

REV	DESCRIPTION	DATE	APPROVED
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Software Programming Procedure For 9104-14, Fault Sense Unit



SUBMITTED BY

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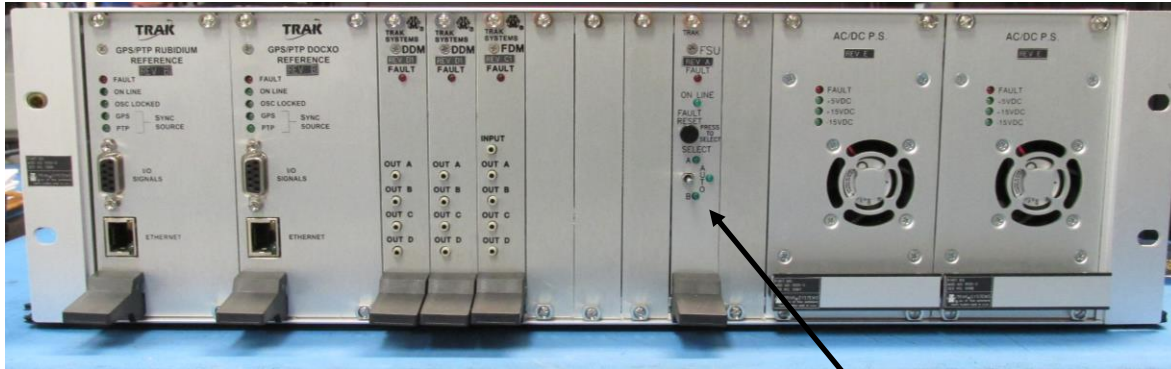
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1.0 SCOPE

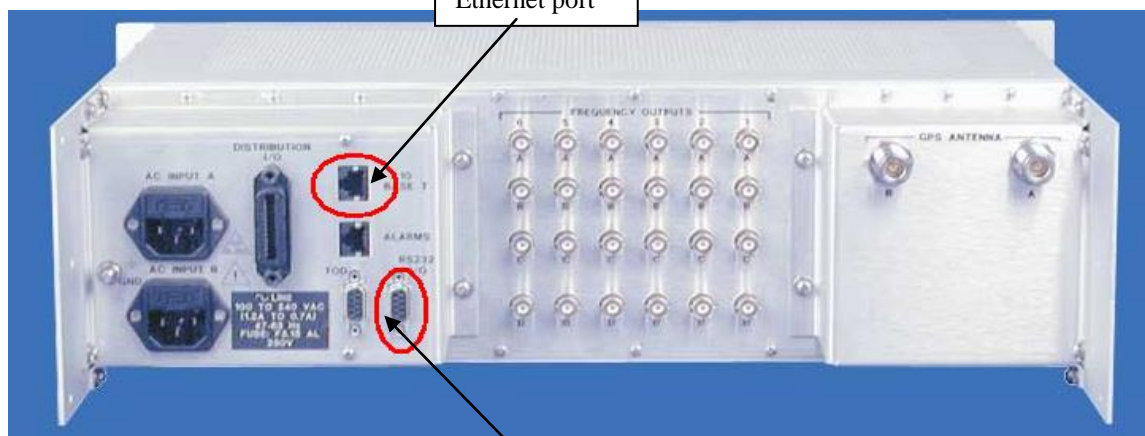
This document describes how to program and or upgrade the firmware for the following 9104-14 Fault sense Unit module:

Trak 9100 Front View:



FSU 9104-14

Trak 9100 Back View:



Ethernet port

Console port – RS232-DCE

2.0 EQUIPMENT REQUIRED

The following equipment is required to flash upgrade a system or module:

- PC with a serial port or USB to serial device
- Web Browser (Firefox is the preferred web browser)
- Ethernet cable (a crossover cable is required if connecting directly to a PC).
- RS-232 Serial Cable with TX, RX and GND wires straight through cable (not a null modem).
- Teraterm or equivalent terminal software

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3.0 Procedure

1. Obtain the firmware for the 9104-14 module above from the System Administrator and store them locally on the desktop of the PC
2. Connect the 9100 system to be upgraded to the network through the Ethernet port located on the rear panel of the 9100 (see picture above). Set the PC's Ethernet port speed-duplex to 100-Full when connected directly to the Trak 9100's Ethernet port.
3. Connect the serial port of the PC to the 9100 RS-232 I/O port located on the rear panel of the 9100. Using a Terminal Program (Teraterm, Procom or equivalent) set for 9600 baud, 8-data bits, 1-stop bit and no parity.
4. Press the Enter key on the Terminal and at the 9100>, prompt, type IP4 and press enter to obtain the module's IP address and subnet mask.

The response is shown as an example below:

```
DHCP off
IP4 10.1.233.88/24
GW 10.1.233.254
```

Where:10.1.233.88 is the ip address, and /24 is the subnet mask of the Trak9104-14 FSU module.

Note: The default IP address is 10.1.5.250/22 when shipped from the factory.

5. Press the Enter key on the Terminal and at the 9100>, prompt, type "http on" and press enter to enable http.

Note: The example screen captures shown below are based on Internet Explorer web browser. These guideline, not intend to show actual version of software version and date. The step 16 at the end will show the current software version released.

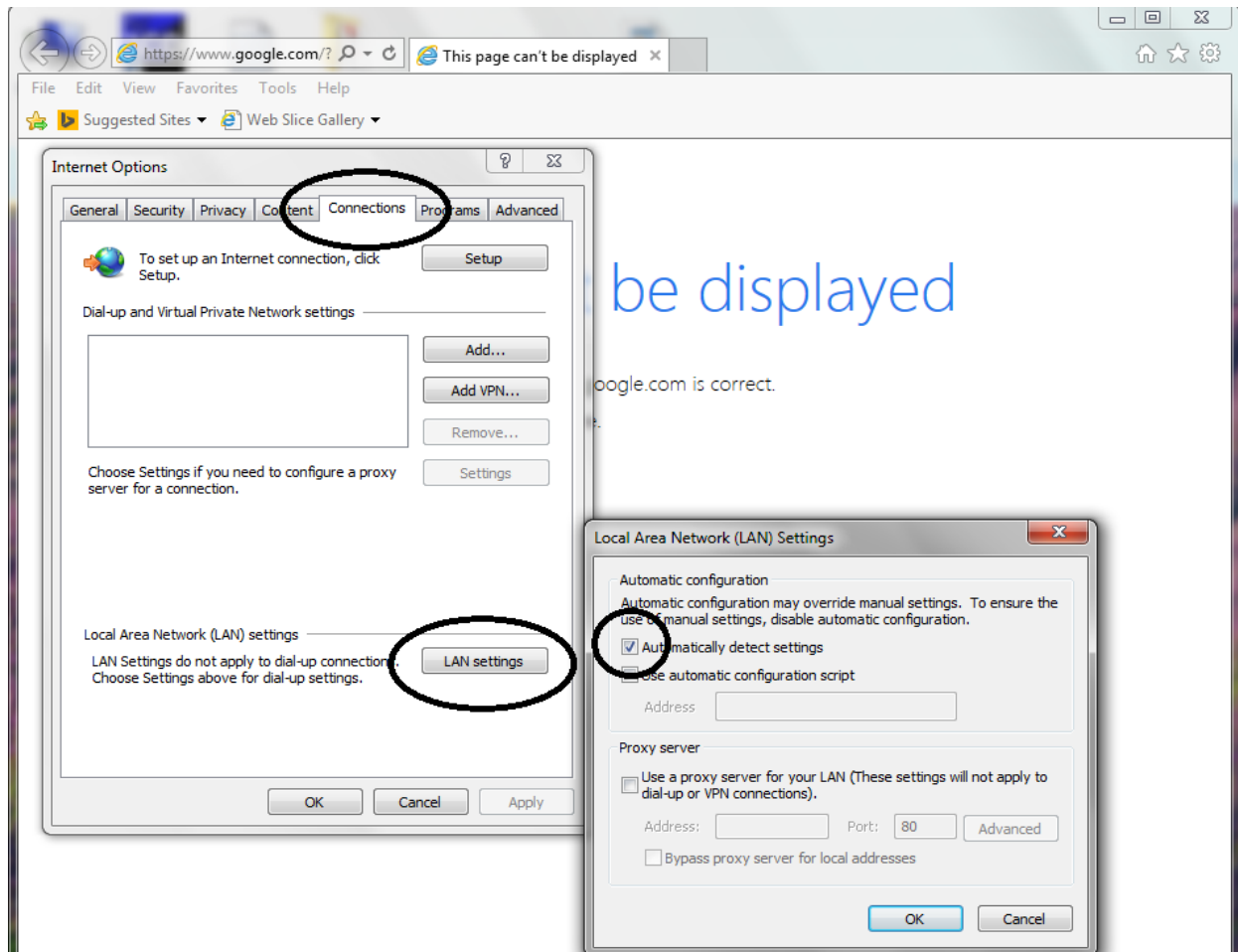
6. Open the web browser. Set up the Internet LAN connection under tool menu. See Figure 1
7. Enter the IP address in the URL. See Figure 2
8. You will be prompted for a user name and password. Enter `rifc` for the user and `trak9100` for the password. See Figure 2
9. In few seconds the Trak 9104-14 Programming GUI will show up. See Figure 3
10. Click on the UP/DOWNLOAD tab at the top of the web page. See Figure 3
11. The Upload Firmware Upgrade Web GUI shows up. Click Browse. See Figure 4
12. Point to the location where the firmware by selecting the firmware "S001056Rx.cramfs" is located. Then click "Open" button. See Figure 5
13. Click the "Upgrade" button. See Figure 6

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14. Within 2 to 3 minutes the web page will display “Writing Flash” “Upgrade Finished.” Monitor the ProComm display. See Figure 7

15. The ProComm display will show the updated Firmware version as “S001056R10_9.0.13” with a date 09/01/15

Figure 1



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Figure 2

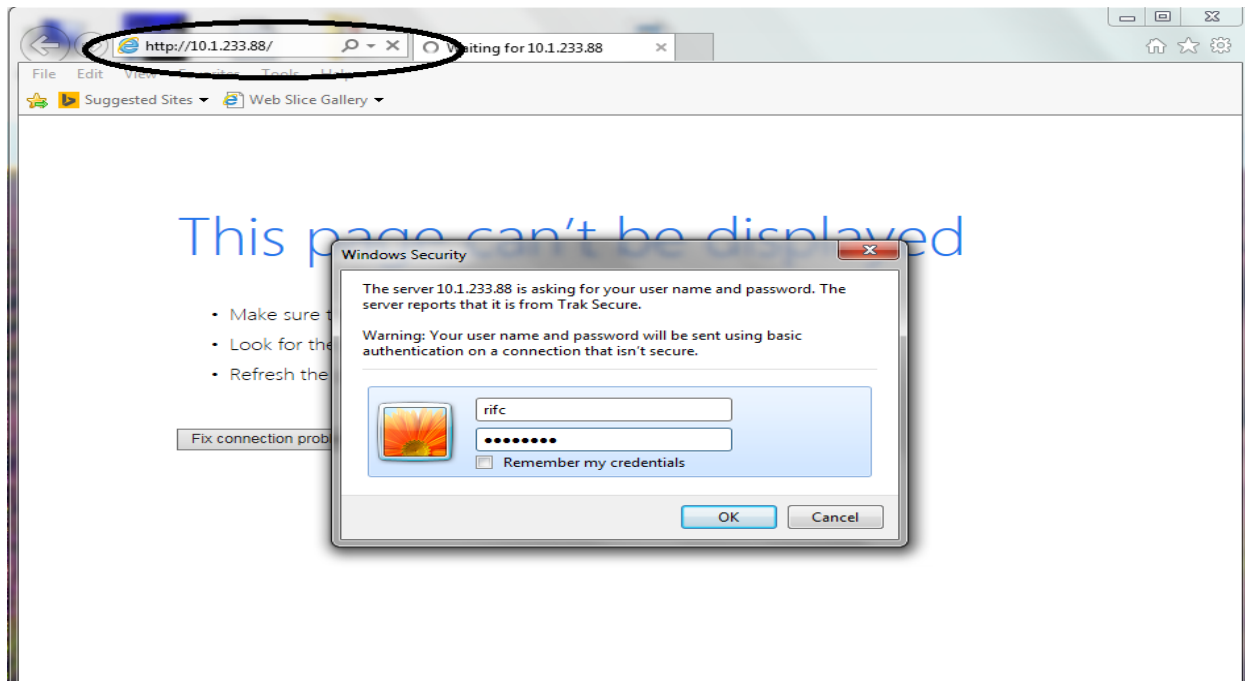


Figure 3

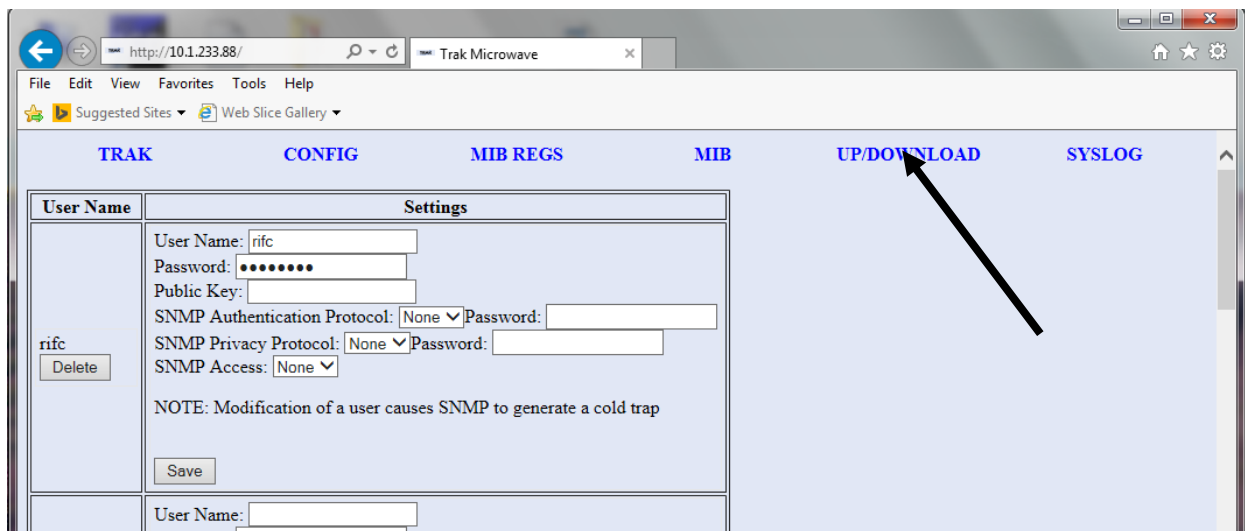


Figure 4

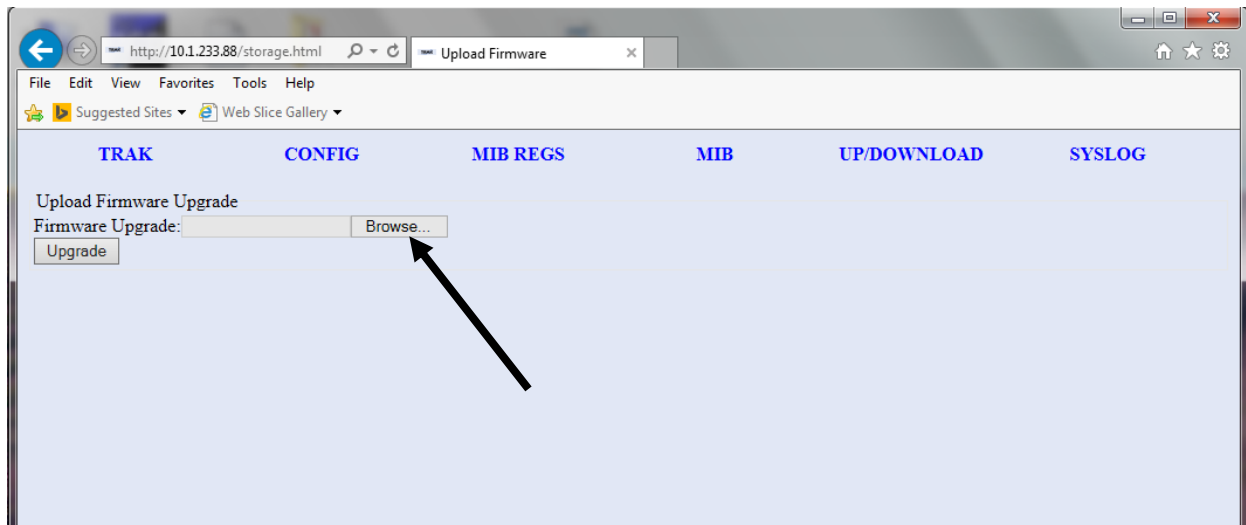
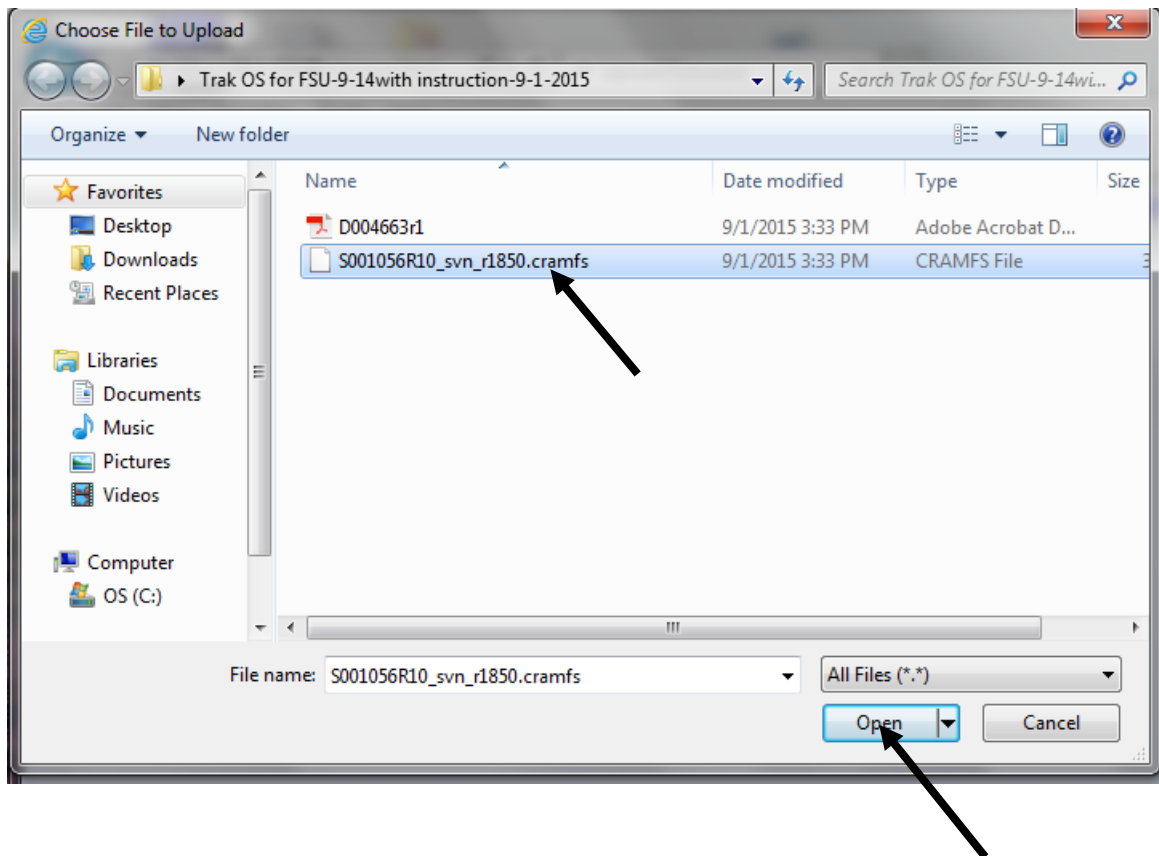


Figure 5



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Figure 6

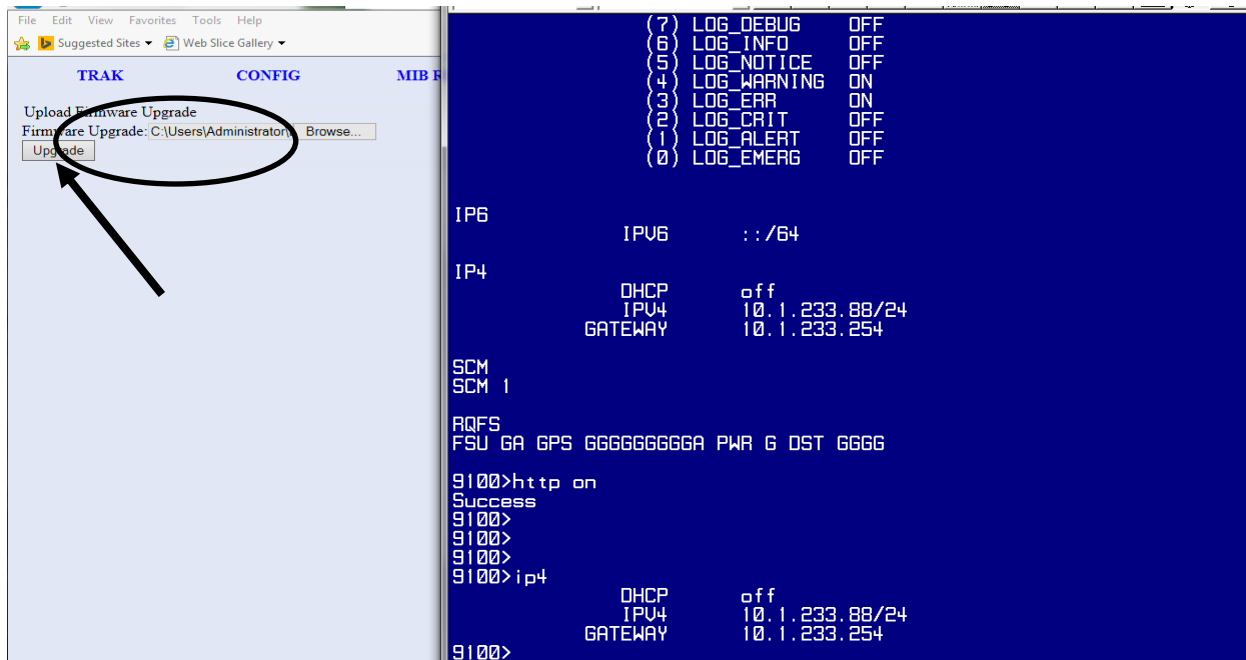
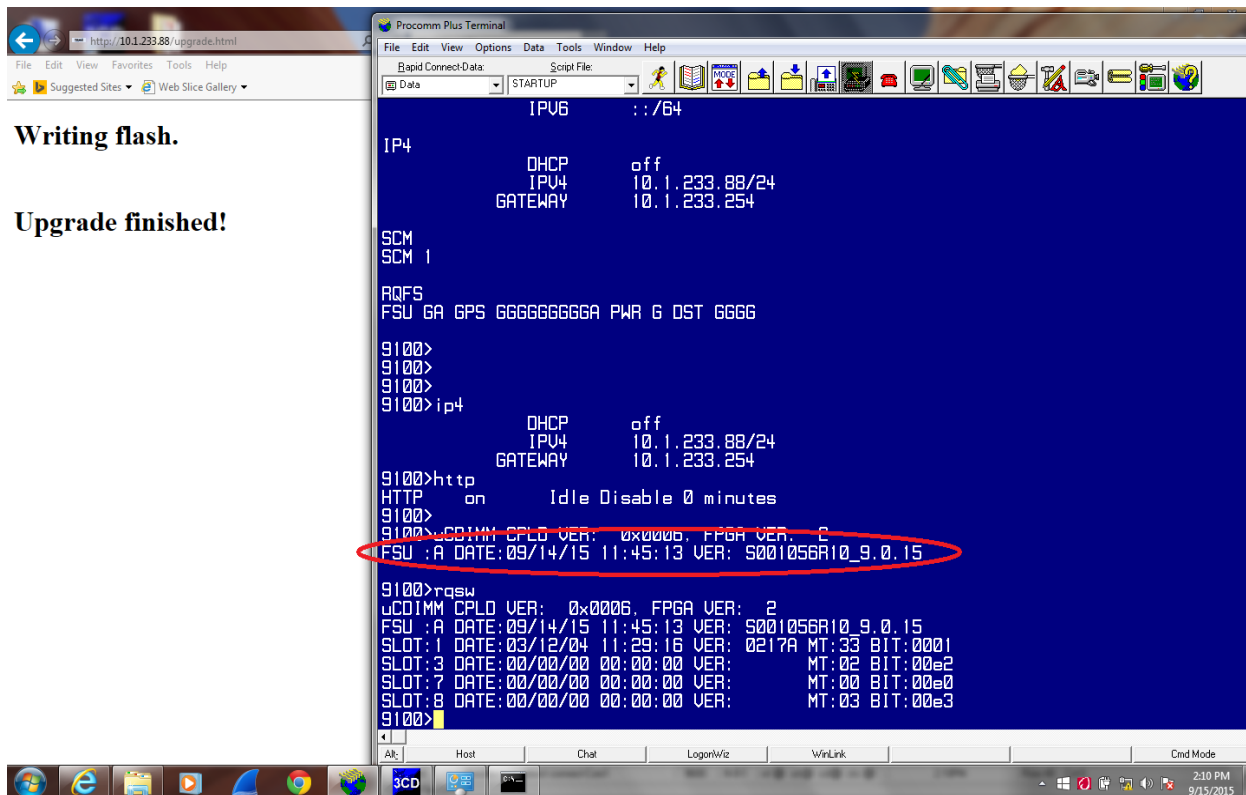


Figure 7



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16. Use the Terminal to verify the software version by typing RQSW and enter.

```
9100>rqsw
uCDIMM CPLD VER: 0x0006, FPGA VER: 2
FSU :A DATE:09/14/15 11:45:13 VER: S001056R10_9.0.15
SLOT:1 DATE:04/02/14 16:36:02 VER: 070R5 MT:33 BIT:0001
SLOT:2 DATE:04/02/14 17:09:57 VER: 069R5 MT:33 BIT:0000
SLOT:3 DATE:00/00/00 00:00:00 VER: MT:03 BIT:00e3
```

17. Make sure to turn off the http for IA system. Set “https” to “on” by typing “https on” at the 9100> prompt.

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