

3. Set Manual bad pixel map (BPMM) as below.

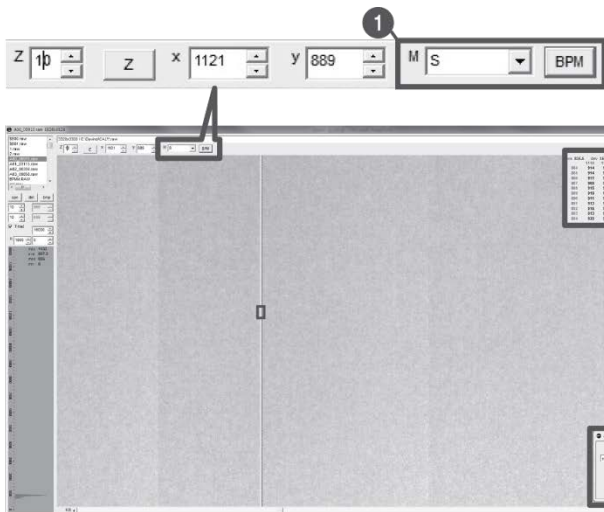


Figure 1. View Image

ave	835.5	dev	354.5	min	21	max	1122	val	1304
884	914	921	920	1221	21	1123	1124	904	911
885	914	916	910	1266	21	907	903	921	910
886	911	913	913	1219	21	909	917	910	918
887	909	913	922	1305	21	901	915	912	916
888	915	914	914	1274	21	901	908	907	908
889	919	903	899	1304	21	907	899	911	906
890	911	907	918	1246	21				
891	913	918	915	1283	21				
892	915	917	920	1303	21				
893	913	905	918	1262	21				
894	920	918	915	1252	21				

Figure 2. Pixel Point

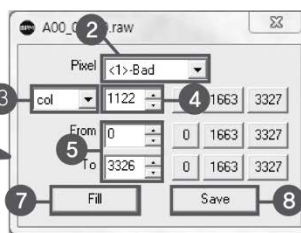


Figure 3. BPMM Control Tab

No.	Overview									
1	At Figure 1, choose S from the list of M(1) and click "BPM". Check if BPMM window is popped up as Figure 3.									
2	Choose "Bad" from Pixel list (Figure 3 - 2).									
3	Choose either "row" or "col" from Figure 3 - 3.									
4	Put the coordinate of pixel to set bad pixel at Figure 3 - 4.									
5	<p>If bad pixel is a line, put the range as below at Figure 3 - 5.</p> <table border="1"> <thead> <tr> <th></th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>Row</td> <td>0</td> <td>3327(127type) 2449(140type)</td> </tr> <tr> <td>Col</td> <td>0</td> <td>2815(127type) 2992(140type)</td> </tr> </tbody> </table> <p>If bad pixel is not a line but some pixels, put the rest coordinate at Figure 3 - 5.</p>		From	To	Row	0	3327(127type) 2449(140type)	Col	0	2815(127type) 2992(140type)
	From	To								
Row	0	3327(127type) 2449(140type)								
Col	0	2815(127type) 2992(140type)								
6	After completing step 5, check if bad pixel has been changed to green as Figure 2 - 6.									
7	Click "Fill" at Figure 3 - 7.									
8	Click "Save" at Figure 3 - 8.									

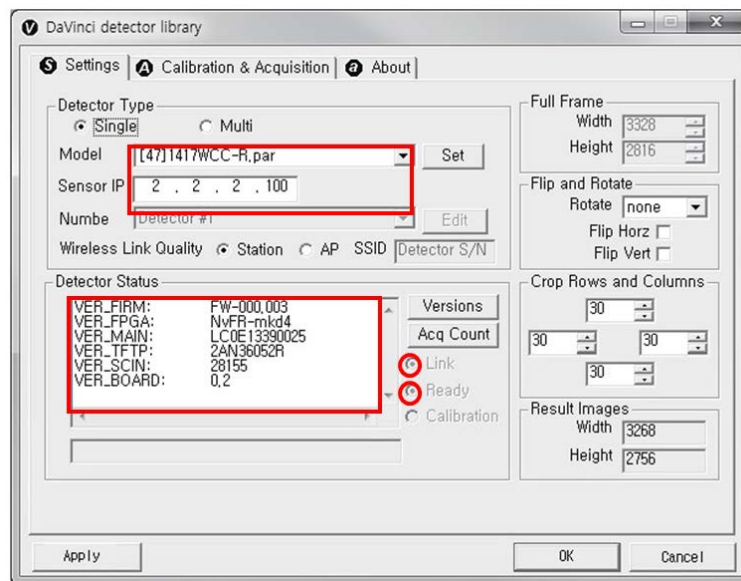
4. Once setting BPMM is done, "BPMM.raw" file will be saved at C:\Davinci\CAL.

4. Usage

4.1 Set Up

4.1.1 Product Connectivity

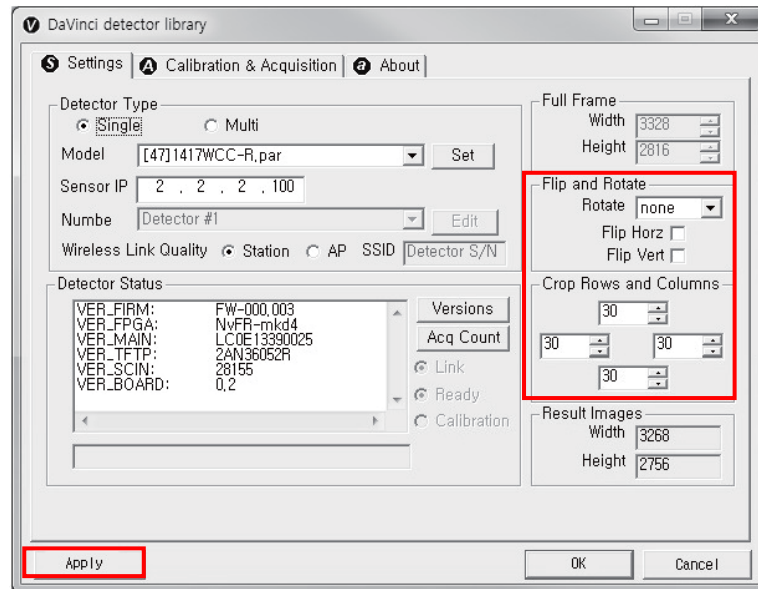
1. Connect the detector and turn on the power.
2. Open “_vadav.lnk” from “C:\davinci”.
3. Once the detector is connected, detector information is displayed in Detector Status and Link & Ready are checked as below.



- If "Detector Status" does not show anything, please refer to **3.1 Installation** in Part.1 User & Installation Manual to connect the detector properly.

4.1.2 Image Set Up

1. In order to rotate or flip an image, use the option of "Flip and Rotate" as shown below.
2. In order to change the size of an image, use "Crop Rows and Columns" as below.
3. Click "Apply" to save.



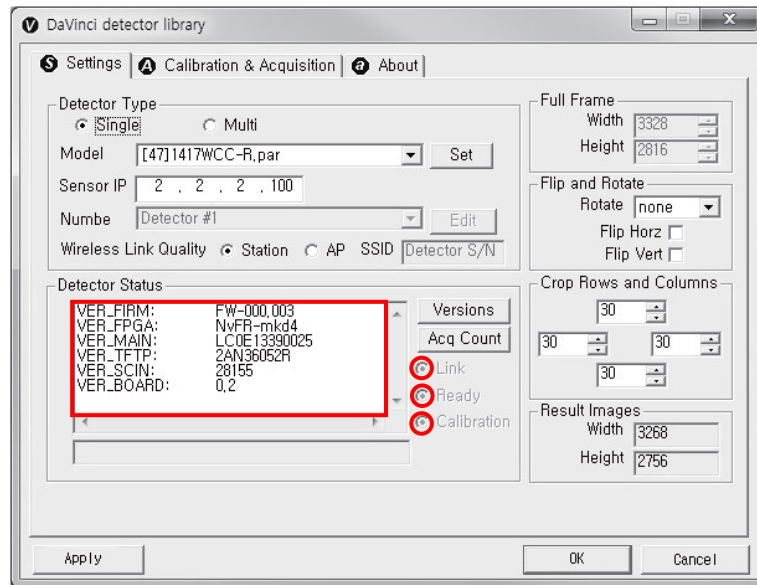
4.1.3 Multi Detector Set Up

Refer to 3 **Multi Detector Set Up** in Part.2 Service Manual for Multi-Detector Setting.

4.2 Image Acquisition

4.2.1 Product Connection

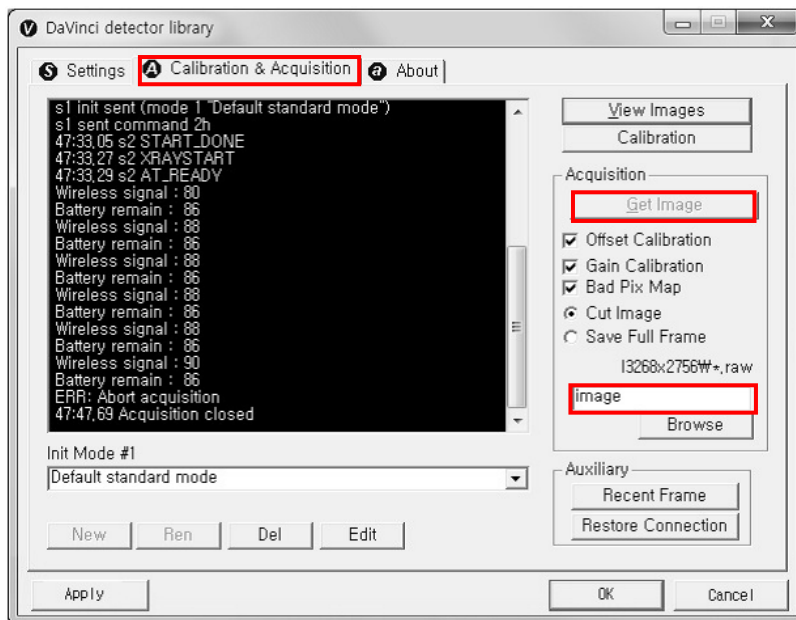
1. Connect the detector and turn on the power.
2. Open “_vadav.lnk” from “C:\davinci”.
3. Once the detector is connected, information of the detector is displayed in Detector Status and Link & Ready & Calibration are checked as below.



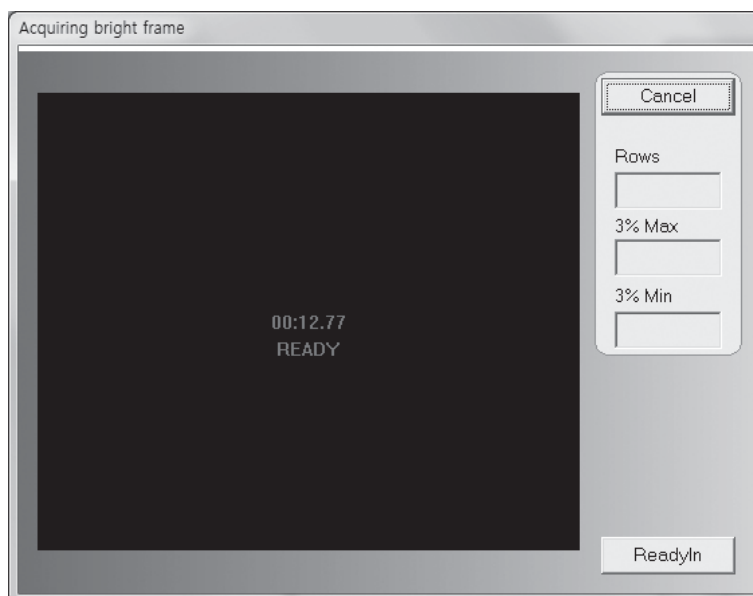
- If "Detector Status" does not show anything, please refer to **3.1 Installation** in Part.1 User & Installation Manual to connect the detector properly.
- If Calibration is not checked along with black dots checking off "Link" and "Ready" as above, please refer to **3.2 Calibration** in Part.1 User & Installation Manual and perform calibration again.

4.2.2 Image Acquisition

1. Click the "Calibration & Acquisition" tab and type the name of the image inside the box below. After naming the image, click "Get Image".



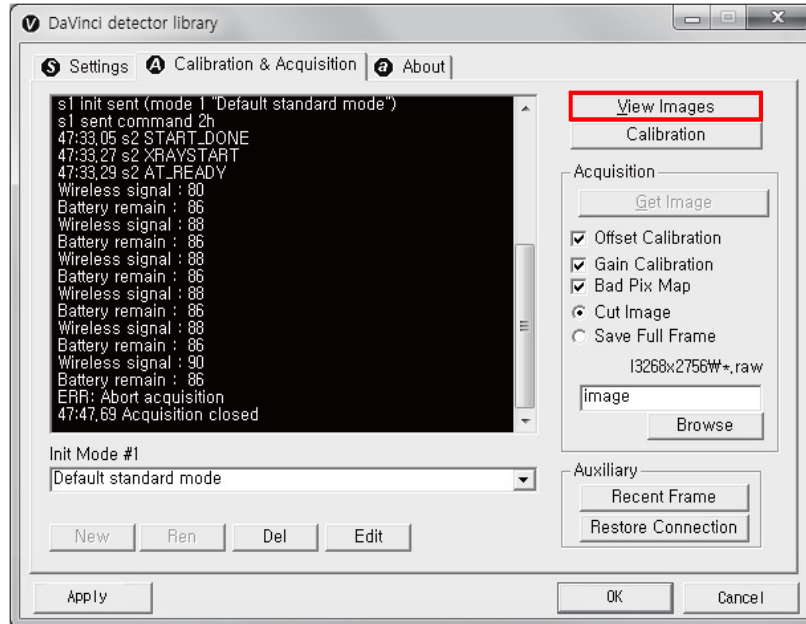
2. Shoot an X-ray once the "Acquiring bright frame" window pops up.



3. An acquired image will be stored in "C:\davinci\l.3268x2756 (127type) or 2440x2992 (140type)" and the name of the file will be "(typed name from Step 1).raw".
4. The format of the stored file is 16 bit little-endian order.

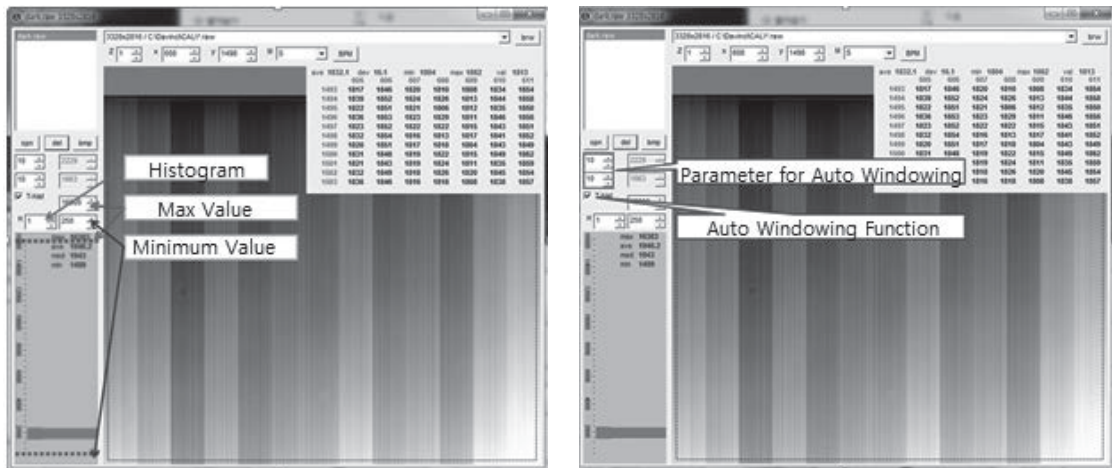
4.3 View Images

1. Click “View Images”



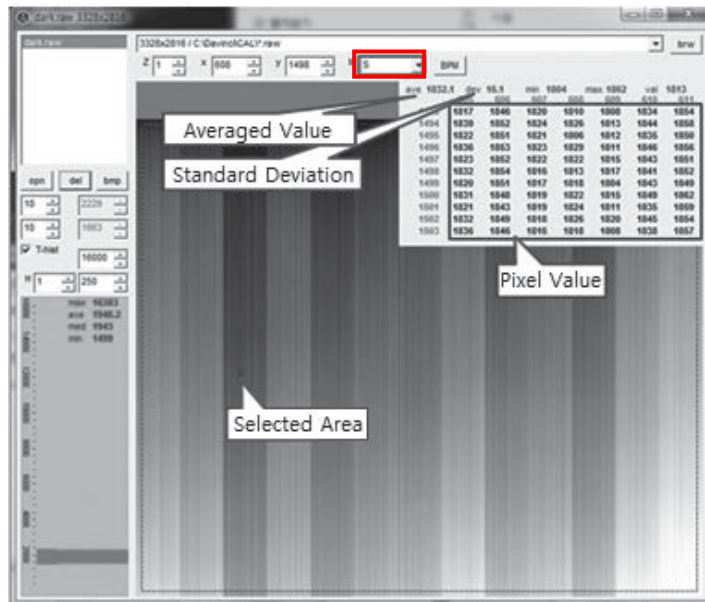
2. Another window will be popped up as below.

Histogram Set Up



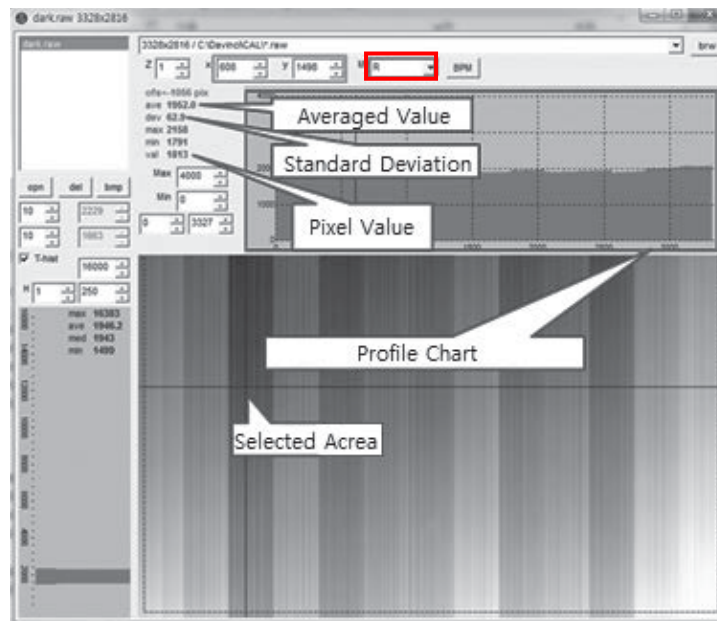
Pixel value at certain level

Choose "S" from marked box.



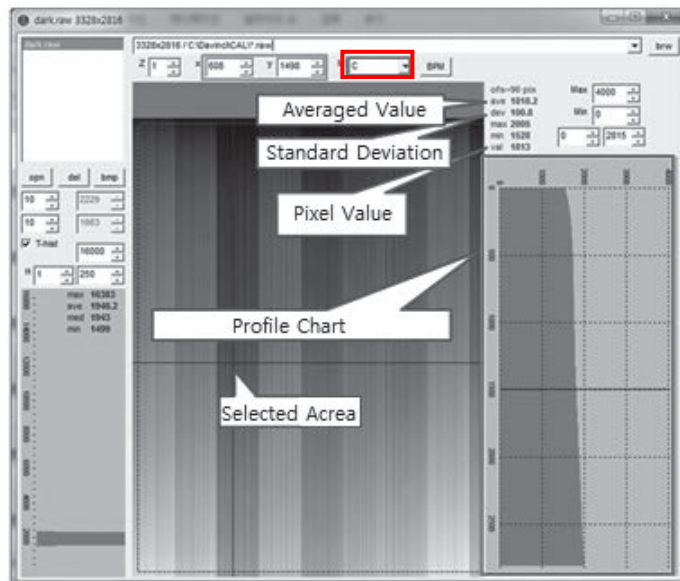
Profile for horizontal line

Choose "R" from marked box.



Profile for vertical line

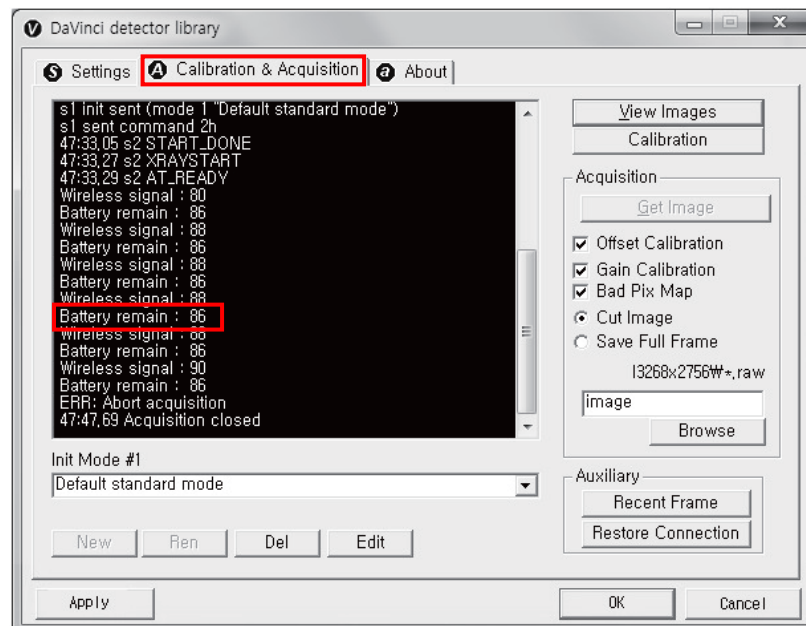
Choose "C" from the marked box.



4.4 Additional Function

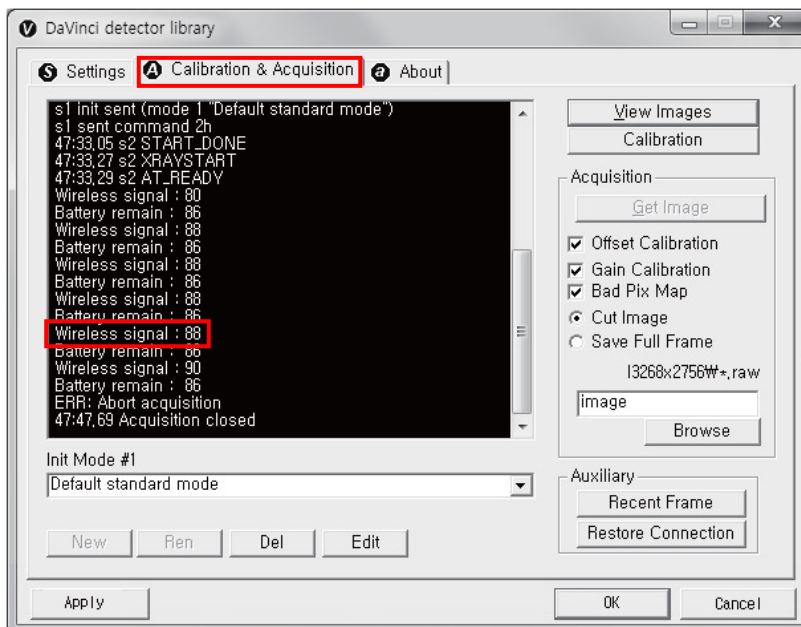
4.4.1 Battery Remain

Once you click "Get Image" under the "Calibration & Acquisition" tab, the Status window will show how much battery remains.

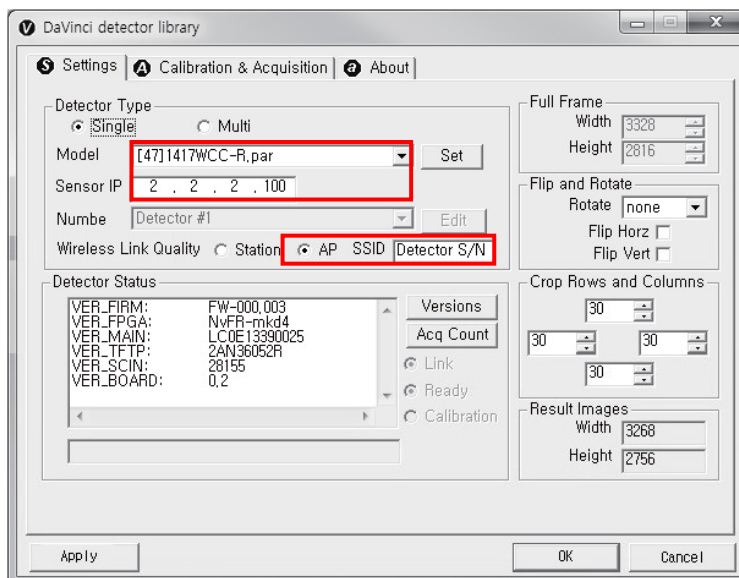


4.4.2 Wireless signal Strength

Once you click "Get Image" under the "Calibration & Acquisition" tab, the Status window will show the strength of the wireless signal.

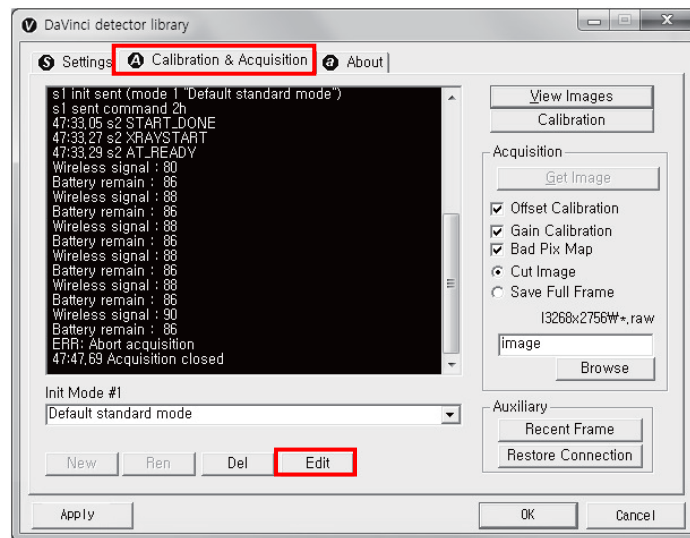


Before you check the wireless signal in the AP mode, the detector's serial number should be entered at the "SSID".

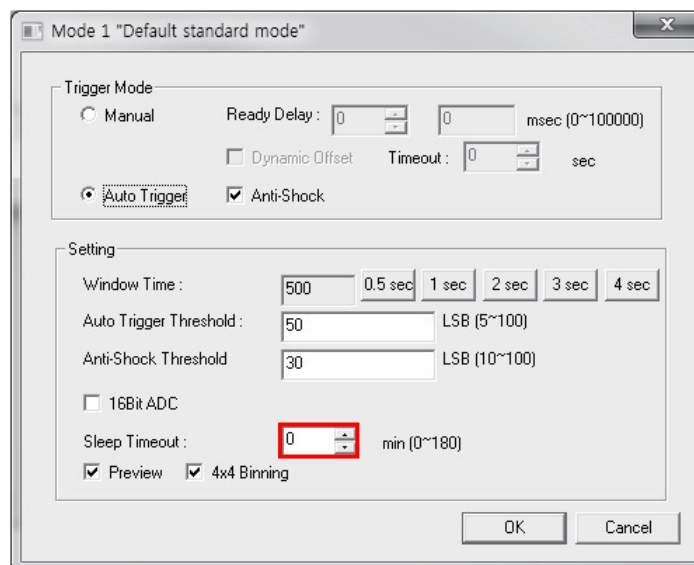


4.4.3 Sleep Mode

1. Click "Edit" under the Calibration & Acquisition tab.



2. Under the "Sleep Timeout" setting, enter a designated time for the detector to go into Sleep Mode.



- Sleep Mode does not apply when set to zero.
- Power consumption is reduced by 40% when Sleep Mode is used.

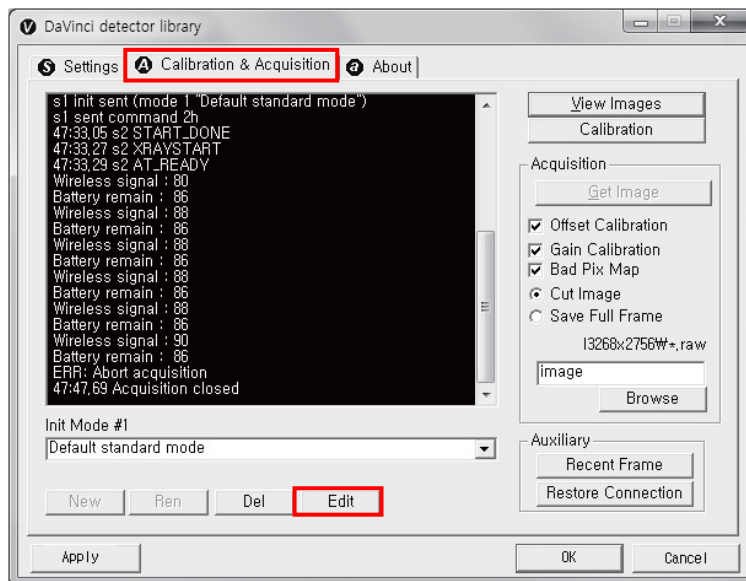
3. To turn off Sleep Mode, attempt to acquire an image or press the power button on the detector just once.



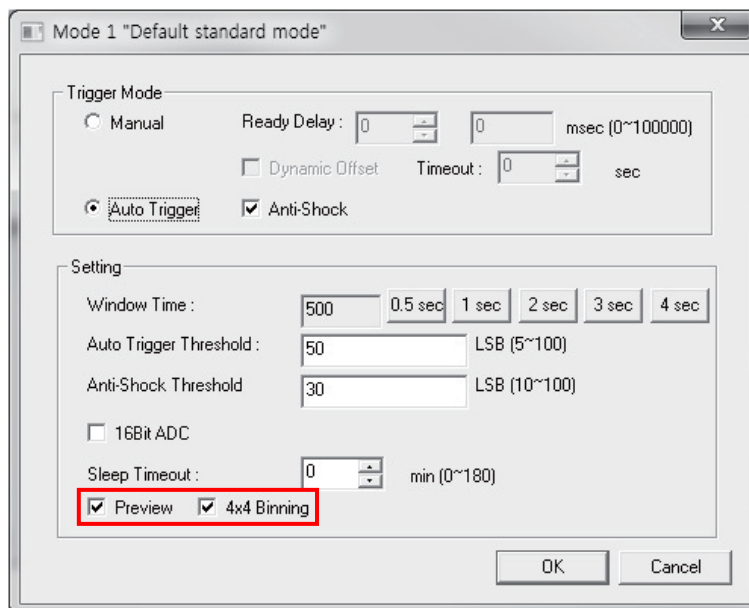
- A normal image can be acquired after 10 seconds Sleep Mode has been turned off.

4.4.4 Preview

1. Click "Edit" under the Calibration & Acquisition tab.



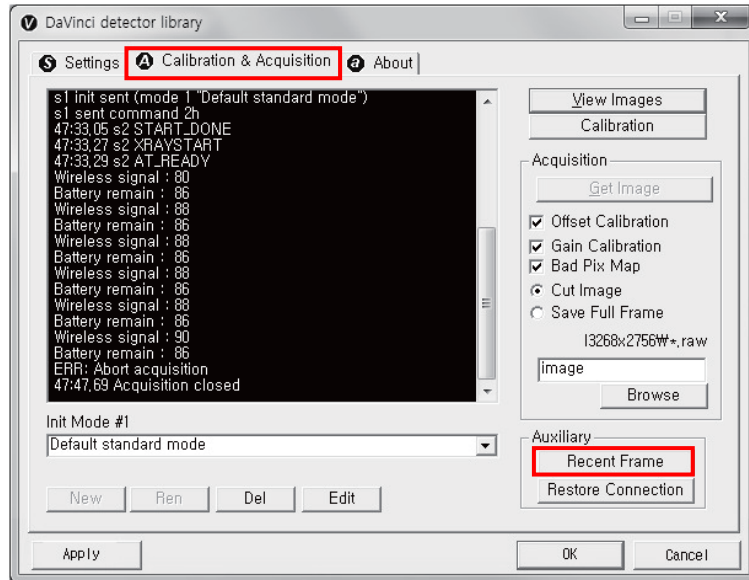
2. After checking the Preview and 4x4 Binning, a 4x4 binned image appears which allows for a quicker image preview.



- By unchecking 4x4 Binning, a normal image preview appears.
- By unchecking Preview, a full frame image appears.

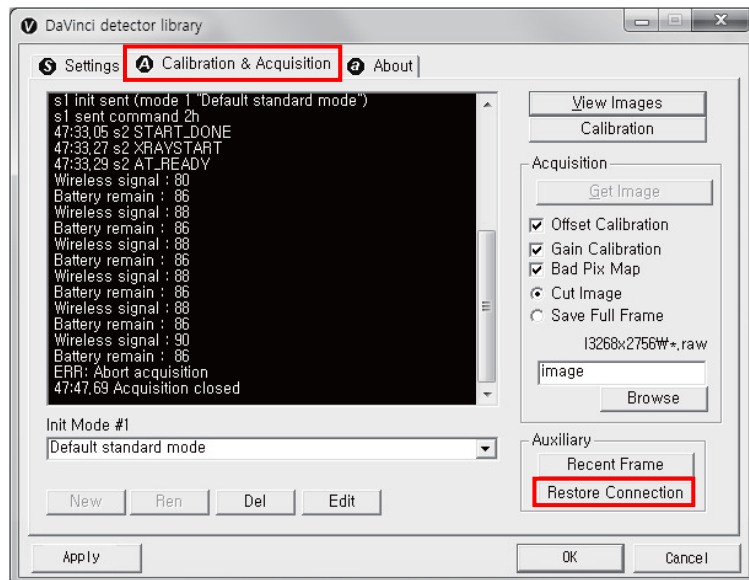
4.4.5 Recent Frame

The last acquired image can be opened by clicking "Recent Frame" under the "Calibration & Acquisition" tab.



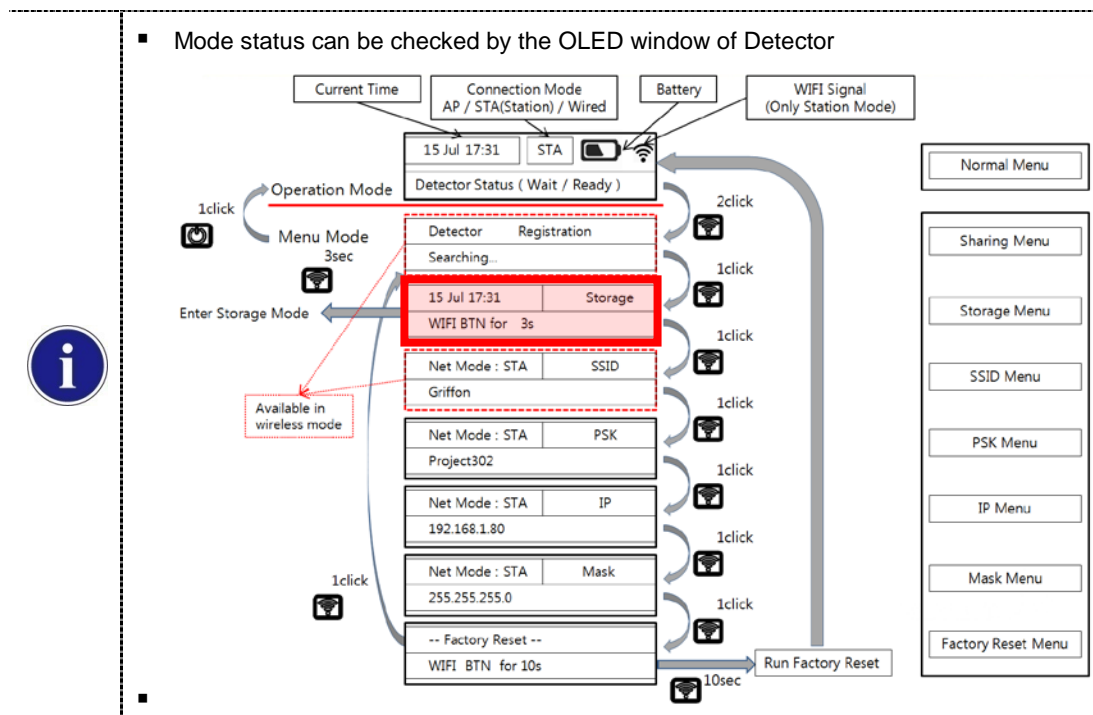
4.4.6 Restore Connection

When the connection between the detector and PC is lost, the connection can be made again by clicking "Restore Connection" under the "Calibration & Acquisition" tab.

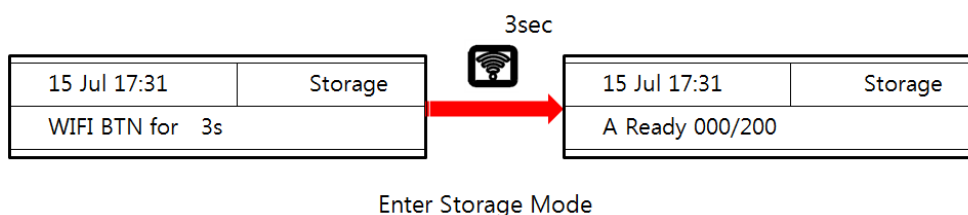


4.4.7 Image Storage function

1. Press the "Mode select button" twice (within 2 seconds) and click one more time to go to "storage mode".



2. Press the mode select button for 3 seconds to check the status of stored images.



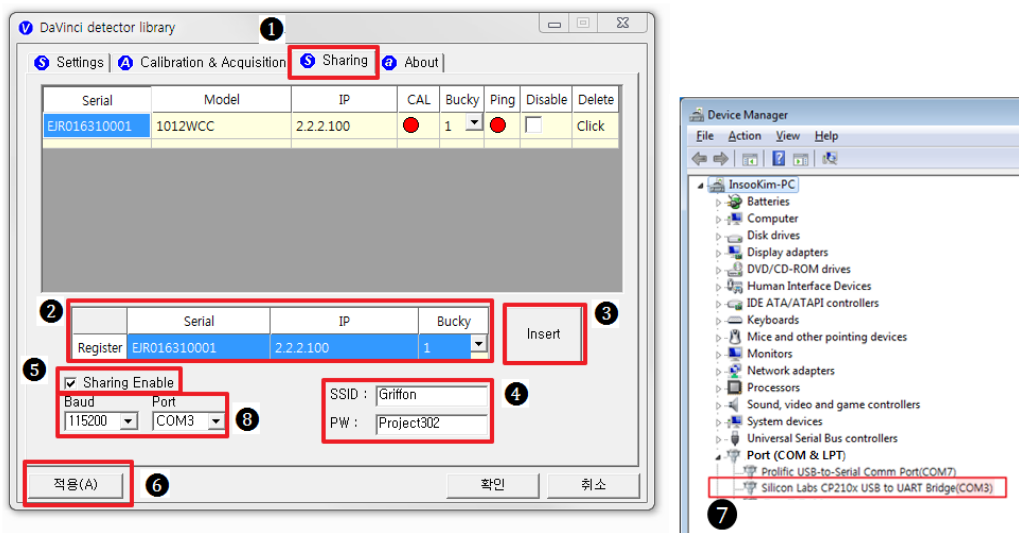
- When Storage mode is used if the connection between the detector and PC, the image is stored the memory in the Detector internal
- Stored Image can be opened by referring SDK
- Image can be stored up to max 200

4.4.8 Sharing function

1. Connect the PC and USB IrDA Dongle by using the Micro USB cable.



2. Set vadavas below



No.	Overview
①	Click "sharing" tab
②	Enter follow thing in order " serial number, IP, bucky number"
③	Click "insert"
④	Put the SSID and PW of AP
⑤	Check "Enable check box"
⑥	Click "apply" to save
⑦	Confirm the connection port in device manager of OS
⑧	Baud select 115200 and select confirmed port in device manager

- Press the "Mode select button" turn on the detector twice (within 2 seconds) and transfer to "sharing mode".



- Mode status can be checked by the OLED window of Detector



- When approaching the detector with USB IrDA connecting to the PC, transfer the Serial Number information of detector.
- Based on the transmitted Serial Number, the CAL folder at the PC is created and the shooting condition is set then USB IrDA of PC transfers IP/SSID information with Detector.
- Detector sets the shooting conditions with the IP/ received SSID.
 - STA Mode: Detector is set by information of wireless router.
 - AP Mode: PC connects to S/N AP Host name's wireless router (Detector).
- If the shooting condition setting is completed, completion status appears at the "OLED window" and "Sharing mode" is turn off.



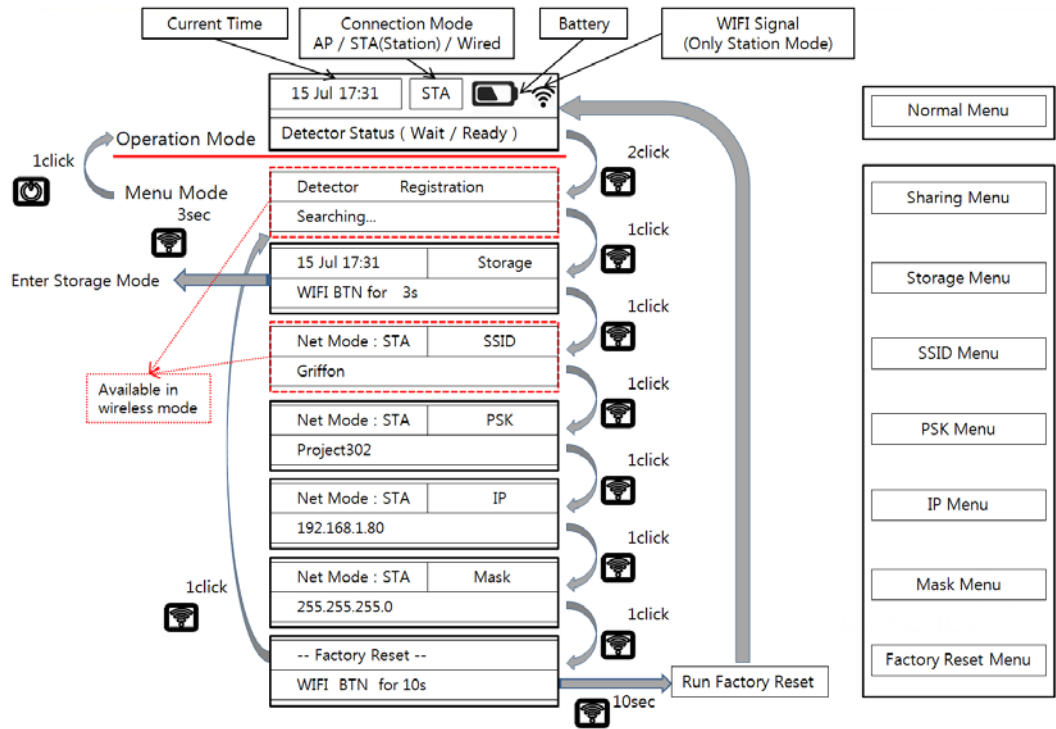
IrDA LED Color	Status
Green	Connected PC
Blinking Orange	Transfer the data
End Blinking Turn on Green	Transfer success
End Blinking Turn off Green	Transfer fail

4.4.9 OLED function

8. OLED is operating when detector is turned on.



9. Use the Mode select button and Power button can be used OLED function as follows.



	<ul style="list-style-type: none"> 1 click 	<ul style="list-style-type: none"> Press the mode select button
	<ul style="list-style-type: none"> 2 click 	<ul style="list-style-type: none"> Press the mode select button twice (within 2 seconds)
	<ul style="list-style-type: none"> 10 sec 	<ul style="list-style-type: none"> Press the mode select button for 10 seconds
	<ul style="list-style-type: none"> 1 click 	<ul style="list-style-type: none"> Press the power button
	<ul style="list-style-type: none"> Normal menu Sharing menu Storage menu SSID menu PSK menu IP Menu Mask menu Factory reset menu 	<ul style="list-style-type: none"> - Will Show the (Time / Battery remain / Wireless signal) of detector - Operation the "sharing function" - Operation the "storage function" - Will Show the SSID information of detector - Will Show the PSK information of detector - Will Show the IP information of detector - Will Show the Mask information of detector - Factory reset menu

5. Maintenance

5.1 Cleaning

1. Clean the detector with IPA (Isopropyl-alcohol) when it is contaminated.
2. Before cleaning the detector, turn off the power and separate the battery.
3. Wear waterproof gloves to protect your hands from direct contact with IPA or any other liquid.
4. Do not pour or spray IPA directly on the detector. Use fabric or soft cloth moistened with IPA to clean.
5. Avoid getting IPA or any other liquid into the detector.
6. After cleaning, wait until the IPA is dried completely.

5.2 Inspection

1. In order to ensure that the detector is used safely and normally, please be sure to inspect the product regularly before use. If any problem occurs, please contact Rayence Customer Service team.
2. Please perform inspections based on the check list below.

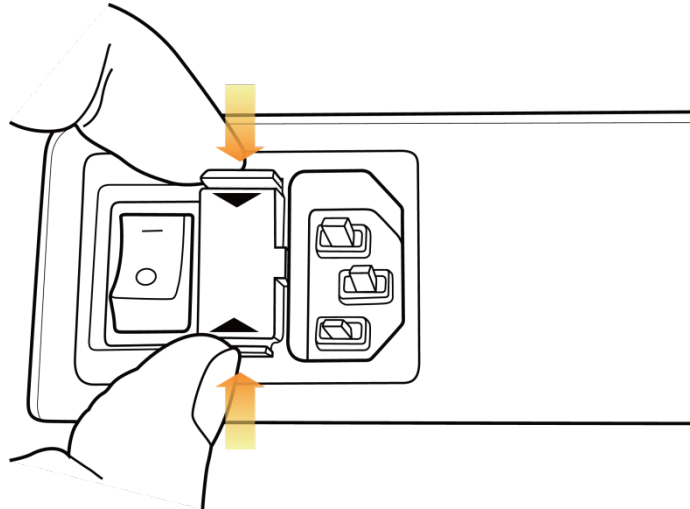
Inspection List	User	Vendor	Cycle
Check if cables are not damaged	o		Daily
Check if plugs and connectors are not loose or damaged	o		Daily
Check if cover or part is not damaged	o		Daily
Check the LED indicator	o		Daily
Re-Calibration		o	Half Year
Check the performance of the product by doing test shots with Phantom or resolution chart		o	Yearly

5.3 Replaceable Parts and Instruction of Replacement

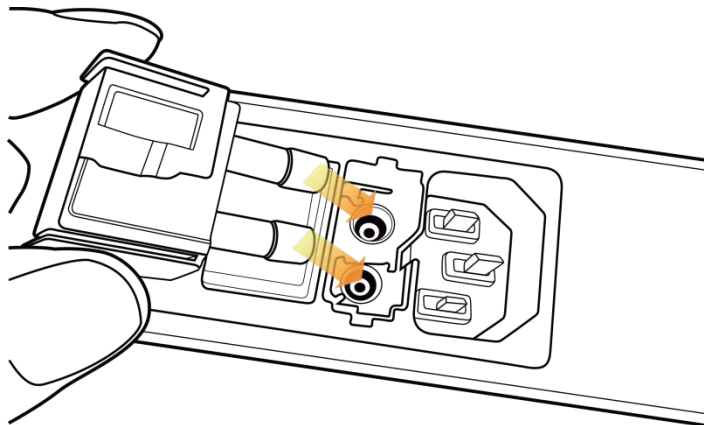
5.3.1 Fuse: T3.15 AL 250V

Replacing the Fuse

1. Press the fuse as below and pull the fuse box.



2. Pull the fuse and replace with another fuse.



5.3.2 Power cord: H05VV-F 0.75SQ * 3C

5.3.3 Ethernet Cable: UTP 4PR 24AWG (CAT.6, straight-through)

5.4 Disposal or Recycling

Follow local governing ordinances and recycling plans regarding the disposal or recycling of device components.



Disposal of old Electrical & Electronic Equipment

(Application in the European Union and other European countries with separate collection system.) This symbol indicates that this product shall not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling this product, please refer to local governing ordinances and recycling plans.

6. Warranty

6.1 Warranty

If Buyer promptly notifies RAYENCE or Seller regarding any parts that fail to perform as specified under normal usage during the Warranty Period and RAYENCE determines that such failure resulted from a defect in materials or workmanship during the Warranty Period, then RAYENCE, at its option, shall repair, rebuild or adjust the affected parts.

RAYENCE shall have no obligation for any defects to the extent that such defect arises out of (i) normal and fair wear and tear or Product which has been modified without RAYENCE's approval, (ii) Product which has not been installed in strict conformity to the RAYENCE's directions or which have been subjected to electrical or other abuse, or damaged by improper handling, storage or use by Buyer or a third party, (iii) use of Product in combination with devices or products not purchased from RAYENCE; (iv) use or application of Product in a field or in an environment for which such Product was not designed or contemplated; (v) use of any parts or material not provided by RAYENCE for warranty service; or (vi) the third party's maintenance not certified by RAYENCE; or (vii) force majeure such as natural disaster.

The remedies contained in this warranty are Buyer's exclusive remedies. RAYENCE shall not, in any event or under any circumstances, be responsible for damages or other sums in excess of the total purchase price actually paid by Buyer to Seller i.e., RAYENCE or RAYENCE's authorized agent. Without limiting the generality of the foregoing under no circumstance shall RAYENCE be responsible or liable in any regard with respect to damages from loss of use, loss of time, loss of data, inconvenience, commercial loss, lost profits or savings, or other incidental, special or consequential damages claimed by Buyer to arise out of the use or inability to use the Product, even if Buyer has been advised of the possibility of such damages.

In the event that the product is returned to RAYENCE after the warranty has expired, RAYENCE reserves the right to invoice a reasonable fee for the repair services provided to Buyer.

RAYENCE shall make the sole final determination about whether the fail to perform occurred in normal usage (under warranty) or not (excluded from warranty). If the authorized agent or the Buyer doesn't accept the result of RAYENCE's investigation, the burden of proof is on them.

Warranty Procedure

If Buyer needs to make a claim based on this Warranty, Buyer should advise Seller in writing immediately at the following address:

RAYENCE Co., Ltd.

14, Samsung 1-ro 1-gil, Hwaseong-si, Gyeonggi-do, Korea

- Tel: +82-31-8015-6245
- Fax: +82-31-8015-6300
- E-mail: marketing@rayence.com
- www.rayence.com

PART II. Service Manual

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1. Overview

This service manual gives additional instructions for setting up the detector.

2. FPD Manager Instruction (IP, SSID Set Up / Firmware, FPGA Update)

2.1 Detector IP Address Set Up

1. Turn on the power of detector and connect with PC. (IP address: 2.2.2.100)

[Connect as wired mode (IP address: 2.2.2.101) with Link cable or wireless mode (IP address: 2.2.2.100).]

2. After the power of detector is on, open "FPD_Manager.exe".
3. Type detector's current IP address at "Detector IP Address" from "Current Setting" as below.



- Detector's Ethernet Controller is operated with Second IP address, 192.168.124.80.

FPD Manager V1.0.2.5 Engineering (build 1.6.4.22)

Current Setting

Detector IP Address: 2 . 2 . 2 . 100

Get Current Settings

IP Change

Change to

Wired IP address: 0 . 0 . 0 . 0

Subnet Mask: 0 . 0 . 0 . 0

Wireless IP address: 0 . 0 . 0 . 0

Station Mode Setup

Setting

External AP's SSID: []

PSK (Pre-Shared Key): []

Emptying Storage Folder in Detector

AP Mode Setup

Setting

HostAP's SSID: []

Set "Open Network" (without PSK)

PSK (Pre-Shared Key): []

Frequency (Ghz): []

Firmware/FPGA Update

Uploading: []

Firmware: [] Select [] Preserve current setting

FPGA: [] Select []

Engineering

Extension Parameters

Aging History

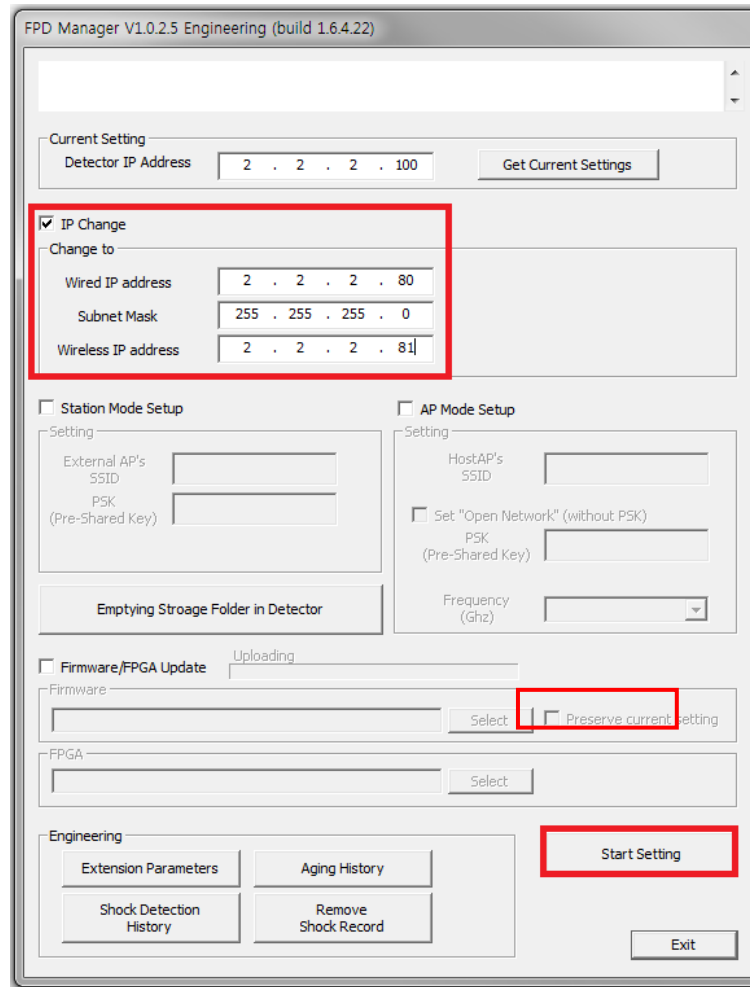
Shock Detection History

Remove Shock Record

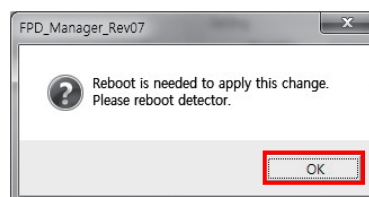
Start Setting

Exit

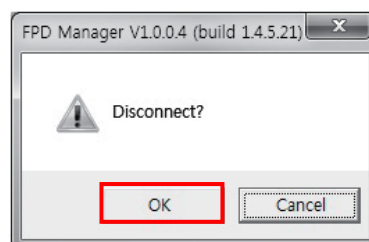
4. Select "IP change" and type the IP address. Click "Start Setting".



5. Click "OK" once the message below pops up.



6. Click "OK" again once the message below pops up.



7. Turn off the power of the detector and after 5 seconds, turn the power back on.

2.2 SSID, PSK (Pre-Shared Key) Set Up

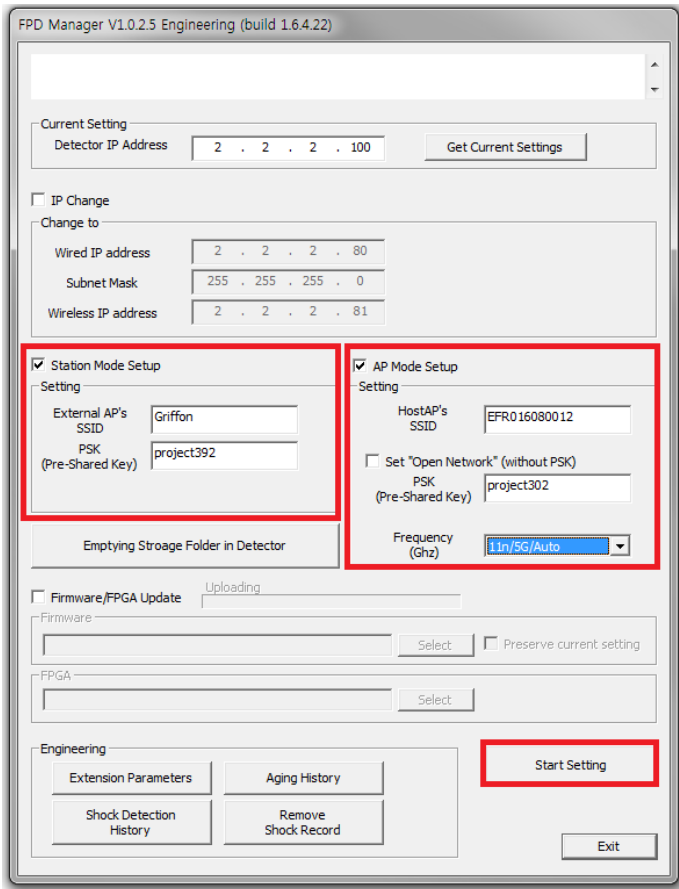
1. Turn on the power of the detector and connect it to the PC. (IP address: 2.2.2.100)
[Connect as wired mode (IP address: 2.2.2.101) with Link cable or wireless mode (IP address: 2.2.2.100).]
2. After the power of detector is on, open "FPD_Manager.exe".
3. Type the detector's current IP address in "Detector IP Address" from "Current Setting" as below.



- Detector's Ethernet Controller is operated with Second IP address, 192.168.124.80.

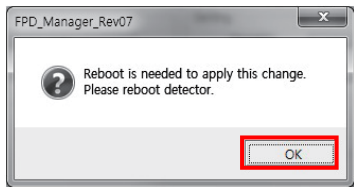
4. Current SSID and PSK (Pre-Shared Key) is displayed once the "Get Current Settings" button is pressed.

5. Select "Station Mode Setup" and "AP Mode Setup". Type the SSID and PSK, and click "Start Setting".



- Station Mode Setup: When external AP is being used, use the same SSID and PSK as applied.
- AP Mode Setup: When built-in AP is being used, use the same SSID and PSK as applied.
- Frequency (Ghz): Default Channel is set to 11n/2.4G/Auto. (802.11n/2.4Ghz/ACS). The ACS (Automatic Channel Selection) feature is setting automatically channel for good AP Mode connection quality. If the Channel causes conflict, the channel can be changed through this program.

6. Click "OK" once the message below pops up.



7. Turn off the power of detector and after 5 seconds, turn the power back on.

2.3 Firmware, FPGA Update

1. Turn on the power of the detector and connect it to the PC.

[Connect as wired mode (IP address: 2.2.2.101) with Link cable or wireless mode (IP address: 2.2.2.100).]

2. After the power of detector is on, open "FPD_Manager.exe".
3. Type the detector's current IP address in "Detector IP Address" from "Current Setting" as below.



- Detector's Ethernet Controller is operated with Second IP address, 192.168.124.80.

FPD Manager V1.0.2.5 Engineering (build 1.6.4.22)

Current Setting

Detector IP Address: 2 . 2 . 2 . 100 [Get Current Settings]

IP Change

Change to

Wired IP address: 2 . 2 . 2 . 80

Subnet Mask: 255 . 255 . 255 . 0

Wireless IP address: 2 . 2 . 2 . 81

Station Mode Setup

Setting

External AP's SSID: Griffon

PSK (Pre-Shared Key): project392

Emptying Storage Folder in Detector

AP Mode Setup

Setting

HostAP's SSID: EFR016080012

Set "Open Network" (without PSK)

PSK (Pre-Shared Key): project302

Frequency (Ghz): 11n/2.4G/Auto

Firmware/FPGA Update

Uploading

Firmware: [Select] Preserve current setting

FPGA: [Select]

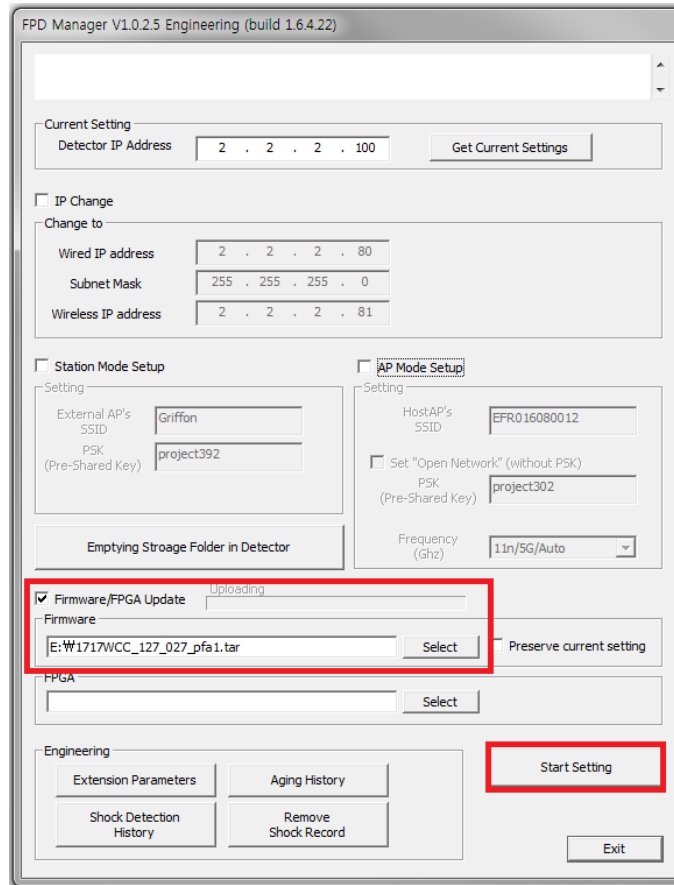
Engineering

Extension Parameters Aging History

Shock Detection History Remove Shock Record

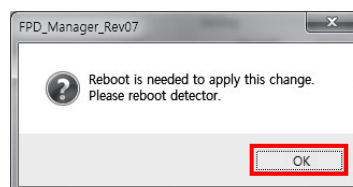
[Start Setting] [Exit]

4. Select "Firmware/FPGA Update" and click "Select" to browse the Firmware and FPGA. Once the files are selected, click "Start Setting".



- Firmware File: File extension is either Davinci or tar.
- FPGA file: File extension is bin.

5. Click "OK" once the message below pops up.



6. Turn off the power of detector and after 5 seconds, turn the power back on.



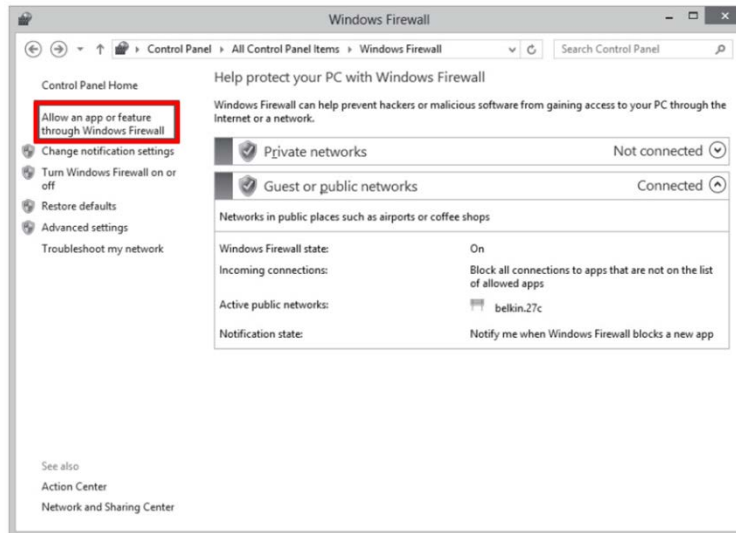
- Detector IP address might be changed to 192.168.1.80 after updating depends on Firmware.

2.4 Set Windows Firewall to use FPD_Manager (For Win 7)

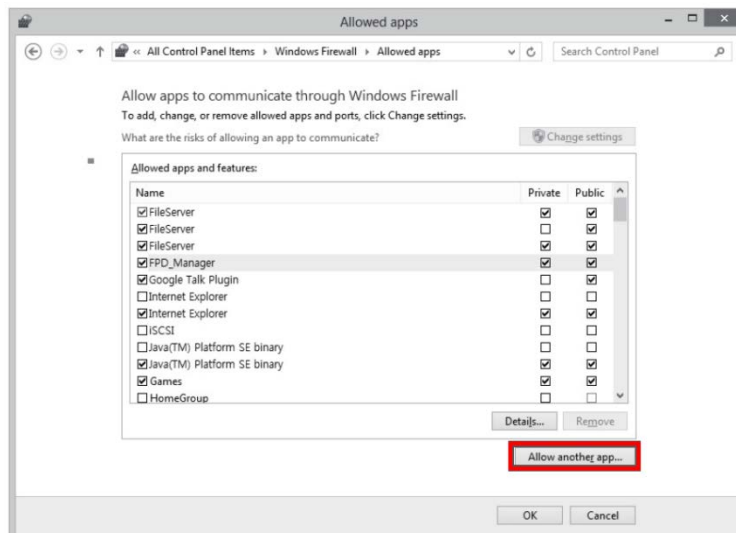


- FPD_Manager would not be performed properly if Windows Firewall blocks FPD_Manager. Please follow the steps below in this case.

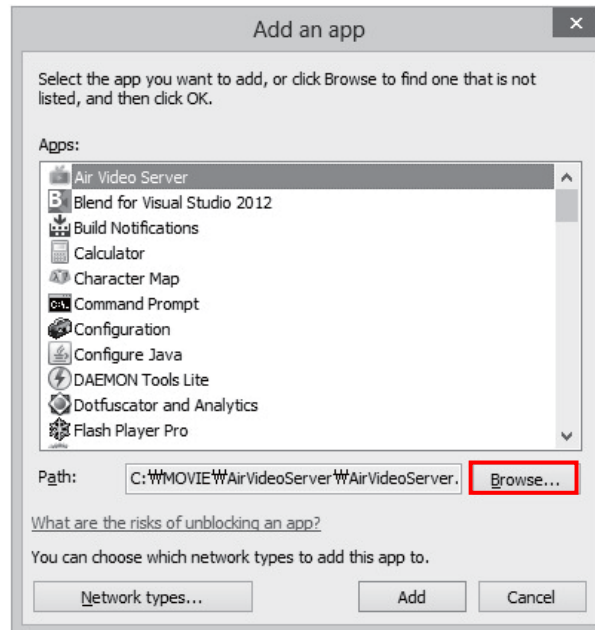
- 'Control Panel' -> 'Windows Firewall' -> 'Allow an app or feature through Windows Firewall'



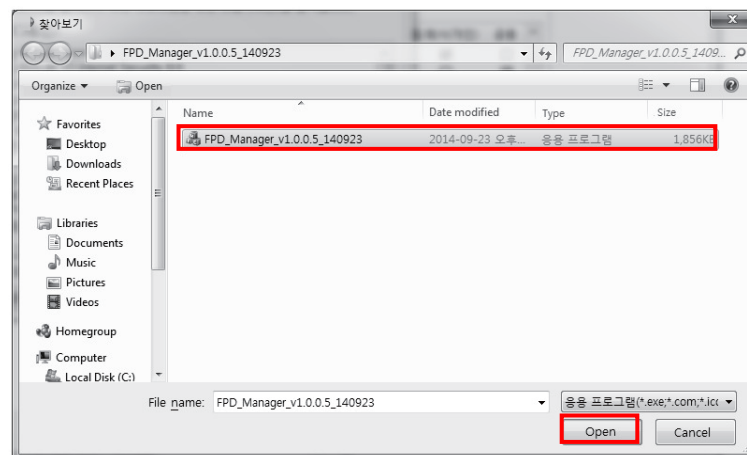
- Check "Name", "Private" and "Public" if FPD_Manager program is already on the list. Click "Allow another app..." when FPD_Manager program is not on the list.



3. Select the program and add if it is already on the list. Click "Browse" when the program is not on the list.

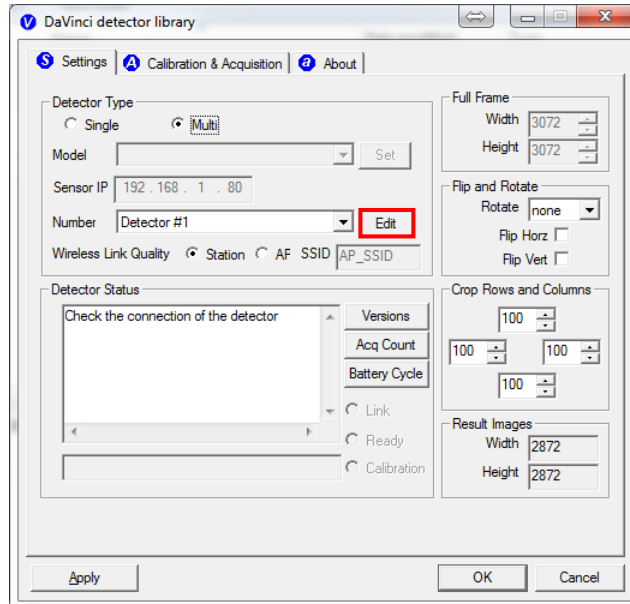


4. Browse and open FPD_Manager program and repeat step ②.

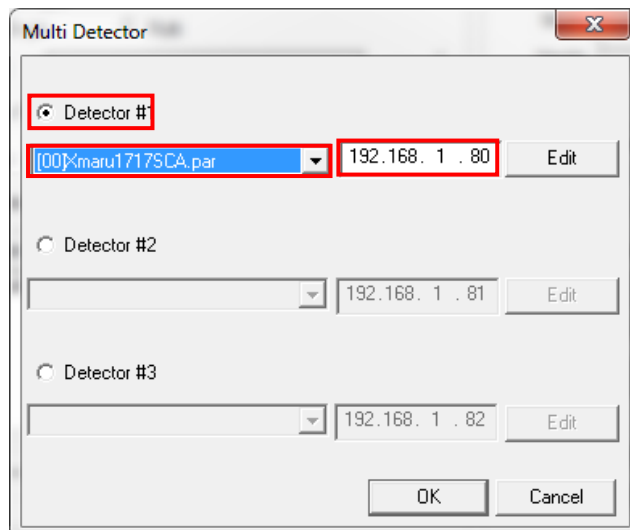


3. Multi Detector Set Up

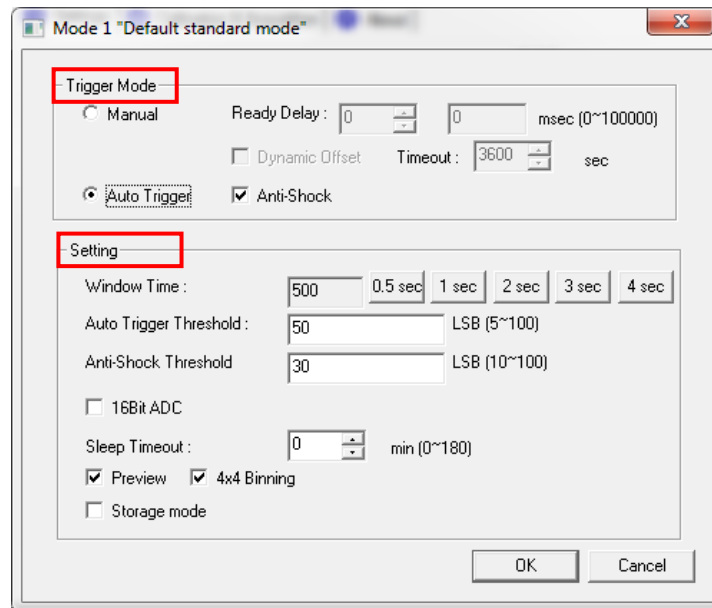
1. Open "_vadav.lnk" from "C:\davinci".
2. Click "Edit" under the "Settings" tab.



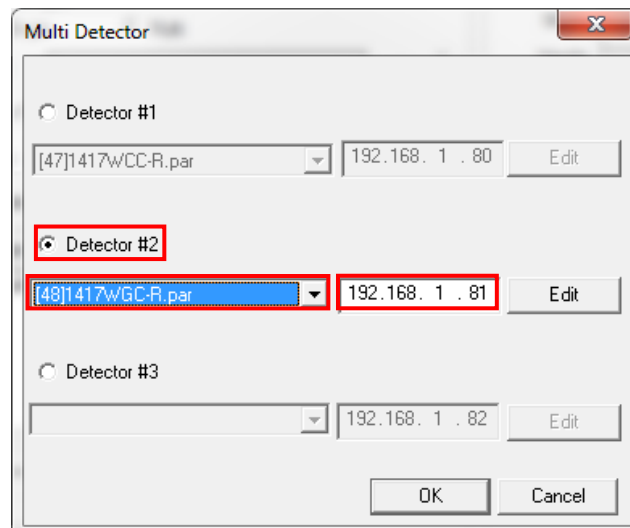
3. Select "Detector #1". Choose the product model and type the IP address.



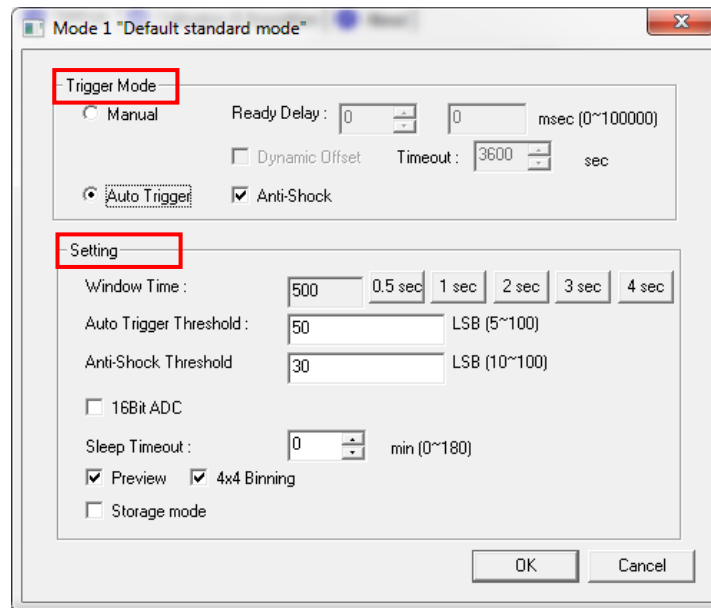
4. Click "Edit" from "Detector #1". Set up the "Trigger Mode" and "Setting".



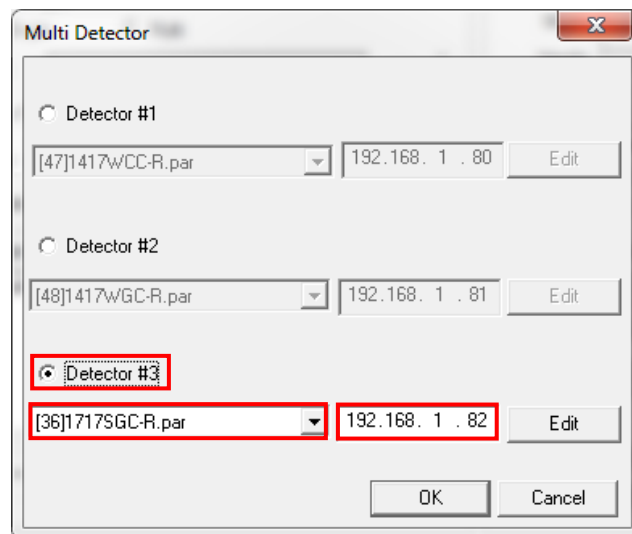
5. Select "Detector #2". Choose the product model and the IP address.



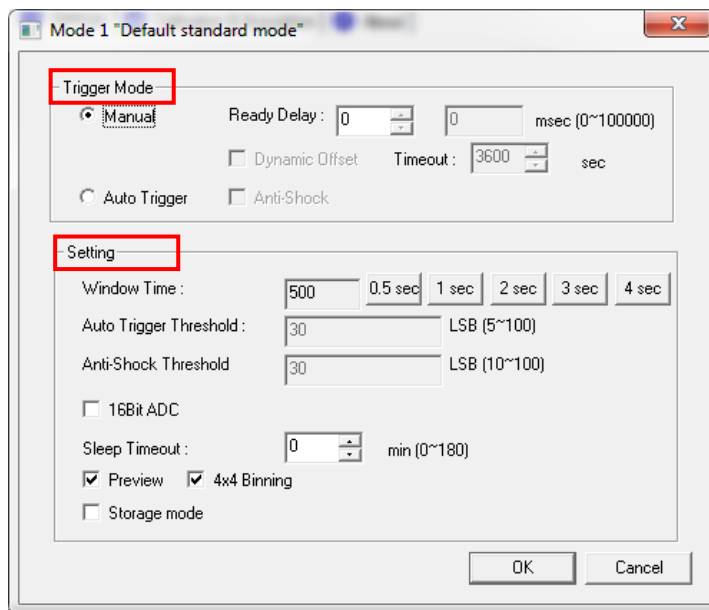
6. Click "Edit" from "Detector #2". Set up the "Trigger Mode" and "Setting".



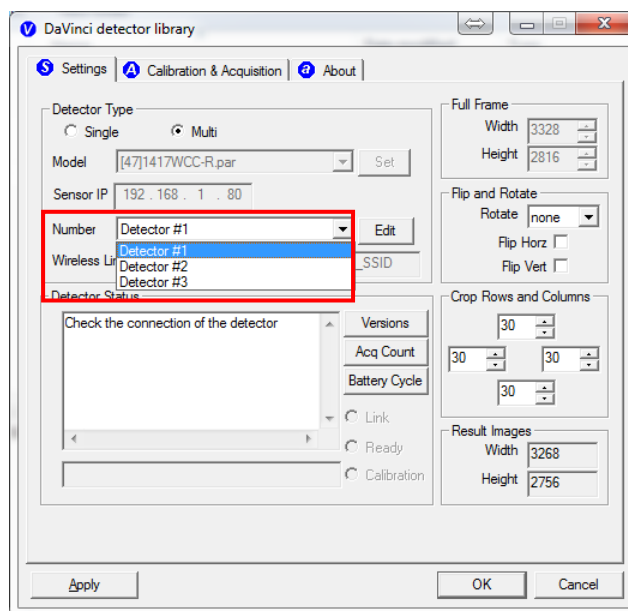
7. If a third detector is being used, select "Detector #3". Choose the product model and type the IP address.



- Click "Edit" from "Detector #3". Set up the "Trigger Mode" and "Setting".



- Choose the detector from the "Number" option and perform the calibration.



- The calibration folder is named according to the third and fourth numbers of the IP address. (e.g. C:\Davinci\CAL_01_80)
- For further instructions on calibration, please refer to 0
- Calibration in Part.1 User & Installation Manual.

4. Troubleshooting

If any problem occurs during the usage of the product, please use this chapter as a trouble shooting guide.

Follow the instructions to resolve the problem. If the problem is not resolved, please contact our Rayence Customer Service team (E-mail: marketing@rayence.com).

4.1 LAN Connection Issue

1. Wireless Mode

1. Check the power

- Make sure the remaining battery percentage is above 25%.
- Check that the power of the detector is on.

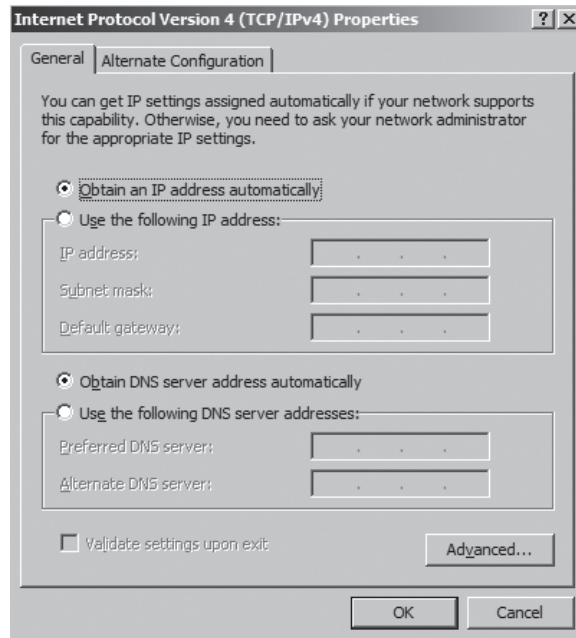
2. Check the AP (Access Point) IP setting

Make sure the AP (Access Point) is set up as recommended.

- SSID: Griffon
- Internal network
 - IP address: 2.2.2.1
 - Subnet mask: 255.255.255.0
 - Dynamic IP allocation range: 2.2.2.2 ~ 2.2.2.254
- Pre-Shared Key(PSK): project302
 - Authentication methods: WPAPSK or WPA2PSK
 - Password methods: TKIP/AES
- Channel (Frequency)
 - Avoid the crowded channel option.
 - Use the "Auto-Channel selection" function if the external AP has the feature.

3. Check PC Set up

Make sure that the "Obtain an IP address automatically" is selected from "Internet Protocol Version 4 (TCP/IPv4)".



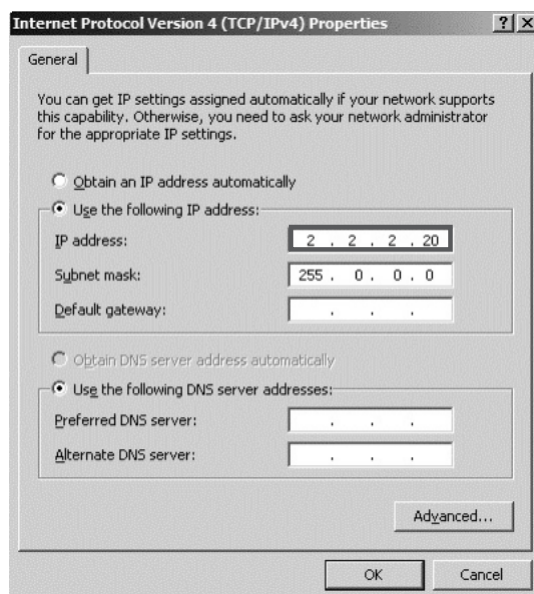
2. Wired Mode

1. Check the power

- Check the link cable and the power cord are connected properly
- Check that the power of the detector is on.

2. Check PC Set up

Make sure that the IP address is set to "2.2.2.20" from "Internet Protocol Version 4 (TCP/IPv4)".



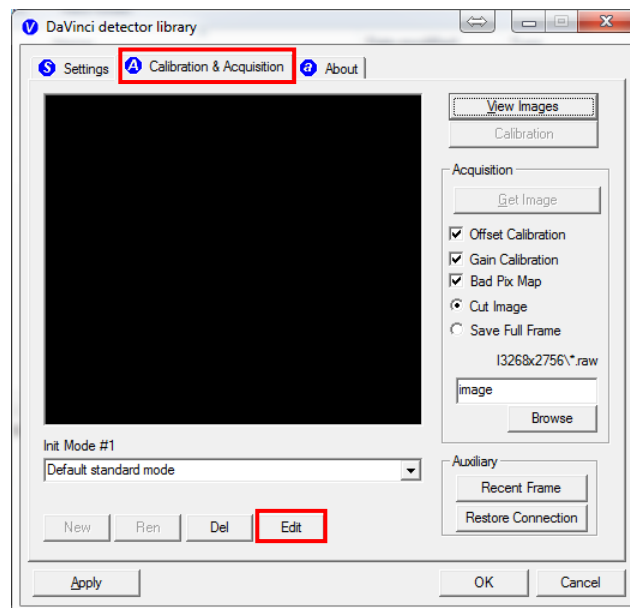
4.2 Lost IP Address (Use one of the methods below)

1. Use a second IP address (192.168.124.80) and change the IP address
2. Press the "Reset" button to reset the IP address. (Default IP : 2.2.2.100)

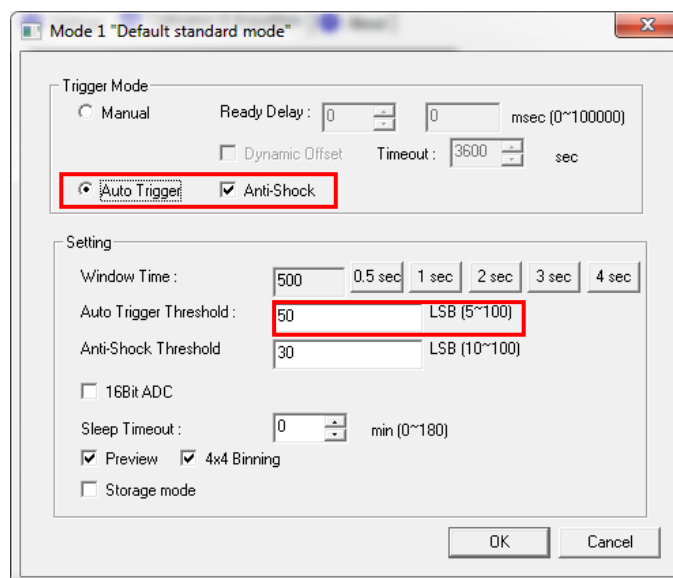
4.3 Auto Trigger Mode

Follow these instructions when the panel auto triggers on its own and/or unintentionally acquires blank images.

1. Open “_vadav.lnk” from “C:\davinci”.
2. Click the "Calibration & Acquisition" tab.



3. Click "Edit".
4. Change "Auto Trigger Threshold" from 5 to 100 and click "OK".



- The Auto Trigger Threshold default value are 50 for CSI models and 30 for GdOS models

Supplement.1 Wireless AP Set Up Instruction

(WAP Model: ASUS RT-AC66U)

1. Connect the LAN cable from the Ethernet port #1 on the PC to the Ethernet port #1 on the AP.

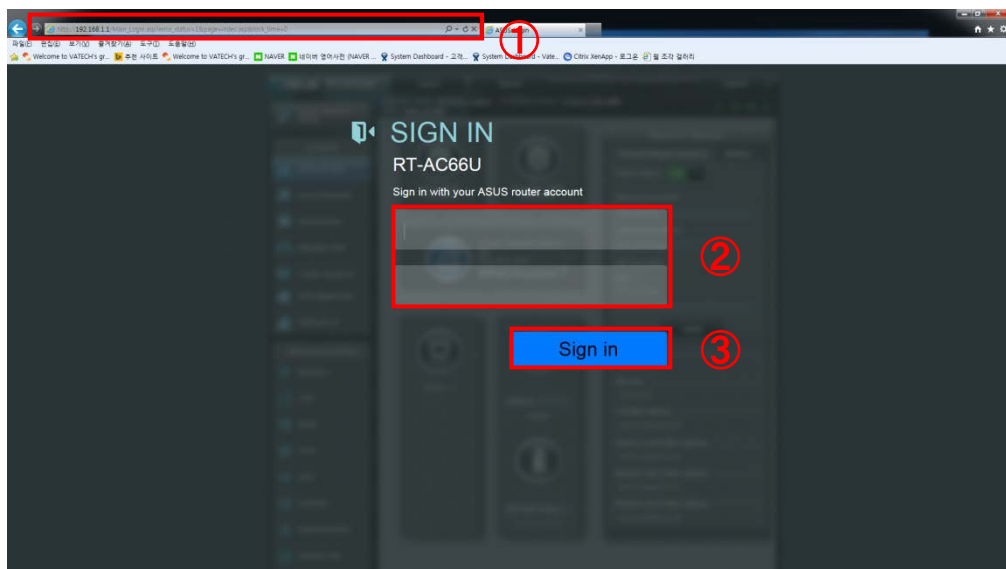
2. Access AP Set Up Page

1. Open a web browser. Once type 192.168.1.1. In the browser address bar a login window appears.
2. Enter the ID and password.
3. Click "Ok".

[ID: admin | PW: admin]

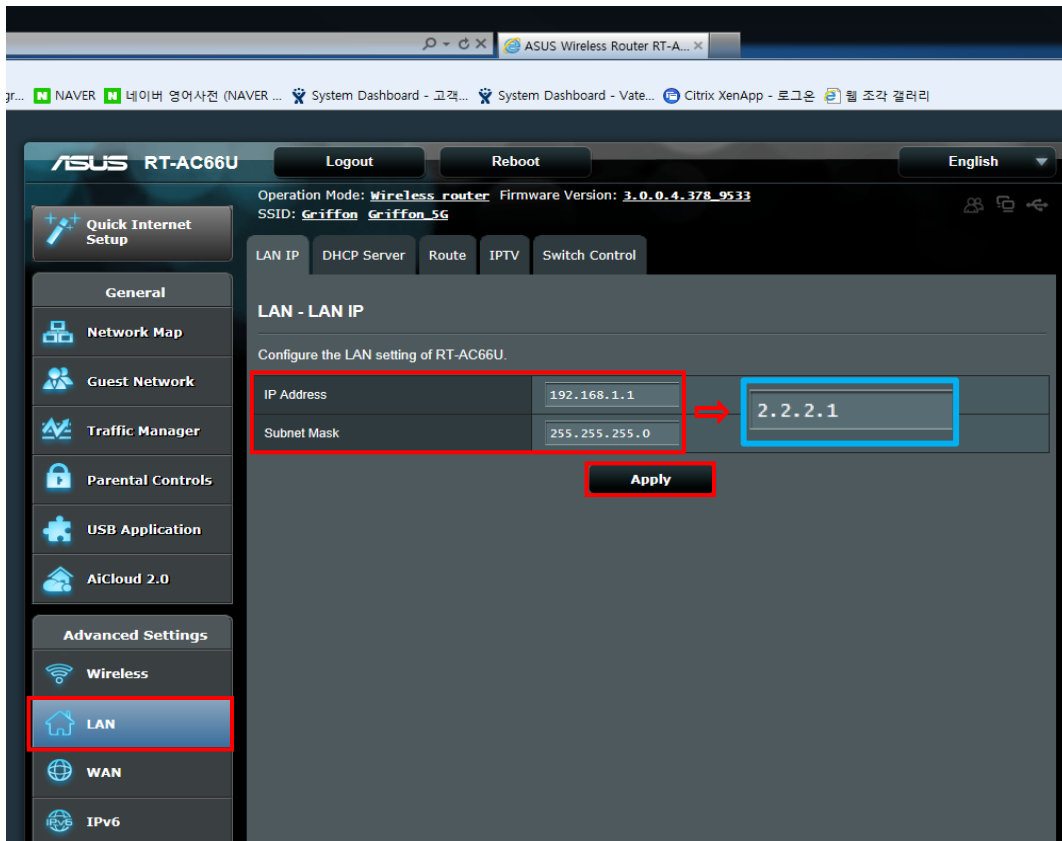
IP address for the first access is 192.168.1.1.

After changing the IP address to 2.2.2.1, use IP address 2.2.2.1 for accessing.



3. Click the "Setup" tab, and then click the "Basic Setup" page.

1. Type 2.2.2.1 at "IP Address".
2. Type 255.255.255.0 at "Subnet Mask".
3. Click "Apply".



4. Click the "Wireless" tab, and then click the "Basic Wireless Settings" page.

Set up Wireless Settings as below.

(SSID: Griffon, WPA2-Personal, Pre-Shared Key: project302)

ASUS RT-AC66U Logout Reboot English

Operation Mode: **wireless_router** Firmware Version: **3.0.0.4.378_9533**
SSID: **Griffon** **Griffon_5G**

General WPS WDS Wireless MAC Filter RADIUS Setting Professional

Wireless - General

Set up the wireless related information below.

Band	2.4GHz
SSID	Griffon
Hide SSID	<input type="radio"/> Yes <input type="radio"/> No
Wireless Mode	Auto <input type="checkbox"/> Optimized for Xbox <input checked="" type="checkbox"/> b/g Protection
Channel bandwidth	20/40 MHz
Control Channel	Auto <small>Current control channel: 6</small>
Extension Channel	Auto
Authentication Method	WPA2-Personal
WPA Encryption	AES
WPA Pre-Shared Key	project302
Network Key Rotation Interval	3600

Apply

Supplement.2 Recommended Generator Specification

Model	Manufacture	Specification			
CMP 200	Communications & Power Industries		32kW	40kW	50kW
		kVp	40-125		40-150
		mA	10-400	10-500	10-630
EDITOR HFe 501	Rontgenwerk Bochum	kVp	40-150		
		mA	10-630		
UD150L-40E/40F	Shimadzu	kVp	40-150		
		mA	@100 kVp- 500(320)		
			@80 kVp- 630(400)		
PXR-321B	Poskom Co.,Ltd.	kVp	125/150		
		mA	500		



CAUTION

- To our best knowledge, the detector is compatible with the X-ray generators with the specifications described above. If you have questions regarding the compatibility issue for other generators which are not listed above, please contact your Rayence representative.

Supplement.3 Recommended exposure condition table

For 1417WCC

Table of Exposure Condition

*BMI= [weight(kg)] / [height(m)]²

			PEDIATRIC			SMALL(BMI=uder 18.4)			MIDDLE(BMI=18.5~29.9)			LARGE(BMI=over 30.0)			
			kVp	mA	mAs	kVp	mA	mAs	kVp	mA	mAs	kVp	mA	mAs	
Head	Skull	AP	70	200	16	70	200	16	70	200	20	72	200	20	
		Lateral	70	200	12	70	200	10	70	200	20	72	200	24	
		Town's	72	200	16	74	200	20	74	200	25	80	200	28	
	Mandible	PA	65	200	12	70	200	16	70	200	20	72	200	20	
		Axial Lateral	65	200	12	70	200	16	70	200	20	72	200	20	
		Town's	72	200	16	74	200	20	74	200	25	74	200	28	
	Nasal	Lateral	48	100	3.2	48	100	3.2	48	100	4	55	100	4	
Zygomatic Arch	Axial	70	200	12	70	200	16	70	200	20	72	200	20		
Facial	PNS	Waters	70	200	16	74	200	20	74	200	25	74	200	30	
		Caldwell	70	200	16	74	200	20	74	200	25	74	200	30	
		Lateral	70	200	12	70	200	16	70	200	20	75	200	20	
	Mastoid	Law	70	200	12	74	200	20	74	200	25	74	200	30	
		Stenvers	70	200	12	74	200	20	74	200	25	74	200	30	
		Town's	70	200	12	74	200	20	74	200	25	74	200	30	
	T-M Joint	Lateral	70	200	12	70	200	16	70	200	20	75	200	24	
		Town's	70	200	12	74	200	20	74	200	25	74	200	30	
	Chest	Chest	AP	90	100	4	100	200	4	100	200	4	110	250	6.3
PA			90	100	4	100	200	4	100	200	4	110	250	6.3	
Lateral			100	200	4	110	250	4	110	250	6.3	115	250	8	
Apico			100	200	4	110	250	4	110	250	6.3	115	250	8	
Upper Rib		AP	66	250	8	66	320	16	66	320	20	66	320	32	
		Oblique	66	250	10	66	320	20	66	320	25	75	500	36	
Lower Rib		AP	66	250	8	66	320	16	66	320	20	75	500	30	
		Oblique	66	250	10	66	320	20	66	320	25	75	500	36	
Abdomen		Supine	Supine	66	320	16	75	450	40	75	450	45	72	200	25
			Erect	66	320	16	80	450	40	80	450	45	80	500	28
	KUB		66	320	16	75	450	36	75	450	40	75	500	63	
	Pelvis	AP	66	100	8	75	200	16	75	200	20	75	200	40	
		Lateral	66	200	12	75	250	25	80	250	25	80	250	30	
	Hip	AP	66	100	10	75	200	20	75	200	25	80	200	25	
		Lateral	66	200	12	75	250	25	80	250	25	80	250	30	
	Decubitus	Decubitus	66	250	12	66	320	16	66	320	20	72	200	25	
Upper Trunk	C-spine	AP	66	100	4	70	100	6.3	73	100	10	73	100	14	
		Lateral	66	100	4	70	100	6.3	73	100	10	75	100	32	
		Oblique	66	200	4	70	200	6.3	75	200	10	74	200	24	
		Open Mouth	66	200	8	75	200	20	75	200	25	80	200	25	
	T-spine	AP	66	200	8	75	200	20	75	200	25	74	200	30	
		Lateral	66	200	12	80	200	30	80	200	36	85	200	40	
		Oblique	66	200	8	74	200	20	74	200	25	85	200	30	
		Swimmer	66	200	8	74	200	16	74	200	20	85	200	25	
Lower Trunk	L-spine	AP	66	100	10	73	200	20	73	200	20	85	200	32	
		Lateral	66	100	16	85	200	50	85	200	50	95	250	63	
		Oblique	66	100	10	80	200	20	80	200	20	85	200	45	
	Cone Down	AP	66	100	10	73	200	20	73	200	20	80	200	45	
		Lateral	66	100	8	73	200	20	73	200	20	80	200	40	
	Sacrum	AP	66	100	8	73	200	20	73	200	20	80	200	40	
		Lateral	66	100	12	80	200	16	80	200	20	85	200	45	
	Coccyx	AP	66	100	8	73	200	20	73	200	20	80	200	40	
Lateral		66	100	12	80	200	14	80	200	20	85	200	45		
Upper Extremity	Hand	AP	45	100	3.2	45	100	3.2	45	100	3.2	45	100	4	
		Wrist	45	100	3.2	48	100	3.2	48	100	3.2	73	100	3.2	
	Forearm	AP	45	100	3.2	50	100	3.2	50	100	3.2	73	100	3.2	
	Elbow	AP	45	100	4	50	100	4	50	100	4	73	100	4	
	Humerus	AP	45	100	4	50	100	4	50	100	4	50	100	6.3	
	Shoulder	AP	45	100	4	55	100	5	55	100	5	60	100	6.3	
	Clavicle	AP	45	100	4	55	100	5	55	100	5	55	100	5	
	Scapula	AP	45	100	4	66	100	4	66	100	4	73	100	4	
Lower Extremity	Toe	AP	45	80	3.2	48	80	3.2	48	80	3.2	48	80	3.2	
		Foot	AP	45	100	3.2	48	100	3.2	48	100	3.2	48	100	3.2
	Ankle	AP	45	100	4	52	100	4	52	100	4	52	100	4	
	Tibia	AP	45	80	3.2	48	80	3.2	48	80	3.2	48	80	4	
	Knee	AP	55	100	8	66	100	8	66	100	8	70	100	10	
	Merchant	Merchant	45	100	3	52	100	3	52	100	3	52	100	3	
	Femur	AP	55	100	6	66	100	6	66	100	6	66	100	6	
	Calcaneus	Axial	45	80	4	48	80	4	48	80	4	48	80	4	

#Table of exposure condition above could be changed depends on the body shape of a patient and spec of generator.
 #Please follow the expert when shooting and find the table of exposure condition above just as a reference.

Table of Exposure Condition

*BMI= [weight(kg)] / [height(m)]²

			PEDIATRIC			SMALL(BMI<under 18.4)			MIDDLE(BMI=18.5~20.9)			LARGE(BMI>over 20.0)			
			kVp	mA	mAs	kVp	mA	mAs	kVp	mA	mAs	kVp	mA	mAs	
Head	Skull	AP	70	200	16	70	200	16	70	200	20	72	200	20	
		Lateral	70	200	12	70	200	10	70	200	20	72	200	24	
		Town's	70	200	16	70	200	16	70	200	16	72	200	20	
	Mandible	PA	65	200	12	70	200	16	70	200	20	72	200	20	
		Axial Lateral	65	200	12	70	200	16	70	200	20	72	200	20	
		Town's	72	200	16	74	200	20	74	200	25	74	200	28	
	Nasal	Lateral	48	100	3.2	60	100	10	70	100	13	70	100	13	
		Zygomatic Arch Axial	70	200	12	70	200	16	70	200	20	72	200	20	
	Facial	PNS	Waters	70	200	16	74	200	20	74	200	25	74	200	30
Caldwell			70	200	16	74	200	20	74	200	25	74	200	30	
Lateral			70	200	12	70	200	16	70	200	20	75	200	20	
Mastoid		Law	70	200	12	74	200	20	74	200	25	74	200	30	
		Stenvers	70	200	12	74	200	20	74	200	25	74	200	30	
		Town's	70	200	12	74	200	20	74	200	25	74	200	30	
T-M Joint		Lateral	70	200	12	70	200	16	70	200	20	75	200	24	
		Town's	70	200	12	74	200	20	74	200	25	74	200	30	
Chest		Chest	AP	90	100	4	100	200	4	100	200	4	110	250	6.3
	PA		90	100	4	100	200	4	100	200	4	110	250	6.3	
	Lateral		100	200	4	110	250	4	110	250	6.3	115	250	8	
	Upper Rib	Apico	100	200	4	110	250	4	110	250	6.3	115	250	8	
		AP	66	250	8	66	320	16	66	320	20	66	320	32	
	Lower Rib	Oblique	66	250	10	66	320	20	66	320	25	75	500	36	
		AP	66	250	8	66	320	16	66	320	20	75	500	30	
		Oblique	66	250	10	66	320	20	66	320	25	75	500	36	
		Supine	66	320	16	75	450	40	75	450	45	75	450	50	
Abdomen	Erect	KUB	66	320	16	80	450	40	80	450	45	80	500	50	
		AP	66	320	16	75	450	36	75	450	40	75	500	63	
	Pelvis	AP	66	100	8	75	200	16	75	200	20	75	200	40	
		Lateral	66	200	12	75	250	25	80	250	25	80	250	30	
	Hip	AP	66	100	10	75	200	20	75	200	25	80	200	25	
		Lateral	66	200	12	75	250	25	80	250	25	80	250	30	
	Decubitus	66	250	12	66	320	16	66	320	20	72	200	25		
	Upper Trunk	C-spine	AP	65	200	4	65	200	6.3	73	200	20	73	200	22
			Lateral	65	200	4	75	200	14	75	200	16	75	200	30
Oblique			65	200	4	75	200	14	75	200	16	65	200	24	
T-spine		Open Mouth	66	200	8	75	200	20	75	200	25	80	200	25	
		AP	66	200	8	75	200	20	75	200	25	74	200	30	
		Lateral	66	200	12	80	200	30	80	200	36	85	200	40	
		Oblique	66	200	8	74	200	20	74	200	25	85	200	30	
		Swimmer	66	200	8	74	200	16	74	200	20	85	200	25	
		AP	66	100	10	73	200	20	73	200	20	85	200	32	
Lower Trunk	L-spine	Lateral	66	100	16	85	200	50	85	200	50	95	250	63	
		Oblique	66	100	10	80	200	20	80	200	20	85	200	45	
		Cone Down	66	100	10	73	200	20	73	200	20	80	200	45	
	Sacrum	AP	66	100	8	73	200	20	73	200	20	80	200	40	
		Lateral	66	100	12	80	200	16	80	200	20	85	200	45	
	Coccyx	AP	66	100	8	73	200	20	73	200	20	80	200	40	
		Lateral	66	100	12	80	200	14	80	200	20	85	200	45	
	Upper Extremity	Finger	PA	45	100	2.5	45	100	2.5	50	100	3.2	52	100	3.2
		Hand	PA	45	100	3.2	45	100	3.2	54	100	4	55	100	4
Wrist		PA	45	100	3.2	48	100	3.2	48	100	3.2	73	100	3.2	
Forearm		AP	45	100	3.2	50	100	3.2	60	100	6.3	65	100	6.3	
Elbow		AP	45	100	4	50	100	4	60	100	5	65	100	6.3	
Humerus		AP	45	100	4	50	100	4	60	100	5	65	100	6.3	
Shoulder		AP	45	100	4	55	100	5	55	100	5	60	100	6.3	
Clavicle		AP	45	100	4	55	100	5	55	100	5	55	100	5	
Scapula		AP	45	100	4	66	100	4	66	100	4	73	100	4	
Lower Extremity	Toe	AP	45	100	3.2	48	100	3.2	48	100	3.2	48	100	3.2	
	Foot	AP	45	100	3.2	48	100	3.2	65	100	6.3	65	100	6.3	
	Ankle	AP	45	100	4	52	100	4	58	100	5	58	100	5	
	Tibia	AP	45	100	4	52	100	4	52	100	4	52	100	5	
	Knee	AP	45	100	4	52	100	4	55	100	4	60	100	6	
	Skyline	45	100	4	52	100	4	55	100	4	55	100	4		
Femur	AP	55	100	6	66	100	6	66	100	6	66	100	6		



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