

ViZion DR+ 1417V2 Wireless Panel

Calibration Manual

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Revision History

REV DATE DOCUMENT NAME [REASON FOR CHANGE]

1.0	7/17/2018	ViZion DR+ 1417V2 Wireless Panel Calibration Manual
		[New Manual – iRay SDK Version 2 and Ultra version 4.2.9.0]



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Introduction

This documentation is provided to you, the service technician, with all information necessary to install, configure and calibrate the ViZion DR+ 1417V2 Wireless Panel. For more detailed information on the operation and specifications of your wireless detector, please review the following documentation:

Manual References:

• 059-201-04 Mars1417V2 User Manual A0.pdf



Only qualified service personnel should attempt to install, modify, service or operate the ViZion DR+ Wireless Panel detector.

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Hardware Overview and Installation

ViZion DR+ 1417V2 Wireless 1 **Panel Hardware**

The following equipment is required to properly install and implement your ViZion DR+ system.

1.1 Passive Installation

ViZion DR+ 1417V2 Wireless Panel • Detector



ASUS Dual-Band Wi-Fi Gigabit AP ٠



75 ft. Cat5 Ethernet Cable



Acquisition PC Desktop or Laptop • (Windows 10)



1.2 Integrated Installation

The following additional equipment is required for integration with a generator.

G.I.P.S. Box •



Power Supply Synchronization Cable •



50 ft. Female-to-Female Serial Cable •



Tripp Lite USB-to-Serial Adapter









1.3 ViZion DR+ 1417V2 Wireless Panel Detector (Mars1417V2)

The following equipment is required for integration with a generator.



1.3.1 Connector Ports and Control Panel





- A. DC Jack: 24V DC input
- B. Ethernet interface: Link cable jack
- C. **LED indicators**: Indicates the state of the detector

- D. **Power button**: Detector power ON/OFF button
- E. Infrared window: Infrared device sensor
- F. Antenna: Wi-Fi antennas (three)
- G. Reserved
- H. **Maintenance cover**: For service engineer to maintenance
- I. Battery lock: The lock button for detaching battery
- J. **Detector label**: Serial number and product information

1.3.2 LED Indicators



- 1. Battery Indicator:
 - Green: battery charge is < 10%
 - Orange: battery charge is $\geq 10\%$
- 2. Link Indicator:
 - Blue (solid): wireless connection is connected
 - Blue (blinking): wireless connection is ready, but not connected
 - Green (solid): wired connection is connected
 - Green (blinking): panel initialization
- 3. Status Indicator:
 - Green (solid): data transmission
 - Orange (solid): panel initialization
 - Orange (blinking): fatal error

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1.4 ViZion DR+ Wireless Panel Battery Charger

A. Battery interface: 8-pin battery connector

- B. Capacity indicator: Charged capacity percentage of inserted battery from ≤ 30% up to 100% (Figure 9)
- C. **Power indicator**: Green light displays when power is on
- D. Hand pull position
- E. Limit ball plug
- F. DC Jack (24V DC input)

1.4.1 Battery Charger Capacity Indicators

0 2 2	No battery Insert
	Battery Insert with capacity \leq 30%, charging
	Battery Insert with capacity >30% and ${\leq}60\%$, charging
0 2 2	Battery Insert with capacity >60% and \leq 95%, charging
0 8 8	Battery Insert with capacity >95% and charging, when capacity = 100%, charging can stop automatically

1.4.2 Connector Ports

It is alternatively possible to trickle charge the battery inside the panel, by connecting the DC power cable from the DC medical adapter power supply to the DC input of the detector.

To preconfigure the panel for alternate wireless connection modes and panel calibration, connect the Link cable to the mini-HDMI ethernet interface of the detector for a wired network connection.





1.5 Additional Components

• Battery Pack (2)



• DC Medical Adapter for Detector and Battery Charger



AC Power Cable



DC Power Cable



Link Cable



• TP-Link AC750 Wireless Travel Router Access Point (option for mobile)



 ASUS Dual-Band Wireless USB Adapter (option for mobile)

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1.6 Mobile Hardware Installation

Additional required equipment for a mobile environment.

1.6.1 SourceRay SR-130 Mobile X-Ray Unit

• Side view



Console view



- 1.6.2 SourceRay SR-130 Accessory Cables
 - Hand Switch.



• Grounded Power Cable.



1.7 Mobile Network Configuration

For mobile environments, the panel can be put into **Client mode** (to connect the laptop to an external access point device, that the panel will connect to [recommended method]), or put in **AP mode** (to allow the panel to broadcast a wireless network, for the laptop to connect to [alternative method].

1.7.1 ViZion DR+ 1417V2 Wireless Panel in Client Mode (Recommended method)

When the panel is in **Client mode**, the panel will connect automatically to the external TP-Link Access Point, using the laptop's LAN Ethernet adapter. For your internet connection, you will connect to any available Wi-Fi network using the laptop's internal wireless adapter.

Equipment required for Client mode:

 TP-Link AC750 Wireless Travel Router Access Point



 Link Cable (to preconfigure the panel's wireless settings)



To connect the preconfigured TP-Link AP to the laptop:

1. Unpack the TP-Link AC750 AP (model TL-WR902AC).



 Make sure the mode switch on the side of the access point is set to AP/Rng Ext/Client.



- Connect the supplied USB cable from the laptop to the access point (supplies power to the device when plugged in).
- 4. Connect the supplied **Cat5 Ethernet cable** from the laptop network adapter to the access point.



1.7.2 ViZion DR+ 1417V2 Wireless Panel in AP Mode (Alternative method)

When the panel is in **AP mode** you will connect to the panel's broadcasted Wi-Fi network, (which will be named the same as the serial number of the panel), using the laptop's internal wireless adapter. For your internet connection, you will connect to any available Wi-Fi network using the external USB Wi-Fi adapter.

Equipment required for AP mode:

 ASUS Dual-Band Wi-Fi USB Adapter (used for the Wi-Fi Internet connection)



Link Cable (to preconfigure the panel's wireless settings)



2 ViZion DR+ 1417V2 Wireless Panel Hardware

2.1 Panel Calibration

Before performing the following steps, make sure the wireless panel is powered on with a **fully charged battery**, and connected with the supplied **Link cable**.

1. From the Acquire screen, select **Options**.



- 2. Select Device Configurations tab.
- 3. Click to highlight **DEFAULT** under the "Configuration Pool" section.

Configuration			×
Subject Tree Procedure Templates Remote Console	Device Configurations Program Settings	DICOM Settings Tools & Annotations	Post-Processing
Configuration Pool DEFAULT Display Name: Icon: NO Icon Box Color:	ICON Y Remove Rename	Device Licensing and Driver Installation – Licensed Products: Venu DR	>> Launch <<
M2on DR+	Cenerator Device	Seporting Device	57
Version 4.2.9.0 (64-bit) (Demo) UDI (01)00817100020179(10)04-02-009	Administrative	OK Cano	el Apply

 Click on ViZion DR+ and the panel device configuration section will appear below it.

Configuration Pool	Display Name: Icon: Icon Box Color:	wall NO Blue
MZion DR+ Driver: Venu_3001.udp Maven Plugin Version 2.x iGamma 32-bit ✓ Local Exposure Index Target EI: 1000	#1 ~	Â

 Scroll down to the **Device** section and click on **Utility** to open the iDetector interface.



Note: after clicking on Utility, the Maven software will shutdown communication between the panel and the Ultra UAI software, and close maven, and then iDetector software will launch automatically as a popup window.



2.2 iDetector Interface

After clicking **Utility** under the panel's Device settings, the iDetector interface window will open.

2.2.1 Connecting into the Panel from iDetector

1. Click to highlight **DEFAULT** under the name column and then click **Connect**.

iDetector				
Home Acquire SDK Detector Calib	Local File		2018/05/30	0 11:35:30
				4.0.24.399
New	(t) forder Tax	6.0		
DEFAULT	Mars1417V	Bind	Connect	
			Close	
			Add	
			TENOTE	
			Syncbox	

Warning: before exiting iDetector, <u>DO</u> <u>NOT CLICK THE RED X</u> in the top right corner, without first going to Home tab, click Close, then click the X and select Override Config.

2. The Acquire tab is selected by default when you first connect to the panel in iDetector. Click on the **Detector** tab.

iDetector				Real Property and		
Home	SDK Detect	tor Calibrate	Local File	2018/06/22	10:09:53 DEFAU	ст
Operation	Image Properties				Image List	
 Ørberd Ørberd Ørberden Ørberden<td>WW: 6535 WL: 2277 Pack: 0 Pack: 0 Value: 0 Value: 200 PS:: 020/s Frame: 0 Image: 0 Image: 0 Image: 0 Image: 0 Image: No Image: No</td><td></td><td></td><td></td><td></td><td></td>	WW: 6535 WL: 2277 Pack: 0 Pack: 0 Value: 0 Value: 200 PS:: 020/s Frame: 0 Image: 0 Image: 0 Image: 0 Image: 0 Image: No Image: No					
SN: KG301022480	6 State: Ready T	ask: No Task	Messag	ge: 10:09:38 Task succeed: Connect	•	0%

2.2.2 Panel Calibration Setup

1. On the **Acquire** tab in iDetector, uncheck the **Defect**, **Gain**, and **Offset** checkboxes **in that order**.

Home Acquire	SDK Detector Calibrate Local File	2018/06/25 13:03:03
		DEFAUL
Operation	Image Properties	Image List
Offset	WW: 65535	
C SWPreOffset	WL: 32767	
C HWPreOffset	PosK: 0	
© SWPostOffset	Post/ D	
HWPostOffset	Value 0	
O SWG in	Table. 0	
C HWGain	Width: 2304	
Defect	Height: 2800	
C SWDefect	FPS: 0.201/s	
C HWDefect	Frames: 0	
Prendice		
Trepend		
Acquire	5	
Sleep		
Wakeup	Mirror No	
makeup	ROI	
Save	WWW	

Note: during the calibration, please do not move the detector once calibration has been started and keep Link cable connected to the detector.

2. Select the **Calibrate** tab, check the radio button for **PostOffset**, and click **Start Generate Templates**.





The Calibration wizard will open into a new window, presenting the **Welcome** screen.

- 3. Set X-ray environment:
 - **Tube SID** = 50" or higher (at least greater than 47").
 - No Collimation = open collimator blades at least 1" past the edges of the panel on all sides.
 - No Grid = remove any grid or pressure grid cover.
 - **No Objects** = remove any objects from the surface of the panel.
- 4. Click the arrow in the top right corner labeled **Start the journey of Calibration**.



5. Click **Skip**, in the top right corner, at the **Offset Calibration** screen.



6. Click **Skip**, in the top right corner, at the **Generator Parameter Learning** screen



2.2.3 Panel Gain Calibration

- Note: the Gain Calibration screen requires 5 exposures. The left-hand side of the screen tells you the suggested kV and mAs to use for the current exposure. The righthand side of the screen is divided into 5 blank gain exposure frame icons. Each exposure frame is numbered sequentially, with the kV to use noted next to each one. A green box surrounds the current exposure frame.
 - 1. Set your techniques to **70kV / 4.7 mAs** and take your **first** exposure.



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Note: after taking an exposure, the current gain exposure frame will still be surrounded in green. It will either have a green checkmark, if it was successful, or a yellow exclamation point, if not within 100 +/- of the expected center average of 7000.

- 2. If the exposure was NOT acceptable (yellow status), adjust mAs up or down, click **Prep**, and take another exposure.
- 3. If the exposure was acceptable (green status), click **Next** to move to the next gain frame.



 After taking all 5 gain exposures, click Back if you want to retake any previous exposures, then click Prep and retake the exposure. Otherwise, if you are satisfied with all exposures, click Next in the top right corner.



5. Wait for the **Gain Map Generation** to complete and then click **Next**, in the top right corner.

🙋 CreateTemplateWnd		
← васк		NEXT 🔶
	Gain MAP Generated. NEXT Please	
	control consistent field	
	11/45/01 Task succeed: FinishGenerationProcess	

Note: Click Next in the top right corner, and proceed to Section 2.2.4 for Panel Defect Calibration, <u>ONLY</u> if needed. A defect calibration is only needed if you are seeing dead pixels or lines in your images. Otherwise proceed to Section 2.2.5 to download the new Gain calibration file to the panel.



2.2.4 Panel Defect Calibration (Optional)

A new defect map can be created by running the Defect Calibration. A defect calibration is **ONLY** needed if you are seeing dead pixels or lines in your images.

- Right after you finished the Gain calibration in Section 2.2.3, click Next in the top left corner to proceed to the Defect Calibration screen.
- Note: the Defect Calibration screen requires 19 exposures. The lefthand side of the screen tells you the suggested kV and mAs to use for the current exposure. The righthand side of the screen is divided into 19 blank defect exposure frame icons. Each exposure frame is numbered sequentially, with the kV to use noted next to each one. A green box surrounds the current exposure frame.
- 2. Set your techniques to **70kV / 1.1 mAs** and take your **first** exposure.



- Note: after taking the first exposure, the current defect exposure frame will still be surrounded in green. It will either have a green checkmark, if it was successful, or a yellow exclamation point, if it was not within 100 +/- of the expected center average of 1000.
- 3. If the exposure was NOT acceptable (yellow status), adjust mAs up or down, click **Prep**, and take another exposure.



4. If the exposure was acceptable (green status), click **Next** to move to the next frame.





1.800.366.5343 – HCITsupport@konicaminolta.com 5. Set your techniques to **40kV / 4mAs** and take your **second** exposure.



6. If the exposure was acceptable, click **Next** to move to the next frame.



7. Set your techniques to **120kV / 1.2mAs** and take your **third** exposure.



8. If the exposure was acceptable, click **Next** to move to the next frame.



9. Set your techniques to **70kV / 7mAs** and take your **fourth** exposure.



10. If the exposure was acceptable, click **Next** to move to the next frame.



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 Continue to take exposures with techniques set to **70kV / 7mAs** for the remaining frames (5-19).



12. After taking all 19 defect exposures, click **Back**, if you want to retake any previous exposures, then click **Prep** and retake the exposure. Otherwise, if you are satisfied with all exposures, click **Next** in the top right corner.



13. Wait for the **Defect Map Generation** to complete and then click **Next**.

CreateTemplateWnd		
← BACK		NEXT
	Defect MAP Generated, NEXT Please	
	12:02:45 Task succeed: FinishGenerationProcess	

14. Calibration is complete. **Close** the window by clicking **X** in top right corner.

CreateTemplateWnd		- E 23
CentreTemplateWed ★ BACK	Calibration Finished	
	12/02/45 Task succeed: FinishGenerati	ionProcess .



2.2.5 Download the New Gain Calibration File to the Panel

After closing the Calibration window, you will be back where you left off, at the iDetector **Calibrate** tab. Now we need to download the new calibration files to the panel.

 Within the Calibrate tab, click on the Gain tab, then click the ReadStatus button.

Detector		
Home Acquire SDK Detector Calibrate Local F	File 2018/06/20	5 12:05:06 DEFAULT
Operation		
Manage correction file DownLoadFile UpLoadFile ReadStatus	Start Generate Templates	
Gain Detect Lag		
UpdateHWPreoffset		
SN: KG30102248006 State Ready Task No Task	Mercane 12,03:58 Task succeed: SetCorrectOption	• . 41

- Highlight Index 1, then click the SelectFile button. This will change the Index 1 status to enable.
- 3. Click **DownloadFile**, and then click **Path** from the popup window.

Detector		
Home Acquire SDK Detector Calibrate	Local File	2018/06/26 12:08:01 DEFAULT
Operation Manage correction file Upload file Selection Geim Defect Lag UpdateHWPreoffset UpdateHWPreoffset	Stat Generate Templates	
SN: KG30102248006 State: Ready Task: No Task	Message: 12:07:23 Task succeed: QueryHwCaliTemplateList	• 🖂 413

 Browse to the C:\opal\data\KGxxxxxxx\Correct \Default folder and select the gain_2304x2800.gn file and click Open.

Note: if the gain file does not appear, verify the file type dropdown is set to gain files(*.gn).

Organize 🔻 New fold	ler		= •
📔 Pictures 🔷	Name	Date modified	Туре
😸 Videos	dftframes	6/26/2018 12:01 PM	File folder
	a gainframes	6/26/2018 11:44 AM	File folder
😽 Homegroup	gain_2304x2800.gn	6/26/2018 11:45 AM	GN File
Drivers Hotfix inetpub Intel opal			

5. Type <u>1</u> in the **FileIndex** field and then click **OK**.

Download f	ïle	×
Path:	C:\opal\data\KG30102248006\Correct\Del	
FileType:	Enm_File_Gain	
FileIndex:	1	
Desp:		
	ок	

6. After the gain file has been downloaded to the panel. Click **OK**.

Download File Progress		B
	99	%
		23
Download succeed! Recommend Read Stat	us.	
0	к	

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2.2.6 Download the New Defect Calibration File to the Panel

If you ran the optional defect calibration, in addition to a gain calibration, you'll need to download the new defect file to the panel as well.

Note: skip to **Section 2.2.7** if you did NOT run the optional defect calibration.

 Within the Calibrate tab, click on the Defect tab, then click the ReadStatus button.

Detector	
Home Acquire SDK Detector Calibrate Local File	2018/06/26 12:12:36 DEFAULT
Operation	
Manage correction file Descritation Generation Defec	nglate
UpdateHWWwofflet	
Stel KGD0102248006 State Task: No Tesk Message 121230 Task succeed QueryHwGMTemplateList	- 415

- 2. Highlight **Index 1**, then click **SelectFile**. This will change the Index 1 status to enable.
- 3. Click **DownloadFile**, and then click **Path** from the popup window.

Hore Argune SDK Detector Callarue Losi Tile 2018/06/26 12:13-4 Operator Margage controls file Sector Read Status Gen Order: Ligg Detector Status Gen Order: Ligg Detector Status Detector	23						tor	🙋 iDete
Operation Manage constants Manage constants Manage constants Sant Genomes Templates Sant Genomes Templates Sant Genomes Templates Defended to a Face Face Face Face Constants Co	.т	2018/06/26 12:13:47 DEFAULT		Calibrate Local File	Detector	SDK	Acquire	Home
Marsaya connector file Descendantifie Updantifie Sant Generals Templates Descendantifie ReadDatus Descendantifie ReadD							n	Operati
Little Little Dennicad file II 1 enable Parts FileType - FileType - Upsame#WPreatMet Deps OK		ates	Start Generate Templates		pLoadFile eadStatus	U	correction fil DownLoadFile Selectfile Defect Lian	Manag
ronkle Pate FicType Fidnese UpdateHW/Profilet Dep OK				Download fil		-	Activity	Index
Ficilitye Ficholes				Path:			enable	1
Fildhdee UpdateHWPredifiet Deep OK			v	FileType				
Update/W/Predifiet Desp. OK				FileIndex				
			СК	Despi		Preoffset	UpdateHWi	(
SN: KG30102248006 State: Renty Task: No Task Message 12:12:57 Task succeed: QueryHwCaliTemplateList	11%	• 🗖 41	e: 12:12:57 Task succeed: QueryHwCaliTemplateList	No Task Messa	Ready Task:	State:	30102248006	SN: K



Note: if the defect file does not appear, verify the file type dropdown is set to **defect files(*.dft)**.

		DEFAU
Operation		
Manage correction file	💟 Open	
DownLoadFile UpLoadFil	C→	- 4- Search Default
SelectFile ReadStatu	Organize 👻 New folder	iii • 🗋 🛛
Gain Defect Lag	Downloads ^ Name ^	Date modified Type
Index Activity	Marcent Places	6/26/2018 12:01 PM File folder
1 enable	Libraries	6/26/2018 11:44 AM File folder
	Documents	6/26/2018 12:02 PM DFT File
	J Music	
	Pictures	
UndataHWDranffeat	Videos	
	negroup	
	Imay_WL	
	Local Disk (C:)	
	🕞 Local Disk (D:) 🕌 🗧	
	File name: defect_2304x2800.dft	 defect files(*.dft)
		Open 😾 Cancel
		cuiter

5. Type <u>1</u> in the **FileIndex** field and then click **OK**.



 After the defect file has been downloaded to the panel. Click OK.

Download File Progress		8
	99	%
		23
Download succeed! Recommend F	lead Status.	
	ОК	

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2.2.7 Re-enabling the Calibration Operation Options

1. Select the **Acquire** tab and check the **Offset, Gain** and **Defect** checkboxes, **in that order**.

iDetector										23
Home	SDK Detect	tor Calibrate Lo	al File					2018/06/2	6 12:16:4 DEFAU	8 JLT
Operation	Image Properties								Image List	
7 Orbite 5 Orbi	WW: 5535 WI: 22727 PaxX: 0 PaxY: 0 Value: 0 Height: 200 PS: 020/h Frames: 0 Million: No BQI: No WWWW: No									
SN: KG301022480	D6 State: Ready T	ask: No Task	Message	12:16:41 Task succ	eed: SetCorrectC	Option			•□	42 %

2. Check the radio buttons for HWPostOffset, HWGain and HWDefect.

10etector							23
Home	SDK	Detector	Calibrate	Local File	2018/05/26	12:16:48 DEFAU	B JLT
Operation	Image Propert	ties				Image List	
Offset Wheelines Wheelines Wheelines Wheelines Wheelines Water Water Water Water Water Water Water Water Soon Soon Soon	WW: 6553 WI: 3276 Posk: 0 Posk: 0 Width: 2304 Height: 2800 Frames: 0 Minor N ROI WW/WL	5 7 1 Vs					
SN: KG3010224800	6 State: Rea	dy Task:	No Task	Message	22:16:41 Task succeed: SetCorrectOption	•□	42 %

2.2.8 Closing iDetector

It's important to close iDetector properly, in order to sync the changes made in iDetector with Ultra UAI.

1. Select the **Home** tab, and click **Close**.

etector						
me Acquire	SDK Detector	Calibrate Local File			20	18/06/26 12:17:12
						4.0.24.3
	Name	SN	Connect Succeed! Product Type	State		
	DEFAULT	KG30102248006	Mars1417V	Ready		
					Connect]
					Close	1
						4
					Add	
					Remove	
					Sumhar	
					Jyncoox	

2. Select Override Config.

Configuration Management						
Create Template						
Update Template	Mars1417V					
Override Config	DEFAULT					
Cancel						
Cancel						

 Disconnect the Link cable from both ends and store it in a secure place, for future reconfiguration purposes. Mobile techs should store the Link cable in each van, so it is available when needed.

