UNION TECHNOLOGIES CO., LTD. ***
*** FRM220 NMC          VER.  .  ***
*****

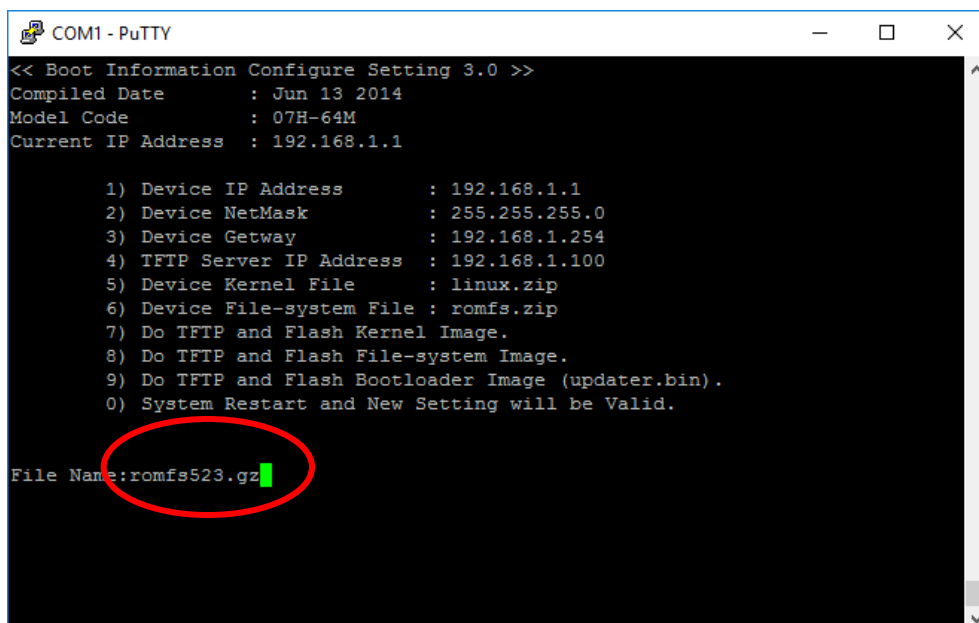
The system is going down NOW !!
Sending SIGTERM to all processes.

Sash command shell (version 1.1.1)
/> █

```

When the NMC reboots and the “Decompressing” screen appears, press “shift-7” (“&” on US keyboard) to get back to the bootloader page.

13. Now we need to **restore a normal working filesystem** to the NMC. In our example, the NMC is “R3” version and our Filesystem version is 5.23. So, on the bootloader page press “6” and key-in the correct name for the Filesystem, “romfs523.gz” in this example.



```

<< Boot Information Configure Setting 3.0 >>
Compiled Date      : Jun 13 2014
Model Code        : 07H-64M
Current IP Address : 192.168.1.1

1) Device IP Address      : 192.168.1.1
2) Device NetMask        : 255.255.255.0
3) Device Getway         : 192.168.1.254
4) TFTP Server IP Address : 192.168.1.100
5) Device Kernel File    : linux.zip
6) Device File-system File : romfs.zip
7) Do TFTP and Flash Kernel Image.
8) Do TFTP and Flash File-system Image.
9) Do TFTP and Flash Bootloader Image (updater.bin).
0) System Restart and New Setting will be Valid.

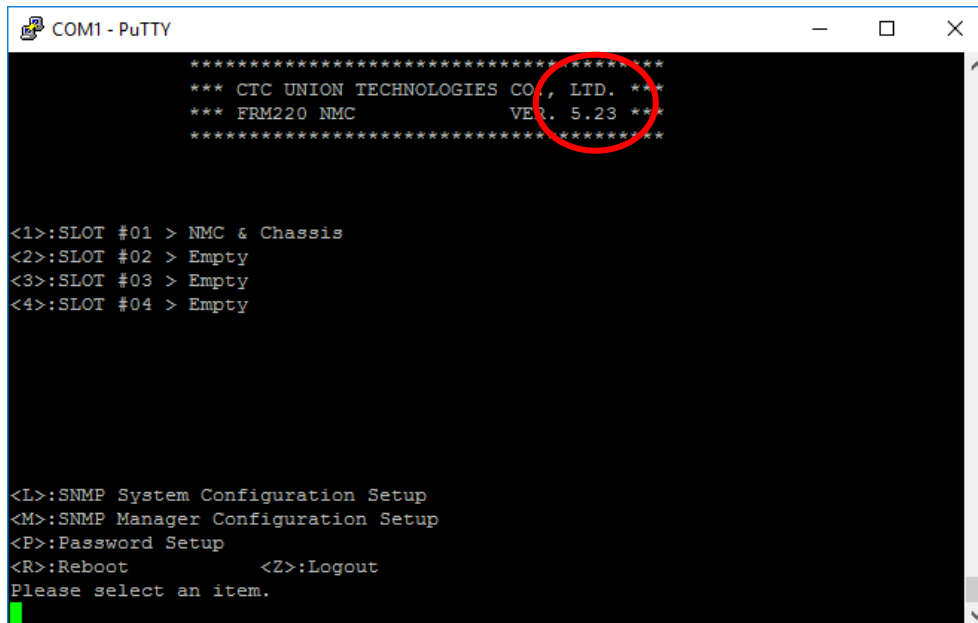
File Name:romfs523.gz█

```

14. Make sure the filesystem image file (romfs523.gz) is in the same folder as the TFTP server on the PC or Laptop.

Follow the same steps to download (press 8) and Flash (confirm with 'y') the Filesystem.

When the flashing is completed, press "0" (zero) to reboot the NMC and allow it to fully boot as normal.



```
COM1 - PuTTY
*****
*** CTC UNION TECHNOLOGIES CO., LTD. ***
*** FRM220 NMC VER. 5.23 ***
*****

<1>:SLOT #01 > NMC & Chassis
<2>:SLOT #02 > Empty
<3>:SLOT #03 > Empty
<4>:SLOT #04 > Empty

<L>:SNMP System Configuration Setup
<M>:SNMP Manager Configuration Setup
<P>:Password Setup
<R>:Reboot      <Z>:Logout
Please select an item.
█
```

Make sure the correct version is shown for your NMC card. No password will be required. Set a new user and password and please DO NOT FORGET IT!

The NMC card will now need to be reconfigured. If the NMC boots in a live chassis, then it will already have all the line configuration data. Only the SNMP System configuration and SNMP Manager configuration need to be set.

<END>



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