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Mars1417V User Manual





To Customers



Congratulations on your purchase of iRay Mars1417V Digital Flat Panel. At iRay, we strive to not only make the world-class products that deliver the best value to our users but also offer the highest quality of service and customer care. Please take time to read user manual to utilize the product effectively. We hope you enjoy the experience with Mars1417V.

If you have any questions or suggestions, please feel free to contact us.

Service Office Tel: +86 21 50720560 - 8059

Fax: +86 21 50720561

E-mail: service@iraychina.com

Location: 2F, Building 7, No.590, Ruiqing Rd, Pudong, Shanghai, China PC: 201201

Notes on usage and management of the equipment

- Read all of the instructions in user manual before operation. Give particular attention to all safety precautions.
- Only a physician or a legally certified operator could use the product.
- The product should be maintained in a safe and operable condition by maintenance personnel.
- Use computers and image display monitors complying with IEC 60601-1 or IEC 60950-1. For details, consult our sales representative or local iRay dealer.
- Use dedicated cables. Do not use any cables other than those supplied with the product.
- Request your sales representative or local iRay dealer to install the product

Caring for your environment



This symbol indicates that this product is not to be disposed of with your residential or commercial waste.

Recycling iRay Equipment

Please do not dispose of this product with your residential or commercial waste. Improper handling of this type of waste could have a negative impact on health and on environment. Some countries or regions, such as the European Union, have set up systems to collect and recycle electrical or electronic waste. Contact your local authorities for information about dropping off waste product for recycling. If collection systems are not available, call iRay Customer Service for assistance.

Disclaimer



1. iRay shall not be liable to the purchaser of this product or third parties for any damage, loss, or injury incurred by purchaser or third parties as a result of fire, earthquake, any accident, misuse or abuse of the product.

2. iRay shall not be liable to any damage, loss, or injury arising from unauthorized modifications, repairs, or alterations to the product or failure to strictly comply with iRay's operating and maintenance instructions.

3. iRay shall not be liable for any damage or loss arising from the use of any options or consumable products other than those dedicated as Original products by iRay Technology.

4. It is the responsibilities of user or physician to maintain the privacy of image data and provid medical care services. iRay shall not be responsible for the legality of image processing, reading and storage nor it shall be responsible for loss of image data for any reason.

5. Information regarding specification, compositions, and appearance of this product is subject to change without prior notice.

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Trademarks

• The iRay name and iRay logo are registered trademarks of Shanghai iRay Technology Ltd.



Symbols and Conventions

The following symbols and conventions are used in user manual.

	This symbol is used to identify conditions under which improper use of the product may cause death or serious personal injury.
	This notice is used to identify conditions under which improper use of the product may cause minor personal injury.
CAUTION	This notice is used to identify conditions under which improper use of the product may cause property damage.
Prohibited	This is used to indicate a prohibited operation.
	This is used to indicate an action that must be performed.
Important	This is used to indicate important operations and restrictions.
(i) Information	This is used to indicate operations for reference and complementary information.
	This symbol indicates the name and address of manufacturers.



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Labels and Markings

The contents of the labels and markings on Mars1417V product are indicated below:

\triangle	Caution: please refer to the instructions in user manual.		
CE	This symbol indicates that the product has passed CE certification and followed by CE number.		
SN	This symbol is used to identify the manufacture series number which is after, below or adjacent to the symbol. The series number of iRay products is usually made of thirteen digits as shown below: $\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
	This symbol indicates the name and address of manufacturer.		
EC REP	This symbol indicates the name and address of iRay authorized representative in the European region.		
Ĩ	This symbol indicates consultation of user manual for general information.		

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	Safety Signs: please refer to user manual for safety instructions
4	Safety Signs: Dangerous Voltage
	Handled with care
50-400	This symbol indicates operational temperature limits.
-20°C	This symbol indicates storage temperature limits.
((••))	This symbol indicates the product radiates wireless signal.
FCC	This symbol indicates the product has passed FCC certification.
	Fragile.
	Keep away from sunlight
Ť	Keep dry
<u>آ</u>	This symbol indicates the humidity limits.
<u><u>†</u>†</u>	Keep the product up right
	Do not roll the transportation package.
	This symbol indicates stacking limit number.



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1 Safety

1.1 Safety Precautions

Follow these safeguards and properly use the product to prevent injury and damage to it.

		WARNING
Installatio	on an	d environment of use
\bigcirc	•	Do not use or store the product near flammable chemicals such as alcohol, thinner,
Prohibited		benzene, etc.
\sim		If chemicals are spilled or evaporated, it may result in fire or electric shock through contact
Prohibited		with electric parts inside the product. Also, some disinfectants are flammable. Be sure to
		take care when using them.
	•	Do not connect the product with anything other than specified.
		Doing so may result in fire or electric shock.
	•	All patients with active implantable medical devices should be kept away from the
		product.
Power sur	oply	
\sim		
\bigcirc	•	Do not operate the product with power supply other than the one indicated on the
Prohibited		rating label.
		Otherwise, it may result in fire or electric shock.
	•	Do not handle the product with wet hands.
		You may experience electric shock that could result in death or serious injury.
	•	Do not place heavy object on cables and cords. Do not pull, bend, bundle, or step on
		them to prevent their sheath from being damaged, and do not alter them neither.
		Doing so may damage the cords which could result in fire or electric shock.
	•	Do not supply power to more than one piece of product with the same AC outlet.
		Doing so may result in fire or electric shock.
	•	Do not turn on system power when condensation has formed on the equipment.
		Doing so may result in fire or electric shock.
	•	Do not connect multiple portable socket-outlets or extension cords to the system.
		Doing so may result in fire or electric shock.

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	• To avoid the risk of electric shock, this pro	duct must only be	connected to power		
	supply with protective earth.				
	Not doing so may result in fire or electric shock.				
	• Securely plug the power cord into the AC outlet.				
•	If contact failure occurs, or if metal objects come into contact with exposed metal prongs of				
	the plug, fire or electric shock may result.				
• Be sure to turn off the power before connecting or disconnecting the cords. Otherwise, you may get an electric shock that could result in death or serious injury.					
	If you pull the cord, the core wire may be damaged, resulting in fire or electric shock.				
WARNING					
	WARNING				
Handling					
	 Never disassemble or modify the product. No modification is allowed. 				
Doing so may result in fire or electric shock. Also, since the product incorporates parts the					
0	may cause electric shock as well as other hazardous parts, touching them may cause death or				
Prohibited	serious injury.				
	• Do not place anything on top of the product.				
	The object may fall and cause an injury. Also, if n	netal objects such as	needles or clips fall		
	into the product or if liquid is spilled it may resu	into the product, or if liquid is spilled, it may result in fire or electric shock			
	 Do not hit or dron the product 	it in the of clocule si			
	- Do not mt or ur op the product.	• 1, 1• 1	1,		
	I he product may be damaged if it receives a stron	ig jolt, which may res	sult in fire or electric		
	shock if it is used without being repaired.				
	• Do not put the product and pointed objects tog	gether.			
	The product may be damaged. If so, it should be u	ised in bucky.			
	• Have the patient take a fixed posture and	d do not let the	patient touch parts		
0	unnecessarily.				
~	If the patient touches connectors or switches, it may	ay result in electric sl	nock or malfunction.		



Г

When a p	roble	em occurs
	•	Should any of the following occurs, immediately unplug the power cord of adaptor or
		battery, and contact your sales representative or local iRay dealer:
•		When there is smoke, an odd smell or abnormal sound.
		When liquid has been spilled into the equipment or a metal object has entered through an
		opening.
		When the product has been dropped and damaged.
Maintena	nce a	nd inspection
	•	Please turn off power of the product and unplug power cord of adapter before
\bigcirc		cleaning.
Prohibited	•	Never use alcohol, ether and other flammable cleaning agent for safety. Never use
		methanol, benzene and acid because they would corrode the equipment.
	•	Don't dip the product into liquid.
	•	Please make sure that surface & plugs are dry before turning on.
		Otherwise, it may result in fire or electric shock.
	•	Clean the plug of the power cord periodically by unplugging it from the AC outlet and
		removing dust or dirt from the plug, its periphery and AC outlet with a dry cloth.
		If the cord is kept plugged in for a long time in a dusty, humid or sooty place, dust around
		the plug will attract moisture; this could cause insulation failure that may result in a fire.
	•	For safety reasons, be sure to turn off the power when performing inspections
		indicated in this manual.
		Otherwise, electric shocks may occur.
		CAUTION
Installatio	on and	d environment of use
	•	Do not install the product in any of the locations listed below. Doing so may result in
		failure, malfunction, falling, fire or injury.
		Close to facilities where water is used
		Where it will be exposed to direct sunlight
		Close to the air outlet of an air-conditioner or ventilation equipment
		Close to heat source such as a heater

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Where the power supply is unstable

- In a dusty environment
- In a saline or sulfurous environment
- Where temperature or humidity is high
- Where there is freezing or condensation
- In areas prone to vibration
- On an incline or in an unstable area
- Take care that cables do not become tangled during use. Also, be careful not to get your feet caught by cable.

Otherwise, it may cause a malfunction of the product or injury of the user due to tripping over the cable.

• Non-medical equipment such as battery charger, access point and infrared register tools cannot be used in patient's vicinity.

2.5 m



Power supply

• Always connect three-core power cord plug to a grounded AC power outlet.

1.5 m

- To make it easy to disconnect the plug at any time, avoid putting any obstacles near the outlet. Otherwise, it may not be possible to disconnect the plug in an emergency.
- Be sure to ground the product to an indoor grounded connector. Also, be sure to connect all the grounds of system to common ground.
- **Do not use any power source other than the one provided with the product.** Otherwise, fire or electric shock may be caused due to leakage.

Handling

Do not spill liquid or chemicals on product. In case the patient is injured, it is not allowed to contact product with blood or other body fluids.
 Doing so may result in fire or electric shock.
 In situation, protect the product with a disposable cover as necessary.
 Turn off the power and pull out the plug when not used.



CAUTION

Handling

- Handle the product carefully.
- 0
- Do not submerge the product in water.
- The internal image sensor may be damaged if something hits against it or it is dropped. If the product is dropped, the drop sensor inside would record and the product would not be warranted by iRay.



• Do not place excessive weight on the panel.

Otherwise, the internal image sensor may be damaged and image may be incorrect.

<Load Limit>

Uniform load: 100 kg over the whole area of the surface.

Local load: 40 kg on an area 4 cm diameter.



• Be sure to use the product on flat surface so it would not bend. Otherwise, the internal image sensor may be damaged. Be sure to securely hold the product while using it in upright positions. Otherwise, the product may fall over, resulting in injury to user or patient, or may flip over, resulting in damage to the inner device.





Keep the same load on the product when acquiring image. The image will be incorrect.

CAUTION

- Do not close to fire, do not use in high temperature
- Do not invert positive and negative pole
- Do not contact with metal in case of short circuit
- Do not insert sharp objects into battery
- Do not beat battery
- Do not stand on battery
- Do not use battery out of rules
- Do not dispose of battery or change inner structure
- Do not submerge battery in water, please keep dry in storage and do not contact with water in use
- Please charge battery with charger following GB 9706.1 Standards provided by us
- Do not mix battery with ones not provided by our company
- Do not charge battery with broken charger.

1.2 Notes for Using

When using the product, take the following precautions. Otherwise, problems may occur and the product may not function correctly.

Before exposure

- Be sure to check the product daily and confirm it work properly.
- Sudden heating of the room in cold areas will cause condensation on the product. In this case, wait until the condensation evaporates before performing an exposure. If it is used when condensation is formed, problems may occur in the quality of captured images. When an air-



conditioner is used, be sure to raise/lower the temperature gradually to prevent condensation.

- The product should be warmed up for 15 minutes before exposure or updating the gain map and defect map.
- Make sure exposure rate is over 900nGy/s @70KV.
- Make sure wave form of the energy going to the X ray tube is square not pulse.
- Be cautious with circumstance that someone has radio isotope recently injected into them, it may cause panel transmit image without x ray.

During exposure

- Do not move Power Cable or Ethernet Cable during exposure, or it may cause image noise or artifacts, even incorrect images.
- Do not use the product near the equipment generating a strong magnetic field. Otherwise, it may cause image noise, artifacts or even incorrect images.

After Usage

- After every examination, wipe the patient contact surfaces with disinfectants such as ethanol, to prevent the risk of infection. For details on how to sterilize, consult a specialist.
- Do not spray the product directly with disinfectants or detergents.
- Wipe it with a cloth slightly damped with a neutral detergent. Do not use solvents such as alcohol, benzene and acid. Doing so may damage the surface of the product.
- It's recommended to use a waterproof non-woven cover as the isolated layer between product and the blooding patient.
- It's strongly recommended to remove battery from panel if panel is not used more than 5 days. If battery stores for a long time, it should be charged (30% to 50%) every 3 month or charged (50% to 70%) every 6 month.



2 General Description

Mars1417V is a cassette-size wireless X ray flat panel detector based on amorphous silicon thin-film transistor technologies. It is developed to provide the highest quality of radiographic image, which contains an active matrix of 2304×2800 with 150um pixel pitch. Panels' scitinator has two options which are Standard GOS(Gadolinium Sulfoxylate) and CsI(Caesium Iodide). However the most great improvement is Mars1417V supports wireless communication between panel and Workstation. Mars1417V's power supply includes battery. Mars1417V can be used as a real portable panel.

2.1 Scope

This manual contains information about the Mars1417V. Information in the manual, including the illustrations, is based on prototype. If your configuration does not have any of these items, information about these items does not apply to your panel.





2.2 Model



Product Type: Battery-KV------Rechargeable lithium battery

Product Type: Charger-KV------Battery charger

2.3 Characteristic

- Wireless static flat panel detector used for general radiography.
- Cassette-size
- Sync-shot exposure trigger
- GOS or CsI scintillation screen.
- Easy to change the cable and update firmware.
- Battery recycling

2.4 Intended use

This panel provides digital X ray imaging for diagnosis of disease, injury, or any applicable health problem. The image is obtained as the result of X ray passing through the human body and detected by . The panel is intended to be used in holder or bucky which is well insulated to panel. The holder or the bucky is well grounded.

iRay would provide hardware and software support for integration of system. The length of both Ethernet Cable and Power Cable cannot exceed 3.5 m. Or the impedance of protective earth connections may exceed the safety threshold.

This panel is not intended for mammography or dental applications.



2.5 The relative position between patient and detector

Because of the crosstalk effect of Amorphous silicon flat-panel detector, Pay attention to the relative position of patient and detector, the recommended position as shown below, Otherwise, the image is prone to abnormal light lines.



2.6 Product Components

Mars1417V comes with both DC power supply and battery package. Once powered on, it would build a connection with Workstation through Ethernet cable or Wireless connection.



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Battery	2 pcs Battery pack
Ethernet Cable	1pcs 3.5 m
Gigabit Ethernet Cable	1pcs 3 m
AC Power Cable	1 pcs
DC Power Cable	1 pcs 3.5 m

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2.7 Optional Product Component

	Item	Description
Wireless AP Device		1pcs
Infrared Device	Caucado La	1pcs

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2.8 Components Description

2.8.1.1 **Detector**



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2.8.1.2 **Battery**



Item	Name	Description
А	Battery Label	/
В	Battery Interface	8 Pin Battery connector
С	Pilot Pin	/
D	Indicator	Installation direction indicator

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2.8.1.3 Battery Charger



Item	Name	Description
А	Battery Interface	8 Pin Battery connector
В	Capacity Indicator	The indicator definition is as follow
С	Power Indicator	The indicator definition is as follow
D	Hand Pull Position	/
E	The limit ball plug	/
F	DC Jack	24V DC input

Power indicator definition:

Power Indicator	Lighting Status	Operating Status
OFF	POWER	No external DC adaptor input
GREEN	POWER	External DC adaptor input

The battery charging capacity indicator definition:

X Group Indicator	Lighting Status	Operating Status
I, II and III grid off		No battery Insert

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I grid blinking II and III grid off	Battery Insert with capacity $\leq 30\%$, charging
II grid blinking I and III grid off	Battery Insert with capacity >30% and ≤60%, charging
III grid blinking I and II grid off	Battery Insert with capacity >60% and ≤95%, charging
I and II grid off III grid on	Battery Insert with capacity >95% and charging, when capacity = 100%, charging stops

2.8.1.4 **Power Supply**

Mars1417V supports both DC Power and Battery package input.

2.8.1.5 Infrared Device

Mars1417V does not include Infrared Device. User can choose by themselves, however some basic requirements should be followed.

2.9 Product Specification

2.9.1 Detector

2.9.1.1 Basic

Item	Specification
Model	Mars1417V-PSI (GOS)
	Mars1417V-TSI (CsI)
Image Sensor	a-Si (Amorphous Silicon) TFT
Pixel Size	150 μm
Effective Array	2304 x 2800
Effective Area (H x V)	343 x 416 mm
Gray scales	14bit



Spatial Resolution	2.8 Lp/mm (Standard GOS)	
	3.1Lp/mm (CsI).	
Image Acquisition Time (Wired)	Preview Acquisition Time : 3 sec.	
	Processed Acquisition Time : 6 sec. (including Preview Time)	
Image Acquisition Time (Wireless)	Preview Acquisition Time : 5 sec.	
Both AP mode and Client mode	Processed Acquisition Time : 9 sec. (including Preview Time)	
Cycle Time	Min. 13s @Wired;Min.16s @Wireless	
Power Consumption	Max. 13W	
Dimension (L \times W \times H)	460 x 384 x 15.2 mm	
Weight (with one battery)	Mars1417V-PSI: 3.28 kg without battery, 3.5 kg with battery	
	Mars1417V-TSI: 3.38 kg without battery, 3.6 kg with battery	
Image Transfer	Wired : Ethernet(100BASE-T)	
	Wireless : IEEE802.11a/b/g/n	
Data Transmission Rate (Wireless)	802.11b : Max. 11Mbps	
	802.11a/g : Max. 54Mbps	
	802.11n : Max. 300Mbps (MIMO 2x2)	
X ray Energy	40kV to 150kV	
X ray Dose	100nGy to 60µGy	



2.9.2 Battery





Item	Specifications
Model	Battery-KV
Rated Capacity	Min. 3950mAh, Typ. 4180mAh @ Discharge 0.2C
Nominal Voltage	10.8V
Charge Voltage	12.6±0.05V
Discharged End Voltage	8.25V
Charging Method	CC-CV
Operating Temperature	Charge 0°C-+45°C, Discharge -20°C-+60°C
	1 month -20°C -+40°C
Storage Temperature	3 month -20℃-+40℃
	6 month -20° C $-+20^{\circ}$ C

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Relative Humidity	65±20%
Dimension (L \times W \times H)	210 x 115 x 7.5 mm
Weight	0.29kg

2.9.3 Battery Charger



Item	Specifications
Model	Charger-KV
Simultaneous Charging	2 battery packs
Full charging time	2 hours
Rated power supply	24V(DC)
Dimension (L \times W \times H)	300 x 263 x 42 mm
Weight	1.26 kg

2.9.4 Power supply

Mars1417V supports both DC Power and Battery package input.

Item	Specifications
DC Power	24V(DC), 0.75A
Battery Package	10.8V(DC),1.5A

2.9.5 Infrared Device (Optional)

Mars1417V does not include Infrared Device. User can choose by themselves, however some basic requirements should be followed.

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Item	Specifications
IRDA Protocol	Compliant with IrDA V1.0 and V1.1
USB	Compliant with USB V2.0 and V1.1
Data Rate	Max. 4Mbps

2.9.6 AP Router (Optional)

Mars1417V do not include AP Router. Users can choose AP Router as they wish, however specification below is a requirement.

Item	Specifications
Wireless Standard	IEEE 802.11 a/b/g/n
Frequency Range	2.412 ~ 2.4835 GHz and 5.15 ~ 5.85 GHz
Wireless Data Rate	802.11b : Max. 11Mbps 802.11a/g : Max. 54Mbps 802.11n : Max. 300Mbps (MIMO 2x2)
Wired Data Rate	Max. 1Gbps

2.9.7 Wireless Communication

Item	Description
Wireless Standard	IEEE802.1a/b/g/n
	2.4G: 2.412 ~ 2.4835 GHz
	11: (Ch. 1-11) – United States
	13: (Ch. 1-13) – Europe
Fas quar av Dan as	14: (Ch. 1-14) – Japan
Frequency Kange	5G: 5.15 ~ 5.85 GHz
	12: United States
	19: Europe
	8: Japan
	802.11b : Max. 11Mbps
Data Transmission Rate	802.11a/g : Max. 54Mbps
	802.11n : Max. 300Mbps (MIMO 2x2)
	802.11b:
Modulation	CCK, DQPSK, DBPSK
	802.11a/g:



	64 QAM, 16 QAM, QPSK, BPSK
	802.11n:
	64 QAM, 16 QAM, QPSK, BPSK
Transmission Power	Max.17dBm
Security	WPA, WPA-PSK, WPA2, WPA2-PSK, WEP 64bit & 128bit
Antenna	2 Dual Band inner antenna

2.9.8 Recommended Application Condition

Item	Description
Operating System	Windows XP/7 32/64bit
CPU	Intel Core i73.6G
Memory	4G DDR3
Hard Disk	640 G
LAN Card	Intel Pro EXP9301CT PRO
	Gigabit Network Adapter with PCIe interface

2.9.9 Mechanical Outlines





15.2

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2.9.10 Use Environment

	Temperature	Temperature change	Humidity	Atmospheric Pressure	Pressure Change
Operating	5~30℃	<1k/min	45~85% RH	700~1000hPa1 0~70% RH	<10kp/min (1kp=1.0197E-5Pa)
Storage	-20~40℃	<1k/min	45~85%RH	700~1000hPa1 0~70% RH	<10kp/min (1kp=1.0197E-5Pa)



3 Installation

3.1 Panel Installation

3.1.1.1 Attach Battery Pack

Mars1417V can be powered by both battery package and DC power. Once battery package is inserted or DC power is on, Panel would be activated immediately. If none of battery and DC power is on, Mars1417V would power off. Please see below for battery installation.



3.1.1.2 Attach DC Power

Please see below for DC power installation.

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Connect one end of DC Power Cable to the Medical Adapter	
As figure is power interface and Ethernet interface	
Connect another end of DC Power Cable to the DC input of the detector. If user wants to use wired Ethernet, connect the Ethernet Cable to Ethernet interface.	

3.1.1.3 **Booting Up**

On the control panel, user can press power button to power on/off.







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After booting up, user can check the status LED indicator.

Power Indicator	Lighting Status	Operating Status		
Tower Indicator		Operating	Battery Capacity	DC Input
OFF	F	Power OFF	/	/
Orange ON	E	Power ON	≤10%	NO
Green ON	F	Power ON	 Battery can input DC input , 	pacity >10%, no DC no Battery
Orange Fast Blinking		Power OFF	≤10%	YES
Orange Slow Blinking		Power ON	≤10%	YES
Green Fast Blinking		Power OFF	>10%	YES
Green Slow Blinking		Power ON	>10%	YES
OFF after Green ON with 1 sec.	F	Power OFF	>10%	NO
OFF after Orange ON with 1 sec.	E	Power OFF	≤10%	NO

Link indicator is as table:

Link Indicator	Lighting Status	Description	
OFF	?	 Shut down wired connection broken and wireless connection not ready 	
Blue blinking		Client mode, wireless connection is ready, but not connected	
Blue ON	(r	Client mode, wireless connection is builtAP mode, wireless AP is ready	
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Green ON	•	Wired Connection is built
Croon blinking	•	Panel Initialization
Green blinking	•	Infrared configuration

Status indicator is as table:

Status Indicator	Lighting Status	Description
OFE		Shut down
ON		• Idle
Green ON		Data Transmission
Orange blinking		Fatal Error
Orange ON		• Initialization

3.2 Battery Charger Installation



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3.3 Software Installation

In the case of IDemo not work, please install following VC redistribute package.

vcredist_x86_VS2008.exe

3.4 Panel Infrastructure

Mars1417V supports three connection modes as follows:

1) Wired connection mode



2) Wireless Client Mode



3) Wireless AP Mode

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To build connection between workstation and Panel, User should follow steps below.

3.4.1.1 Wired Mode

To complete Wired connection configuration, user has to finish actions listed below.

Configuration of Ethernet Card

To begin configuration of Ethernet Card, user should finish chapter 3.1



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Open Local network configuration	Local Network Properties		
	Networking Sharing		
	Connect using:		
	Realtek PCIe GBE Family Controller		
	Configure		
	This connection uses the following items:		
	✓ Indicating of the second		
	File and Printer Sharing for Microsoft Networks		
	✓ ▲ Internet Protocol Version 4 (TCP/IPv4) ■		
	Link-Layer Topology Discovery Mapper I/O Driver		
	Link-Layer Topology Discovery Responder		
	Install Uninstall Properties		
	Description		
	Allows your computer to access resources on a Microsoft		
	network.		
	OK Cancel		
	Internet Protocol Version 4 (TCP/IPv4) Properties		
open IPV4 setting	General		
	You can get IP settings assigned automatically if your network supports		
	this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.		
	Use the following IP address:		
	IP address: 192 . 168 . 8 . 188		
	Subnet mask: 255 . 255 . 0		
	Default gateway:		
	Obtain DNS server address automatically		
	Use use the following Divs server addresses:		
	Alternate DNS server		
	Validate settings upon exit		
IP setting I	IP address: 192.168.8.188		
Network mask setting S	Subnet mask: 255.255.255.0		

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Open SDK and start connection	Connect Detector	—X —
	IP: Port: A: 192.168.8.188 28000 Connect	Serial No. Link Status
IP and port setting	IP: 192.168.8.188	
	Port: 28000	

3.4.1.2 Wireless Client Mode

To complete Wireless Client mode configuration, user has to finish actions listed below.

Configuration of External wireless AP

Connect one end of Gigabit Ethernet	/		
Cable to Workstation,			
Connect another end to LAN port of			
External wireless AP			
Open local network management			
interface	File Edit View Tools Help	ol Panel Items > Network and Sharing Center	✓ 4 ₂ Search Control Panel
	Control Panel Home View	v your basic network information and s	set up connections
	Manage wireless networks Change adapter settings Change advanced sharing settings View:	IRAYCHINA-SWH Multiple networ (This computer) your active networks	ks Internet Connect or disconnect
		Amped_RTA15_2.4 5 Work network	Access type: Internet Connections: all Wireless Network (Amped_RTA15_2.4) =
	,	未识别的网络 Public network	Access type: Connections Uccal Network Annuale Transon, Adapter VMnetl Whyse Network Adapter VMnet
	See also Chan	ge your networking settings	
	HomeGroup	Set up a new connection or network Set up a wireless, broadband, dial-up, ad hoc,	or VPN connection; or set up a router or access point.
	Internet Options Windows Firewall	Connect to a network Connect or reconnect to a wireless, wired, dia	I-up, or VPN network connection.

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Open local network configuration	Local Network Properties		
	Networking Sharing		
	Connect using:		
	Realtek PCIe GBE Family Controller		
	This connection uses the following items:		
	✓ MWare Bridge Protocol ✓ QoS Packet Scheduler ✓ Gus Packet Scheduler ✓ File and Printer Sharing for Microsoft Networks ✓ Internet Protocol Version 6 (TCP/IPv6) ✓ Internet Protocol Version 4 (TCP/IPv4) ✓ Internet Protocol Version 4 (TC		
	OK Cancel		
open IPV4 setting	Internet Protocol Version 4 (TCP/IPv4) Properties General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically Uge the following IP address: IP address: Subnet mask: . Obtain DNS server address automatically Obtain DNS server: . Alternate DNS server: . Alternate DNS server: .		
	Validate settings upon exit		
	OK Cancel		
P setting	Select "Obtain an IP address automatically"		
etwork mask setting			

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Open browser and type 192.168.1.1 Log into external wireless AP	Internet Explorer cannot display the webpage What you can try: @ More information Writer source in this field in the internet explorer cannot display the webpage what you can try: @ More information writer as associated without a secure writer as associated without a secure internet explorer internet explorer internet explorer internet in	
Wireless setun	Wireless Setup	
	Region Selection Region: Asia Terefees Network (2.4GHz br/gn) © rable SSID Broadcast Name (SSID): Mode: Up to 600 Mbps * Security Options • WPA-PSK (TKIP) • WPA-PSK (AES) • WPA-PSK (TKIP) • WPA-WPA-PSK (TKIP) • WPA-PSK (TKIP)	
Configure 2.4GHz wireless network	SSID: NETGEAR_BIG_24 Security: WPA2-PSK Password: 12345678 Channel: [Please check the current Wi-Fi environment, and choose a relatively clean channel]	
Configure 5GHz wireless network	SSID: NETGEAR_BIG_50 Security: WPA2-PSK	



	Password: 12345678	
	Channel: [Please check the current Wi-Fi environment, and choose a	
	relatively clean channel]	
	100.0-6-2	
LAN setup	LAN Setup	
	Apply > X Cancel	
	Device Name R7000	
	LAN TCP/IP Setup	
	IP Address 192 . 168 . 8 . 1	
	IP Subnet Mask 255 . 255 . 255 . 0	
	RIP Version Disabled •	
	V Use Router as DHCP Servet	
	Starting IP Address 192 168 2	
	Ending IP Address	
	Address Reservation # IP Address Device Name MAC Address	
	+Add 🖍 Edit 🗙 Delete	
Configure LAN IP address	IP address: 192.168.8.1 Subnet Mask: 255.255.255.0	
External wireless AP reboot	Apply above settings and reboot your wireless router.	
Recover local network IPv4 setting	Internet Protocol Version 4 (TCP/IPv4) Properties	
	General	
	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.	
	Chick of Baldess starting	
	Optain an IP address automatically	
	IP address: 192.168.8.188	
	- Subnet mask: 255 , 255 , 255 , 0	
	Default gateway:	
	Obtain DNS server address automatically	
	Ouse the following DNS server addresses:	
	Alternate Divis server:	
	Validate settings upon exit Advanced	
	OK Cancel	
IP setting	IP address: 192.168.8.188	
Network mask setting	Subnet mask: 255.255.255.0	

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Configuration of detector

Either Wired Cable or Infrared device can be used to configure detector in wireless client mode.

a.To start configuration with wired cable. It is necessary to finish 3.4.1.1, then proceed to the steps below.



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Since we have chosen default SSID and password, it would connect to wireless AP immediately after powered on next time.

B. To start Infrared configuration. Please see below

Connect Infrared device with	/
Workstation	

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Start IrDARegister.exe	Quick'n IrDA Regist Service
	Ver: 1.0.0.2
	Start
	Exit
Click " to open wifi	
setting	

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Change SSID and password, do not select AP mode	Quick'n IrDA Regist Service AP Mode Apply SSID: NETGEAR_BIG_50 Key: 12345678 Key: 12345678 Start
	Exit
Click "Apply"	/
Click"	/

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Click"Start"	Quick'n IrDA Regist Service Ver: 1.0.0.2 ==[SSID: NETGEAR_BIG_50 PWD: 12345678] == 12.26 12:58:27 I Start Stop Exit
Point Infrared device to detector's infrared interface	/

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Do not click"Exit" until succeed	Quick'n IrDA Regist Service Ver: 1.0.0.2 ==[SSID: NETGEAR_BIG_50 PWD: 12345678]== 12.26 12:58:27 I Start 12.26 12:59:00 I Find Dev:iRaychina 12.26 12:59:11 I Finish regist.	
	Stop	
	Exit	
Disconnect Infrared device from Workstation	/	

3.4.1.3 Wireless AP Mode

To complete Wired connection configuration, user has to finish actions listed below.

Configuration of detector

Either Wired cable or Infrared device can be used to configure panel wireless AP mode.

a.To start wired cable configuration, users should finish 3.4.1.1, then proceed to the steps below.

Click "Configure" in IDemo	PREP Abort Exp
	Acquire
	PREP Acquire
	Config
	SEQU STOP

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Since we have chosen default SSID and password, it would connect to wireless AP immediately after powered on next time.

b.To start Infrared configuration, please see below

Connect Infrared device with Workstation	/	
Start IrDARegister.exe	Quick'n IrDA Regist Service	
		/

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Click " Lick " to open wifi	Quick'n IrDA Regist Service	
setting		
	AP Mode Apply	
	SSID: NETGEAR BIG 50	
	Kovi 12245579	
	Rey: 12345070	
	start	
	Exit	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	
Select "AP mode"	Quick'n IrDA Regist Service	

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Change SSID and password and other parameter, make sure SSID is different from other already exist;	Quick'n IrDA Regist Service
	SSID: MARS1417V_AP Key: 12345678 Security: WPA-PSK Frequency: 5GHz Country: US Band: HT40- Channel: 153
	Start Exit
Click "Apply"	/

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Click Start	Quick'n IrDA Regist Service	
	Ö	
	Ver: 1 0 0 2	
	==[SSID: MARS1417V_AP PWD: 12345678]==	
	12.26 13:36:22 I Start	
	Chan	
	Stop	
	Exit	
Do not click"Exit" until succeed	Ouick'n IrDA Regist Service	
	•	
	Ver: 1.0.0.2	
	==[SSID: MARS1417V_AP PWD: 12345678]==	
	12.26 13:36:57 I Find Dev:iRaychina	
	12.26 13:37:10 I Finish regist.	
	Stop	
	F .4	
	Exit	

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Configuration of external wireless card

Open local wireless signal list	Wireless Network Amped_RTA15_2.4 Amped_RTA15_2.4 Connected iray-china-xxxx 360WiFi-B6A3 D-Link_RR CMCC-AUTO saiji CMCC-ZJPARK CMCC
	MARSI41/V_AP Connect automatically Open Network and Sharing Center
Select SSID which belongs to detectors; Input password and log into system	Connect to a Network Type the network security key Security key: 12345678 Hide characters OK Cancel
Open wireless card configuration	General Connection IPv4 Connectivity: No network access IPv6 Connectivity: No Internet access Media State: Enabled SSID: MARS1417V_AP Duration: 03:22:47 Speed: 54.0 Mbps Signal Quality: Details Wireless Properties Activity Sent Quelless Properties Quelless Quel

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	Internet Protocol Version 4 (TCP/IPv4) Properties
open IPV4 setting	General
	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
	Obtain an IP address automatically
	Use the following IP address:
	IP address: 192 . 168 . 8 . 188
	Subnet mask: 255 . 255 . 0
	Default gateway:
	Obtain DNS server address automatically
	Use the following DNS server addresses:
	Preferred DNS server:
	Alternate DNS server:
	Validate settings upon exit Advanced
	OK Cancel
IP setting	IP address: 192.168.8.188
Network mask setting	Subnet mask: 255.255.255.0
Open SDK and start connection	Connect Detector
1	Serial No. Link Status
	IP: Port:
	A: 192, 168, 8, 188 28000 Connect
IP and port setting	IP: 192.168.8.188
	Port: 28000



4 Operation

Mars1417V provides SDK for user to integrate panel into their DR system. Additionally, it also provides an application for demonstration, i.e. Idemo. User can use Idemo to control panel without DR system.

4.1 Main Operation

To Acquire X ray image is the main operation of Mars1417V. Most importantly, panel should build synchronization with with X ray generator.Mars1417V is born with three ways to acquire x ray image, that is Software Mode, Inner Mode and Isync Plus Mode.

4.1.1 Software Mode

4.1.1.1 Block Diagram

Software mode is the basic way to acquire x ray image. Please see figure below for general feature





Workstation is a host device installed with idemo and SDK. Chapter 3 has described how to establish connection between panels and workstation. In software mode, workstation does not control x ray generator. Users would decide when to shoot x ray.

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4.1.1.2 Work flow



4.1.1.3 Timing Setting

To set a clear scenario for programming, see diagram below for details



1. Workstation receives "prep" request, send command "Clear" to panel.



- 2. Panel receives "clear" from workstation, starts clearing leakage of panel. Meanwhile, panel send a message to workstation "Exposure Prohibited".
- 3. Panel finishes "Clear" and send a message to workstation "Exposure Enable".
- 4. Workstation shows "Exposure Enable" on the iDemo's message bar to tell user shoot X ray now.
- 5. User triggers x ray generator to initialize and do anode rotation to prepare for X ray shooting.
- 6. X ray generator finishes preparation for X ray shooting and reminds user to shoot.
- 7. X ray generator starts releasing x ray
- 8. X ray generator finishes x ray shooting.
- 9. Workstation receives "Acquire" request, send command "Data Acquisition" to panel.
- 10. Panel receives "Data Acquisition" from workstation, start data acquisition operation.
- 11. Panel completes image acquisition and begins to send data to workstation.
- 12. Workstation receives all image data from panel.

If Hardware Pre-offset and Hardware Calibration is selected, image got is the final image.

If Software Pre-offset and Software Calibration is selected, image got is the raw image, Workstation would finish image processing and show on screen.

If Hardware Post offset and Hardware Calibration is selected, image got would be preview image (2x2 binning). After step12, panel would do another dark image acquisition. With both light and dark image, panel completes the correction and calibration process. Finally, panel uploads processed image to workstation.

If Software Post offset and Software Calibration is selected, image got would be preview image (No binning). After step12, Workstation sends another "clear Acquire" command to panel, panel finishes a dark image acquisition and uploads dark raw image to Workstation. With both light image and dark image, workstation completes the correction and calibration process. Finally, processed image shows on screen.

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4.1.2 Inner Mode

4.1.2.1 Block Diagram





Workstation is a host PC device installed with iDemo and SDK. Chapter 3 has described how to establish connection between panels and workstation. In inner mode, workstation does not control x ray generator. Users would decide when to shoot x ray.

4.1.2.2 Work Flow



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4.1.2.3 Timing Setting

To set a clear scenario for program, see diagram below for details



1. Workstation receives "prep" request and sends "Clear" to panels.

2. Panel receives "clear" from Workstation, start clear operation. Meanwhile, panel would send "Exposure Prohibited" to Workstation.

3. Panel finishes "Clear" operation and send "Exposure Enable" to Workstation.

4. Workstation shows "Exposure Enable" on the iDemo's message bar to tell user shoot X ray.

5.User triggers x ray generator to initialize and do anode rotation to prepare for X ray shooting

6.X-ray generator finishes preparation and reminds users.

7.X ray generator begins releasing x ray

8.X ray generator finishes x ray shooting.

9.X ray sensor in panel triggers panel to start image acquisition operation.

10.Panel completes image acquisition and begins to send data to Workstation.

11.Workstation starts receiving image data from panel.

12. Workstation receives all image data from panel.

If Hardware Pre-offset and Hardware calibration is selected, image got is the final image.

If Software Pre-offet and Software Calibration is selected, image got would be raw image, Workstation would finish image processing and image is shown on screen.



If Hardware Post offset and Hardware calibration is selected, image got from panel would be preview image (2x2 binning). After step12, panel would do another dark image acquisition. With both light and dark image, panel completes correction and calibration process. Finally, panel uploads processed image to Workstation and image is shown on screen.

If Software Post offset and Software calibration is selected, image got from panel would be preview image (No binning). After step12, Workstation sends another "clear Acquire" to panel , panel would do dark image acquisition and uploads dark image to Workstation. With both light and dark image, Workstation completes correction and calibration process. Finally, processed image is shown on screen.

4.1.2.4 Abnormal Action

Action1: after Step4, if user wants to cancel X ray exposure cycle, Idemo provides an "Abort Exp" function to close exposure window. However, Idemo allows user to click "Abort Exp" until Workstation receives first image.

Action2: after Step4, if user does not shoot x ray in exposure windows, panel would close exposure windows automatically and send a message to Workstation that waiting for X ray shooting is overtime. Meanwhile, panel would also start image acquisition. After acquisition, panel sends image to Workstation.

4.1.3 Isync Plus Mode

4.1.3.1 Block Diagram



Workstation is a host PC device installed with iDemo and SDK. Chapter 3 has described how to establish connection between panel and Workstation. In Isync Plus mode, User doesn't interact with Workstation. After shooting, images would be shown on screen immediately.

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4.1.3.2 Work Flow



4.1.3.3 Timing Setting



1. X ray generator is ready for X ray shooting and begins to release X ray.

2. Workstation receives "Exposure Prohibited" from Panel.

3. Panel starts uploading Pre-dark image and Light image to Workstation for preview. If hardware offset is selected, panel would do offset first, and then upload preview image (2X2 binning).

4. Panel starts uploading Post-dark image to Workstation. If hardware offset is chosen, panel would do correction and calibration first, then upload processed image to Workstation.

5. Workstation receives "Exposure Enable" from Panel.



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4.2 Connection Build



Note:

1. Once changing connection from different network card, user must re-connect panel with different IP address.

2. Switching between wired and wireless connection does not need any extra operation.

3. The rule of Multi-Share control is based on IP address. The second terminal with different IP address is not allowed to operate panel after the first one connected. If there is no command transmission between panel and Workstation over 5 minutes, panel releases access authority.

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4.3 Panel Configuration



Note: 1. If panel works in Isync Plus mode, it is not allowed to change any parameters and write into ROM or RAM. User is required to switch to software mode, change parameters and then switch to Isync Plus mode. On the other hand, we do not recommend user to switch working mode too often.

4.4 Correction and Calibration Template Generation

Iray recommends performing correction and calibration after installation or any major change on the system settings and hardware configuration. On the other hand, it is also recommended to do the correction and calibration in each 6 months.

4.4.1 Pre-offset Template Generation

If panel is configured to do Pre-offset correction, Pre-offset Template is necessary. See below

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Click "Create" Choose "Defect"	Correction Wizard
chek cleate , choose Delect	Gain Defect
	Refresh NY PEEP Acquire PREP Acquire Acquire Delay: 3000
	Create Light File Create Offset Current I Start creating Create Defect
Click "Create Offset", wait until	/
image acquisition ends	

4.4.2 Gain Calibration Template Generation

Before Gain template generating, make sure SID1.2m, no copper is required,

Choose "Post" offset mode ¹	Config SEQU STOP
	Image Save Open
	Open Correction
	Offset: POST Gain: NO Defset: NO
	Create
	VER:3.0.0.14-0616

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Note:1 please use software post offset correction.

4.4.3 Defect Correction Template Generation

Before Defect template generating, make sure SID1.2m, no copper is required,

Choose "Post" offset mode ¹	Config SEQU STOP
	Image Save Open
	Modify Defect
	Open
	Correction
	Offset: POST 💌
	Gain: NO 💌
	Defect: NO 🔽
	Create
	VER: 3.0.0.14-0616
	A: Ready

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Click "Create" Chasse "Defect"	Correction Wizard
Unck Create, Choose Defect	Gain Defect
	Refresh XV PEEP Agains PEEP Agains 1 - 2000
	Offset Template
	Create Light File
	✔ Auto Completion
	0K
Click "start creating", message box	Correction Wizard
will show you the first image value	Gain Defect
for defect correction ² ;	Refresh HW Offset PREP Acquire PREP Acquire Acquire Delay: 3000
If panel is in software mode, click	
"Prep" .shoot X ray, click	Please set expected gray value: 1000, [kV=70] for image: 1/19
"Acquire":	IDemo 💌
If papel is in Inner mode click	Please set expected grav value:
"Prep" shoot X ray:	Other FPD: 1000, [kV=70]
If papel is in Isync Plus mode	Mammo FPD: 1000, [kV=22]
aliele "Dren A guine" weit for ready	
check Flep Aquile, wait for leady,	OK
shoot A ray. Time window can be	Create Light File
set by "Acquire Delay";	Create Offset Current: 1 Create Offset Current: 1 Create Offset Create Defect
	Vato Completion
	OK
Click "start creating" to start the	Correction Wizard
second x ray shoot	Gain Defect
-	Refresh HW Offset PREP Acquire PREP Acquire Acquire Delay: 3000
	Please set expected gray value: 1000, [kV=70] for image: 1/19 Please set expected gray value: 1000, [kV=40] for image: 2/19
	IDemo X
	Please set expected gray value:
	Other FPD: 1000, [kV=40]
	Mammo FPD: 4000, [kV=28]
	ОК
	Create Light File
	Create Offset Current: 2 Start creating Create Defect
	I⊄ Auto Completion
	ОК

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Click "Create Defect", wait until it	Correction Wizard
ends	Gain Defect
	Refresh HW PREP Acquire PREP Acquire Delay: 3000
	The defect file was created successfully!
	Please set expected gray value: 11000. [M*70] for image: 12/19 Get the light image: 12/19. (Average: 10203: Center: 11256; Lest Redet:no) Please set expected gray value: 11000. [D. Contor image: 14/19 Get the light image: 12/19. (Average: 10202; Center: 11256; Lest Redet:no) Please set expected gray value: 11000. [D. Contor image: 14/19 Get the light image: 14/19. (Average: 10322; Center: 11273; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 15/19 Get the light image: 15/19. (Average: 10325; Center: 11273; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 15/19 Get the light image: 16/19. (Average: 10355; Center: 11274; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 16/19 Get the light image: 16/19. (Average: 10335; Center: 11254; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 17/19 Get the light image: 18/19. (Average: 10386; Center: 11325; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 18/19 Get the light image: 18/19. (Average: 10386; Center: 11327; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 19/19 Get the light image: 18/19. (Average: 10386; Center: 11276; Lest Packet:no) Please set expected gray value: 11000. [D. M*70] for image: 19/19 Get the light image: 19/19. (Nerage:
	Create Light File
	Create Offset Current 19 V Start creating Create Defect
	30
	-

Note:1 please use software post offset mode.

2. Make sure your x ray dose is right, if your dose is out of the range, idemo will remind you to adjust the dose. Then you can click "start creating" and try again.

3. If users operate with two panels, SDK has a probability of quit automatically.

4.4.4 Lag Template Generation

Lag template is only used in Isync plus mode, if panel works in other mode, user does not have to complete lag template. Before Lag template generating, make sure SID 1.2m, no copper is required.


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Change X ray dose to make sure	W Deno
average gray value in the range of	
10000 ± 100 , Shoot X ray, Post-	Correction Wated Roy Device Law L
offset image is shown on screen,	Autor (Const
make sure exposure line between	Got image!
50 and 500. If not, repeat the	9.346
operation until the requirement is	fort ange, opportent lists of 105 (0). Hert tange approver lists of block but (10: 50) Hert tange approver lists of block but (10: 50) Hert tange approver lists of block but (10: 50)
satisfied;	int tage, approver takes with 00 Hert tage, approver takes with 4 w d307 - 972 Hert tage, approver takes with 4 w d307 - 970 Hert tage, approver takes with 4 w d30 - 970 Hert tage, approver takes with 4 w d30 - 970
Shoot X ray, another Post-offset	for tange, express lists with 200 (1) Bert tange, express lists with 4 with 00 = 500. For tange, express lists with 607 (1) Bert tange express lists with 4 with 00 = 500.
image is shown on screen, make	for tange register take at 102 (b)
sure exposure line between 2300	for it and under the set top of the set top of the set top of the set of the
and 2750. If not, repeat the	Struct creating Create Lag Bap
operation until the requirement is	198:3.0.0.159721
satisfied;	k Bady
Click "Create Lag Map";	999, 988 WL: 95
Close correction window until "lag	Wife (Link Quality 0) Net Mode: Wifi Battery Capacity 255 CAP Post/CI605 Y1168) Value 10302 3354 (m) got image
Close confection window until Tag	
calibration finished" shows on	
screen;	

4.5 Image Acquisition Continually

Image Acquisition continually can be used only in software mode and inner mode, it is not supported in Isync Plus mode. The operation is designed for panel testing, not for customer using. "SEQU" is the command to start image acquisition and "STOP" is the opposite. If user wants to change frequency of image acquisition, change parameters in "Config-General Setting-Time Span".

4.6 Image save

"SAVE" provides two features of image saving for user. The first is saving multiple images, the second is saving single image.

4.6.1 Multiple images

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Set the number of images in blank; Choose the saving path:	Serial Save	×
Click "Begin Save";	Number: Save Path:	0
		Begin Save
		Save Directly

4.6.2 Single image

Click "Save"	-Image Save Open
Click "Save Directly"	Serial Save
	Save Path:
	Begin Save
	Save Directly

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Choose the saving path; Click "save":	Save As Save As Save As Save As	Documents			• \$ 9	Search Documents
	Organize 🔻 New fold	er				≡ • 🔞
	☆ Favorites ■ Desktop	Documents library Includes: 2 locations				Arrange by: Folder 🔻
	Downloads	Name	Date modified	Type	Size	
	📜 Libraries		no tenan	later your search		
	Documents					
	E Pictures					
	Videos					
	📜 Computer					
	🗣 Network					
	File name: XRay	Detector				•
	Save as type: (*.DC	M)				•
	Hide Folders					Save Cancel

4.7 Image Check and upload

"OPEN" provides three feature for image check and uploading. Local Image Check, Panel Image Upload and Panel Image Check. Local Image Check defines function to check image saved in Workstation. Panel Image Upload defines function to upload images stored in panel. Panel Image Check defines function to check images stored in panel.

4.7.1 Local Image Check

Click "Open"	Image		
	Save Open		
Click "Open Local File"	Load Image		
-	Remote File List		
	Index File Name Create Time Attr Delay Time Upload Status		
	Get File List Start Upload Stop Upload Open in List Open Local File		
Choose images stored in Workstation,	/		
images would be shown on screen			

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4.7.2 Panel Image Upload

Before panel image uploading, FTP server is necessary.

Make sure firewall is closed	Ceteol Panel IN System and Se	urby • Windows Freewall • Customics Settings Customize settings for each type of You can mody the freewall settings for each ty What are network locations? Home or work (printicip entwork for teach Book all incoming connection Netty me when Windows Free Netty me when Windows Free Netty me when Windows Free Deck retwork Kaction settings Turn of Windows Freewall Book all incoming connection Book all incoming connection B	: network pe of network location that y gi , including those in the list of wall blocks a new program commended) s, including those in the list of blocks a new program commended)	to use.	• 1/2 Zent Central Proce
				OK Cancel	1
Start "FTPServer.exe"	E% P FpQLamiinKacqu.ali P FpQLommonFunc.dll P FpdCorrection.dll P FpdDetector.dll P FpdDetector.dll P FpdDetector.dll P FpdDetector.el.dll P FpdDetector.el.dll P FpdDetector.el.dll P FpdDetector.el.dll P FpdDetector.el.dll P FpdDetector.el.dll P FpdIDARegister.dll P FpdIDARegister.dll P FpdIDARegister.dll P FpdIDARegister.dll P FpdIDARegister.exe O GridLineRemoval.dll P TPServer.exe D Ticom.dll P TDARegister.exe D Ticom.dll P TDARegister.exe D Iocom.dll P TDARegister.exe D Ioque.pp32vc9.dll I users.dat	● 株式日期 2013/1/0 18:20 2015/7/6 18:20 2014/2/7 10:38 2015/7/6 18:21 2013/11/18 13:44 2015/6/9 9:42 2014/11/11 10:19 2014/11/11 10:19	类型 型均用 型均分子 型均子 型均子 型的 型的 型的 型的 型的 型的 型的 型的 型的 型的	OK Cenedit 大小 5 KB 31 KB 53 KB 31 KB 53 KB 44 KB 10 KB 38 KB 10 KB 71 KB 8 KB 71 KB 8 KB 8 KB 8 KB 16 KB 8 KB 12 KB 12 KB 12 KB 2.976 KB 130 KB 2.37 KB 1 KB 1 KB	

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Choose "Configuration".	🚽 Quick 'n Easy FTP Server Lite	
	Server View Help	
Set FTP Port "21000";	• = ?	
Click "Start" button;		
	Server Log FTP Port: 21000	
	Max.Connections: 10	
	User Accounts Connection Timeout: 5	minutes.
	Welcome Message: Welcome to	Pablo's FTP Server
	Goodbye Message: Bye	
	Configuration Launch F	P Server at windows startup
	🗌 🔽 💭 🗔 Startup mi	nimized in systemtray
	Online Users	ally activate server at startup
	Statistics	
	Update	Apply
	FTP Server is offline	0 bytes received 0 bytes sent 🍑 🔴 🏿

Panel Image is uploaded as following.

23
Upload Status

en Local File

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Images stored in panel would be shown in	Load Image					
the list. From the list, user could check	Remote File List					
basic information of images	Index File Name Create Time Attr Delay Time Upload Stat					
	2 1436880199 2015-7-14 13:23:19 0x00 0 2 1436880200 2015-7-14 13:23:20 0x00 0					
	3 1436880214 2015-7-14 13:23:34 0x00 0 4 1436880215 2015-7-14 13:23:35 0x00 0					
	5 1436880216 2015-7-14 13:23:36 0x00 0 6 1436958211 2015-7-15 11:03:31 0x00 0					
	7 1436958213 2015-7-15 11:03:33 0x00 0 8 1436958214 2015-7-15 11:03:34 0x00 0					
	9 1436958237 2015-7-15 11:03:57 0x00 0 10 1436958238 2015-7-15 11:03:58 0x00 0					
	11 1436958239 2015-7-15 11:03:59 0x00 0 12 1436958253 2015-7-15 11:04:13 0x00 0					
	13 1436958254 2015-7-15 11:04:14 0x00 0 14 1436958255 2015-7-15 11:04:15 0x00 0					
	15 1436958364 2015-7-15 11:06:04 0x00 0 16 1436958365 2015-7-15 11:06:05 0x00 0					
	17 1436958366 2015-7-15 11:06:06 0x00 0 +					
	Get Outline Image List					
	Get File List Start Upload Stop Upload Open in List Open Local File					
Select images user wants;	Load Image					
Click "Start Upload";	Remote File List					
Images would be uploaded to	Index File Name Create Time Attr Delay Time Upload Stat A					
*/idemo/upload	2 1436880200 2015-7-14 13:23:19 0x00 0 2 1436880200 2015-7-14 13:23:20 0x00 0					
	3 1436880214 2015-7-14 13:23:34 0x00 0 4 1436880215 2015-7-14 13:23:35 0x00 0 5 1436880215 2015-7-14 13:23:35 0x00 0					
	5 1436880216 2015-7-14 13:23:36 0x00 0 6 1436958211 2015-7-15 11:03:31 0x00 0					
	7 1436958213 2015-7-15 11:03:33 0x00 0 8 1436958214 2015-7-15 11:03:34 0x00 0					
	19 1436958237 2015-7-15 11:03:57 0x00 0 10 1436958238 2015-7-15 11:03:58 0x00 0					
	11 1436958239 2015-7-15 11:03:59 0x00 0 12 1436958253 2015-7-15 11:04:13 0x00 0					
	13 1436958254 2015-7-15 11:04:14 0x00 0 14 1436958255 2015-7-15 11:04:15 0x00 0					
	15 1436958364 2015-7-15 11:06:04 0x00 0 16 1436958365 2015-7-15 11:06:05 0x00 0					
	1/ 1436958366 2015-7-15 11:06:06 0x00 0					
	Get Outline Image List					
	Get File List Start Upload Stop Upload Open in List Open Local File					
If user want to upload multiple images,	Load Image					
select multiple images, click "start	Remote File List					
upload", during uploading, user could	Index File Name Create Time Attr Delay Time Upload Stat					
click "stop upload" to stop uploading	1 1436880199 2015-7-14 13:23:19 0x00 0 2 1436880200 2015-7-14 13:23:20 0x00 0					
	3 1436880214 2015-7-14 13:23:34 0x00 0 4 1436880215 2015-7-14 13:23:35 0x00 0					
	5 1436880216 2015-7-14 13:23:36 0x00 0 6 1436958211 2015-7-15 11:03:31 0x00 0					
	7 1436958213 2015-7-15 11:03:33 0x00 0 8 1436958214 2015-7-15 11:03:34 0x00 0					
	9 1436958237 2015-7-15 11:03:57 0x00 0 10 1436958238 2015-7-15 11:03:58 0x00 0					
	11 1436958239 2015-7-15 11:03:59 0x00 0 12 1436958253 2015-7-15 11:04:13 0x00 0					
	13 1436958254 2015-7-15 11:04:14 0x00 0 14 1436958255 2015-7-15 11:04:15 0x00 0					
	15 1+36958364 2015-7-15 11:06:04 0X00 0 16 1436958365 2015-7-15 11:06:05 0x00 0 17 143695866 2015-7-15 11:06:05 0x00 0					
	Get Outline Image List					
	Get File List Start Upload Stop Upload Open in List Open Local File					



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4.7.3 Panel Image Check

If user wants to check images stored in panel immediately, see below

Click "Open"	-Image					
chen open						
	Save	e Open				
Select image user need;	Load Ima	age				8
Click "open in list"	Remote	File List				
	Index	File Name	Create Time	Attr	Delay Time	Upload Stat 🔺
	1	1436880199	2015-7-14 13:23:19	0x00	0	
	2	1436880200	2015-7-14 13:23:20	0x00	0	
	3	1436880214	2015-7-14 13:23:34	0x00	0	
	4	1436880215	2015-7-14 13:23:35	0x00	0	
	5	1436880216	2015-7-14 13:23:36	0x00	0	
	6	1436958211	2015-7-15 11:03:31	0x00	0	
	7	1436958213	2015-7-15 11:03:33	0x00	0	
	8	1436958214	2015-7-15 11:03:34	0x00	0	
	9	1436958237	2015-7-15 11:03:57	0x00	0	
	10	1436958238	2015-7-15 11:03:58	0x00	0	
	11	1426059262	2015-7-15 11:05:59	0x00	0	
	12	1426059262	2015-7-15 11:04:15	0x00	0	
	14	1426059255	2015-7-15 11:04:15	0x00	0	
	15	1436058364	2015-7-15 11:04:15	0x00	0	
	16	1436958365	2015-7-15 11:06:05	0x00	ő	
	17	1436958366	2015-7-15 11:06:06	0x00	ŏ	-
	•		111			4
	Get Out	line Image List t File List Start I	Upload Stop Upload	Ot	pen in List 0	pen Local File

4.8 Defect Template Check and Modification

Idemo provides function to check defect template. If defect template has updates, user could add and delete defect pixel or defect lines by modifying defect template opened.

4.8.1 Defect Template Check

Click "Open"	-Modify Defect
	Open

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Select defect template;	प्रह Open						×
Click "open":	🕒 🗸 🗸 🖓 🗸 🕑	8.0.0.15 + res + Correct + KW	07086025187 > 0 >		▼ ∮ St	learch 0	م
chen open ;	Organize 🔻 New fol	ler)=	• 🔟 🔞
	☆ Favorites	Name	Date modified	Туре	Size		
	🧮 Desktop	🌡 Default	7/12/2015 10:08 PM	File folder			
	🚺 Downloads	鷆 dftdark	7/20/2015 1:50 PM	File folder			
	🔛 Recent Places	퉬 dftlight	7/20/2015 1:50 PM	File folder			
	En la la	oftlightCor	7/20/2015 1:50 PM	File folder			
	Desuments	Dynamic	7/12/2015 10:08 PM	File folder			
	Music	ight light	7/12/2010 10:06 PM	File folder			
	Pictures	MaGroup	7/12/2015 10:08 PM	File folder			
	Videos	mLight	7/20/2015 1:50 PM	File folder			
	-	defect_Detector_A.dft	7/13/2015 3:57 AM	DFT File	6,308 KB		
	I툎 Computer						
	👊 Network						
	File				- Dat	ata Eilac/* dft)	
	The second se				•	Open	Cancel
Select Product Size "Venu1417	Product Si	ze					
(2304*2800);							
Click "OK", Defect template is shown on							
screen;							
	P	roduct Size:	Venu 1417 (230	4*2800)		•	
			í leitheolaíochta a starta a s				
		0	к	Cancel			
	Madify Dat	in at					
Click "Close" to close Defect template	-Modity Det						
	Clos	e					

4.8.2 Defect Template Modification

Click "Open"	- Modify Defect	
	Open	

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Select Defect Template;	₩ Cpen	X
Click "Open":	Core > Demo 3.0.015 > res > Correct > KV07066025187 > 0 > + 42 Search 0	م
1	Organize - New folder	= • 🔳 🔞
	Name Date modified Type Size Desktop Default 7/12/2015 10.08 PM File folder Downloads ditdark 7/20/2015 1.50 PM File folder Recent Places ditdight 7/22/2015 10.08 PM File folder Ibrainic 7/12/2015 10.08 PM File folder Documents Ibght 7/12/2015 10.08 PM File folder Places Ibght 7/12	
	File name: Data File(*.dft) Open	▼ Cancel
Set product size "Venu1417 (2304*2800); Click "OK"	Product Size: Venu1417 (2304*2800)	
coordinate, click "Add"; If pixel is labeled as defect by mistake, input coordinate, click "Delete"	Modify Defect Point/Line	

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If there is new defect line, input coordinate, click "Add"; If line is labeled as defect by mistake, input coordinate, click "Delete"	Line (Normal/Data/Scan) X1 1430 Y1 475 X2 1430 Y2 2600 Add Delete Save	
Click "Close"	-Modify Defect Close	

4.9 Correction and Calibration Management

4.9.1 Correction and Calibration template synchronization

Panel supports correction and calibration template storage. So template in panel could be uploaded to Workstation, and template in Workstation could also be downloaded to panel. Before synchronization, FTP server is necessary.



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Start "FTPServer exe"	名称	▼ 修改	日期	类型	大小	
Start 111 Server.exe	FpacamiinkAcqu.aii	2013	0/7/0 18:20	心用性予/ 歳	õ KB	
	FpdCommonFunc.dll	2015	6/7/6 18:20	应用程序扩展	31 KB	
	FpdCorrection.dll	2015	5/7/6 18:20	应用程序扩展	53 KB	
	S FpdDefect.dll	2015	5/7/6 18:20	应用程序扩展	44 KB	
	S FpdDetector.dll	2015	5/7/6 18:20	应用程序扩展	10 KB	
	FpdDetectorE3.dll	2015	5/7/6 18:20	应用程序扩展	38 KB	
	FpdDetectorE4.dll	2015	5/7/6 18:20	应用程序扩展	71 KB	
	S FpdFTS.dll	2015	5/7/6 18:20	应用程序扩展	8 KB	
	FpdImageProcess.dll	2015	0///6 18:21	应用程序扩展	57 KB	
	FpdIrDARegister.dll	2015	0/5/21 8:59	应用程序扩展	16 KB	
	S FpdKey.dll	2015	6///6 18:20	应用程序扩展	8 KB	
	S FpdLib.dll	2015	0///6 18:21	应用程序扩展	83 KB	
	FpdSyncbox.dll	2015	0/7/6 18:20	应用程予扩展	10 KB	
		2015	0/7/6 18:20	应用程予扩展	12 KB	
		2015	0/7/6 18:20	心用相予加度	13 KB	1
	B FIPServer.exe	2014	1/5/20 0:10	心用柱序	123 KB	
	GridLineKemoval.dll	2014	1/2/7 10:38	应用程序// 展	219 KB	
	TD'ener dil	2013	0///0 18:21	心用住予	1,000 KB	
	IDicom.dii	2013	5/11/18 13:44	应用但予/ 展	2,970 KB	
	log4cpp22vc0 dll	2013	1/11/11 10:10	应用程序扩展	150 KB	
	iugers dat	2014	1/5/20 0.17	山口山山の小阪	237 KB	
		2014	4,5,50 5.17	DATIXI	I KD	
Choose "Configuration";	Quick 'n Easy FTP	Server Lite				
Set FTP Port "21000".	Server View Help	p				
Set 111 1011 21000,	▶ = ?					
Click "Start" button;	• 	Configuration -				
		Ŭ				
	Server Log F1	TP Port:	21000			
	м 🛃 м	1ax.Connections:	10			
		onnection Timeout:	5	minutes.		
	User Accounts	Velcome Message:	Welcome to	Pablo's FTP	Server	
		ioodbue Message:	Bue			
	Configuration	loodbye message.	-			
			Launch	FTP Server a	t windows startup	
	62		Startup r	ninimized in s	ystemtray	
	Online Users		Automat	ically activate	server at startup	
	Statistics					
	Update					Apply
	FTP Server is offline				0 bytes rece	ived 0 bytes sent 🍚 🥚 🏿

Click "Config"		
	Config	

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Colored "UNICommentions"	Config
Select HW Correction	General Settings
	General Settings Status:
	O - Detector 5/6 - Version Detail - Sersor details Advanced Settings 32 - Ub Version: 3.0.0.15 Temperature: 0.00 0.00 vc R Advanced Settings Serial Number: 00/0000025307 Wart Version: 2.5.5.16 Humidhy: 0.00 % R
	Network Settings
	Troger: FreeSinc Write ROM Controllor: Time Spar: 5000 ms Exp Window: 1000 ms Read ROM
	August Deep: Image: I
	Qrey Live Time
	Dynamic Configuration Exit
	Primore Lipdate
If user wants to download correction and	-HW
calibration template to panel. Click	Offset Mode:
"Download" from top to bottom;	Gin Mary Franks Discourse Developed Developed (Heles Lord
If user wants to upload correction and	San map, cripty Uo n SUK V Downoad Read Out Update Local
calibration template from panel. Click	Defect Map: Empty Do in SDK 💌 Download Read Out Update Local
"Read out" and "Update Local" from top	Lag Map:DownloadQdate Local
to bottom;	Update Status

4.9.2 Correction and Calibration management

Panel supports two ways to do correction and calibration. Software Correction and Calibration defines the scenario that Workstation completes all correction and calibration. If panel complete all correction and calibration by itself, it is named as Hardware Correction and Calibration.

4.9.2.1 Software Correction and Calibration

Click "Config"	Config	
	<u> </u>	

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4.9.2.2 Hardware Correction and Calibration Management

Click "Config"	Config	

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4.10 Sleep and Wake Up

Panel supports sleep and wake up operation. User can trigger sleep manually or automatically, but there is only one way to wake up panel.



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4.10.1 Sleep

4.10.1.1 Manual Sleep



4.10.1.2 Automatic Sleep

To go to sleep automatically, user should set the time flag first. If panel detects that there is no operation in time flag, panel would go to sleep. If time flag is set zero, panel would not go to sleep automatically.

Click "Config"	
	Config

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Sat "auto glaan timagut" yalug ugar naad	Config		
Set auto sleep timeout value user need	General Settings		
	General Settings Status		
	Detector Info		
	Product type: 32 Lb Version: 3.0.0.15 Temperature: 0.00 0.00 °C R Core Version: 1.3.3.24 <		
	Advanced Settings Serial Number: [VI07086025187 Kernel Version: 1.15.5.16 Humidity: 0.00 % R Viai/ Version: 2.5.3.9 Dear Version: 2.5.19		
	WOUVersion: 2.5.2.2		
	Network Settings		
	General Settings Write ROM		
	Time Span: S000 ms Exp Window: 10000 ms FreeSync Window: 10 ms		
	Acquire Delay: 10 ms Delay time: 1000 ms Auto Sleep Timeout: 10 s		
	Integrate: 70 us Inner Delay: 0 ms Write RAM		
	HW Correction		
	Query Live Time		
	Dynamic Contribution		
	Exit		
	i minar spoor		
If there is no operation in time flag user			
in there is no operation in three hag user			
sets, panel would go to sleep	🔝 Info		
	Detector will enter sleep mode in soon.		
	OK		
	UK		
Message box shows that panel is sleeping	VED-2.0.0.15.0705		
	VER:3.0.0.15-0706		
	A: Sleeping		

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4.10.2 Wake Up



Note: panel is allowed to waked up in 3 seconds after sending manual sleep command or going in sleep automatically.

4.11 Firmware Update

Panel supports updating firmware with idemo, please do not use Web to update firmware. If user wants to update new firmware, see below

4.11.1 MCU Update

If current MCU version is 2.5.1.*, we should follow instruction below.

Open "mini Cover"	/
Remove original Ethernet cable, insert J-	/
link download cable	
Start J-flash ARM	/

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Click "file->open data file"	ייין ארא ארא ארא ארא ארין דער ארא ארין דער ארא ארא ארא ארא ארא ארא ארא ארא ארא א
	R Project - Def D 23
	Name Value Addess 0x800000 x1 x2 x4 Connection USB [Perice 0] 0x800000 x1 x2 x4
	Lager Interlace State Hadness B I Z 3 4 S 5 7 8 9 H B C D E F HSCII P Ins/Indemond 5 60 26 69 61 66 85 F 67 66 68
	JTAG speed Auto recognition 8000010 ED 0F 06 08 A 1F 08 <
	IRPre </td
	DPU Contervits 88090950 23 81 60 88 88 80 88 88 88 81 88 88 88 81 88 88 88 81 88 88 88 83 81 88 88 88 88 83 81 88 88 88 83 81 88 88 88 83 81 88 88 88 83 81 88 88 83 81 88 88 83 81 88 88 83 81 88 88 83 81 88 88 83 81 88 88 83 81 83
	Core Id 0x0
	RAM addets 0.40 88000030 31 87 80 88 95 87 88 88 23 81 88 81 81 81 81 81 81 81 81 81 81 81
	Flight memory Auto detection 88989898 23 61 60 68 23
	Same access Dol Separation Separation
	80000ED 89 09 00 08 23 01 00 08 23 01 00 08 23 01 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 23 11 00 08 11 11 11 11 11 11 11 11 11 11 11 11 11
	80000100 89 27 00 08 F0 05 00 20 06 48 80 47 0
	8000110 FE F2 FE F2 FE F2 FE F2 FE F2 FE F2 F2 F3 F4 F3 F4 F4 F3 F4 F4 F4 F3 F4 F4 <t< td=""></t<>
	LOG
Click "option->project setting",	Project settings
Set "connection to J-link" USB mode	
	General Target Interface CPU Flash Production
	J-Flash-ARM is a software for J-Link ARM. It requires a license, which can be obtained from SEGGER (www.segger.com).
	This software is capable of programming the flash memory of several ARM micros, as well as external Flash connected to ARM cores.
	Connection to J-Link
	C ICP/IP
Click "Target Interface", Choose "SWD"	Project settings
	SWD V
	JTAG SWD SWD
	C Auto selection

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Note:1. Make sure panel is powered up.

If current MCU version is 2.5.2.*, Please refer to 4.10.2 and 4.10.3 for upgrading.

4.11.2 FTP Server

Make sure firewall is closed	😧 🖉 - 🔐 - Control Panel + System and Security + Windows Firewall + Customics Settings - 4 Societ Control Panel - 9
	Customize settings for each type of network (You can modify the firevall testings for each type of network (cotion that you use. What are analysis contains? @ I are an Windows Firevall @ O are and Windows Firevall (blocks a new program @ I are off Windows Firevall blocks a new program @ I are off Windows Firevall blocks a new program @ I are off Windows Firevall blocks a new program @ I are off Windows Firevall blocks a new program @ I are off Windows Firevall blocks a new program @ I are off Windows Firevall @ Bock all incoming connections, including those in the list of allowed programs @ Word me when Windows Firevall @ Bock all incoming connections, including those in the list of allowed programs @ Word me when Windows Firevall blocks a new program @ Word me when Windows Firevall blocks a new program @ Word me when Windows Firevall blocks a new program @ Word me when Windows Firevall blocks a new program @ Word me when Windows Firevall blocks a new program @ Word me when Windows Firevall (not recommended)
	OK Cancel

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		*				
Click On "FTPServer.exe"	名称		▼ 修改日期	类型	大小	
	FpdCommonFur	nc.dll	2015/6/16 10:4	19 应用程序扩展	30 KB	
	FpdCorrection.d		2015/6/16 10:5	0 应用程序扩展	53 KB	
	FpdDefect.dll		2015/6/16 10:4	19 应用程序扩展	44 KB	
	FpdDetector.dll		2015/6/16 10:4	19 应用程序扩展	10 KB	
	FpdDetectorE3.d	dll	2015/6/16 10:5	i0 应用程序扩展	39 KB	
	FpdDetectorE4.c	dll	2015/6/16 10:5	i0 应用程序扩展	71 KB	
	FpdFTS.dll		2015/6/16 10:5	i0 应用程序扩展	8 KB	
	FpdImageProce	ss.dll	2015/6/16 10:5	i0 应用程序扩展	58 KB	
	FpdIrDARegister	r.dll	2015/5/21 8:59	应用程序扩展	16 KB	
	S FpdKey.dll		2015/6/16 10:5	i0 应用程序扩展	8 KB	
	S FpdLib.dll		2015/6/16 10:5	i0 应用程序扩展	82 KB	
	FpdSvncbox.dll		2015/6/16 10:5	i0 应用程序扩展	16 KB	
	SpdTCP.dll		2015/6/16 10:4	19 应用程序扩展	13 KB	
	SpdUDP.dll		2015/6/16 10:4	19 应用程序扩展	13 KB	
	FTPServer.exe		2014/5/20 0:10) 応用程序	123 KB	
	GridLineRemova	al.dll	2014/2/7 10:38	应用程序扩展	219 KB	
	W IDemo interface	e.exe	2015/6/16 10:5	2 应用程序	1.000 KB	
	IDicom.dll		2013/11/18 13	:44 应用程序扩展	2.976 KB	
	A IrDARegister.exe	e	2015/6/9 9:42	应用程序	130 KB	
	Iog4cpp32vc9.d		2014/11/11 10	·19 应用程序扩展	237 KB	
	users.dat		2014/5/30 9:17	/ DAT 文件	1 KB	
	- Ouick 'n Easy E	TD Server Lite	202.0000.002	Stor Xin		X
Choose "Configuration", set "FTP Port"	Conven View H	ala				
21000 others as default		eip				
	y a b					
		Configuration -				
	Server Log	ETP Port:	21000			
		rirron.	21000			
		Max.Connections:	10			
	User Accounts	Connection Timeout:	5 m	inutes.		
		Welcome Message:	Welcome to Pablo	's FTP Server		
		Goodbye Message:	Bye			
	Configuration		Launch ETP St	arvar at windows startur		
			Startup minimiz	erver at windows startup ed in sustemtrau	,	
	S		Automaticallu a	ctivate server at startur		
	Online Users			curate server at statup		
	Statistics					
	Update					
					A	pply
	FTP Server is offlin	e		0 bytes ree	ceived 0 bytes sent () 🥚 🏿
Start FTP Server	🚽 Quick 'n Easy F	TP Server Lite				×
	Server View H	elp				
	▶ ■ ?					
		Server Log -				
	24	FTP Server failed to I	listen on port 21000.			
	Server Log					
	User Accounts					
	~					
	Configuration					
	- S					
	Online Users					
	Statistics					
	Update					
	FTP Server is offlin	e		0 bytes re-	ceived 0 bytes cent	
	I i r server is offlin			o bytes rei	conved to bytes sent (- - //,

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4.11.3 Firmware Update



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	Config	×.
Choose Update Type "core"	Firmware Update	
	General Settings	
	Fimule	
	Advanced Settings Update Type: Core Select Update Reload	
	image File:	
	Progress:	Recover ROM
	Network Settings	
	•	White ROM
	ControlBox	Read ROM
		Write RAM
	HW Correction	
		Read RAM
	Dynamic	Reset FPD
	Configuration	Exit
	Semana Indata	
Click "Select", choose right update file ²		
Click "update", waiting for message	Config	×
box ³	Firmware Update	
box ³	General Steture	
box ³	Geeral Setting	Search Documents
box ³	Gerer d Setting Statu: Advanced Setting Very formate Update Opon Image: Setting Update Organize + New folder Update Organize + New folder	Search Documents P
box ³	Gerer & Setting: Firmware Update Advarcad Setting: Termset: Index Index Index Termset: Deciments: Index Index Documents ibirary Index Documents ibirary Index Documents ibirary Index Documents ibirary	Search Documents P III • II • Arrange by: Folder •
box ³	Gerei Setting Static Advarcod Settings Primaer Advarcod Settings Opponier • New folder Updat Opponier • New folder Updat Documents ibrary Network Settings Devenders Network Settings Peeret Rese Network Settings Date modified	Search Documents P E • • • • • • Arrange by: Folder •
box ³	Gerei Setting Stati: Firmware Update Advance Setting Stati: Image: Setting Advance Setting Organice + New folder New folder Organice + New folder Dectop Documents library Indues: 2 locations Indues: 2 locations Name Date modified Type Size Name Name No items match your search.	Search Documents P E • • • • • • Arrange by: Folder •
box ³	General Setting: Statis: Advanced Setting: Documents: Advanced Setting: Documents: Network Setting: Documents: Network Setting: Documents: Delation: Documents: Documents: Documents: Distance: Documents: Documents: Name Date: Name Detation: Documents: Name: Date: Detation: Documents: Name: Date: Non-index: Name	Search Documents P III • III • Arrange by: Folder •
box ³	Gerer & Setting Firmware Update Advanced Settings Firmware Advanced Settings Index Index Fornites Decoments Index Decoments Index Index Decoments Decoments Index Det modified Type Setting Decoments Index Det modified Index Det modified Index Name Det modified Type Setting Maix Pictures Victures	Search Documents P III • II • Arrange by: Folder •
box ³	Geres Setting Static Advarcad Settings Static Advarcad Settings Finance Methods Settings Documents Nethods Settings Documents Destrop Documents Destrop Documents Destrop Destrop Music Pitures Widers Videos	Search Documents P E • • • • • Arrange by: Folder •
box ³	Gerei Setting Static Advarcad Settings Pocenents > Advarcad Settings Contents > Network Settings Documents Domoded Pactor Rices Domoded Pactor Rices Determodified Type Setting Decoments Domoded Pactor Rices Mark Pactor Rices Wake Date modified Type Size Name Date modified Notices Pictures Widens Pictures	Search Documents
box ³	General Setting: State: Achanxed Setting: Cocuments :> Achanxed Setting: Cocuments :> Main Ketting: Documents :> Dealogs Dealogs Nance Date modified Diate modified Type State: Picture: Wideo: Picture: Wideo: Picture: Wideo: Picture: Wideo: Picture:	Search Documents P III • III • Arrange by: Folder •
box ³	General Settings Static Advanced Settings Static Advanced Settings Image: Static Settings Advanced Settings Image: Static Settings Instantial Settings Image: Static Setting	Search Documents P III • II • Arrange by: Felder •
box ³	Geres Setting Static Advacad Settings Static Advacad Settings Copen Ubber Organic + Newfolder Documents Ibranet Documents Ibranet Documents Documents Die modified Type Die lange Ibranet Documents Ibranet Maic Pictures Wridees Ibranet Wridees Ibranet Maic Ibranet Inducts Ibranet <td>Search Documents P III • III Arrange by: Folder •</td>	Search Documents P III • III Arrange by: Folder •
box ³	Gerei Setting Static Advacad Setting Finance Advacad Setting Finance Websid Setting Documents > Documents >	Search Documents P E • • • • • Arrange by: Folder • *img) • Open Cancel
box ³	Gerei Setting Static Advarcos Setting Finance Advarcos Setting Diganice • New Folder Nechoal Setting Documents Docu	Search Document P IE V I P Arrange by: Folder V 'img) V Open Cancel
box ³	Geres Setting Static Advanced Setting Image: Comparise in Documents in Docume	Search Documents P III • I • • Arrange by: Folder • *img) • Open Cancel
box ³	Geres Setting Static Advanced Settings Statics Advanced Settings Fromets Descong Declong Declong Declong Maic Period Maic Period Pranic Computer Declong File ame	Search Documents P III • III Arrange by: Felder • Virmg) Open Cancel
box ³ Click message box, waiting for end of rebooting ⁴ ;	Geres Setting State: Advarcad Setting Finance: Network Setting Open Network Setting Destrop Destrop Destrop Maic Pistures Videos Pistures	Search Documents P E • • • • Arrange by: Folder • Img) Open Cancel

Note:

1. It is not limited to "Core", actually, other choice is also ok.

2. If it is MCU update, choose MCU image file. Otherwise, choose ALL-Image file, Please make sure update file is selected, if not, panel will be not in use after updating.

3. There is a progress bar for indication. Make sure battery is inserted and battery capacity is over 25%

4. This rebooting function is controlled by panel itself. It has the same function with "Reset FPD"

5. Please make sure Idemo show "Ready". It can also be checked by click "Config" button, there is firmware version.



4.12 Short cut

iDemo supports some shortcuts as follows:

- Double-click the left mouse button, the image displayed in center and with maximum size.
- Double-click the right mouse button, the window level and width adjusted to WL:8191/WW:16383.
- Drag the left mouse button, drag the image displayed.
- Lateral-drag the right mouse button to adjust the window width, and vertical-drag the right mouse button to adjust the window level.
- F3 Key: Quickly adjust the image window width and window level.

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4.13 Software

4.13.1 Main GUI



iRay provides test tools, such as iDemo for testing the basic performance of detector. It can connect the detector, acquire image, image correct and calibrate.

1	Start/End	Load or unload NIC device	13	Open/Close	Open or close defect map
		driver			
2	Sleep/Wake	Sleep or wake up panel	14	Offset	Open or close software
					post offset
3	Prep	Clear lags of the panel	15	Gain	Open or close gain
					calibration
4	Abort Exp	Close exposure Window	16	Defect	Open or close defect
					correction
5	Acquire	Acquire an image without	17	Create	Generate gain template
		clearance			and defect template

Function description of regions and buttons within the main window as follows:



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6	Check ID	Check panel SN	18	Version of the idemo
7	Prep Acquire	Clear lags and acquire an image	19	Status of the idemo
8	Config	Configure the panel	20	Panel feedback message
9	Sequ	Start acquiring images continually	21	Acquisition interval between two images
10	Stop	Stop acquiring images continually	22	Pixel X/Y coordinate and gray scale value of Pixel(14 bit)
11	Save	Save images continually or save an image	23	Image acquisition instruction box
12	Open	Open local images(.DCM) or open images in the panel	24	WiFi signal and battery capacity indication
			25	Region of image display

4.13.2 Message Box

4.13.2.1 **Status Box**

Status box defines the current status of panel.

Value	Description
Offline	Idemo loose connection with panel, it does not receive heart beat
Ready	Idemo builds connection with panel, panel is ready for receiving new operation
Busy	Idemo builds connection with panel, panel is busying on the last operation, it can not be interrupted
Sleeping	Idemo builds connection with panel, panel has gone in sleep
Waking	Idemo builds connection with panel, panel is being wake up
Timeout	Command executes overtime



4.13.2.2 Feedback Box

Feedback box shows feedback message from panel.

4.13.2.3 Acquisition Interval Box

Acquisition Interval Box shows the time between two image acquired currently.

4.13.2.4 Coordinate and Gray Scale Box

Coordinate and Cray Scale Box show the coordinate and gray scale of mouse.

4.13.2.5 Image Acquisition Box

Image Acquisition Box shows whether image is uploading

Color	Description
Red	Image is uploading from panel
Green	others

4.13.2.6 **Battery and Connection Box**

Battery and Connection Box shows battery capacity, wireless signal level and wire connection.

4.13.2.7 Progress Bar

Progress Bar defines as following.



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Exposure Enable Elapse Time: 3.0(s)

If progress bar is Green when shooting X ray, image quality is acceptable, otherwise image quality would degrade.

4.13.3 Configuration GUI

4.13.3.1 General Settings

Config		23
(General Settings	General Settings Status:	
Advanced Settings	Detector Info Version Detail Sensor details Product type: 32 1.12 1.3.2.13 Serial Number: KV07018054019 Kernel Version: 1.5.4.2 Main Version: 2.5.0.14 Humidity: 0.00 % MCU Version: 2.5.0.14 MCU Version: 2.5.1.7	Recover ROM
	General Settings Trigger: Inner	Write ROM
ControlBox	Time Span: 5000 ms Exp Window: 10000 ms FreeSync Window: 0 ms Acquire Delay: 0 ms Delay time: 1000 ms Auto Sleep Timeout: 0 s	Read ROM
HW Correction	Integrate: 100 µs Inner Delay: 0 ms	Write RAM
0	Query Live Time	Read RAM
Dynamic Configuration		Exit
Firmware Update		

Item		Description	Modify
Detector	Product type	Type of panel product	NO
Info	Serial Number	Serial number of the panel	NO
Version	Lib Version	Version number of idemo	NO
Detail	Core Version	Version number of ARM application	NO
	Kernel Version	Version number of ARM OS Kernel	NO
	Main Version	Version number of Core FPGA	NO



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MCU Version Version number of MCU NO Sensor dutails Temperature Panel inner temperature(Read Board and Core Board) NO Humidity Panel inner Humidity NO General Settings Trigger Detector trigger mode: 1.Outer NO Juner 3.Software YES 4.PREP 5.Service Prespective 6.FreeSync (Default) YES Time Span This parameter is used only in continual acquisition. The time span is the time interval ecquisition process YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSyne Window Not Used YES Acquire Delay Delay time before inage acquisition in other mode. YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration data into onovolatile memory / Muto Sleep Timeout Time span of idle before going to sleep		Read Version Version number of Read FPGA		NO
Sensor details Temperature (midity Panel inner temperature(Read Board and Core Board) NO Iumidity Panel inner Humidity NO General Settings Trigger Detector trigger mode: NO General Settings Trigger Detector trigger mode: NO I.Outer 2.Inner YES J.PREP 5.Service Panel inner temperature) Time Span This parameter is used only in continual acquisition. The time span is the time interval YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before inage acquisition in other mode. YES Auto Sleep Timeout Time span of ide before going to sleep NO Inner Delay The integration time for the photo diode NO Inner Delay Recover ROM Recover configuration of actory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Read configuration data into volatile memory /		MCU Version	Version number of MCU	NO
Humidity Panel inner Humidity NO General Settings Trigger Detector trigger mode: 1.Outer	Sensor details	Temperature	Panel inner temperature(Read Board and Core Board)	NO
General Settings Trigger Detector trigger mode: I. Outer 1. Outer 2.Inner 3.Software YES 4.PREP 5.Service 6.FreeSync (Default) VES Time Span This parameter is used only in continual acquisition. The time span is the time interval between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition in other mode. YES Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other mode. YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition in other mode. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Read configuration data into volatile memory / Reset FPD Babort the normal /		Humidity	Panel inner Humidity	NO
I.Outer 1.Outer 2.Inner 3.Software 4.PREP 5.Service 6.FreeSync (Default)	General Settings	Trigger	Detector trigger mode:	
Button 2.Inner 3.Software YES 4.PREP 5.Service 6.FreeSync (Default) Time Span This parameter is used only in continual acquisition. The time span is the time interval between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition in other YES YES Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other YES YES Auto Sleep Timeout Time span of idle before going to sleep YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition in other YES NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Read ROM Read configuration data into volatile memory / Rest FPD	8		1.Outer	
Button 3.Software YES 4.PREP 5.Service 6.FreeSync (Default) Time Span This parameter is used only in continual 4.PREP acquisition. The time span is the time interval YES between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it YES Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition in other YES Integrate The real delay time between clearance and acquisition in other NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Write RAM Read configuration data into volatile memory / Reset FPD Pabort the spanal /			2.Inner	
Button 4.PREP 5.Service 6.FreeSync (Default) 5.Service 7.me.Span This parameter is used only in continual acquisition. The time span is the time interval YES between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it YES Acquire Delay Delay time before image acquisition. YES Acquire Delay Delay time before image acquisition in other YES Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other YES Mato Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition mother NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Pabort the nonal /			3.Software	YES
Image: set			4.PREP	
Image: span 6.FreeSync (Default) Time Span This parameter is used only in continual acquisition. The time span is the time interval between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay YES Matto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Read RAM Read configuration data into volatile memory /			5.Service	
Time Span This parameter is used only in continual acquisition. The time span is the time interval between two nearby acquisition process YES Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other mode. YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Read RAM Read configuration data into volatile memory /			6.FreeSync (Default)	
Image: second		Time Span	This parameter is used only in continual	
Image: state of the state			acquisition. The time span is the time interval	YES
Exp Window Exposure window is used in Inner mode, it defines the time for X ray shooting. YES FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay YES Delay time Exposure Window in Isync Plus mode/Delay YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Babrot the panel /			between two nearby acquisition process	
Image: set of the set of		Exp Window	Exposure window is used in Inner mode, it	YES
FreeSync Window Not Used YES Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other YES Matter Market mode. Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Write RAM Read configuration data into volatile memory / Reset FPD Rebot the panel /			defines the time for X ray shooting.	
Acquire Delay Delay time before image acquisition. YES Delay time Exposure Window in Isync Plus mode/Delay		FreeSync Window	Not Used	YES
Delay time Exposure Window in Isync Plus mode/Delay time between clearance and acquisition in other YES mode. Muto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Write RAM Write configuration data into volatile memory / Write RAM Read configuration data into volatile memory / Reset FPD Rehort the pagel /		Acquire Delay	Delay time before image acquisition.	YES
Image: set of the set of		Delay time	Exposure Window in Isync Plus mode/Delay	
Image: span of idle before going to sleep YES Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data into volatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Reboot the name! /			time between clearance and acquisition in other	YES
Auto Sleep Timeout Time span of idle before going to sleep YES Integrate The integration time for the photo diode NO Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data into volatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Reboot the panel /			mode.	
IntegrateThe integration time for the photo diodeNOInner DelayThe real delay time between clearance and acquisition most recently.NOButtonRecover ROMRecover configuration to factory setting/Write ROMWrite configuration data into nonvolatile memory/Read ROMRead configuration data from nonvolatile memory/Write RAMWrite configuration data into volatile memory/Read RAMRead configuration data into volatile memory/Read RAMRead configuration data into volatile memory/Reset FPDRebot the panel/		Auto Sleep Timeout	Time span of idle before going to sleep	YES
Inner Delay The real delay time between clearance and acquisition most recently. NO Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data from nonvolatile / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Rehoot the panel /		Integrate	The integration time for the photo diode	NO
Interpretation acquisition most recently. Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data from nonvolatile memory / Write RAM Write configuration data into volatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Rebot the panel /		Inner Delay	The real delay time between clearance and	NO
Button Recover ROM Recover configuration to factory setting / Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data from nonvolatile / Write RAM Write configuration data into volatile memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Rebot the panel /			acquisition most recently.	NO
Write ROM Write configuration data into nonvolatile memory / Read ROM Read configuration data from nonvolatile / memory / / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Rebot the panel /	Button	Recover ROM	Recover configuration to factory setting	/
Read ROM Read configuration data from nonvolatile / memory / / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Reboot the panel /		Write ROM	Write configuration data into nonvolatile memory	/
memory / Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Reboot the papel /		Read ROM	Read configuration data from nonvolatile	
Write RAM Write configuration data into volatile memory / Read RAM Read configuration data into volatile memory / Reset FPD Reboot the papel /			memory	/
Read RAM Read configuration data into volatile memory / Reset FPD Reboot the papel /		Write RAM	Write configuration data into volatile memory	/
Reset FPD Reboot the papel /		Read RAM	Read configuration data into volatile memory	/
		Reset FPD	Reboot the panel	/

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Exit	Exit configuration GUI	/
Query Live Time	Check the active time of panel	/

4.13.3.2 Advanced Settings

С	onfig		×
	0	Advanced Settings	
	General Settings	Status:	
		Advacred Settings	
		Row Pre Delay: 0 µs VT: 1.68 V FreeSync Center Threshold: 5	
	Advanced Settings	Row Post Delay: 0 PGA: 6 FreeSync Edge Threshold: 5	
		Detector Auto Clear:	
	Notwork Sottings	Detector AutoClear Period: 5000 ms	Recover ROM
	Network Settings	Mammo	
L		Exposure Mode: Normal AEC Main Time: 0	Write ROM
L	۲	Dyna offset mode: 0 Dyna offset time: 0	
	ControlBox	Correct Folder: 0 v	Read ROM
		Shock Sensor	Write RAM
	HW Correction	Read Grid Status Read Shock Log Clear Shock Log Set Threshold: 0 R W	
		Syndox	Read RAM
L		Tube Ready Time: 0 ms R W	
	Dynamic		Reset FPD
	Configuration		
			Exit
	Eirmware Llodate		
	r inniviare opuate		
ſ			

Item		Description	Modify
Advacned	Row Pre Delay	Delay time before acquiring row data	YES
Settings	VT	Voltage corresponding to the charge compensation	YES
	Freesync Center Threhold	Not used	YES
	Row Post Delay	Delay time after acquiring row data	YES
	PGA	Integrator capacitor range.	YES
	Freesync Edge Threhold	Not used	YES
	Detector Auto Clear	Set the detector in auto clear mode	NO
	Detector Auto Clear Period	Auto clear period for panel	NO
Mammo	Exposure Mode	Not used	NO
	AEC Main Time	Not used	NO

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	Dyna Offset Mode	Not used	NO
	Dyna Offset Time	Not used	NO
	Correct Folder	Not used	NO
Shock	Read Grid Status	Not used	NO
Sensor	Read Shock log	Read shock sensor log	NO
	Clear Shock Log	Clear shock sensor log	NO
	Set Threshold	Shock sensor threshold	YES
	R	Read Shock sensor threshold from panel	NO
	W	Write Shock sensor threshold to panel	NO
Syncbox	Tube Ready Time	Not used	NO
	R	Not used	NO
	W	Not used	NO
Button	L	Read Log from panel	NO

4.13.3.3 Network Settings

Client Mode:

Config			×
General Settings	Netwo Status:	ork Settings	
aduranced Settings	Mode C AP	Read Wift Read Config Write Config Scan from Status from FPD to FPD FPD	
	Client Mode	Wifi Status Info	
Network Settings	Del		Recover ROM
ControlBox	Down Default	Available Wireless Network	Read ROM
() HW Correction			Write RAM
		· · · ·	Read RAM
Dynamic Configuration	IP: 192 . 168 . 8 . 8 Port: 27888 MAC: 00 0F EA EF 6F BE		Reset FPD
Firmware Update	Image Channel: TCP		Exit

AP Mode:

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Item		Description	Modify
Mode	Client	Set panel in client mode	NO
	AP	Set panel in AP mode	NO
Client	Add	Add available wireless AP account	NO
Mode	Del	Delete Exist wireless AP account	NO
	Up	Wireless AP account move up	NO
	Down	Wireless AP account move down	NO
	Default	Set AP account as default connection	NO
AP Mode	SSID	Wireless AP SSID when panel in AP mode	YES
	Key	Wireless AP Key when panel in AP mode	YES
	Security	Wireless AP Security method when panel in AP mode	YES
	Frequency	Wireless AP frequency(2.4GHz and 5GHz) when panel in AP mode	YES
	Country	Wireless AP Country when panel in AP mode	YES
	Band	Wireless AP Band(HT20 and HT40) when panel in AP mode	YES
	Channel	Wireless AP Channel when panel in AP mode	YES

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	DHCP Server	DHCP function when panel in AP mode	YES
	Scan Local Wlan	Scan local wifi signal when panel in AP mode	YES
FPD	IP	Network IP address of panel	YES
	Port	Network Port of panel	NO
	MAC	Network MAC address of panel	YES
	Image Channel	Network protocol of panel	YES
Button	Read Wifi Status	Read wireless module status from panel	NO
	Read Config from FPD	Read wireless module setting from panel	NO
	Write Config to FPD	Write wireless module setting to panel	NO
	Scan from FPD	Scan Wifi signal by panel	NO

4.13.3.4 HW Correction

Config		X
٥	HW Correction	
General Settings		
Advanced Settings	HW Offset Mode: No Gain Map: Empty Do in SDK V Download Read Out Update Local	
	Defect Map: Empty Do in SDK 💌 Download Read Out Update Local	
Network Settings	Lag Map: Download Read Out Update Local	Recover ROM
	Update Status	Write ROM
ControlBox		Read ROM
HW Correction		Write RAM
		Read RAM
Dynamic Configuration		Reset FPD
		Exit
Firmware Update		
,		

Item		Description	Modify
HW	Offset Mode	Hardware offset mode of panel	YES
		NO: no hardware offset mode	
		Pre: hardware pre-offset mode	



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	Post: hardware post-offset mode	
Gain Map	Gain calibration mode of panel	NO
	Do in SDK: software gain calibration	
	Do in HW: hardware gain calibration	
Defect Map	Defect correction mode of panel	NO
	Do in SDK: software defect correction	
	Do in HW: hardware defect correction	
Lag Map	Lag correction of panel	NO
Download	Download correction and calibration template to	NO
	panel	
Read out	Upload correction and calibration template from	NO
	panel	
Update local	Replace local correction and calibration template	NO
	with template uploaded currently	
Update status	Get correction and calibration configuration from	NO
	panel	

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4.13.3.5 Firmware Update

Config		×
(General Settings	Firmware Update Status:	1
advanced Settings	Firmware Update Type: Select Update Reload	
Network Settings	Image File: Progress:	Recover ROM
ControlBox		Write ROM Read ROM
HW Correction		Write RAM
Dynamic Configuration		Reset FPD
Firmware Update		Exit

Item		Description	Modify
Firmware	Update Type	Not used	YES
	Image File	Local address of update file	NO
	Progress	Progress bar of updating	NO
	Select	Select update file	NO
	Update	Start update	NO
	Reload	Reload firmware of panel	NO



4.13.4 Correction and Calibration

4.13.4.1 Gain Calibration

Correction	Wizard		
Gain	Defect		
	1	PREP Acquire PREP Acquire	
	Expected Average Expected Gray Value 5500 New Gain Point	<pre>Selected Gain 0 Current Average 0 Center Average 0 Select </pre>	pints
			OK
	Item	Description	Modify
Expected	Expected Gray Value	Not used	YES
Average	New Gain Point	Start generating gain template	NO
New	Selected Gain	Number of selected gain point	NO
Point	Current Average	Average value of the complete image	NO
	Center Average	Average value of the image in center ROI (100X100)	NO

	Center Average	Average value of the image in center ROI	NO
		(100X100)	
	Select	Select and save current gain point	NO
Button	Prep	Send "Clear" command to panel	NO
	Acquire	Send "Acquire" command to panel	NO
	Prep Acquire	Send "Clear Acquire" command to panel	NO
	Create Gain Correct	Start generating gain Calibration template	NO

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|--|

4.13.4.2 **Defect Correction**

Correction Wizard	
Gain Defect	
Refresh HW Offset Template	PREP Acquire PREP Acquire
Create Offset	-Create Light File Current 1 💌 Start creating I Auto Completion
	OK

Item		Description	Modify
Create	Current	Current sequence of defect point	NO
Light File	Start creating	Start defect point acquisition	NO
	Auto completion	Automatically acquire defect point	NO
Button	Refresh HW Offset	Updating pre-offset template in panel	NO
	Template		
	Prep	Send "Clear" command to panel	NO
	Acquire	Send "Acquire" command to panel	NO
	Prep Acquire	Send "Clear Acquire" command to panel	NO
	Create Offset	Generate pre-offset template	NO
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Create Defect	Generate Defect correction template	NO

4.13.5 Image Check and upload

l	Load Image					
	Remote	File List				
	Index	File Name	Create Time	Attr	Delay Time	Upload Stat 🔺
	1	1408939626	2014-8-25 4:07:06	0x0e	1000	
	2	1408939647	2014-8-25 4:07:27	0x0e	872	=
	3	1408939653	2014-8-25 4:07:33	0x0e	0	-
	4	1408939665	2014-8-25 4:07:45	0x0e	846	
	5	1408939671	2014-8-25 4:07:51	0x0e	0	
	6	1408939683	2014-8-25 4:08:03	0x0e	846	
	7	1408939690	2014-8-25 4:08:10	0x0e	0	
	8	1408939701	2014-8-25 4:08:21	0x0e	354	
	9	1408939708	2014-8-25 4:08:28	0x0e	0	
	10	1408939720	2014-8-25 4:08:40	0x0e	1566	
	11	1408939726	2014-8-25 4:08:46	0x0e	0	
	12	1408939738	2014-8-25 4:08:58	0x0e	848	
	13	1408939745	2014-8-25 4:09:05	0x0e	0	
	14	1408939756	2014-8-25 4:09:16	0x0e	844	
	15	1408939762	2014-8-25 4:09:22	0x0e	0	
	16	1408939774	2014-8-25 4:09:34	0x0e	846	
	17	1408939780	2014-8-25 4:09:40	0x0e	0	-
	•		111			•
	Get Outline Image List					
	Get File List Start Upload Stop Upload Open in List Open Local File					

Item		Description	Modify
Remote	Index	Sequence number of image	NO
File List	File name	Name of image in panel	NO
	Create Time	Acquisition time of image in panel	NO
	Attr	Image label	NO
		0x01—Do Offset	
		0x02—Do Gain	
		0x04—Do Most gain	
	0x08—Do Defect		
		0x10—Post Offset Raw Image	
	Delay Time	Time between clear and image acquisition	NO
Button	Get File List	Get file list from panel	NO
	Start Upload	Start uploading image selected	NO
	Stop Upload	Stop uploading process	NO

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Open in List	Open image selected	NO
Open Local File	Open local images in Workstation	NO

4.13.6 Infrared Registration

Quick'n IrDA	Quick'n IrDA Regist Service 🛛 🛛 💌			Regist Service	×
		ĺ,			
WorkMode:	Write Only 👻		WorkMode:	Write Only	•
AP Mode	Apply		AP Mode	2	Apply
SSID:	MARS1417V_AP		SSID:	CISCO_AP_2.4G	
Key:	12345678		Key:	1122334455	
Security:	WPA/WPA2-PSK				
Frequency:	2.4GHz 💌				
Country:	US				
Band:	HT20				
Channel:	1				
	Ctart			Start	
	Start			Start	
	Exit			Exit	

]	ltem	Description	Modify
/	Work Mode	Work mode of infrared registration tools	YES
		Write Only: infrared registration tools is allowed	
		to write to panel	
		Read Only: infrared registration tools is allowed	
		to read from panel	
		Read & Write: infrared registration tools is	
		allowed to read from panel and write to panel	
		Read &confirm by User: infrared registration	
		tools is allowed to read from panel and write to	
		panel only when confirmed by user	

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AP Mode	AP Mode	Set panel in AP mode or Client mode	YES
Configuration	SSID	Wireless AP SSID when panel in AP mode	YES
	Key	Wireless AP Key when panel in AP mode	YES
	Security	Wireless AP Security way when panel in AP	YES
		mode	
	Frequency	Wireless AP Frequency(2.4GHz and 5GHz)	YES
		when panel in AP mode	
	Country	Wireless AP Country Code when panel in AP	YES
		mode	
	Band	Wireless AP Band(HT20 and HT40) when panel	YES
		in AP mode	
	Channel	Wireless AP Channel when panel in AP mode	YES
Client Mode	SSID	Wireless SSID when panel in Client mode	YES
Configuration	Key	Wireless Key when panel in Client mode	YES
Button	Apply	Save wireless parameter in infrared registration	NO
		tools	
	Start	Start write wireless parameter in panel	NO
	Exit	Exit infrared registration tools	NO

5 Regulatory Information

5.1 Medical equipment safety standards

• Medical equipment classification

Type of protection against electrical shock	External electrical power source equipment
	Class I Equipment, with wiring unit
Degree of protection against electrical	Without Applied Parts
shock	
Degree of protection against ingress of	IPX0
water	
Mode of operation	Continuous operation
Flammable anesthetics	Not suitable for use in the presence of a flammable
	anesthetic mixture with air or with oxygen or nitrous oxide



Not suitable for use in the oxygen rich environment

• Product safety standards

MDD (93/42/EEC)	Medical Device Directive
EN ISO 13485:2012/EN ISO	Medical devices Quality management systems Requirements for
13485:2012/AC:2012	regulatory purposes
EN 60601-1:2014	Medical electrical equipment Part 1: General requirements for basic
	safety and essential performance
EN 60601-1-2:2007	Medical electrical equipment – Part 1-2: Collateral standard:
	Electromagnetic compatibility – Requirements and tests
EN 60601-1-3:2008	Medical electrical equipment – Part 1-3: Collateral standard: General
	requirements for radiation protection in diagnostic X ray equipment
EN 60601-2-54:2009	Medical electrical equipment Part 2-54: Particular requirements for the
	basic safety and essential performance of X ray equipment for
	radiography and radioscopy
EN ISO14971: 2007	Medical device – Application of risk management to medical devices

5.2 Guidance and Manufacture's Declaration for EMC

• Electromagnetic emissions

Mars1417V is intended for use in the electromagnetic environment specified below. The user of Mars1417V should assure that it is used in such an environment.

Emission Test	Compliance	Electromagnetic Environment - Guidance
RF emissions CISPR 11	GROUP1	Mars1417V uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class B	Mars1417V is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Pass	power supply network that supplies buildings used for domestic purposes.

• Electromagnetic immunity



Mars1417V is intended for use in the electromagnetic environment specified below. The user of Mars1417V should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/ output lines	±2 kV for power supply lines ±1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0.5 cycle. 40% UT (60% dip in UT) for 5 cycle. 70% UT (30% dip in UT) for 25 cycle. <5% UT (>95% dip in UT) for 5 sec.	<5% UT (>95% dip in UT) for 0.5 cycle. 40% UT (60% dip in UT) for 5 cycle. 70% UT (30% dip in UT) for 25 cycle. <5% UT (>95% dip in UT) for 5 sec.	Mains power quality should be that of a typical commercial or hospital environment. If the user of that requires continued operation during power supply interruptions, it is recommended that be powered from an uninterruptible power supply.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

UT is the a.c. mains voltage prior to application of the test level.

• Guidance and manufacturer's declaration----electromagnetic immunity

Mars1417V is intended for use in the electromagnetic environment specified below. The user of Mars1417V

should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF	3 Vrms	3 Vrms	Portable and mobile RF communications equipment,
IEC 61000-4-6	150kHz to 80MHz		AC-DC adapter or electromagnet should be used not
Radiated RF IEC 61000-4-3	3 V/m 80MHz to 2.5GHz	3 V/m	closer to any part of the Model Mars1417V, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1, 2 \sqrt{p}$

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	·			
		d =	$1,2 \sqrt{p}$ 80 MHz to 800 M	MHz
		d –	$2.3 \sqrt{p}$ 800 MHz to 2.5 (СU-
		u – Whe	ere P is the maximum out	put power rating of the
		tran	smitter in watts (W) acco	rding to the transmitter
		man	ufacturer and d is the rec	ommended separation
		dist	ance in meters (m).	
		Fiel	d strengths from fixed RI	F transmitters, as
		dete	ermined by an electromag	netic site survey, should
		be le	ess than the compliance le	evel in each frequency
		Inte	ge. rference may occur in the	vicinity of equipment
		mar	ked with the following sy	mbol.
		((((•)))	

NOTE: UT is the a.c. mains voltage prior to application of the test level.

NOTE1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which Mars1417V is used exceeds the applicable RF compliance level above, Mars1417V should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating Mars1417V.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V1] V/m.

 Recommended separation distances between portable or mobile RF communications equipment and Mars1417V

Mars1417V is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of Mars1417V can help prevent electromagnetic interference by maintaining a minimum distance between portable or mobile RF communications equipment (transmitters) and Mars1417V as recommended below, according to the maximum output power of the communications equipment.

Rated maximum	Separation distance according to frequency of transmitter /m
---------------	--

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output	150kHz~80 MHz	80 MHz~800 MHz	800 MHz ~2.5GHz
power of transmitter /W	$d = 1.2 \sqrt{p}$	$d = 1.2 \sqrt{p}$	$d = 2.3 \sqrt{p}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Cable	Recommended cable length	Shielded or Unshielded	Number	Cable classification
AC Power Cable	3m	Unshielded	1 pcs	AC Power
Ethernet Cable	3.5m	Shielded	1 pcs	Signal
DC Power Cable	3.5m	Unshielded	1 pcs	DC Power
LAN Cable	3m	Shielded	1 pcs	Signal

• Cables information below is provided for EMC reference.

• Important information regarding Electromagnetic Compatibility (EMC)

Mars1417V requires special precautions regarding EMC and needs to be installed only by iRay or authorized personnel and put into service according to EMC information provided in the user manual. Mars1417V in use may be susceptible to electromagnetic interference from portable and mobile RF communications such as mobile (cellular) telephones. Electromagnetic interference may result in incorrect operation of the system and create a potentially unsafe situation.



Mars1417V conforms to this EN60601-1-2:2007 standard for both immunity and emissions.

Nevertheless, special precautions need to be observed:

The use of accessories, transmitters and cables other than those specified by this User Manual, with the exception of accessories and cables sold by iRay of Mars1417V as replacement parts for inner components, may result in increased emission or decreased immunity.

5.3 Radio Frequency Compliance Information

Country	Item	
U.S.A	FCC Part 15.107 Sub part (b) / 15.109(g) Sub part B	
	FCC Part 15 Sub part E 15.407	
	FCC Part 15 Sub part C 15.247	
European Union	ETSI EN 301 489-1 V1.8.1 (EMC)	
	ETSI EN 301 489-17 V2.1.1 (EMC)	
	EN 300 328 V.1.7.1; EN 301 893 V1.6.1 (RF)	
	EN 62311:2008 (RF Exposure)	
	ETSI EN 300 328 V1.7.1; EN 301 893, V1.5.1 (Radio Spectrum)	

5.3.1 FCC Compliance

- The panel has been tested to comply with limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
- Operation is subject to the following two conditions.

The panel may not cause harmful interference.

The panel must accept any interference received, including interference that may cause undesired operation.

• The panel generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the panel does cause



harmful interference to radio or television reception, which can be determined by turning the panel off and on, the user is encouraged to correct the interference by one or more of the following measure.

Reorient or relocate the antenna.

Increase the separation between the panel and receiver.

Connect the panel into an outlet different from the receiver is connected.

Consult the distributor or an experienced radio/TV technician for help.

5.4 Battery Safety Standards

Standards	Description	
UL1642	Component Recognition on the Secondary Li-ion cell	
UL 2054:2004 R9.11	Household and commercial Batteries	
IEC 62133:2012	Secondary cells and batteries containing alkaline or other non-acid	
	electrolytes	
UN38.3	United Nations Recommendations on the Transport of dangerous	
	goods Manual of tests and Criteria	
	ST/SG/AC.10/11/Rev.5/Amend.1&Amend.2	

5.5 Product Label

5.5.1 Detector

Mars1417V-PSI detector

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Mars1417V-TSI detector

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5.5.2 Battery

• •	Rayrecturolog
	 警告! 注重火灾、用作整体、休止外规或是入水中, 不可规能、不可力放下高子心它的环境点 消发用Outeratarty方电成充电,清劲使用 其他型字电电。 消在初次放用时读为电池完全充电, 消和的使用生成小子SA方,前及时转电地充电。 清和的使用生成小子SA方,前及时转电地充电。 清和的使量化小型和方式,前及时转电地充电。 清和的使量化油量大力量、使用不能过量电池 有效使用素加加、使用不能过量电池 有效有法法未完整度在儿童无法放政的地方
Lithium ion Rechargeab Model: BATTERY-KV Output: 10.8V em: 4180mAh/45 14W Charge Voltage: 12.6V Standard: GB/T18287-2013 Identification code: 3ICP8/118/211 IRAY Technology (Shangha) Ltd., RM202, Building 7, No.560, Ruqu Zhanguang East, Pudong, Shangl ECIREP Renault - Petersen Limited COUCHING HOUSE, COUCHINE STI	h G ng RD., nar, China REET, C G
WATLINGTON, OXPORDSHIRE, OX- CAUTION. • Resk of fire, septeeon, burning or put into wa • Do not short excut, crush or expose battery shove 46°C, incherate or diseasemble the bi-	IS 6PX, UK ter in the environment attery

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5.5.3 Battery Charger





6 Trouble Shooting

When user encounters problems or error messages, refer to this chapter. If the problem persists, turn off the panel and contact iRay service department (service@iraychina.com). We would provide the best service.

6.1 Cable Inspection

6.1.1 Ethernet Cable

6.1.1.1 Inspection Method

Test the Gigabit Ethernet cable by cable tester and confirm whether all the cores of cable are conductive. If the cable tester is not available, please check the definition of Gigabit Ethernet cable and test the conductive between each pin of connector.



6.1.1.2 **Definition of Gigabit Ethernet Cable**

Colour	J1	J2
Orange\White	1	3
Orange	2	6
Green\White	3	1
Blue	4	7
Blue\White	5	8
Green	6	2
Brown\White	7	4
Brown	8	5
Grounding wire	Shell	Shell



6.1.1.3 **Power Cable Inspection**



Measure the conductive between each pin of J1 and J2 by multi-meter.

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6.1.2 Ethernet Cable Inspection



According to the definition of Ethernet cable, verify the conductive between each pin of J1 and J2 by multi-meter.

6.2 Adapter Inspection

6.2.1 Adapter Connector Definition



Pin	Description
2	DC +24V/5.0A
3	0V

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6.2.2 **Inspection Method**



Connect the adapter to the panel or battery charger to confirm whether the battery is working if verifying the output current is not practicable.

6.3 Battery Inspection

6.3.1 **Battery Pin Definition**

Symbol

P+

P-

Pin

1,2

7,8

	+		
Description			
Battery Discharge Positive Terminal		C	
Battery Discharge Negative Terminal			

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6.3.2 Inspect Method



The battery is detachable and its life time is shortened during use. Recycle the battery if fully charged battery only last no more than 1 hour. It is suggested to return wasted battery to manufacturer or put it at appointed public battery reclaim area. Do not mix battery with other waste or dispose of battery.

6.4 Charger Inspection

6.4.1 Charger Pin Definition





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Pin	Voltage	Description
1,2	+	Battery Charge Positive Terminal
7,8	-	Battery Charge Negative Terminal

6.4.2 Inspection Method



6.5 Detector Main Unit Inspection

6.5.1 Get SDK and Detector Log

6.5.1.1 Fetch SDK Log

Find the location of iDemo.exe, and there is a folder called "Correct" in the same directory. Find the folder named by the series number of detector. The folder called "Log" is the storage path of SDK fie, and log file is named with date. Please compress the log file before send it.



The log function can be switched on in the config.ini in the folder named "Res", please check the configuration

before start iDemo.

// *	aje aje	log	sje sje sje	11
SET_	LOG	_IN	0=1	

SET_LOG_INFO=1//Open log function' SET_LOG_INFO=0//Close log function

 6.5.1.2
 Detector Log

 Find FTP Server.exe
 Image: FTPServer.exe

 and open the FTP Server, FTP port number should be the same as

the config.ini of iDemo. Click

button to start FTP server.

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Find the "L" button in the following diagram in the configuration GUI of iDemo, click "L" button and the FTP will upload the "Log" in the storage path "upload [FPD series number] logs".

Config		23
۲	Advanced Settings	
General Settings		
-	Advacred Settings	
	Row Pre Delay: 0 μs VT: 1.68 V	
Advanced Settings	Row Post Delay: 0 PGA: 6	
	Detector Auto Clear:	
	Detector AutoClear Period: 5000 ms	Recover ROM
Network Settings		
	Exposure Mode: Normal V AFC Main Texas D	Write ROM
•	Dyna offset mode: 0 Dyna offset time: 0	
ControlBox	Correct Folder: 0	Read ROM
	Shock Sensor	Write RAM
HW Correction	Read Grid Status Read Shock Log Clear Shock Log Set Threshold: 0 R W	
	Syndbox	Read RAM
۲	Tube Ready Time: 0 ms R W	
Dynamic		Reset FPD
Comgaration	L	5.4
		Exit
Firmware Update		

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6.6 Power Up Failure Inspection



is the label of power indicator. Skip the step "Press reset button" if no reset button, because the previous version doesn't include reset button.

6.7 Connection Inspection

is label of link indicator. If there is connection error from iRayDR, please view the FAQ of iRay before

checking the connection issue through iDemo.

6.7.1 Connection Failed in Wired Mode



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6.7.2 Connection Failed in Client Mode



6.7.3 Disconnect in AP mode



6.8 Dark Image Acquisition After Exposure in Inner Mode





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6.9 No Image Acquire After Exposure



6.10 Image Inspection

All the correction files are in the storage path "res\Correct\ [FPD series number] \0"

Calibration type	File format	Description
Offset	*.off	Offset file is used in pre-offset mode
Gain	*.gn	The gain file can be selected or deselected
Defect	*.dft	The gain file can be selected or deselected
Lag	*.lag	Lag file is used in Isync Plus mode

The following is the image

Image type	Description
Original dark image	Acquire by clicking "Prep Acquire" button without exposure and offset correction
Dark image	Acquire by clicking "Prep Acquire" button without exposure, but with offset calibration.
Original bright image	Acquire the image under exposure condition, but without any correction.
Bright image with offset	Acquire the image under exposure condition and with offset correction only.

6.10.1 Artifact on bright image



6.10.2 Horizontal Line on Bright Image

Adjust the WW to 30 and WL to 100 through iDemo for checking the horizontal line of dark image.

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Inspection method







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6.10.4 Defective point



6.10.5 TFT broken

If image of some area is much smoother than other area. TFT Glass must be broken by intense impact.





7 Service Information

7.1 Product Lifetime

The estimated product lifetime is up to 10 years under appropriate regular inspection and maintenance.

7.2 Regular Inspection and Maintenance

In order to ensure the safety of patients and operator, to maintain the performance and reliability of the panel, be sure to perform regular inspection at least once a year. If necessary, clean up the panel, make adjustments or replace consumables such as fuses etc. There may be cases where overhaul is recommended depending on conditions. Contact iRay service office or local iRay dealer for regular inspection or maintenance.

7.3 Repair

If problem cannot be solved even taking the measures indicated in troubleshooting, contact your sales representative or local iRay dealer for repairs. Please refer to the label and provide the following information:

Product Name:

Series Number:

Description of Problem: as clearly as possible.

7.4 Replacement Parts Support

Main parts (parts required to maintain the function of the product) of this product will be stocked for 5 years after discontinuance of production for repairing.