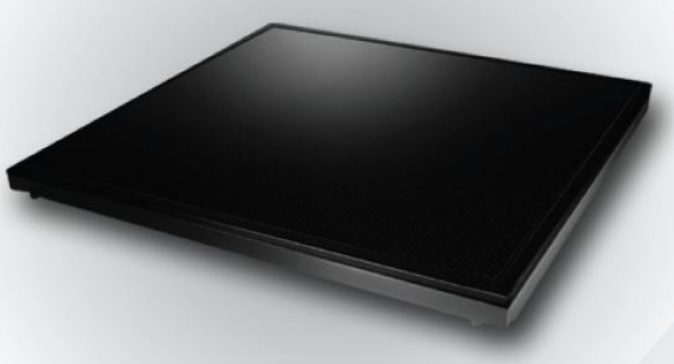
Release Version 1.3.0
Dated April 15, 2010

Caring Insight
VATECH

Xmaru1717

Service Manual

Leading the transition to Digital X-ray



Attention

For improvement of product performance, supplementation, or follow-up of information; the contents of this manual are subject to change without separate prior notice.

Please note that our company has neither responsibility for any accidents nor obligation to do free repair service for any damage of the equipment due to user's mistake, which resulted from failure to follow the contents in this manual. Make sure to be familiar with the safety precautions and usage procedures. Also note that the product may slightly differ from the contents of this manual depending on specification.

The following marks are used for the effective use of the product in this manual.

Attention, consult accompanying documents.

This is used to emphasize essential information. Be sure to read this information to avoid incorrect operation.

This indicates hazardous situation which, if not heeded, may result in minor or moderate injury to you or others, or may result in machine damage.

This indicates a potentially hazardous situation which, if not heeded, could result in death or serious injury to you or others.

Federal Law restricts this device to sale by or the order of a radiologist or any other practitioners licensed by the law of the state in which that person practices to use or order the use of the device.

Contents

Introduction

Overview

Xmaru1717 is an X-ray image acquisition device that is based on flat-panel. This device should be integrated with an operating PC and an X-ray generator. It can do to utilize as digitalizing X-ray images and transfer for radiography diagnostic.

Product features

Figure 1: Xmaru1717

The surface of housing is made of the metal and X-ray window area is covered with carbon. Inner circuit of detector uses lead to protect it from X-ray and has a structure protecting the inner circuit from X-ray dose under the limits

- Based on a-Si TFT active matrix
- Wide image
- 14-bit digital output
- Easy integration

Product specification

Parameter	Unit	Description
Application	-	General radiography
Pixel Size	μm	143
Active Pixel Array	pixels	3072 x 3072
Active area	mm	439.3 x 439.3
Spatial Resolution*[1]	lp/mm	3
Dynamic Range	dB	> 73
Energy Range	kVp	40 ~ 150
A/D	bit	14 bit, 16834 gray scale
Dimension (W*H*D)	mm	500 x 497 x 45
Weight	kg	13.4
Data Output	-	100 Mbps
Power	V	AC100-120V/200-240V (50 / 60Hz)
Environmental Condition		**Operation:** Temperature: +10 ~ +40 °C Humidity: 20 ~ 75 % (no condensation) Press 70 ~ 106kPa **Storage and transportation:** Temperature: -25~ +55 °C Humidity: 10 ~ 95 % (no condensation) Press 70 ~ 106kPa

*1: line pair resolution at over 10% MTF

Table 1: Product specification

IP Address Set-up

IP switching

Step 1

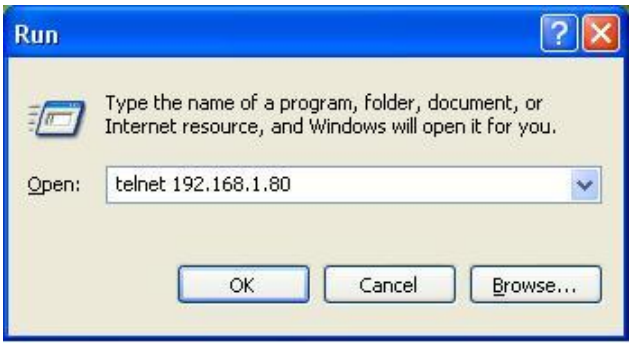


Figure 2 : Telnet connection

- Connect the detector with PC (Installation should be done)
- Click “START” and then “RUN”
- Input “telnet 192.168.1.80”

Step 2

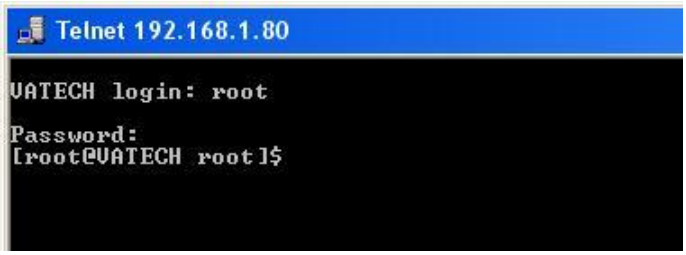


Figure 3 : Telnet login

- Input

  ID: “root” and

  Password: “depss”

  in Pop-up “telnet 192.168.1.80”

  VATECH login : root

  Password : depss (Password does not appear in window)

Step 3

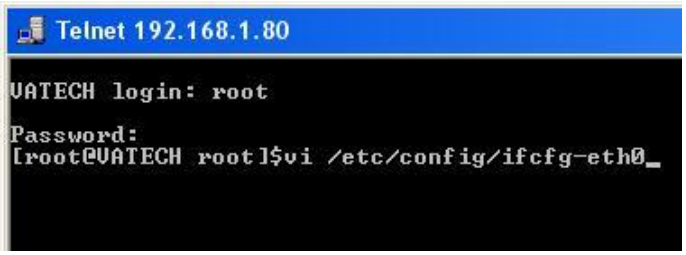


Figure 4 : Input massage

- Detector is connected, when the message “ [root@VATECH root]$ ” appears
- Input the message

  “ vi/etc/config/ifcfg-eth0 ”, adjacent to “[root@VATECH root]$ ”

Step 4

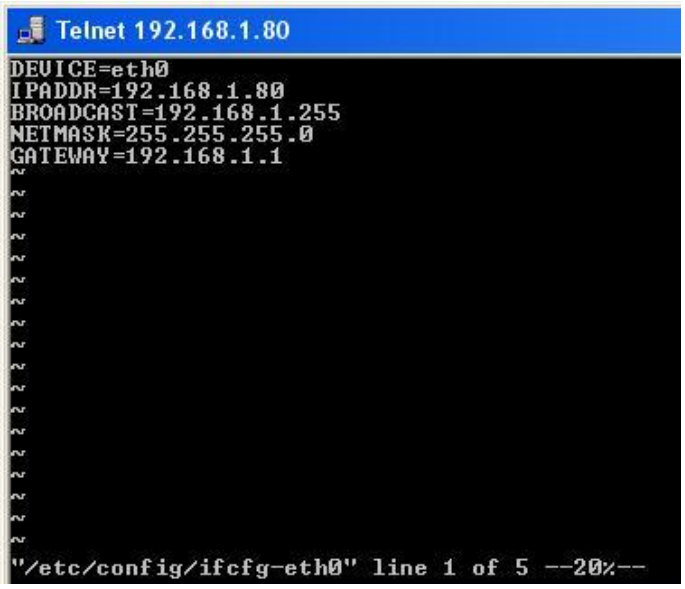


Figure 5 : IP address edit 1

- Move curser at under “0” of “80”

Step 5

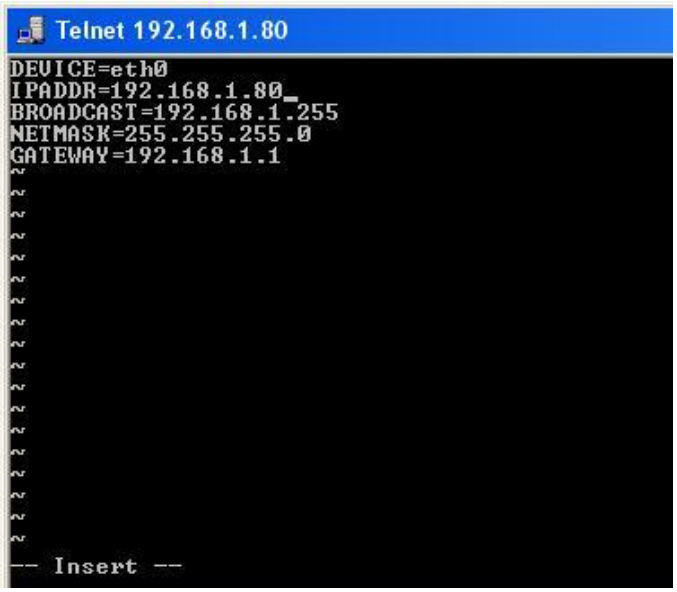


Figure 6 : IP address edit 2

- Input “a” and then “80_” appears. And then “ - Insert - ” appears.

Step 6

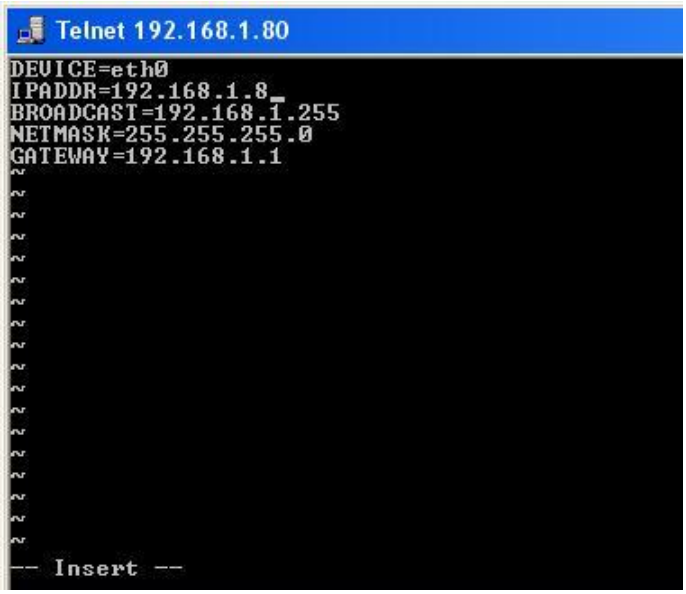


Figure 7 : IP address edit 3

- Push the “Delete” button, and then “8_” appear.

Step 7

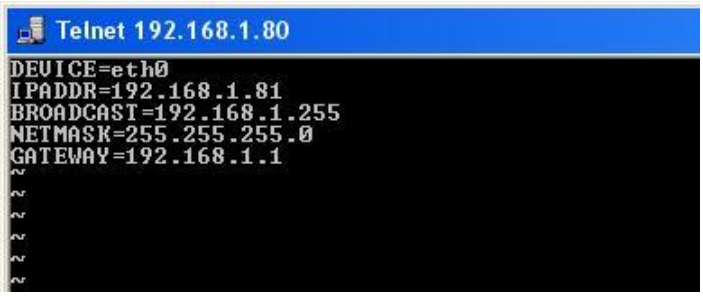


Figure 8 : IP address edit 4

- Input “1”
  When inputting another IP address, it’s possible to input another IP address using the “delete” button and inputting the number directly. And to launch dual detectors is possible, the number is variable among “0~255” but not be repeated.

Step8

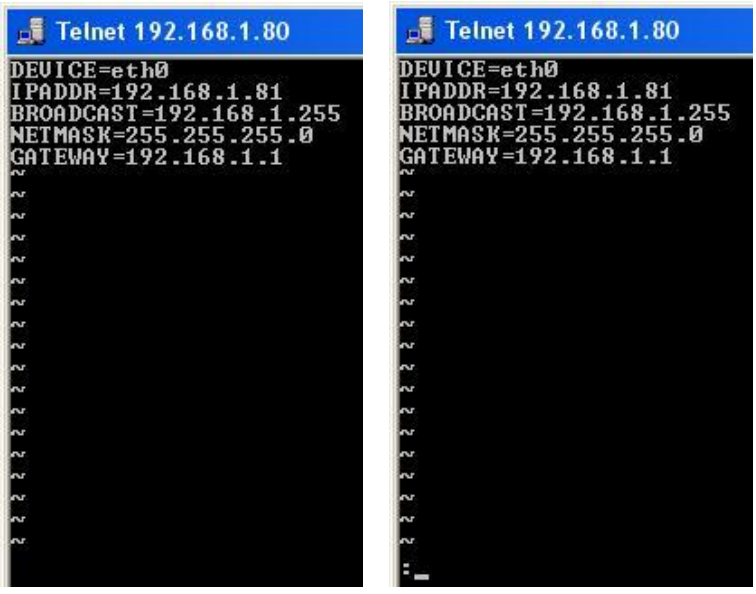


Figure 9 : IP address edit 5

- Push “ESC” button and input “ : ”.
  Push “ESC” button and then the message “ – Insert –” disappears, and push “:” and then “:” appears..

Step 9

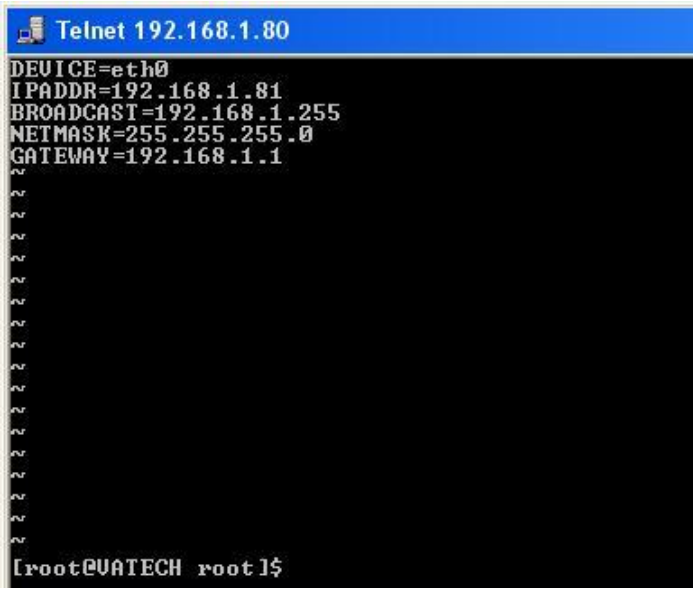


Figure 10 : IP address edit finish

- Push “wq!” and push “Enter” button and then IP address is set. If you don’t want to set IP address, input “q!” and repeat again from “step 3”.

Mac address set-up

After finishing the IP address setting, to distinguish Ethernet Mac address should be changed.

Step 1

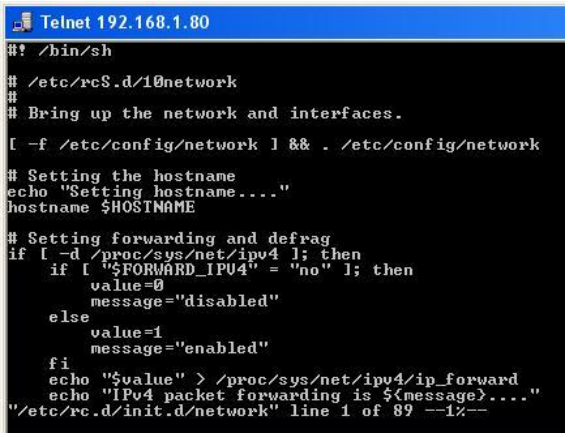


Figure 11 : Mac address edits 1

- Adjacent to the message “ [root@VATECH root]$ ”,

  input the message “vi /etc/rc.d/init.d/network”

  and then it will appear as below.

Step 2

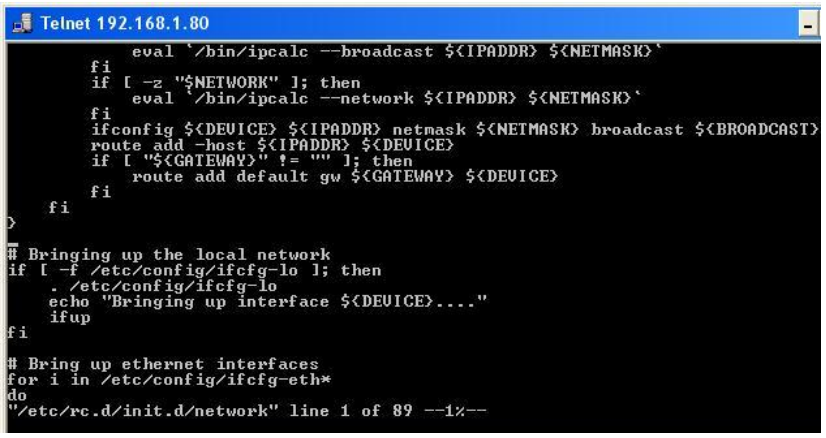


Figure 12 : Mac address edits 2

- Move curser to the message

  “ # Bringing up the local network”

Step 3

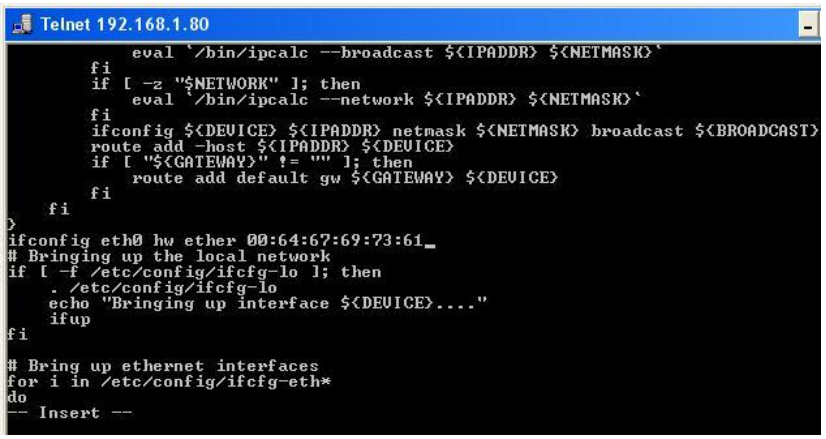


Figure 13 : Mac address edits 3

- Input “I”, then the message “ - Insert - ” appears and input will be possible.
- Input the message “ifconfig eth0 hw ether 00:64:69:73:6x”. The value of X is available among “1~E”

  EX) First Detector → 00:64:67:69:73:61

  Second Detector → 00:64:67:69:73:62

Step 4

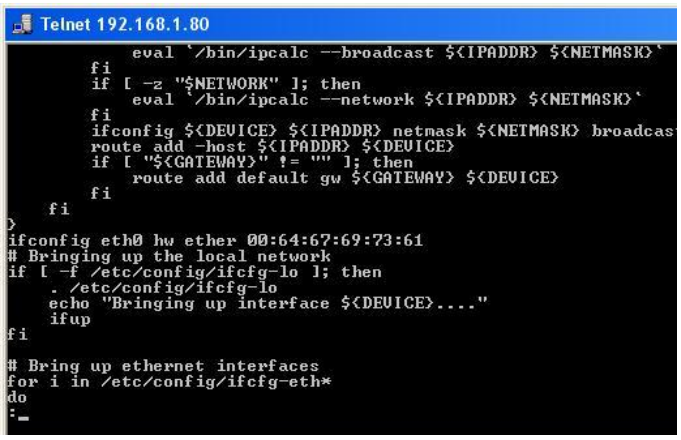


Figure 14 : Mac address edits 4

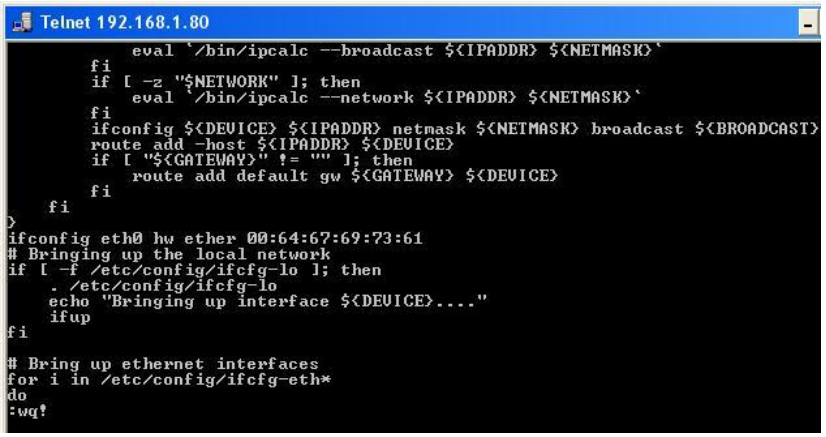


Figure 15 : Mac address edits 5

- After inputting value is finished, set again with the steps from 3.a ~ 3.b
- Push “ESC” button, input “ : ”.
- After input “wq!”, push “Enter” button and then IP address is set. If setting is wrong, input “q!” and redo from the step 1.

Firmware Set-up

FTP set-up

Step 1 : Free FTP download

http://filezilla-project.org/

http://sourceforge.net/projects/filezilla

Figure 16 : Free FTP downloads URL

- Run “FileZilla_Server-N_N_NN.exe” file

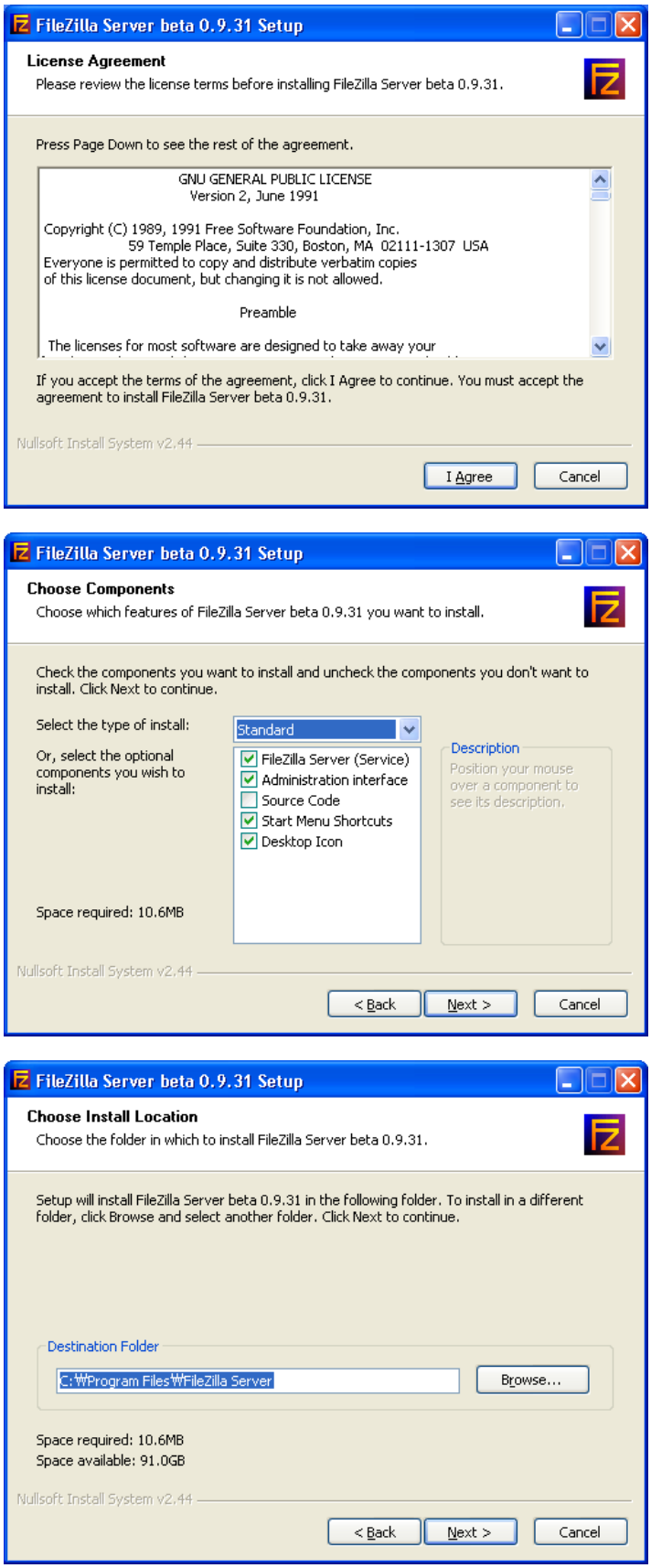
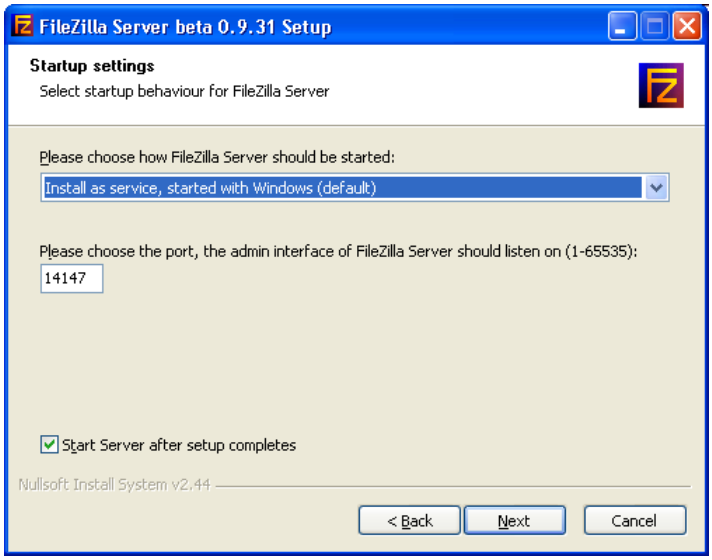
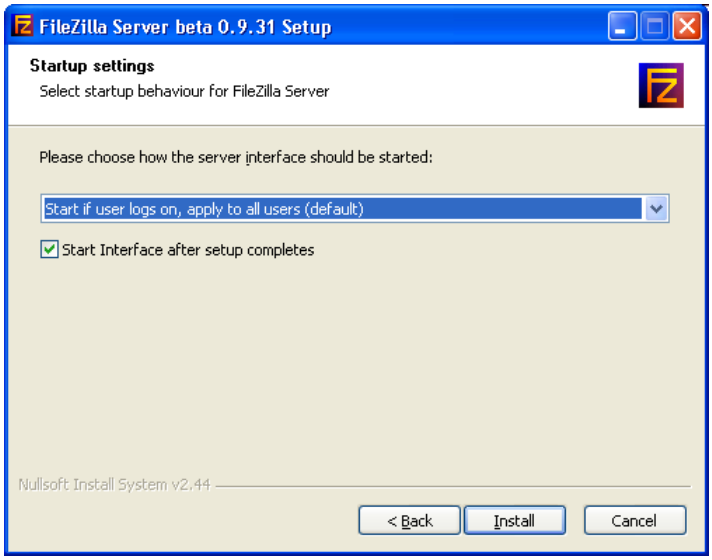


Figure 17 : FTP installation 1





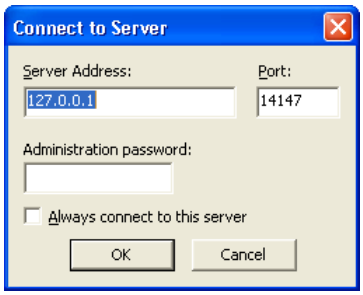


Figure 18 : FTP installation 2

Step 2 : FTP set-up step by step

A. Setting

[Menu Bar] → [Edit] → [Settings]

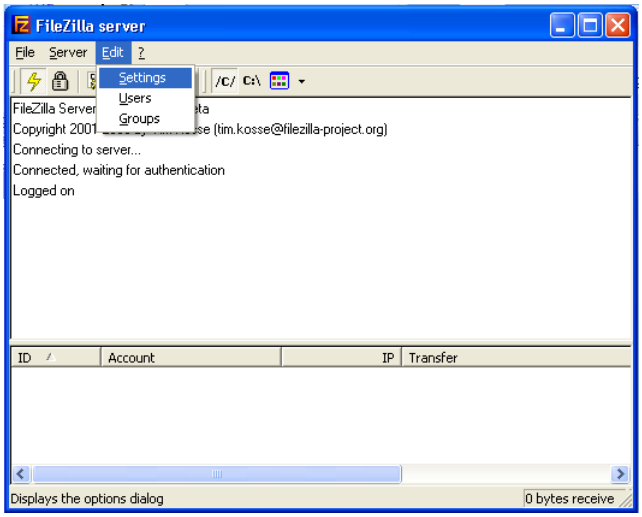


Figure 19 : FTP set up

- General settings

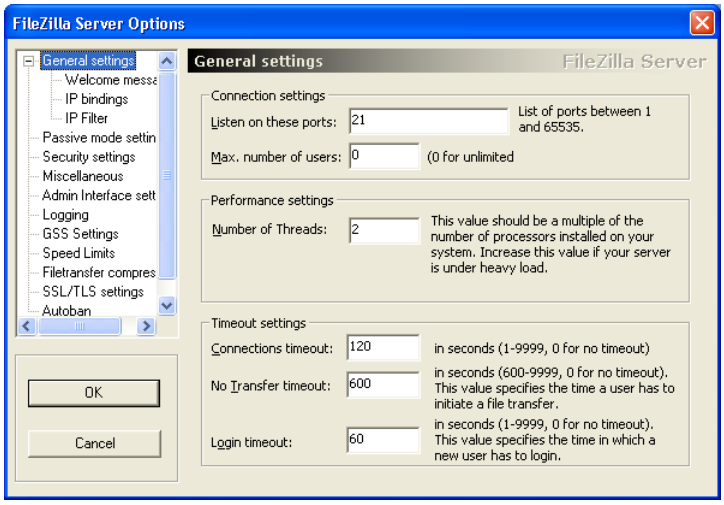


Figure 20 : General settings

- Passive mode settings

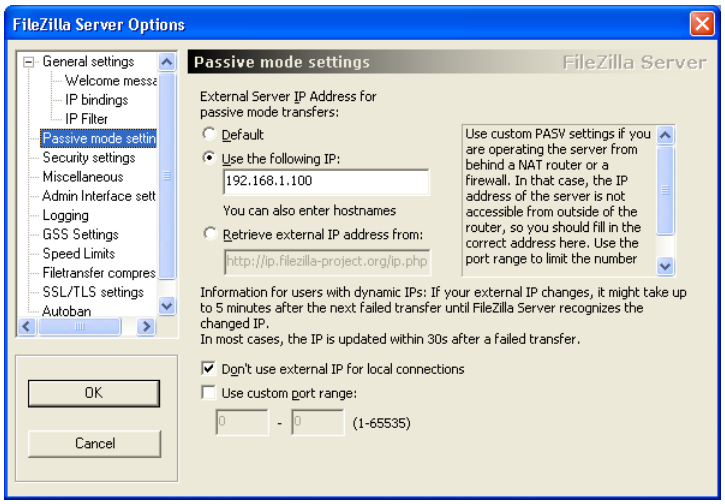


Figure 21 : Passive mode settings

B. Users

[Menu Bar] → [Edit] → [Users]

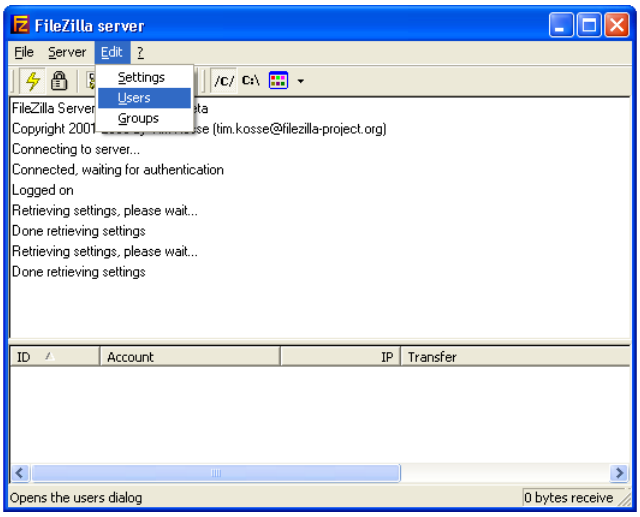


Figure 22 : Users settings

- General → Add

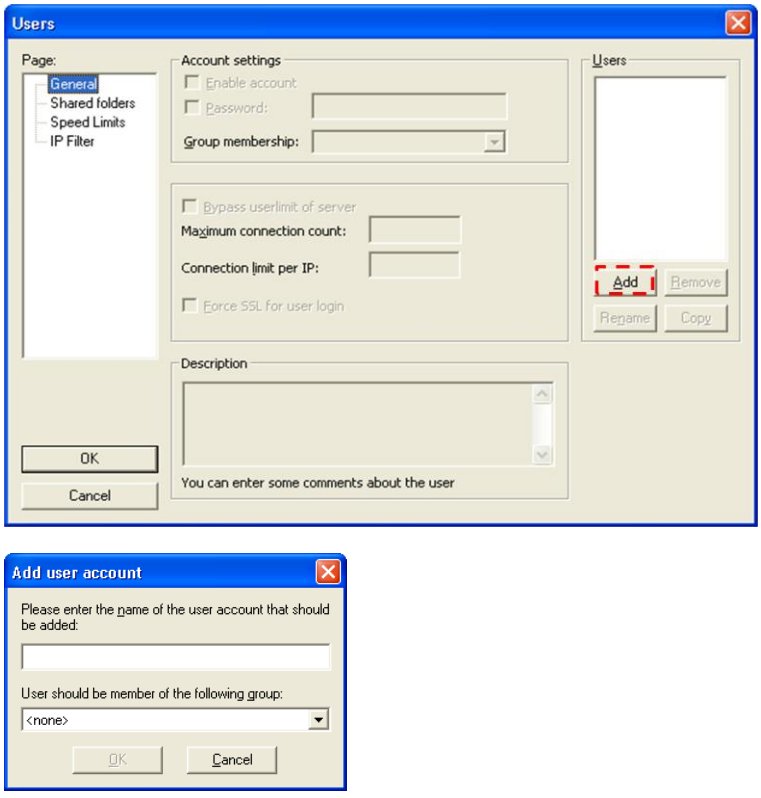


Figure 23 : User Add

- Shared folders → Add

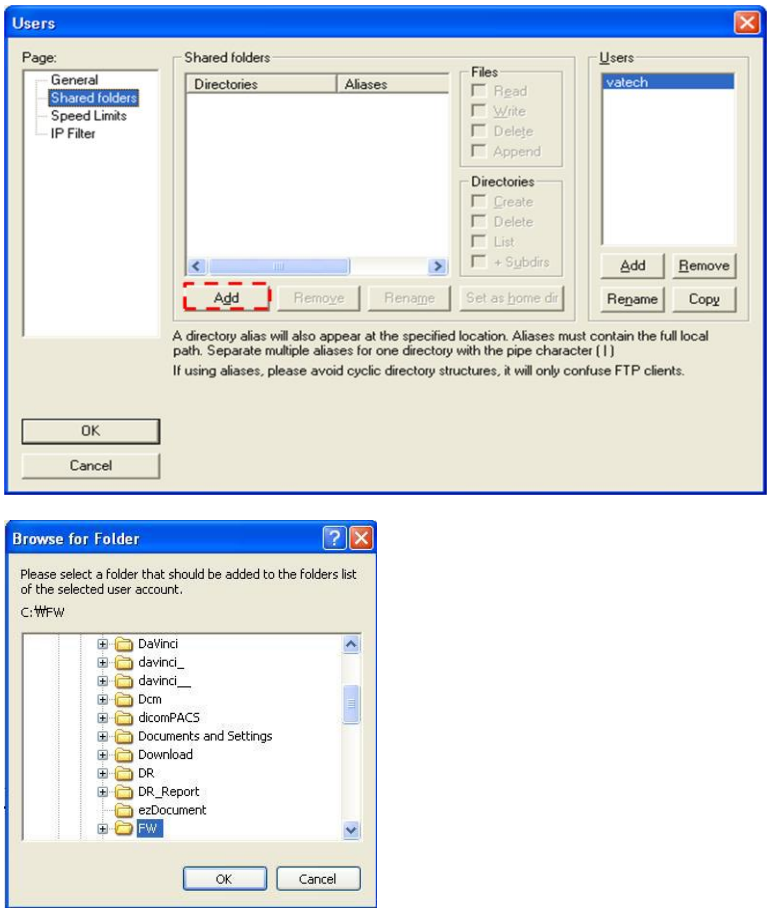
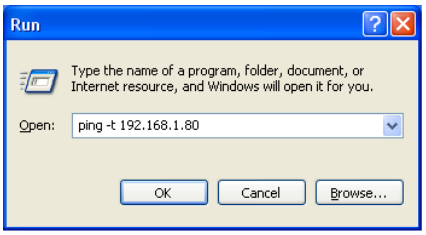
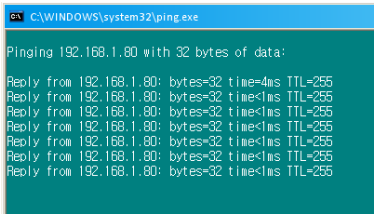


Figure 24 : Shared folders Add

Step 3 : Detector connection



<Normal state>



<Abnormal state>

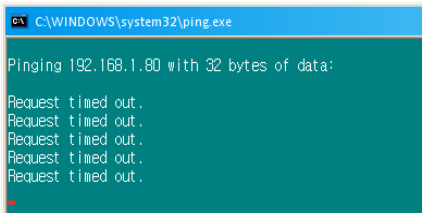
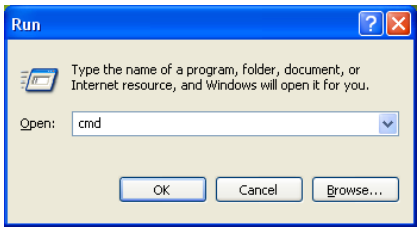
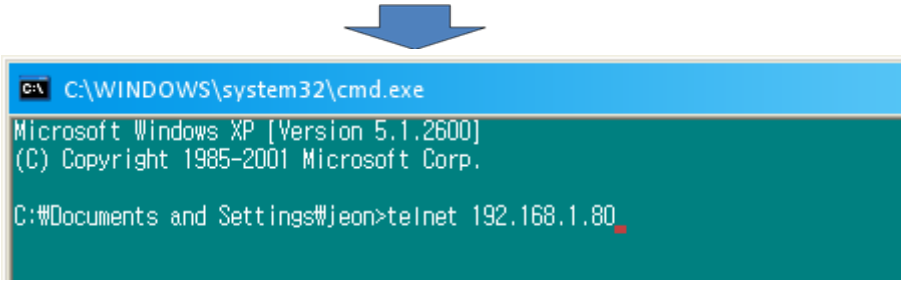
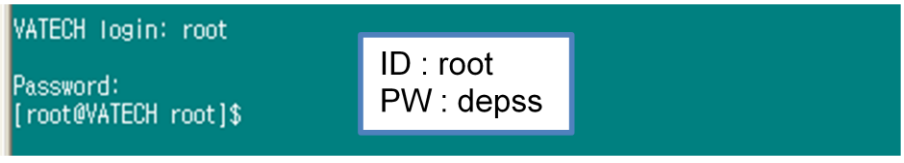


Figure 25 : Detector connection check

Step 4 : Telnet connection







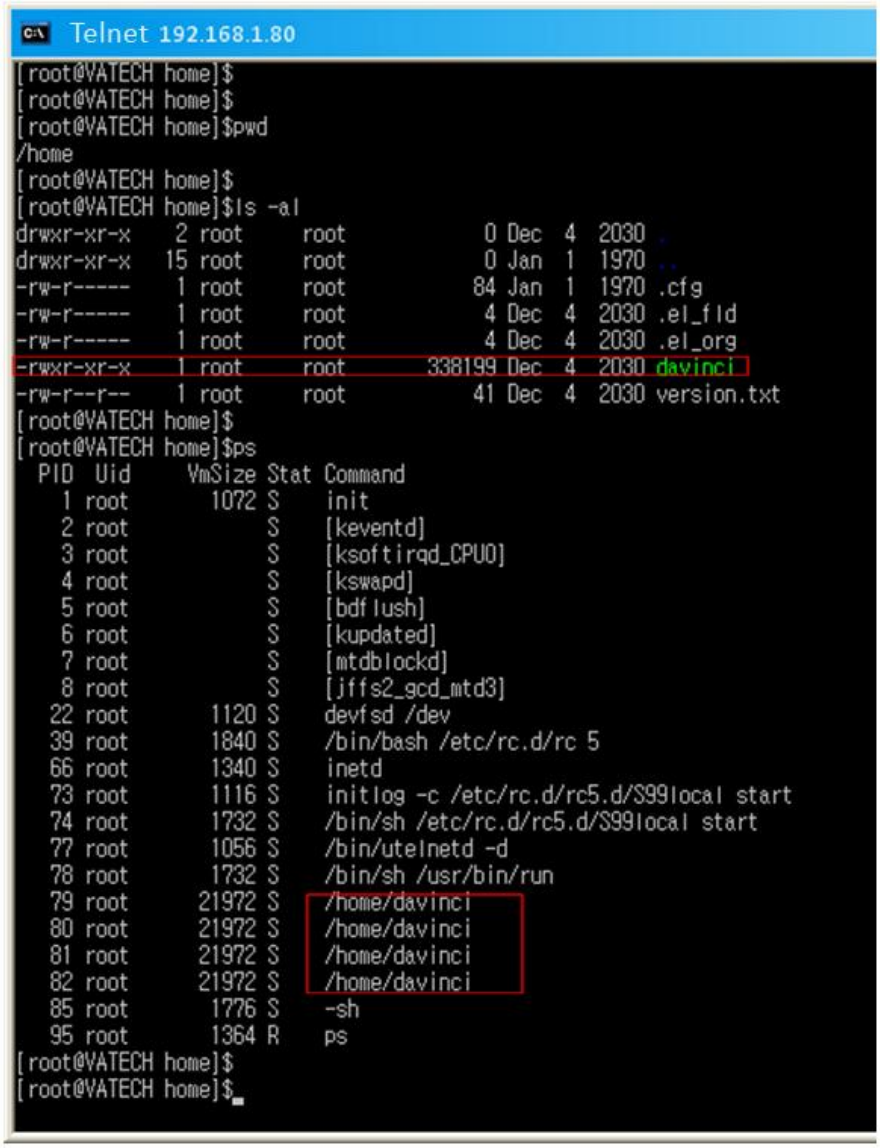


Figure 26 : Telnet connection

- "[root@VATECH home ~]# telnet 192.168.1.80" (connect detector)
- Vatech login : root
- Password : depss
- "[root@VATECH home ~]#cd home" (Move to home directory)
- "[root@VATECH home ~]#pwd" (Check current directory)
- "[root@VATECH root]$ps" (Check current process information)

Step 5 : Firmware download

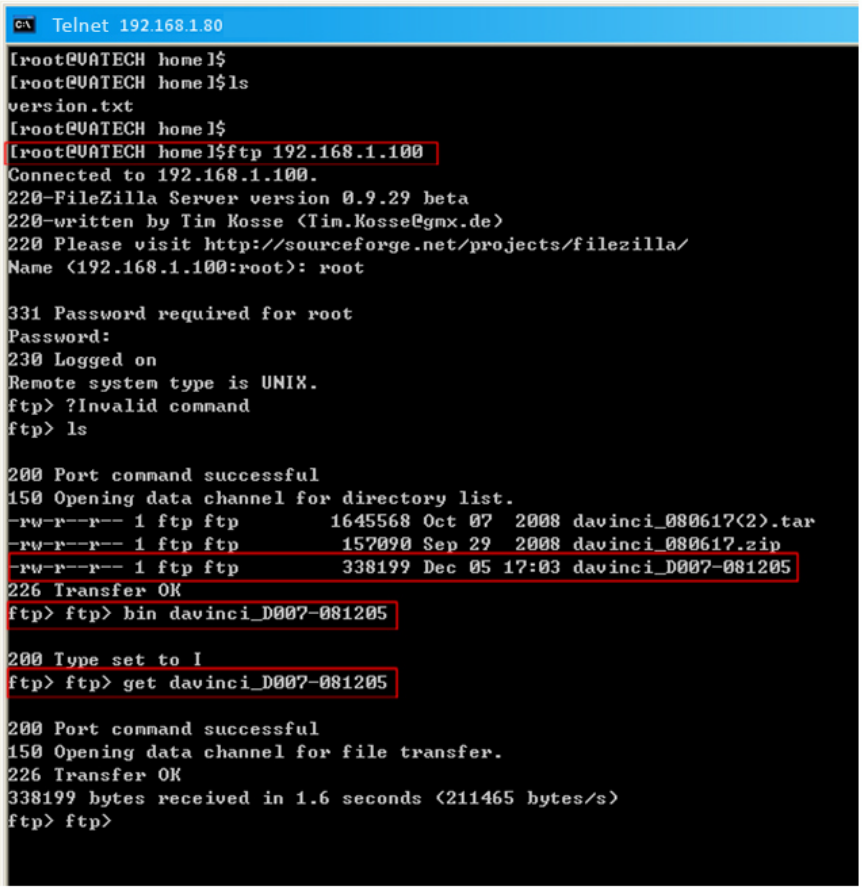


Figure 27 : Firmware download

- "[root@VATECH home ~]$ ftp 192.168.1.100" (connect FTP)
- "[root@VATECH home ~]$ ftp user ID (Ex:root), PW(Ex:1234) (davinci_D007-081205, firmware will be uploaded)
- "ftp> bin davinci_D007-081205" (convert "davinci_D007-081205" to binary file)
- "ftp> get davinci_D007-081205" (download "davinci_D007-081205" to detector)
- "ftp> bye" (end ftp)

Step 6 : Firmware set-up

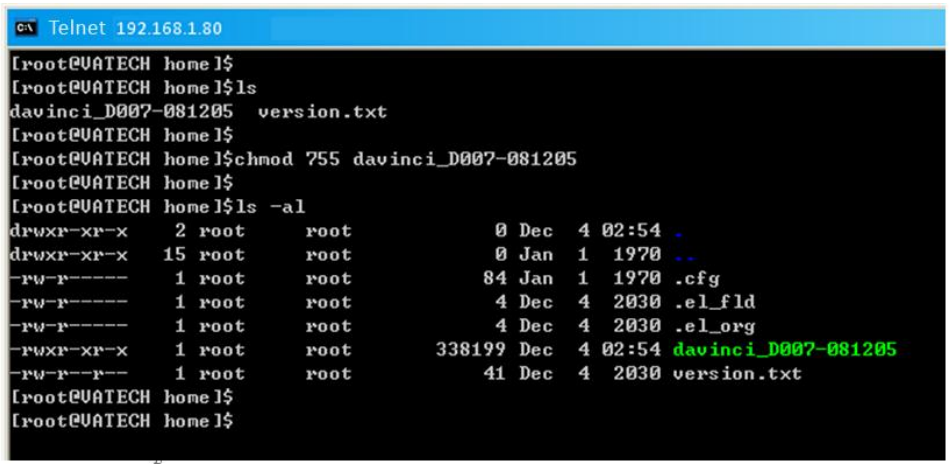


Figure 28 : Firmware set-up

- "[root@VATECH home ~]#chmod 755 davinci_D007-081205"

  (set authority: User :7 (read, write, execute)

  Group :5 (read, execute)

  Other 5 (read, execute))

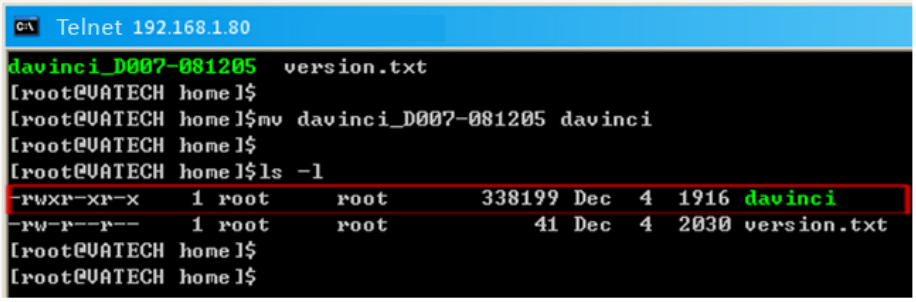


Figure 299 : Convert file name

- “[root@VATECH home ~]# mv davinci_D007-081215 davinci”

(convert file name “Davinci_007-081215” to davinci)

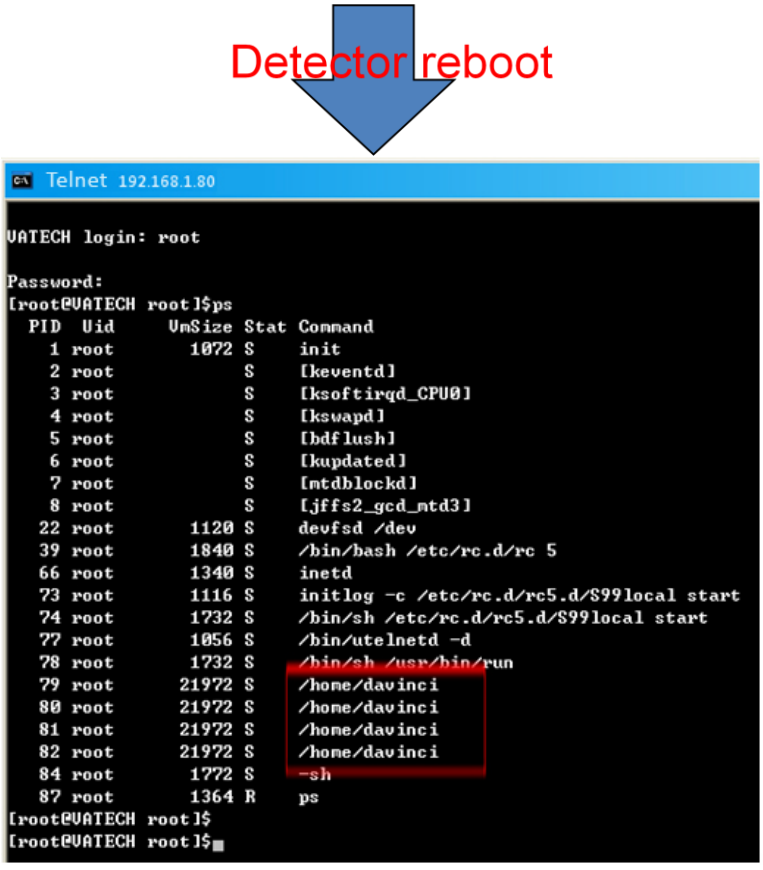


Figure 30 : Check “davinci” process updated

Check “davinci” process updated

Step 7 : Firmware set-up

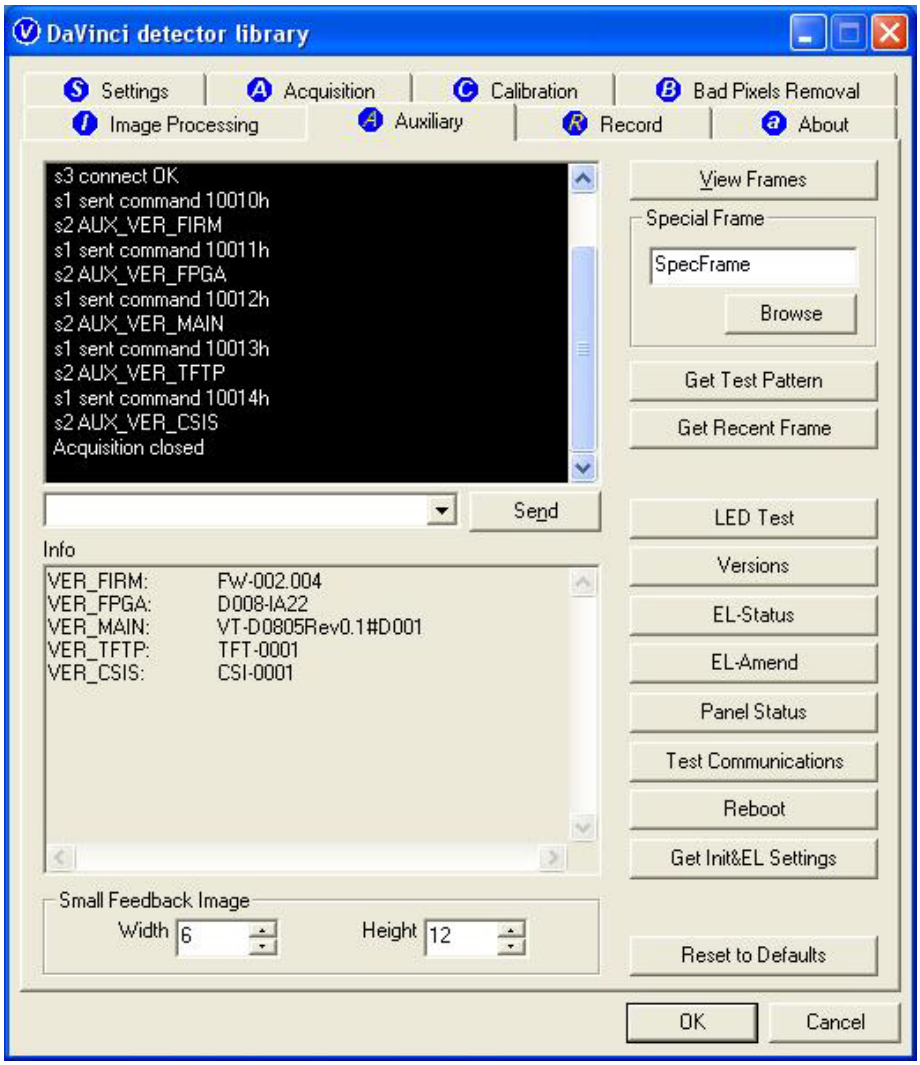


Figure 31 : Check firmware version

Xmaru1717

Service Manual

Leading the transition to Digital X-ray

Caring Insight
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