KONICA MINOLTA

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]*

KONICA MINOLTA

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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.

Hardware Overview and Installation

1 ViZion DR+ 1417V2 Wireless 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

- 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

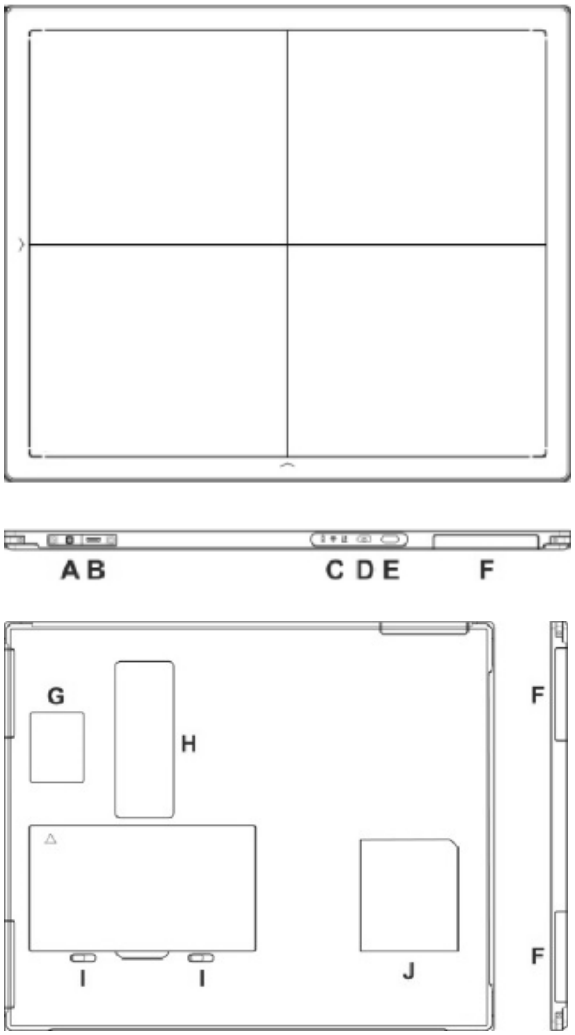
- Power Supply Synchronization Cable

- 50 ft. Female-to-Female Serial Cable

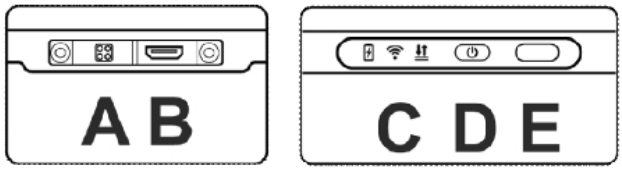
- Tripp Lite USB-to-Serial Adapter

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

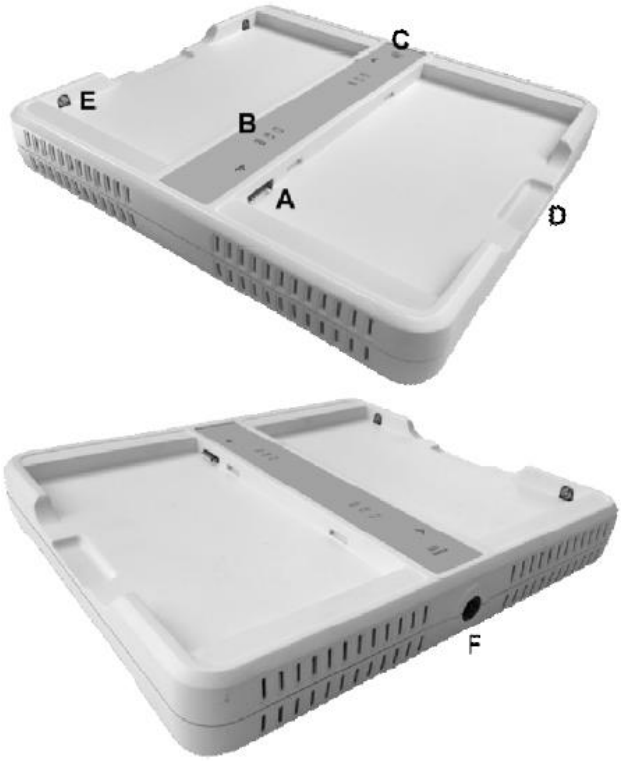
I. **Battery lock**: The lock button for detaching battery

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 ≥ 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

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

	No battery Insert
	Battery Insert with capacity ≤30%，charging
	Battery Insert with capacity >30% and ≤60%，charging
	Battery Insert with capacity >60% and ≤95%，charging
	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)

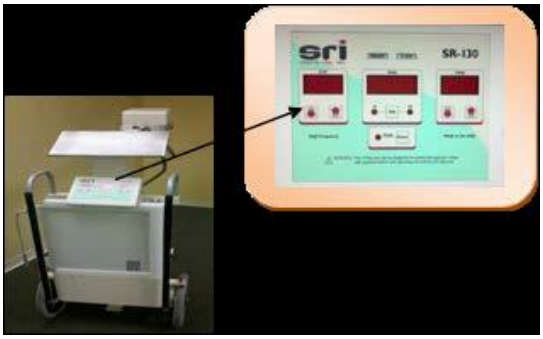
1.6 Mobile Hardware Installation

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).

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

3. 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)

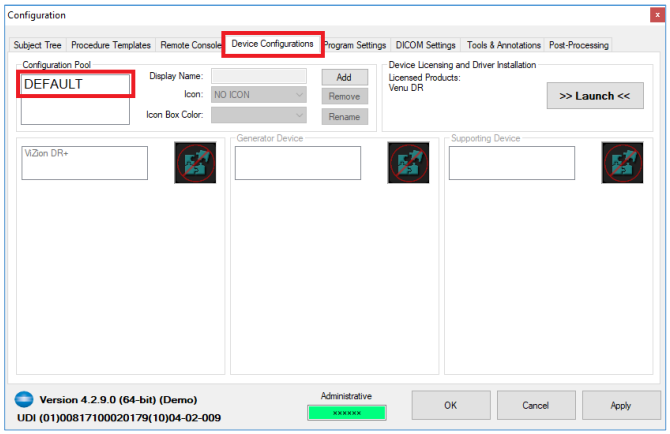
2 ViZion DR+ 1417V2 Wireless Panel Hardware

2.1 Panel Calibration

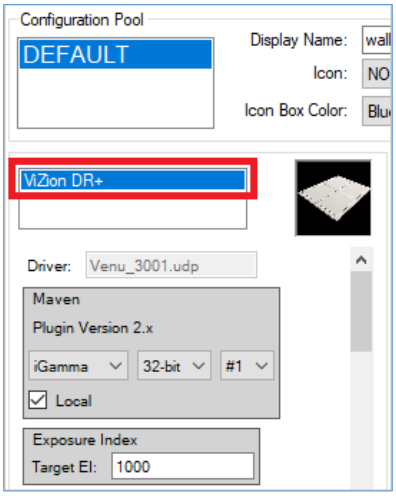
Before performing the following steps, make sure the wireless panel is powered on with a **fully charged battery**, and connected with the supplied **Link cable**.

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

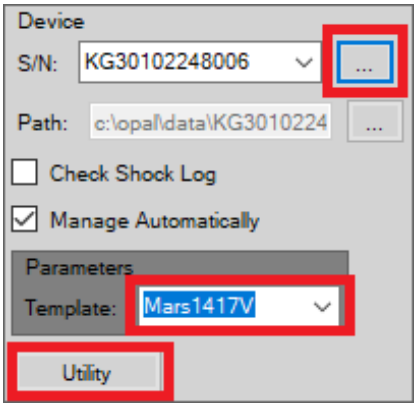
2. Select **Device Configurations** tab.
3. Click to highlight **DEFAULT** under the "Configuration Pool" section.



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



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



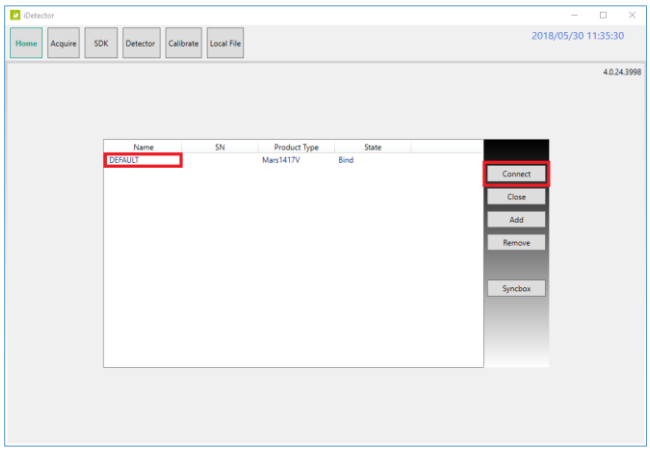
Note: after clicking on Utility, the Maven software will shutdown communication between the panel and the Ultra UAI software, and close maven, and then iDetector software will launch automatically as a popup window.

2.2 iDetector Interface

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

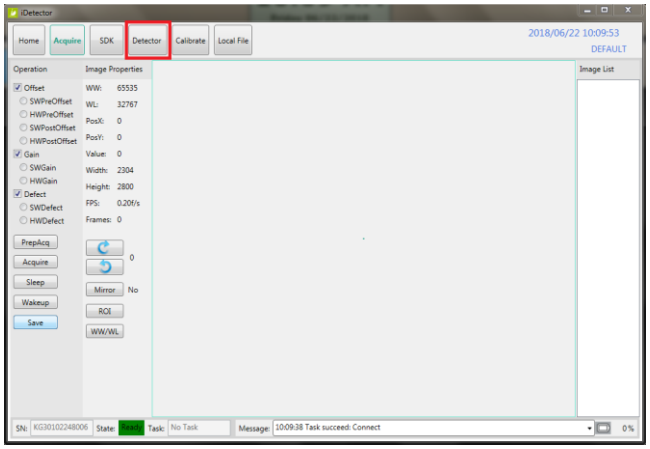
2.2.1 Connecting into the Panel from iDetector

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



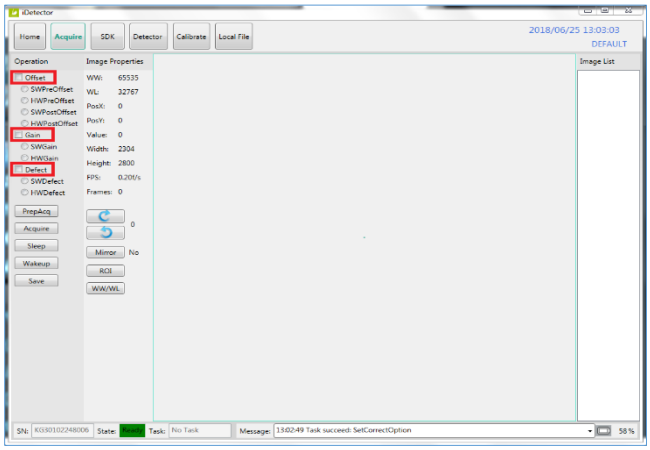
Warning: before exiting iDetector, **DO NOT CLICK THE RED X** in the top right corner, without first going to **Home** tab, click **Close**, then click the **X** and select **Override Config**.

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



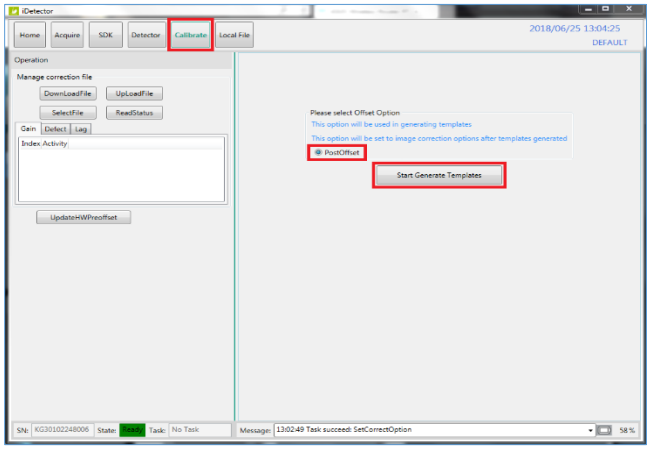
2.2.2 Panel Calibration Setup

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



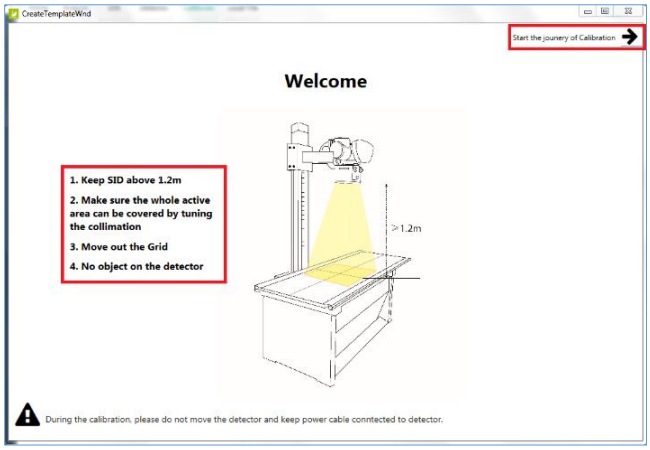
Note: during the calibration, please do not move the detector once calibration has been started and keep Link cable connected to the detector.

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

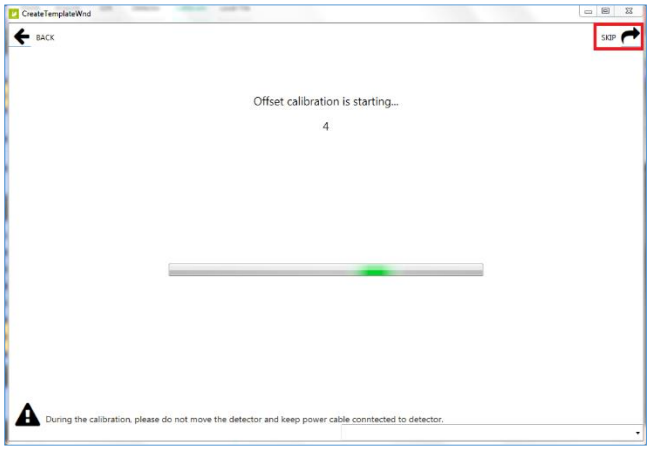


The Calibration wizard will open into a new window, presenting the **Welcome** screen.

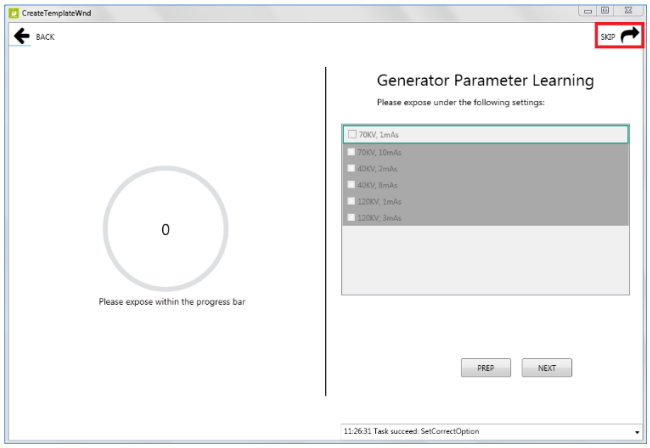
3. Set X-ray environment:
   - **Tube SID** = 50” or higher (at least greater than 47”).
   - **No Collimation** = open collimator blades at least 1” past the edges of the panel on all sides.
   - **No Grid** = remove any grid or pressure grid cover.
   - **No Objects** = remove any objects from the 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.



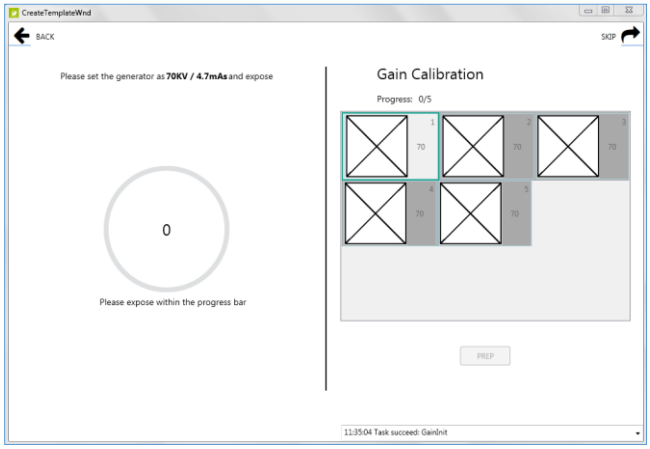
6. Click **Skip**, in the top right corner, at the **Generator Parameter Learning** screen



2.2.3 Panel Gain Calibration

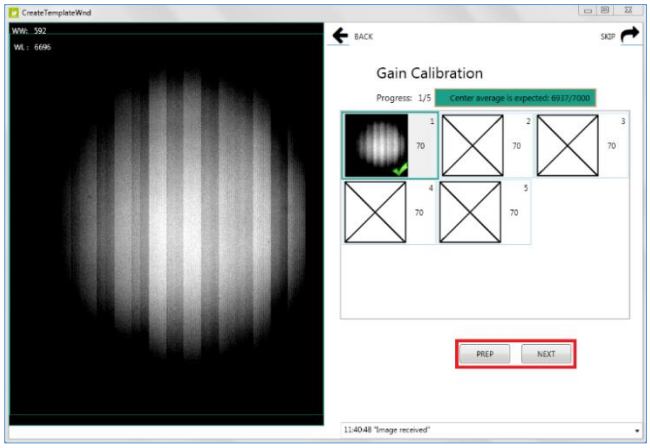
Note: the Gain Calibration screen requires 5 exposures. The left-hand side of the screen tells you the suggested kV and mAs to use for the current exposure. The right-hand side of the screen is divided into 5 blank gain exposure frame icons. Each exposure frame is numbered sequentially, with the kV to 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.

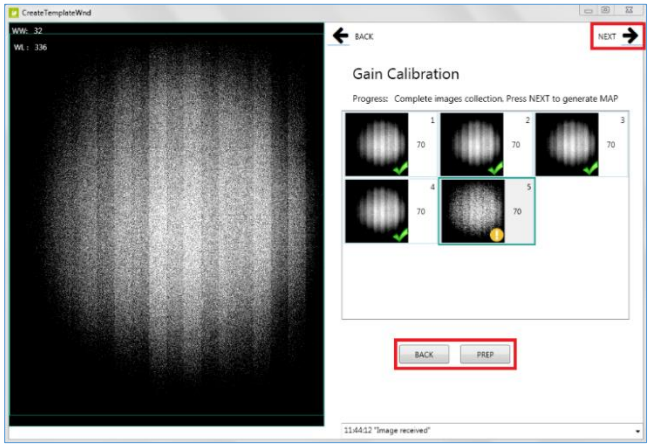


Note: after taking an exposure, the current gain exposure frame will still be surrounded in green. It will either have a green checkmark, if it was successful, or a yellow exclamation point, if not within 100 +/- of the expected center average of 7000.

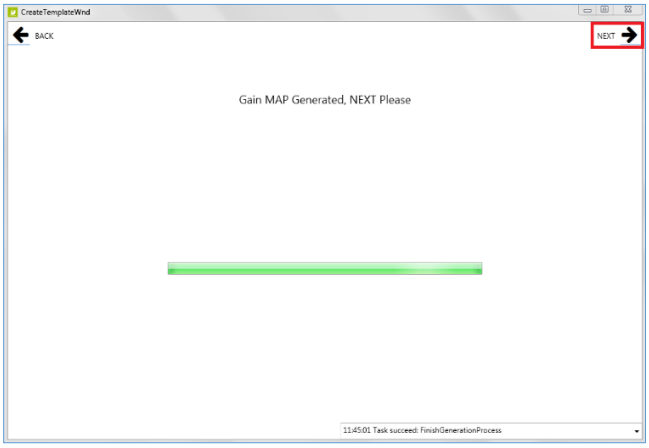
2. If the exposure was NOT acceptable (yellow status), adjust mAs up or down, click **Prep**, and take another exposure.
3. If the exposure was acceptable (green status), click **Next** to move to the next gain frame.



4. 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.



Note: Click **Next** in the top right corner, and proceed to **Section 2.2.4** for **Panel Defect Calibration**, **ONLY 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.

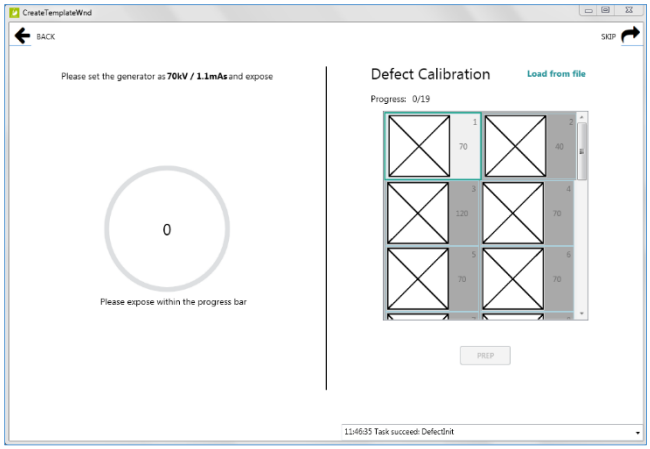
2.2.4 Panel Defect Calibration (Optional)

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.

1. 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.

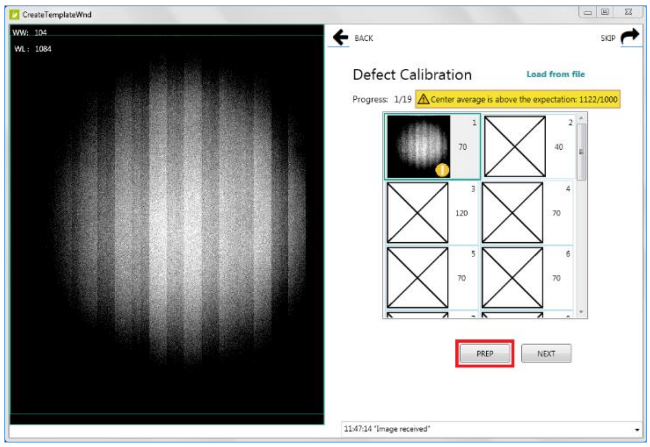
> **Note**: the Defect Calibration screen requires 19 exposures. The left-hand side of the screen tells you the suggested kV and mAs to use for the current exposure. The right-hand side of the screen is divided into 19 blank defect exposure frame icons. Each exposure frame is numbered sequentially, with 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.

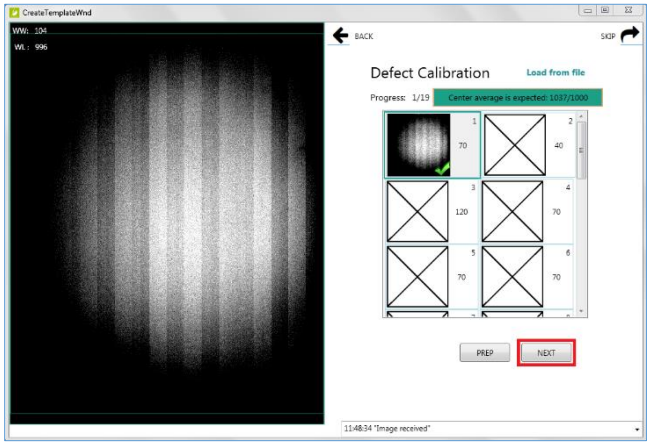


> **Note**: after taking the first exposure, the current defect exposure frame will still be surrounded in green. It will either have a green checkmark, if it was successful, or a yellow exclamation point, if it was not within 100 +/- of the expected center average of 1000.

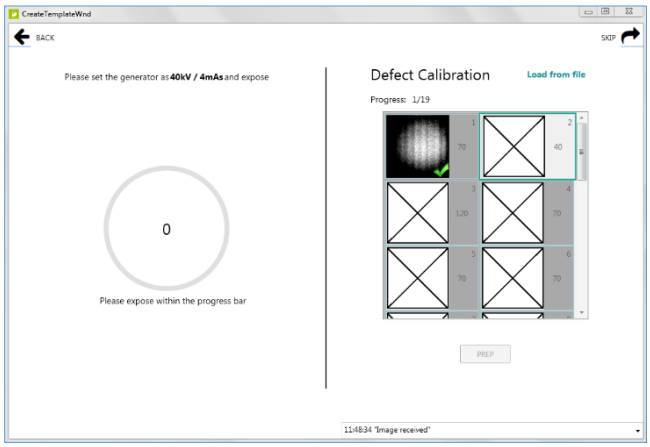
3. If the exposure was NOT acceptable (yellow status), adjust mAs up or down, click **Prep**, and take another exposure.



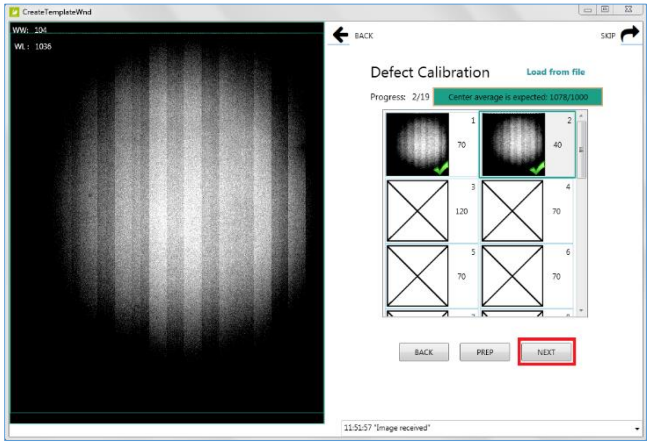
4. If the exposure was acceptable (green status), click **Next** to move to the next frame.



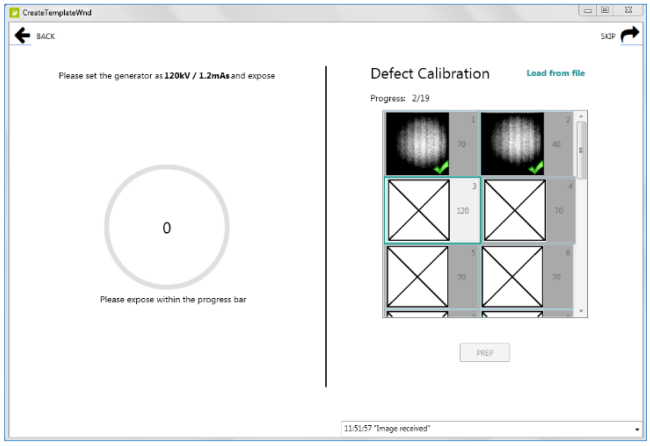
5. Set your techniques to **40kV / 4mAs** and take your **second** exposure.



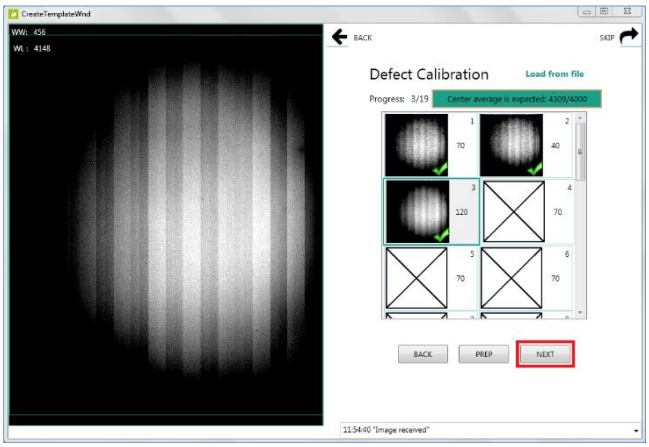
6. If the exposure was acceptable, click **Next** to move to the next frame.



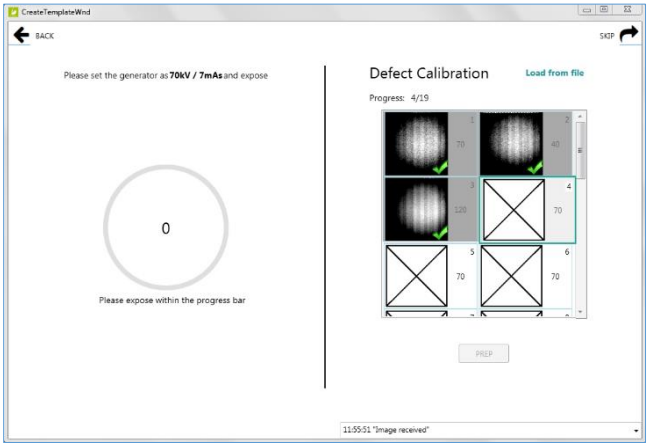
7. Set your techniques to **120kV / 1.2mAs** and take your **third** exposure.



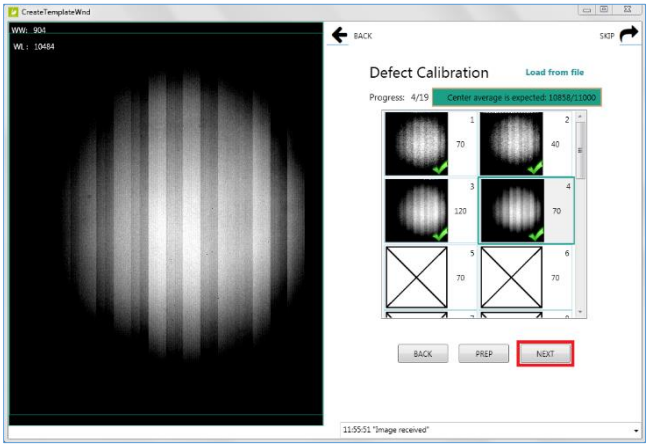
8. If the exposure was acceptable, click **Next** to move to the next frame.



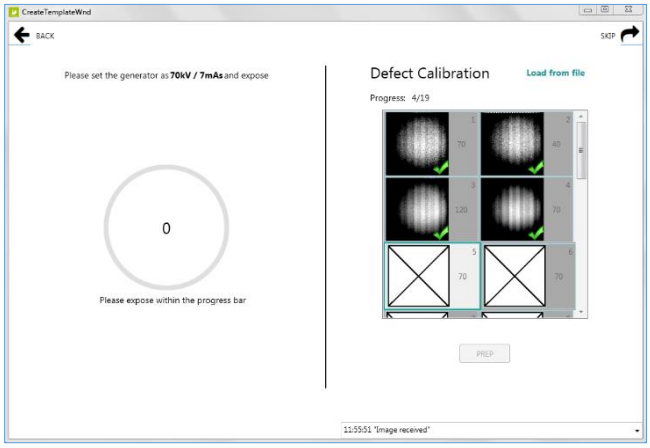
9. Set your techniques to **70kV / 7mAs** and take your **fourth** exposure.



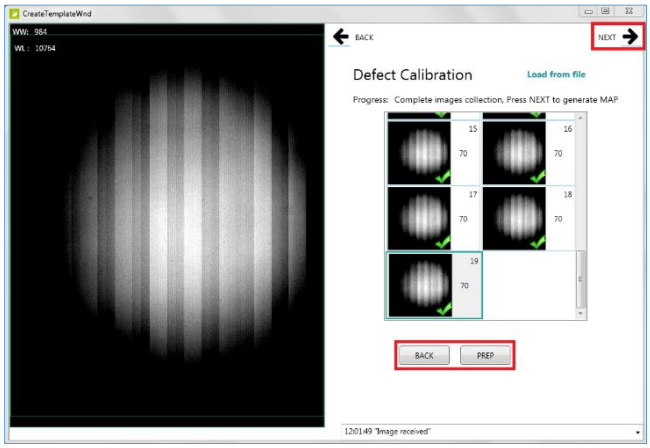
10. If the exposure was acceptable, click **Next** to move to the next frame.



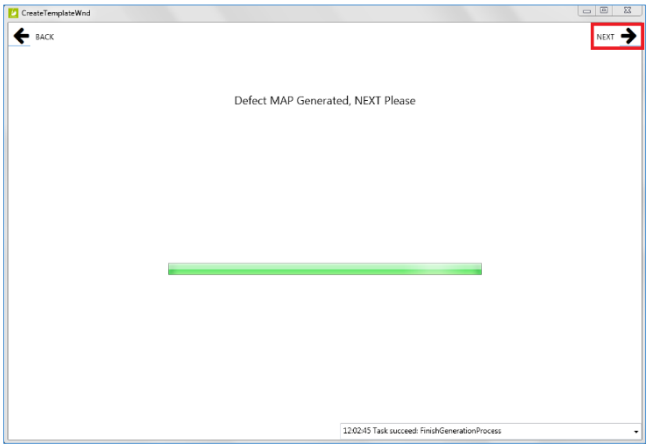
11. Continue to take exposures with techniques set to **70kV / 7mAs** for the remaining frames (5-19).



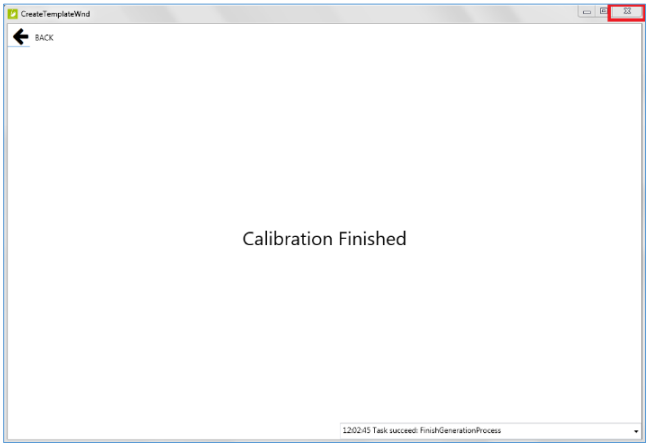
12. After taking all 19 defect exposures, click **Back**, if you want to retake any previous exposures, then click **Prep** and retake the exposure. Otherwise, if you are satisfied with all exposures, click **Next** in the top right corner.



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



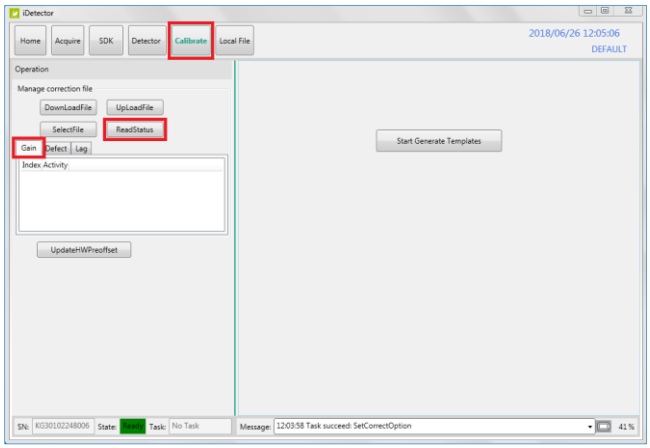
14. Calibration is complete. **Close** the window by clicking **X** in top right corner.



2.2.5 Download the New Gain Calibration File to the Panel

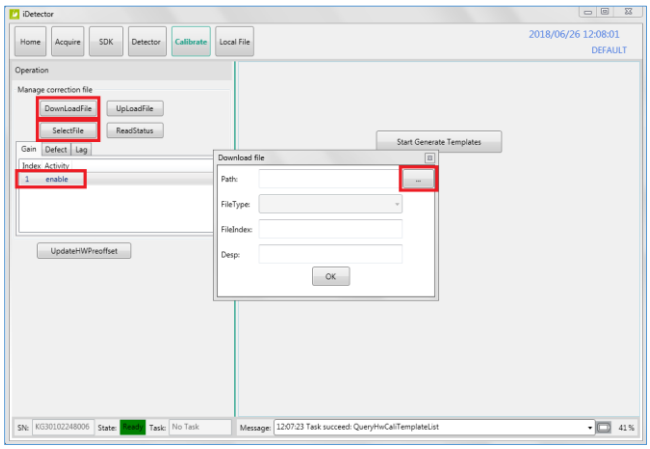
After closing the Calibration window, you will be back where you left off, at the iDetector **Calibrate** tab. Now we need to download the new calibration files to the panel.

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



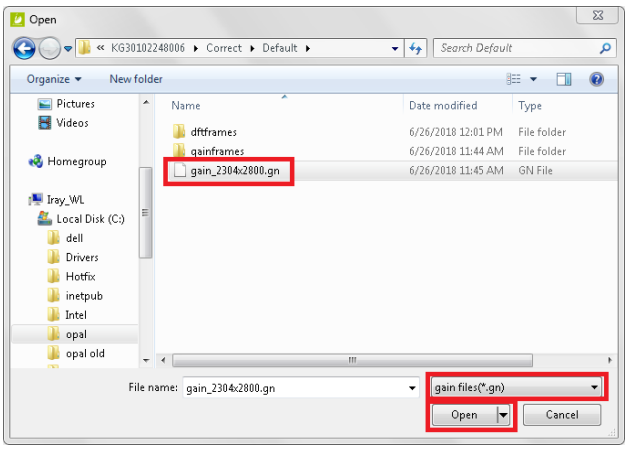
2. Highlight **Index 1**, then click the **SelectFile** button. This will change the Index 1 status to enable.

3. Click **DownloadFile**, and then click **Path** from the popup window.

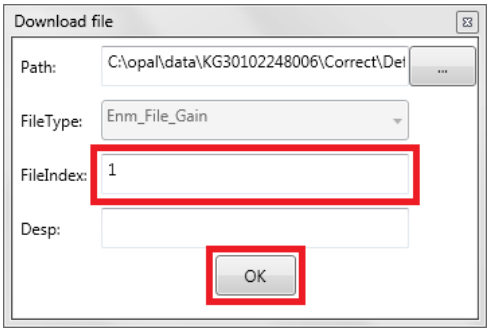


4. Browse to the C:\opal\data\KGxxxxxxxxxx\Correct \Default folder and select the **gain_2304x2800.gn** file and click **Open**.

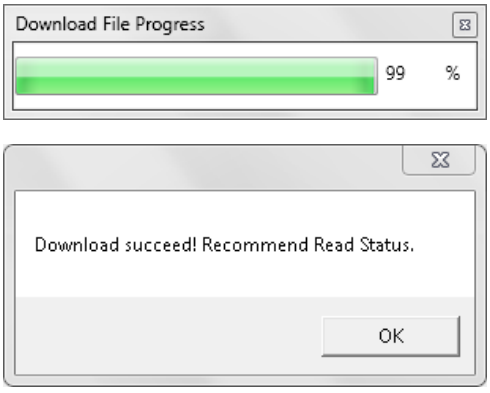
> **Note**: if the gain file does not appear, verify the file type dropdown is set to **gain files(*.gn)**.



5. Type **1** in the **FileIndex** field and then click **OK**.



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

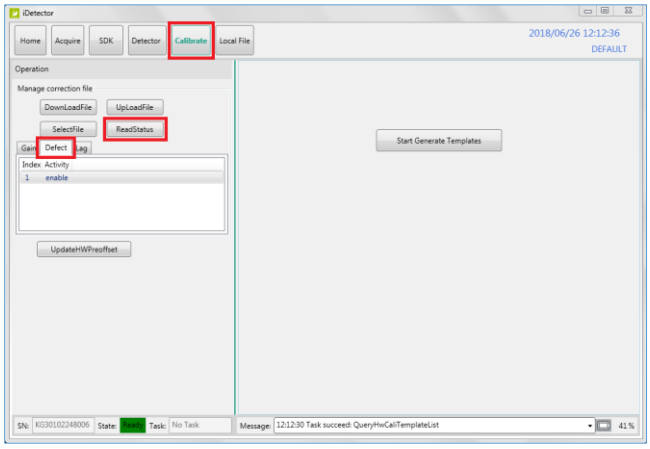


2.2.6 Download the New Defect Calibration File to the Panel

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.

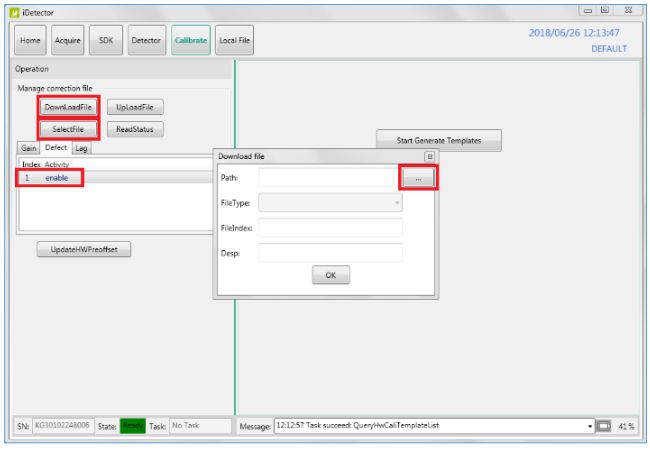
> **Note**: skip to **Section 2.2.7** if you did NOT run the optional defect calibration.

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



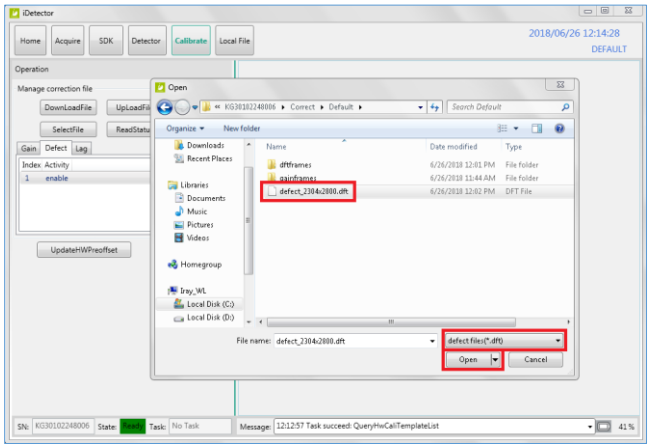
2. Highlight **Index 1**, then click **SelectFile**. This will change the Index 1 status to enable.

3. Click **DownloadFile**, and then click **Path** from the popup window.

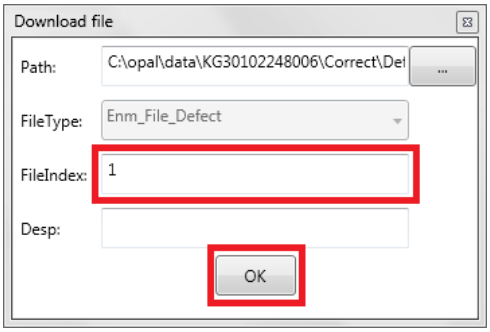


4. Browse to the C:\opal\data\KGxxxxxxxxxx\Correct \Default folder and select the **defect_2304x2800.gn** file. Click **Open**.

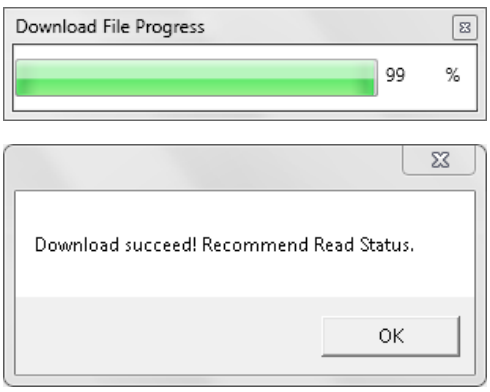
> **Note**: if the defect file does not appear, verify the file type dropdown is set to **defect files(*.dft)**.



5. Type **1** in the **FileIndex** field and then click **OK**.

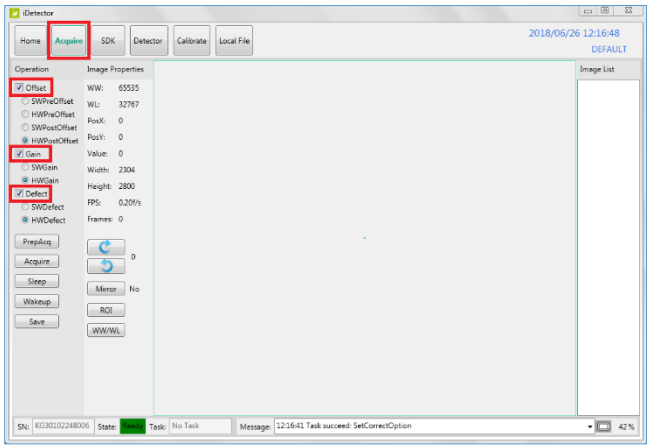


6. After the defect file has been downloaded to the panel. Click **OK**.

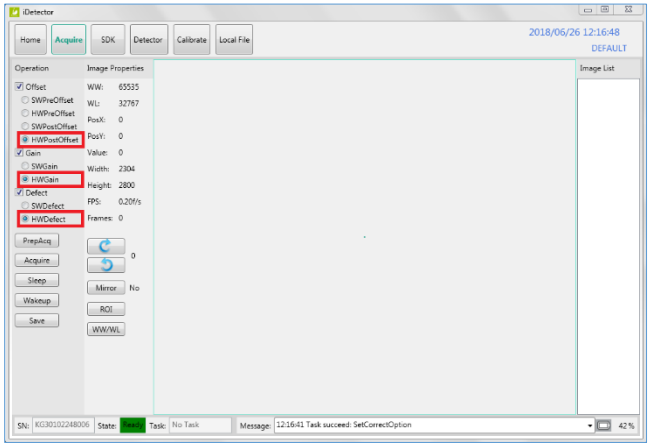


2.2.7 Re-enabling the Calibration Operation Options

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



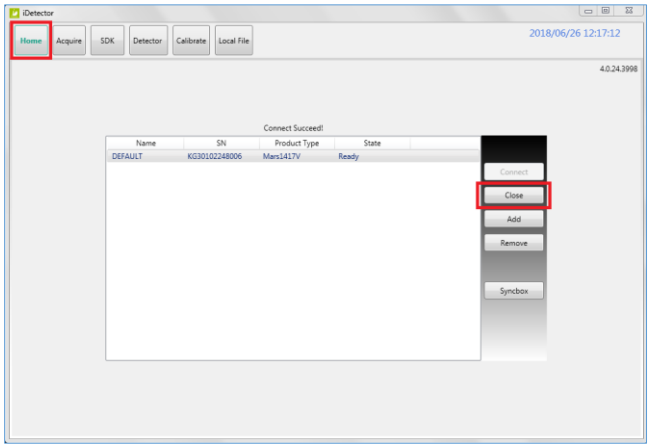
2. Check the radio buttons for **HWPostOffset**, **HWGain** and **HWDefect**.



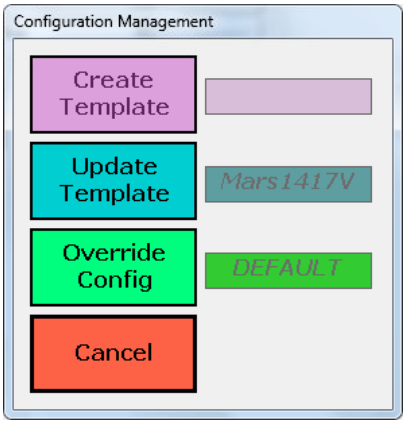
2.2.8 Closing iDetector

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**.



2. Select **Override Config**.



3. 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.