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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.

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
,	Gain Defect
	Refresh NW PEEP Acquire PREP Acquire Acquire Delay: 3000
	Create Light File Create Offset Create Defect Create Defect
	je Auto compaction
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
	Modify Detect Open Correction
	Offset: POST Gain: NO
	Defect: 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,



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Click "Create Defect", wait until it	Correction Wizard
ends	Gain Defect
cinas	Refresh MW PEEP Acquire PEEP Acquire Delay: 3000
	The defect file was created successfully!
	Plasse set supected gray value: 11000. DM=70] for inage: 12/19 Get the light inage: 12/19, Gwarage: 10328; Center: 11258; Lest Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 13/19 Get the light inage: 13/19, Gwarage: 10328; Center: 11257; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 13/19 Get the light inage: 14/19, Gwarage: 10342; Center: 11273; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 15/19 Get the light inage: 15/19, Gwarage: 10342; Center: 11273; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 16/19 Get the light inage: 16/19, Gwarage: 10351; Center: 112424; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 16/19 Get the light inage: 17/19, Gwarage: 10351; Center: 11242; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 16/19 Get the light inage: 18/19, Gwarage: 10352; Center: 11252; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 16/19 Get the light inage: 18/19, Gwarage: 10363; Center: 11252; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 19/19 Get the light inage: 18/19, Gwarage: 10368; Center: 11279; Lost Packet:no) Plasse set supected gray value: 11000. DM=70] for inage: 19/19 Get the light inage: 13/19, Gwarage: 10369; Center: 11279; Los
	Create Light File
	Create Offset Current 19 V Start creating Create Defect
	Auto Completion
	OK

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.

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 2	X-ray dose to make sure		(a) (B) (B) (b) (b) (b)



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

Click "Save"	-Image
Cher Suve	Save Open

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

4.6.2 Single image

Click "Save"	Save Open
Click "Save Directly"	Serial Save
	Number: D
	Save Path:
	Begin Save
	Save Directly

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Choose the saving path; Click "save"	Save As	Documents		- 4 ₇	Search Documents
chen suve,	Organize 🔻 New fold	ler			ii • 🔒
	🚖 Favorites 📃 Desktop	Documents library Includes: 2 locations			Arrange by: Folder *
	鵳 Downloads 📃 Recent Places	Name	Date modified Type	Size	
	😭 Libraries		Honens motor your see	1010	
	Documents				
	Pictures				
	🗑 Videos				
	FM Computer				
	🗣 Network				
	File name: XRaj Save as type: (".DC	/_Detector (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
1	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 Workstotion	
images would be shown on screen	

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4.7.2 Panel Image Upload

Before panel image uploading, FTP server is necessary.



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Choose "Configuration"	🚽 Quick 'n Easy FTP Server Lite	
	Server View Help	
Set FIP 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:	Вуе
	Configuration	Launch FTP Server at windows startup
		🔲 Startup minimized in systemtray
	Online Users	Automatically activate server at startup
	Statistics	
	Update	Apply
	FTP Server is offline	0 bytes received 0 bytes sent 🍑 🥚 🅢

Panel Image is uploaded as following.

Click "Open"	-Image
	Save Open
Click "Get File List"	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

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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 🔺
C C	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
	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
	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
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 1 1436880199 2015-7-14 13:23:19 0x00 0
*/idemo/upload	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
	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 multiple images click "start	Remote File List
unload" during unloading 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 143680200 2015-7-14 13:23:20 0x00 0
chek stop upload to stop uploading	2 145656220 2015-7-1413:23:20 0x00 0 3 1436880214 2015-7-1413:23:34 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 12 1436958254 2015-7 15 11:04:14 0x00 0
	13 130538234 2013-7-13 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



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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	
	Save Open	
Select image user need;	Load Image	23
Click "open in list"	Remote File List	
	Index File Name Create Time Attr Delay Time U	oload 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 1436958239 2015-7-15 11:03:59 0X00 0	
	12 1436958253 2015-7-15 11:04:13 0X00 0	
	14 1436958255 2015-7-15 11:04:15 0x00 0	
	15 1436958354 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

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;	Ul Open				-
Click "open";	C Demo	30.0.15 + res + Correct + KV070860251	87 • 0 •		• fy Search 0 P
	Organize New toi	der			F. T. A.
	🚖 Favorites	Name	Date modified	Туре	Size
	E Desktop	🍶 Default	7/12/2015 10:08 PM	File folder	
	😹 Downloads	퉬 dftdark	7/20/2015 1:50 PM	File folder	
	2 Recent Places	🍶 dftlight	7/20/2015 1:50 PM	File folder	
		offlightCor	7/20/2015 1:50 PM	File folder	
	Cibraries	Ju Dynamic	7/12/2015 10:08 PM	File folder	
	Documents	🌲 light	7/12/2015 10:08 PM	File folder	
	Music	ightL	7/12/2015 10:08 PM	File folder	
	Pictures	MaGroup	7/12/2015 10:08 PM	Filefolder	
	Videos	💼 mLight Detector & dft	7/20/2015 1:50 PM	net cile	6 210 VD
	Computer		1/12/2012 2:37 MM	Uririe	0,300 AD
	re company				
	Network				
	File	name			
					Onen Cancel
					open cance
Select Product Size "Venul/17					
Select I loduct Size Vellu1417	Product Si	ze			
(2304*2800);					
Click "OK" Defect templete is shown on					
Click OK, Delect template is shown on					
screen;					
,					
		and and grant and		(******	
	۲ P	roduct Size: ver	1u1417 (230 [,]	4*2800)	_
		,			
		OK		Cancel	
		UK		Cancer	
	Madific	Co. at			
Click "Close" to close Defect template	-Modify Def	ect			
······································					
	Clos	e			

4.8.2 Defect Template Modification

Click "Open"	- Modify Defect	
	Open	

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Select Defect Template;	Open	Contraction of the					×
Click "Open";	Corre	ect → KV07086025187 → 0 →		• 47	Search 0		Q
•	Organize 🕶 New folder					∦ •	0
	Revorites Name Desitop Default Downloads difdark Recent Places diflight Gor Documents light Music light Pictures MaGroup Videos milight Videos milight Videos defect, Detector Network Videos	Date modified 7/12/2015 10:08 P 7/20/2015 1:50 PH 7/20/2015 1:50 PH 7/20/2015 1:50 PH 7/22/2015 10:08 P 7/12/2015 10:08 P 7/12/2015 10:08 P 7/22/2015 10:08 P 7/22/2015 10:08 P 7/22/2015 1:50 PH 7/22/2015 1:50 PH	Type M File folder A File folder A File folder M File folder M File folder M File folder M File folder M File folder A File folder A File folder A File folder	6,308 K2	8		
	File name:			•	Data Files(*.a	£t)	• Cancel
Set product size "Venu1417 (2304*2800);	Product Size						
	Product Size	e: <u>Venu1417 (2</u> :	804*2800) Cancel		×		
If there is new defect pixel, input coordinate, click "Add";	Modify D	efect Po	int/Li	ne			
input coordinate, click "Delete"	Point X Y	1500 1135 Add	Delete	:			

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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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	I			-			
Start "ETDS or	or ava"	名称	▼ 修改日期	类型	大小		
Start FIISERV	ci.exe	🐚 FpaCamiinkAcqu.aii	2010/1/0 18:20	20月11月1月1日 展	ŏKB		
		S FpdCommonFunc.dll	2015/7/6 18:20	应用程序扩展	31 KB		
		FpdCorrection.dll	2015/7/6 18:20	应用程序扩展	53 KB		
		FpdDetect.dll	2015/7/6 18:20	应用程序扩展	44 KB		
		S FpdDetector.dll	2015/7/6 18:20	应用相序扩展 在用程序扩展	10 KB		
		FpdDetectorE3.dll	2015/7/0 18:20	应用程序扩展	30 ND		
			2015/7/0 10:20	应用程序扩展	71 ND		
		FpdF13.dll FndTmagaProcess dll	2015/7/0 10:20	应用程度扩展	57 KR		
		FpdIrDARegister dll	2015/5/21 8:50	应田程度扩展	16 KB		
		FodKey dll	2015/7/6 18:20	应田程度扩展	8 KB		
		Fpdikey.dii	2015/7/6 18:21	应用程序扩展	83 KB		
		FpdStation FpdStation	2015/7/6 18:20	应用程序扩展	16 KB		
		S FpdTCP.dll	2015/7/6 18:20	应用程序扩展	12 KB		
		S FpdUDP.dll	2015/7/6 18:20	应用程序扩展	13 KB		
		FTPServer.exe	2014/5/20 0:10	应用程序	123 KB		
		GridLineRemoval.dll	2014/2/7 10:38	应用程序扩展	219 KB		
		₩ IDemo_interface.exe	2015/7/6 18:21	应用程序	1,006 KB		
		Note: March 10 States 10 S	2013/11/18 13:44	应用程序扩展	2,976 KB		
		뤎 IrDARegister.exe	2015/6/9 9:42	应用程序	130 KB		
		🚳 log4cpp32vc9.dll	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		
Choose "Config	guration";	Quick 'n Easy FTP Server Lit	e				
Set FTP Port "2	21000";	Server View Help					
Click "Start" by	utton;	Configurat	ion -				
		Server Log					
		FIP Port:	21000				
		Max.Lonnecti	ons: 10	_			
		User Accounts Connection Ti	meout: 5	minutes.			
		Welcome Mes	sage: Welcome t	o Pablo's FTP S	erver		
		Goodbye Mes	sage: Bye				
		Configuration	🗌 Launch	FTP Server at v	vindows startup		
		<u> </u>	Startup	minimized in sys	temtray		
		Online Users	Automa	tically activate s	erver at startup		
		Statistics					
		Update				Apply	
		FTP Server is offline			0 bytes receive	ed 0 bytes sent 🎱 🥚 🏿	

Click "Config"			
		Config	
	H		

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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	
	- 1		

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4.9.2.2 Hardware Correction and Calibration Management

Click "Config"	Config

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4.10Sleep 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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	Config
Set auto sleep timeout value user need	General Settings
	General Settings
	Detector Info Version Detail Sensor details Advanced Settings Product type: 22 Core Version: 13.0.15 Core Version: 13.0.15 Core Version: 13.3.24 Memory Settings Senial Number: IV07080525187 Rend Version: 2.5.1.2 Mol Version: 2.5.1.2 Mol Version: 2.5.2.2 Recover ROM
	Controllox General Settings Write ROM Controllox Tingger: Software
	HW Correcton Query Live Time Query Live Time Ext
If there is no operation in time flag user	
sets, panel would go to sleep	Info 💌
	Detector will enter sleep mode in soon.
	ОК
Message box shows that panel is sleeping	VER:3.0.0.15-0706
	A: Sleeping

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4.10.2 Wake Up



4.11Firmware Update

Panel supports updating 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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Project Odf. Image: Vide Name: Vide Vide Variations Vide	Click "file->open data file"	ער איז
Name Vida Orrection USB (Price 0) Notation USB (Price 0) Notation <td>1</td> <td>👷 Project - Def 🕞 🕞 😰 E\G-Sensor\STM32L1_Shock, Sensor_prj375_LWS\Project\STM32L1xx, StdPeriph_Templat 🕞 🕒 🚾</td>	1	👷 Project - Def 🕞 🕞 😰 E\G-Sensor\STM32L1_Shock, Sensor_prj375_LWS\Project\STM32L1xx, StdPeriph_Templat 🕞 🕒 🚾
Contention Contention <td< td=""><td></td><td>Name Value Addess: [0.6000000 [x] x2] x4</td></td<>		Name Value Addess: [0.6000000 [x] x2] x4
Indigend Sitt Indigend Die Site Die		Correction Use previou Address Ø 1 2 3 4 5 6 7 8 9 A B C D E F ASCII Taget interface JTAG - <
18 ² made 00000000 <		Ink JTAG speed 5kHz 8909000 ED 0F 00 08 A7 06 00 08 A9 17 00 08 00 00 00
PJ Cate+M3 Endo B000000 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 60 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 23 61 66 68 24 66 68 68 68 68 68 68 68 68 68 </th <th></th> <th>TAP number Cnd used 8999929 60<!--</th--></th>		TAP number Cnd used 8999929 60 </th
Endon Uite 10 term 12 tot 10 term		CPU CotexM3 89990449 23 01 00 08 23 01 00 08 23 01 00 08 1
Cone Id Mod B000079 23 81 89 82 21 80 88 23 81 89 82 21 80 88 23 81 89 82 23 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 21 81 89 82 81 89 82 81 81 89 82 81 89 82 81 81 89 82 81 <td></td> <td>Endan Little 8969659 23 91 96 98 23 91 98 98 98 98 98 93 91 90 98 1</td>		Endan Little 8969659 23 91 96 98 23 91 98 98 98 98 98 93 91 90 98 1
RAM dates 60d RAM dates 60d <td< td=""><td></td><td>Core Id 0x0 8909070 23 01 00 08 23 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 1 <th1< th=""> <th1< th=""></th1<></th1<></td></td<>		Core Id 0x0 8909070 23 01 00 08 23 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 2.3 01 00 08 1 <th1< th=""> <th1< th=""></th1<></th1<>
Bath memory Barb memory Barb detection Bare addees Digenciation Auto detection Bare addees Digenciation Barb addee Digenciation Barb adde		RAM address 0.60
Sectors 000 23 61 66 66 66 66 66 66 66 66 66 66 66 66		Flash memory Auto detection 8000080 02 01 00 08 23
Click "option->project setting", Set "connection to J-link" USB mode		Deservation Organization 16 bits x1 chip 80000C0 23 01 00 08 23 01 00 08 2.3 01 00 </th
Seeden PB 23 61 68 68 60 PF 86 co 10 68 PF 62 PF 96 48 68 47 ft		80000E0 89 09 00 08 23 01 00 08 23 01 00 08
Click "option->project setting", Set "connection to J-link" USB mode		80909676 23 01 00 08 DF F8 0C D0 00 F9 C2 F9 00 48 00 47 #
Click "option->project setting", Set "connection to J-link" USB mode General Target Interface CPU J-Flash-ARM is a software for J-Link ARM. It requires a license, which can be obtained from SEGGER (www.segger.com).		8000110 FE E7 FE F7 FE
Click "option->project setting", Set "connection to J-link" USB mode General Target Interface CPU J-Flash-ARM is a software for J-Link ARM. It requires a license, which can be obtained from SEGGER (www.segger.com).		
Click "option->project setting", 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).		Application log started
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).	Click "option->project setting",	Project settings
J-Flash-ARM is a software for J-Link ARM. It requires a license, which can be obtained from SEGGER (www.segger.com).	Set "connection to J-link" USB mode	General Target Interface (CPII Flach Production
J-Flash-ARM is a software for J-Link ARM. It requires a license, which can be obtained from SEGGER (www.segger.com).		scherde [laiget interface[orb Prash [libutetion]
SEGER (www.seger.com).		J-Flash-ARM is a software for J-Link ARM. It
		SEGGER (www.segger.com).
This software is capable of programming the f		This software is capable of programming the flash
memory of several ARM micros, as well as external Flash connected to ARM cores		memory of several ARM micros, as well as external Elash connected to ARM cores.
Juliante		filiant
- Connection to LL ink		- Connection to 14 ink
		G IICE During 0 m
C USB SN 0 Select		C USB SN 0 Select
C ICP/IP		C ICP/IP
Click "Target Interface", Choose "SWD"	Click "Target Interface", Choose "SWD"	Project settings
General target intertace (LPU Flash Froduction		General larget Interface [IF0 Flash Production]
JTAG		JTAG
Auto selection Auto selection		C Auto selection
		(* la AHS

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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 + Customice Settings + 4 Securit Control Panel P
	Customize settings for each type of network. You can modify the firewal insigns for each type of network location that you use. What we network location settings Image: Insign of the insign of the each type of network location that you use. Windows Frewall Image: Insign of the insign of the each type of network location settings Image: Insign of Windows Frewall location settings Image: Im
	OK Cencel

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	夕称	▼ 修改日期	光刑	大小	
Click On "FIPServer.exe"		19%ACH76J	大主	X1.	
	S FpdCommonFunc.dll	2015/6/16 10:49	应用程序扩展	30 KB	
	Section.dll	2015/6/16 10:50	应用程序扩展	53 KB	
	FpdDefect.dll	2015/6/16 10:49	应用程序扩展	44 KB	
	FpdDetector.dll	2015/6/16 10:49	应用程序扩展	10 KB	
	S FpdDetectorE3.dll	2015/6/16 10:50	应用程序扩展	39 KB	
	FpdDetectorE4.dll	2015/6/16 10:50	应用程序扩展	71 KB	
	FpdFTS.dll	2015/6/16 10:50	应用程序扩展	8 KB	
	S FpdImageProcess.dll	2015/6/16 10:50	应用程序扩展	58 KB	
	SpdIrDARegister.dll	2015/5/21 8:59	应用程序扩展	16 KB	
	S FpdKey.dll	2015/6/16 10:50	应用程序扩展	8 KB	
	S FpdLib.dll	2015/6/16 10:50	应用程序扩展	82 KB	
	FpdSyncbox.dll	2015/6/16 10:50	应用程序扩展	10 KB	
		2015/6/16 10:49	应用相序的 展 古田昭南始周	13 KB	
		2013/0/10 10:49	应用程序	122 MD	
		2014/3/20 0:10	应用程序扩展	123 KD	
	BE IDemo interface eve	2014/2/7 10:50	应用程序	1 000 KR	
	IDicom dll	2013/0/10 10:52	应用程度扩展	2,000 KB	
		2015/6/9 9.42	应用程度	130 KB	
		2013/0/5 5.42	应用程序扩展	237 KB	
	i users.dat	2014/5/30 9:17	DAT 文件	1 KB	
	🖼 Quick 'n Easy FTP Server Lite				
Choose "Configuration", set "FTP Port"	Server View Help				
21000, others as default					
					_
	Configuratio	n 🔻			
	Server Log FTP Port:	21000			
	Han Comparison	10			
	Max.Connection	s: [10			
	User Accounts Connection Time	eout: 5 minuti	BS.		_
	Welcome Messa	age: Welcome to Pablo's Fi	P Server		
	Goodbye Messa	ge: Bye			_
	Configuration	🔲 Launch FTP Serve	at windows startup		
	.	🔲 Startup minimized in	i systemtray		
	Online Users	Automatically activation	ate server at startup		
	Statistics				
	opuale			Apply	
	FTP Server is offline		0 bytes red	ceived 0 bytes sent 🍚 🔴	
Start ETD Sorver	🚽 Quick 'n Easy FTP Server Lite				<u> </u>
Statt FTF Server	Server View Help				
	▶ = ?				
	Server Log				
		d - 1 - 1			_
	Server Log	a to listen on poit 21000.			
	User Accounts				
	Configuration				
	Online Users				
	Statistics				
	Update				

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4.11.3 Firmware Update



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Choose Update Type "core ¹ "	Config Firmware Update General Settings Status: Advanced Settings Firmware Wite ROM Image File: Progress: Recover ROM OchroBox Wate ROM
	Winte RAM Winte RAM Image: Configuration Image: Configuration
Click "Select", choose right update file ²	
Click "update", waiting for message	Confg
box ³	Core of Setting Status
	Finanze
	Advanced Settings Update Organize + New Folder III @
	tree 🖈 Faceites Documents library Amorphy: Folder -
	P Rebook Settings P See
	No items match your search.
	Cartodor
	J Moic E Potues
	Videos
	fin versuer
	Wenok
	Configuration
	File name File name
Click message box, waiting for end of	/
rebooting ⁴ ;	
Panel finishes rebooting, Click "OK" ⁵	

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 verticaldrag the right mouse button to adjust the window level.
- F3 Key: Quickly adjust the image window width and window level.

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4.13Software

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

eneral Settings	Status:			General	Settings					
vanced Settings	Detector Info Product type: Serial Number:	32 KV07018054019	•	Version Detail Lib Version: 3.0. Core Version: 1.3. Kernel Version: 1.15 Main Version: 2.5. MCU Version: 2.5.	0.14 2.13 .4.2 1.11 0.14 1.7		Sensor details Temperature: 0.00 0.00 Humidity: 0.00	°C F % F	ι	Recover ROM
	General Settings Trigger: Time Span:	Inner <u>-</u>	ms	Exp Window:	10000	ms	FreeSync Window:	0	ms	Write ROM
٢	Acquire Delay: Integrate:	0	ms us	Delay time: Inner Delay:	1000	ms ms	Auto Sleep Timeout:	0	s	Write RAM
								Query Live Tim	e	Read RAM
Dynamic Configuration										Reset FPD
() mware Update										Exit

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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	Read Version	Version number of Read FPGA	NO
	MCU Version	Version number of MCU	NO
Sensor details	Temperature	Panel inner temperature(Read Board and Core Board)	NO
	Humidity	Panel inner Humidity	NO
General Settings	Trigger	Detector trigger mode:	
		1.Outer	
		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	YES
		between two nearby acquisition process	
	Exp Window	Exposure window is used in Inner mode, it	YES
		defines the time for X-ray shooting.	
	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
		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	NO
Deettern	D	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	/
	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

٨	Advanced Settings	
eneral Settings	Status:	
	Advacned Settings	
۲	Row Pre Delay: 0 µs VT: 1.68 v FreeSync Center Threshold: 5	
vanced Settings	Row Post Delay: 0 PGA: 6 FreeSync Edge Threshold: 5	
	Detector Auto Clear:	
۲	Detector AutoClear Period: 5000 ms	Recover ROM
twork Settings		
0	Ammo Exposure Mode: Normal AEC Main Time: 0	Write ROM
ControlBox	Dyna offset time: 0 Correct Folder: 0	Read ROM
(W) Correction	Shock Sensor Read Grid Status Read Shock Log Clear Shock Log Set Threshold: 0 R W	Write RAM
		Read RAM
	Tuhe Ready Time: 0 ms R W	
Dynamic		Reset FPD
Configuration	L	-
		Exit
mware Update		

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:

eneral Settings	Status:	twork Settings	
۲	Mode Client C AP	Read Wifi Status Read Config from FPD Write Config to FPD Scan from FPD	
vanced Settings	Client Mode	- Wifi Status Info	
etwork Settings	Add		Recover ROM
-	Up		Write ROM
ControlBox	Default	Available Wireless Network	Read ROM
۲			Write RAM
IW Correction			Read RAM
Dynamic Configuration	FPD IP: 192.158.8.8 Port: 27888		Reset FPD
(i) mware Update	MAC: 00 0F EA EF 6F BE		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	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

٢	HW Correction	
eneral Settings	is:	
	HW	
anced Settings	Offset Mode: No 💌	
vanceu securigs	Gain Map: Empty Do in SDK 💌 Download Read Out Up	odate Local
0	Defect Map: Empty Do in SDK 💌 Download Read Out Up	odate Local
etwork Settings	Lag Map: Download Read Out Up	odate Local
	Indate Status	Write ROM
ControlBox		
Controlotx		
		Write RAM
iW Correction		Read RAM
Dynamic Configuration		Reset FPD
		Exit
mware 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**

0	Firmware Update	
General Settings	tatus:	
	Firmware	
dvanced Settings	Update Type: Select Update Reload	
_	Image File:	i i i i i i i i i i i i i i i i i i i
0	Progress:	Recover ROM
letwork Settings		
0		Write ROM
ControlBox		Read ROM
۲		Write RAM
HW Correction		Read RAM
Dynamic Configuration		Reset FPD
		Exit
irmware Update		

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

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4.13.4 Correction and Calibration

4.13.4.1 Gain Calibration

Correction	Wizard		
Gain	Defect		
	Expected Average Expected Gray Value 5500 New Gain Point	PREP Acquire PREP Acquire New Point Selected Gain 0	pints
			OK
	Item	Description	Modify
Expected	Expected Gray Value	Not used	YES
	New Gain Point	Start generating gain template	NO
New Doint	Selected Gain	Number of selected gain point	NO
FOIII	Current Average	Average value of the complete image	NO
	Center Average	Average value of the image in center ROI	
	Salaat	Select and gave surrent gain point	NO
Button	Deserved		NO
Buttoll		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 Light File
Create Offset	Current 1 💌 Start creating Create Defect
	V 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		te Defect	Generate Defect correction ter	nplate	NO	

4.13.5 Image Check and upload

Index	File Name	Croate Time	Attr	Delay Time	Lipland Stat
Index			ALU	Delay Time	
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	-
<					- F
Get Outline Image List					

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	Regist Service	(Quick'n IrDA	Regist Service	×
WorkMode:	Write Only 🗸		WorkMode:	Write Only	•
AP Mode	Apply		🔲 AP Mode	. (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 •				
	Start			Start	
	Exit			Exit	

Item Description		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

Type of protection against electrical shock	Class I Equipment, using medical approved adaptor supply		
	Internally powered Equipment, using battery power supply		
Degree of protection against electrical	Without Applied Parts		
shock			
Degree of protection against ingress of	IPX0 (Mars1717V)		
water	IPX0 (Charger-KV)		
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		

• Medical equipment classification

Note: The product safety standards that apply to Mars1717V which includes the main units: detector and charger-kv.

• References harmonized standards under Directive 93/42/EEC

MDD (93/42/EEC)	Medical Device Directive		
EN ISO 13485:2012/EN ISO 13485:2012/AC:2012	Medical devices Quality management systems Requirements for regulatory purposes		
EN ISO14971: 2012	Medical device – Application of risk management to medical devices		
EN 60601-1:2014	Medical electrical equipment Part 1: General requirements f basic safety and essential performance		
EN 60601-1-2:2007	Medical electrical equipment – Part 1-2: Collateral standard: Electromagnetic compatibility – Requirements and tests		



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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	
IEC 62133:2012	Secondary cells and batteries containing alkaline or other non- acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications	
EN 62220-1:2004	Medical electrical equipment - Characteristics of digital X-ray imaging devices - Part 1: Determination of the detective quantum efficiency	
EN 62304:2006/AC:2008	Medical device software - Software life-cycle processes	
EN 62366:2008	Medical devices - Application of usability engineering to medical devices	

5.2 Guidance and manufacture's declaration for EMC

• Electromagnetic emissions

Mars1717V is intended for use in the electromagnetic environment specified below. The customer or the user of Mars1717V should assure that it is used in such an environment.

Emission Test	Compliance	Electromagnetic Environment - Guidance		
RF emissions CISPR 11	GROUP1	Mars1717V 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	Mars1717V 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	Complies	power supply network that supplies buildings used for domestic purposes.		



• Electromagnetic immunity

Mars1717V is intended for use in the electromagnetic environment specified below. The customer or the user of Mars1717V 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



Mars1717V is intended for use in the electromagnetic environment specified below. The customer or the user of Mars1717V should assure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150kHz to 80MHz	3 Vrms	Portable and mobile RF communications equipment, 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 Mars1717V, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1,2 \sqrt{p}$ $d = 1,2 \sqrt{p}$ 80 MHz to 800 MHz $d = 2,3 \sqrt{p}$ 800 MHz to 2,5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol:

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



Mars1717V is used exceeds the applicable RF compliance level above, Mars1717V should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating Mars1717V.

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 Mars1717V

Mars1717V is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of Mars1717V can help prevent electromagnetic interference by maintaining a minimum distance between portable or mobile RF communications equipment (transmitters) and Mars1717V as recommended below, according to the maximum output power of the communications equipment.

Rated maximum	Separation distance according	ing to frequency of transm	of transmitter /m	
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 inmeters (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.

• Cables information belowis provided for EMC reference.

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

• Important information regarding Electro Magnetic Compatibility (EMC)

Mars1717V require 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. Mars1717V 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.

Mars1717V 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 Mars1717V as replacement parts for internal components, may result in increased EMISSIONS or decreased IMMUNITY of Mars1717V.

Mars1717V should not be used adjacent to or stacked with other equipment.

5.3 Radio Frequency Compliance Information

Country	Item
U.S.A	FCC Part 15.107 Subpart (b) / 15.109(g) Subpart B
	FCC Part 15 Subpart E 15.407
	FCC Part 15 Subpart C 15.247

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European Unio	n	ETSI EN 301 489-1 V1	.8.1 (EMC)	
		ETSI EN 301 489-17 V	2.1.1 (EMC)	
	EN 300		N 301 893 V1.6.1 (RF)
	EN 62311:2008		posure)	
		ETSI EN 300 328 V1.7.	1; EN 301 893, VI	.5.1 (Radio Spectrum)

5.3.1 FCC Compliance

- This equipment has been tested and found to comply with the 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 tow conditions.

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

• This equipment generates, uses, and can radiate 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 this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measure.

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which 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

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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

Mars1717V-PSI detector

产品型号 接入电源	号: Mars1717V-PSI 京: 适配器供电输入 24V 0.8A	(4.3)	Ý	
附属设备	电池供电输入 10.8V == 1.78A Mars1717V-PSI GB9706.14-1997		X	201X-XX
••••	上海奕瑞光电子科技有限公司 中国上海浦东张江东区医疗器械园 瑞庆路590号9幢2层202室		li	20XX-XX-XX
医疗器制	维注册证编号:沪械注准201X231XXXX			
医疗器械 其它内容	赴册证编号:沪械注准201X231XXXX 8详见说明书			
医疗器制 其它内容 Wir	#注册证编号。 沪械注#201X231XXXX W#见说明书 eless Digital Flat	Pane	Dete	ector
医疗器物 其它内容 Wir Model:	独主册证编号、沪州注北201X231XXXX 詳単见説明书 eless Digital Flat Mars1717V-PSI August 201/2000	Pane	Dete	ector
医疗器物 其它内容 Wir Model: Power:	総法備証明号、沪純法加201X231XXXX 詳単见说明书 eless Digital Flat Mars1717V-PSI Adapter Port Input 24V==0.8A Battery Port Input 10.8V==1.78A iRay Technology (Shanghai) Ltd. RM202 Building Zho 500 Ruiding RD	Panel	Dete	ector
医疗器神 其它内容 Wir Model: Power:	総法册证编号、沪林注地201X231XXXX W译见说明书 eless Digital Flat Mars1717V-PSI Adapter Port Input 24V==0.8A Battery Port Input 10.8V==1.78A iRay Technology (Shanghai) Ltd. RM202, Building 7, No. 590, Ruiqing RD., Zhangjiang East, Pudong, Shanghai, China www.iraychina.com	Panel	Dete	ector
医疗器制 其它内容 Wir Model: Power:	総法書证編号。沪純法加201X231XXXX 詳準定説明书 eless Digital Flat Mars1717V-PSI Adapter Port Input 24V==0.8A Battery Port Input 10.8V==1.78A iRay Technology (Shanghai) Ltd. RM202, Building 7, No. 590, Ruiqing RD., Zhangiang East, Pudong, Shanghai, China www.iraychina.com	Panel	Dete	ector

Mars1717V-VSI detector

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5.5.2 Battery

电池	RAYTechnology
产品型号: BATTERY-KV 输 出: 10.8V === 4180mAh/45.14Wh 充电电压: 12.6V 执行标准: GB/T18287-2013 ▲ 201X-XX 上海突瑞光电子科技有限公司 中国上海浦东张江东区医疗器械园 201X-XX 環庆路590号9幢2层202室	警告! • 注意火灾、爆炸危险,禁止灼烧或浸入水中; • 不可短接、不可存放于高于45°C的环境或 者擅自拆解; • 请使用CHARGER-KV为电池充电,请勿使用 其他型号充电器; • 请在初次使用时请为电池完全充电; 当电池电量小于5%时,请及时给电池充电; • 请用同型号电池看然成了在儿童无法触及的地方; • 请根堀当地法律处理废旧电池。
Battery Model: BATTERY-KV Output: 10.8V === 4180mAh/45.14W Charge Voltage: 12.6V Standard: GB/T18287-2013 Image: Image: Image: RM202, Building 7, No.590, Ruiqi 201X-XX Image: Image: Renault - Petersen Limited COUCHING HOUSE, COUCHINE ST Image: WATLINGTON, OXFORDSHIRE, OX CAUTION: Risk of fire, explosion, burning or put into wa Do not short circuit, crush or expose battery above 45°C, incinerate or disassemble the battery before first use. Please charge the battery before first use. Please charge the battery immediately when than 5%. Replace battery with same part number only, may present a risk of fire or explosion.	h ng RD., nai, China REET, 19 SPX, UK ter. in the environment attery. the capacity is less Use another battery

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



6.1.1.2 **Definition of Ethernet cable**



Measure the conductive between each pin of J1 and J2 by multimeter.

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6.1.2 Date cable inspection



According to the definition of data cable to verify the conductive between each pin of J1 and J2 by multimeter if there is only one data cable in the field.

6.2 Adapter Inspection

6.2.1 Adapter connector definition



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6.2.2 Inspection method



Connect the adapter to the detector or charging dock to confirm whether the battery is in working order if verifying the output current is not practicable.

6.3 Battery Inspection

6.3.1 Battery pin definition

8 7 6 5 4 3 2 1		[
	C	[

1

Pin	Symbol	Description
1,2	P+	Battery Discharge Positive Terminal
7,8	Р-	Battery Discharge Negative Terminal

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6.3.2 Inspect Method



The battery is expendable and its life is shortened through use. Recycle the battery if the fully charged battery only last not more than 1 hour. Wasted batteries suggested return to manufacturer or put at appointed public battery reclaim area, do not mix battery with other waste or dispose of battery ad libitum.

6.4 Dock Inspection

6.4.1 Dock 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

Know how to obtain the log of SDK and detector is necessary before diagnose any problem of detector main unit, and the method is described in chapter 6.1.

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 serial number of detector. The folder called "Log" is the storage path of SDK fie, and the date is contained in name of each log file. 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.

SET_LOG_INFO=1//Open log function'

SET_LOG_INFO=0//Close log function

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6.5.1.2 Detector log

Find FTP Server.exe and open the FTP Server, attention that the FTP port number should

be set as same as the config.ini of iDemo. Click

button to start FTP server after finish setting the FTP port

number.



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 13 number S/N] logs" which is at the same location of iDemo.exe.

	Advanced Settings	
General Settings	Status:	
	- Advaced Settions	
0	Row Pre Delay: 0 μs VT: 1.68 V	
dvanced Settings	Row Post Delay: 0 PGA: 6	
-	Detector Auto Clear:	
۲	Detector AutoClear Period: 5000 ms	Recover ROM
Vetwork Settings	Mammo	
	Exposure Mode: Normal 🛫 AEC Main Time: 0	Write ROM
ControlBox	Dyna offset mode: 0 Dyna offset time: 0	Dead DOM
Contractory	Correct Folder: 0 <u>v</u>	
	Shock Sensor	Write RAM
HW Correction	Read Grid Status Read Shock Log Clear Shock Log Set Threshold: 0 R W	
	Syndox	Read RAM
۲	Tube Ready Time: 0 ms R W	D
Dynamic Configuration		Reset PPD
-		L Exit
	L	
-irmware 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 content press button, and it's no effect in normal use.

6.7 Connection inspection

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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	Remark
Offset	*.off	iRay mostly use post offset, the offset is done during the image acquisition process.
		So the offset file is not effective in the correction file storage path.
Gain	*.gn	The gain file can be select or deselect through iDemo
Defect	*.dft	The gain file can be select or deselect through iDemo
Lag	*.lag	The Most gain is effective while it's in the correction file storage path. Rename it
		or move it to other directory can make it invalid.

The following is the image

Image type	Description	
Original dark image	Acquire by click "Prep Acquire" button without exposure and offset correction	
Dark image	Acquire by click "Prep Acquire" button without exposure and the offset calibration should be	
	added at least.	
Original bright image	Acquire the image under exposure condition and without any correction.	
Bright image with offset	Acquire the image under exposure condition and add 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. Normally the dark image with horizontal line is shown as the figure 1.

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Inspection method



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6.10.3 Defective line



6.10.4 Defective point



6.10.5 TFT broken

Acquire a dark image, if one part of the image is much smooth than the normal dark image. The TFT 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, operating person and third parties, and to maintain the performance and reliability of the equipment, be sure to perform regular inspection at least once a year. If necessary, clean up the equipment, make adjustments, or replace consumables such as fuses, detector cable, 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.

There is a Ni-MH battery in the FPD, its lifetime is 5 years, when arrived in the lifetime of the battery is need to be placed. And the placement need contact Shanghai Iray after-sales service departments or authorized product distributors.



7.3 Repair

If a 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 name label and provide the following information:

Product Name:

Series Number:

Description of Problem: as clearly as possible.

7.4 Replacement parts support

Performance parts (parts required to maintain the function of the product) of this product will be stocked for 5 years after discontinuance of production, to allow for repair.