

iRay Wireless 1417CK Configuration and Calibration Guide

A. Connecting the panel for the first time

1. Turn panel over **Figure 1**
2. Insert a fully charged battery into the panel **Figure 2**
3. Slide battery into position
4. Slide the two battery lock latches into lock position **Figure 3**
5. Connect the Backup cable from the panel to the acquire PC's network port **Figure 4**
6. Power on the detector, by pressing the green power button on the side of the panel and holding it for 6 seconds and releasing **Figure 5**
7. Use IP address 192.168.8.188, to configure the network adapter that was used in **Step b**, to connect the panel to the acquire station. **Figure 6**

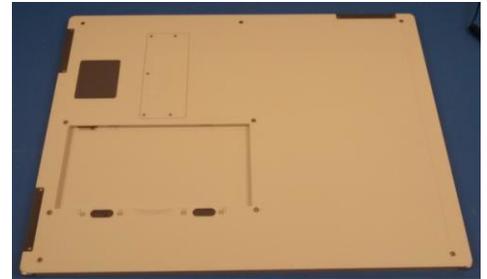


Figure 1



Figure 3



Figure 2



Figure 5



Figure 4

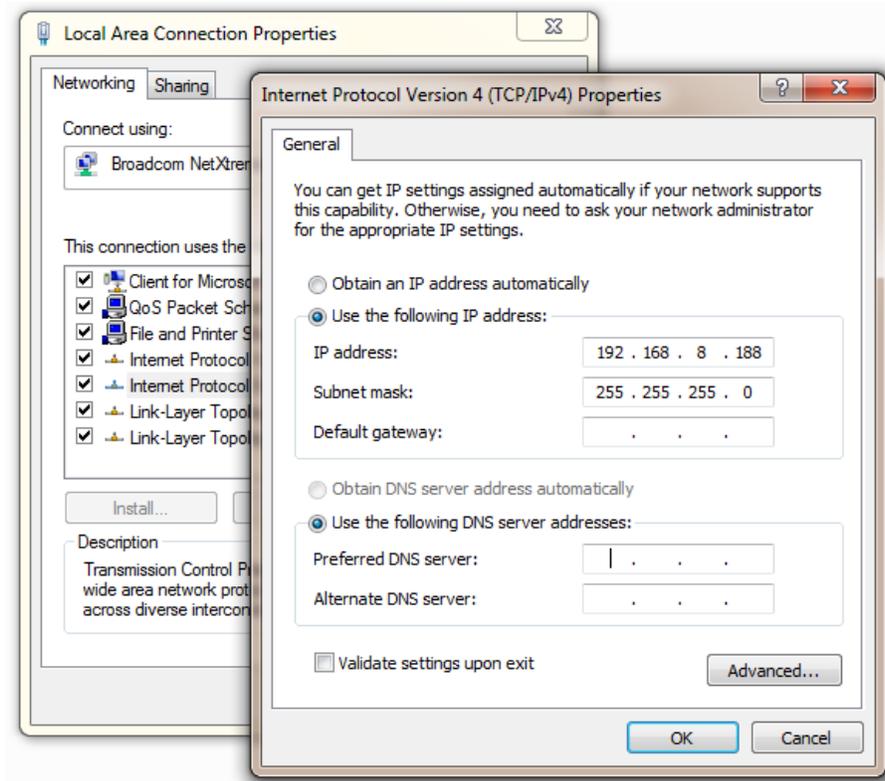


Figure 6

B. Launch IDemo

- a. This is located within c:\Opal\Bin\Idemo or C:\Idemo\. If not found in those locations please consult with a Viztek DR technician to download the software Idemo 3.0.0.10.
 - b. Select *Start* **Figure 8**
 - c. Left click *Connect* **Figure 7**
 - d. Familiarize yourself with the status messages. **Figure 9**
1. The right side control panel, near the bottom, displays software status.
 2. The bottom middle displays panel hardware status.
 - e. Click config button on the right hand side, to view and change settings for the panel. **Figure 9**

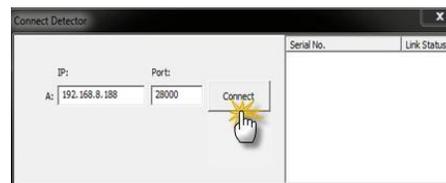


Figure 7



Figure 8

C. Recommended Basic Configuration for all sites **Figure 10**

- Trigger mode: Select *Inner*
- Acquire Delay: Set to 0 (zero)
- Exposure (Exp) Window: Set to 30000
- Left Click *Write (Rom)* button on the right hand side, to permanently store these configurations into the panel.
- Please take note of the panel serial number in field "SN:"

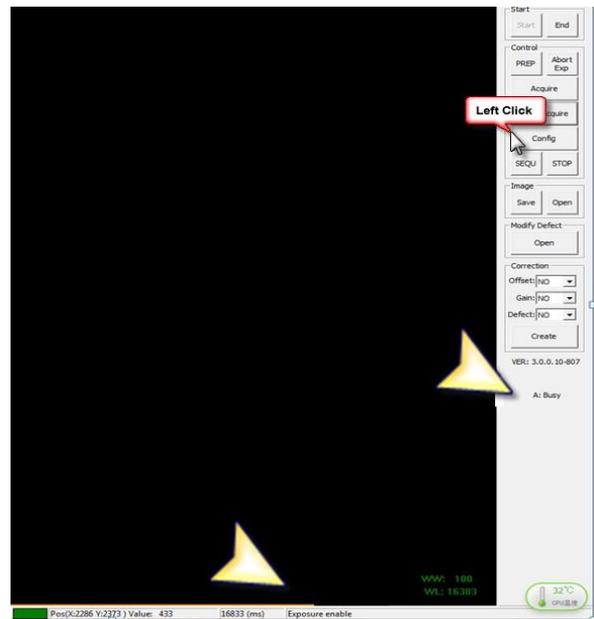


Figure 9

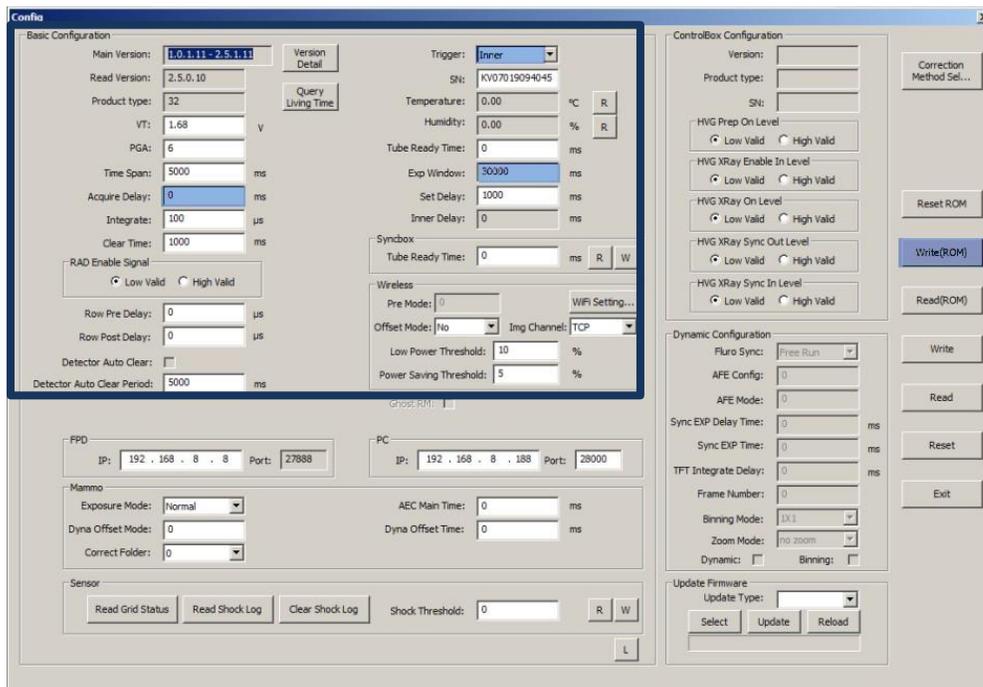


Figure 10

D. Communication Configuration and Options

1. Backup Modes

- a. The backup cable connects from the acquire PC's ethernet port to the 1417CK detector directly.
- b. The backup cable connects from the 1417CK detector to the access point. The acquire PC is then connected to that same access point via a wired Ethernet cable or Wi-Fi.

Software configuration in backup mode

1. Verify the wired network adapter connecting to the external access point via an Ethernet cable - has the statically assigned ip address of 192.168.8.188.
2. Launch Opal or IDemo to use the 1417CK.

2. Wired modes

- a. In the Full wired mode, the backup cable connects from the 1417CK detector to the access point. The Acquire PC is then connected to the same access point via an Ethernet cable.

Software configuration in full wired mode

1. Verify the wired network adapter connecting to the external access point via an Ethernet cable - has the statically assigned ip address of 192.168.8.188.
2. Launch Opal or IDemo to use the 1417CK.

- b. In the Half wired / Half wireless mode 1 the backup cable connects from the 1417CK detector to the access point. The Acquire PC is then connected to the same access point using a Wi-Fi adapter.

Software configuration in Half wired/ Half wireless mode 1

1. Verify the wireless network adapter connecting to the external access point via Wi-Fi has the statically assigned ip address of 192.168.8.188
2. Use the windows wireless utility to view and connect to the external access point.
3. Launch Opal or IDemo to use the 1417CK.

- c. In the Half wired / Half wireless mode 2 the acquire PC connects to the external access point using an Ethernet cable, and the 1417CK detector panel connects to the same external access point via Wi-Fi.

Software configuration in Half wired/ Half wireless mode 2

1. Verify the wired network adapter connecting to the external access point has a statically assigned ip address of 192.168.8.188.
2. Connect the 1417CK to the access point via the backup cable
3. Launch IDemo
4. Select start
5. Select Connect

6. Select config
7. Click Wi-Fi settings
8. Within the *Client Mode* section **Figure 11**
9. Select the “access point<default>” from the list on the left, if there is not one click “Add”
10. In the “SSID:” field right above the list type the name of the external access point (it is common practice for the external AP to be named “ViZionDREXAP”)
11. Fill in the “Key:” field with the password of the wireless network you intend to connect to (it is common practice for the password of the external access point to be “12345678”)
12. Select the “update” button
13. Select the “Write to Config” Button
14. Close all open windows within IDemo
15. Select “End” button and close IDemo
16. Disconnect the backup cable from the panel and the access point
17. Connect to the panel via IDemo or OpalUAI (if unable to connect to the 1417CK repeat steps and review settings)

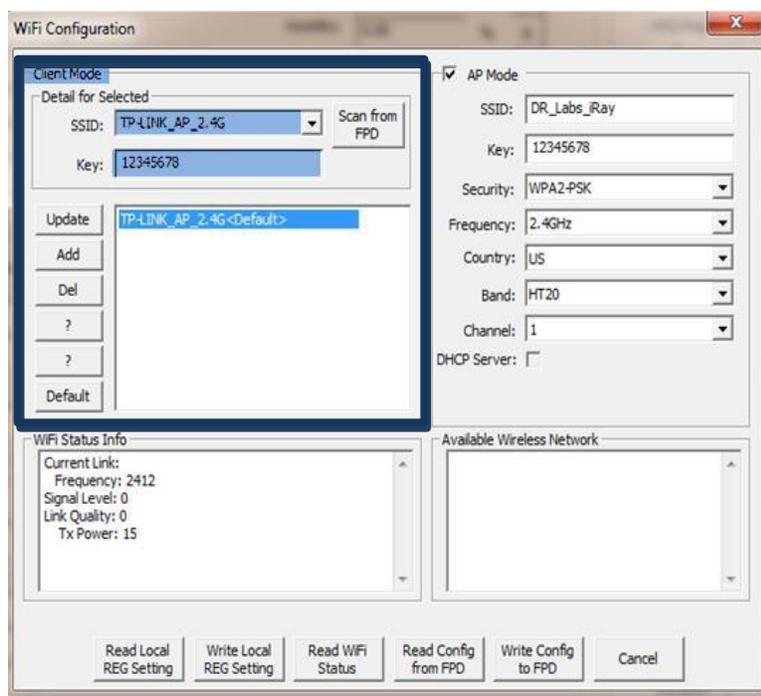


Figure 11

3. Wireless Modes

- a. In the Internal Access point wireless mode the Acquire PC connects to the 1417CK via Wi-Fi using the 1417CK's internal access point and a wireless network adapter in the acquire PC.

Software configuration for internal access point wireless mode

1. Connect the 1417CK to the acquire PC's network port via the backup cable
2. Verify the wired network adapter connecting to the 1417CK has a statically assigned ip address of 192.168.8.188.
3. Launch IDemo > Select start > select Connect
4. Select config
5. Click Wi-Fi settings
6. Place a check box in the "AP mode" **Figure 12**
7. Fill in the SSID field on the right with a unique network name (it is common practice to use the "serial number" in this field)
8. Fill in the key field on the right with a password (it is common practice to use "12345678")
9. Select the Security drop down and select WPA2-PSK
10. Select the frequency drop down and select 5Ghz
11. Select the "Write Config to FPD" button
12. Close all open windows within IDemo
13. Select "End" button and close IDemo
14. Disconnect the backup cable from the 1417CK and the acquire PC
15. Remove the IP address previously assigned to the wired network adapter
16. Assign the ip address 192.168.8.188 to the wireless network adapter
17. Use the windows wireless utility to view and connect to the SSID of the panel
18. Connect to the panel via Opal or IDemo (if unable to see the ssid of the panel or unable to connect to the panel repeat steps and review settings)

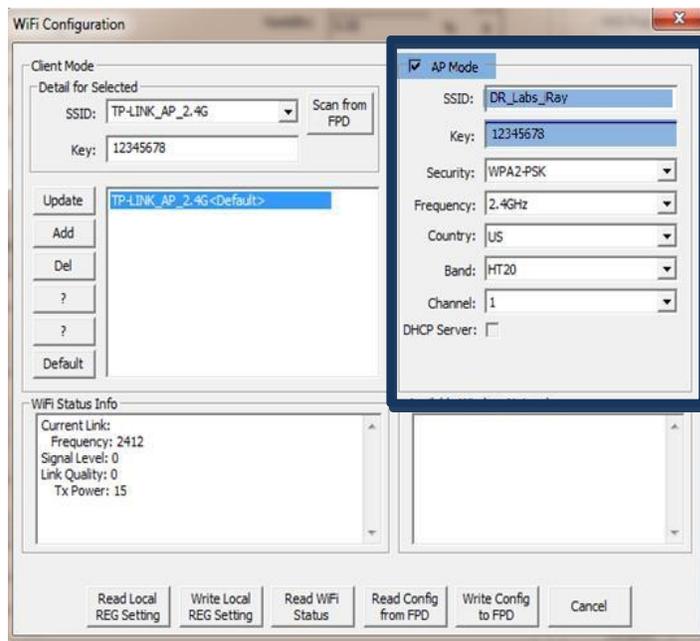


Figure 12

- b. In the External Access point wireless mode the Acquire PC connects to external access point via Wi-Fi using a wireless network adapter, the 1417CK connects to the same external access point via Wi-Fi .

Software configuration for External access point wireless mode

1. Verify the wireless network adapter connecting to the external access point has a statically assigned ip address of 192.168.8.188
2. Use the windows wireless utility to connect to the external access point (it is common practice for the external access point to be name “ViZionDREXAP”)
3. Connect the 1417CK to the access point via the backup cable
4. Launch IDemo > Select start > select Connect
5. Select config > Click Wi-Fi settings **Figure 12**
6. Select the “access point<default>” from the list on the left , if there is not one click “Add”
7. In the “SSID:” field right above the list type the name of the external access point (it is common practice for the external AP to be named “ViZionDREXAP”)
8. Fill in the “Key:” field with the password of the wireless network you intend to connect to (it is common practice for the password of the external access point to be “12345678”)
9. Select the “update” button
10. Select the “Write Config to panel” Button
11. Close all open windows within IDemo
12. Select “End” button and close IDemo

13. Disconnect the backup cable from the panel and the access point
14. Connect to the panel via IDemo or OpalUAI (if unable to connect to the 1417CK repeat steps and review settings)

E. Directory structure

- a. When narrowing down any issues review the Log files - if the error happens in IDemo, the location for the log files are `*\IDemo\res\correct\panel_sn\log\log_date.txt` - if the error happens in Opal the location for the log files are `c:\Opal\data\default\correct\panel_sn\log\log_date.txt`
- b. When reviewing or backing up calibration files – If in IDemo the Calibration location is `*\IDemo\res\correct\panel_sn\0\` - if within Opal the calibration location is `c:\Opal\data\default\correct\panel_sn\0\`

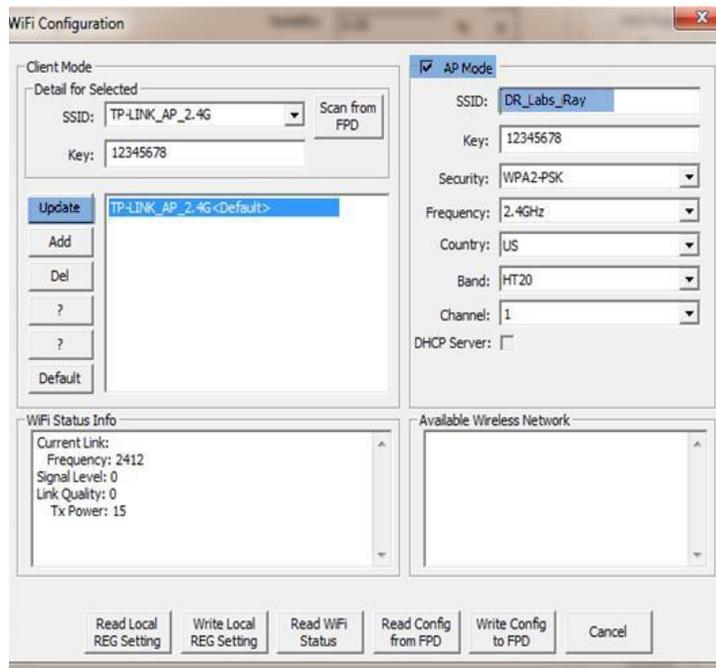


Figure 13

F. Gain Calibration

- I. Set SID 44"
- II. Align panel to tubehead
- III. Open collimator to ensure full panel coverage
- IV. Correction section on right side **Figure 15**
- V. Select **POST** for the **Offset** **Figure 16**
- VI. Click the create button to start the calibration

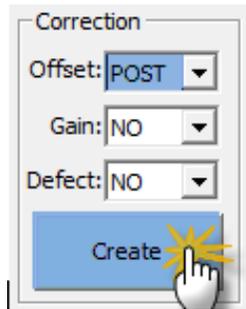


Figure 16

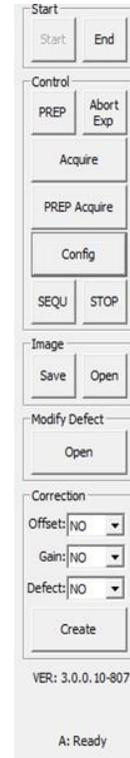


Figure 15

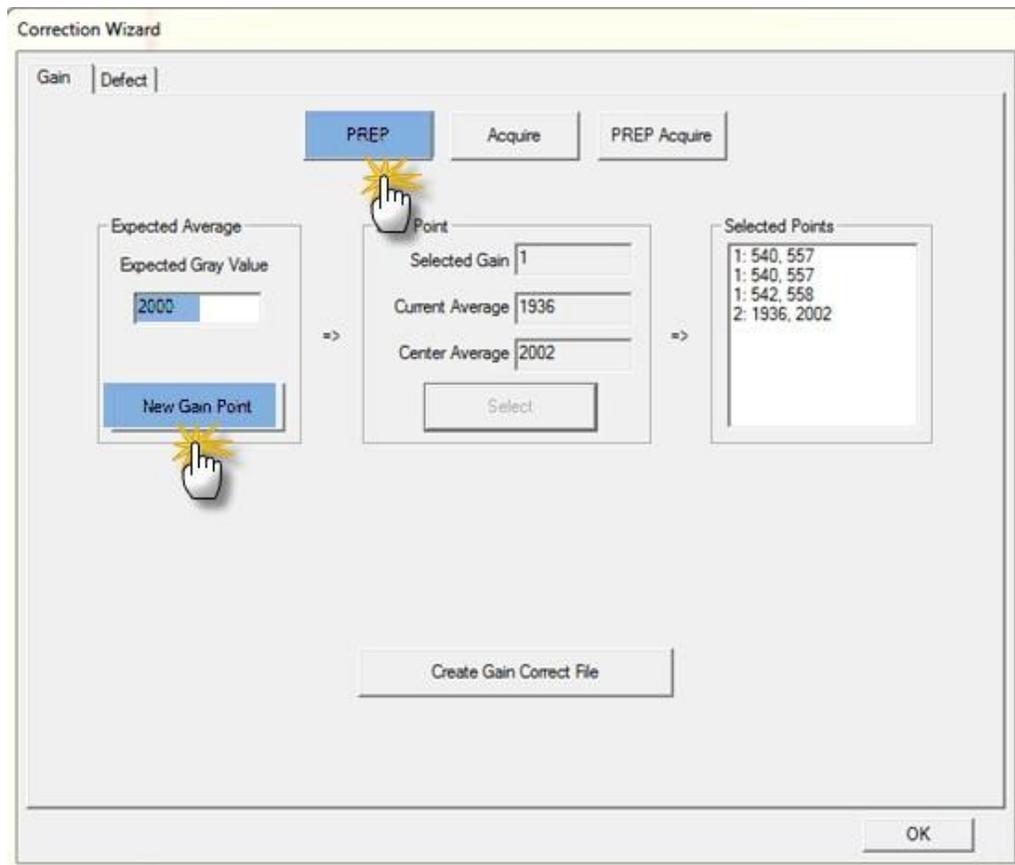


Figure 17

1. **Type 6000** in the expected gray value field.
 - a. Click **New Gain Point**
 - b. Select the **PREP** button within the window
 - c. Once **Exposure enable** displays take an exposure
 - d. Check the **Center average** value it must to be +/- 100 of your expected value of 6000
 - i. **If it is not within the range**
 1. Adjust KV and mAs
 2. Select the **PREP** button again and wait for exposure enable
 3. Take an exposure
 - ii. **If it does land within the range** of +/- 100 of the 6000 gray value
 1. Click the select button
 2. This value will be added to the list on the right side as part of the calibration
 3. *Take a total of three exposures* of the 6000 gray value field.
 4. **Estimated exposure levels:** With an Open Field of View 6000GV Should be ~ 70kv 3 – 6 mAs (with a tolerance of +/- 100GV)
2. Once all exposures have been completed and added to the calibration list
3. Select the Create Gain Correct file.
4. Exit the Gain calibration screen

G. Defect Calibration

1. Select **NO** on **Offset**
2. Defect Map Creation:
 - a. If the manufacturer's cd is available copy defect_Detector_A.dft to the
*\idemo\res\corrections\Panel_SN\0
 - b. If not then Click **Create**
 - i. Then Click the **Defect** Tab on the Correction Wizard screen
 - ii. Select current frame 1 and click start creating (**configure the dose as close to the requested KV as possible and use mAs adjustments to land within the fields, some deviation of KV may be required**)
 - iii. Click **PREP**
 - iv. When exposure enable is posted on the screen, Take an exposure within 30 seconds; wait for the image to transfer to the PC
 - v. After the exposure, review the center AVG value in the text box to verify it is +/- 100 of the intended gray value. (If the expected value is displayed, continue to step 8 – if the expected value is not displayed, select the frame you just exposed, adjust your dose (up if you were to low, down if you were to high), and select start creating, make an exposure)
 - vi. Select the next highest number in the dropdown
 - vii. Select create
 - viii. Select PREP
 - ix. Take another exposure

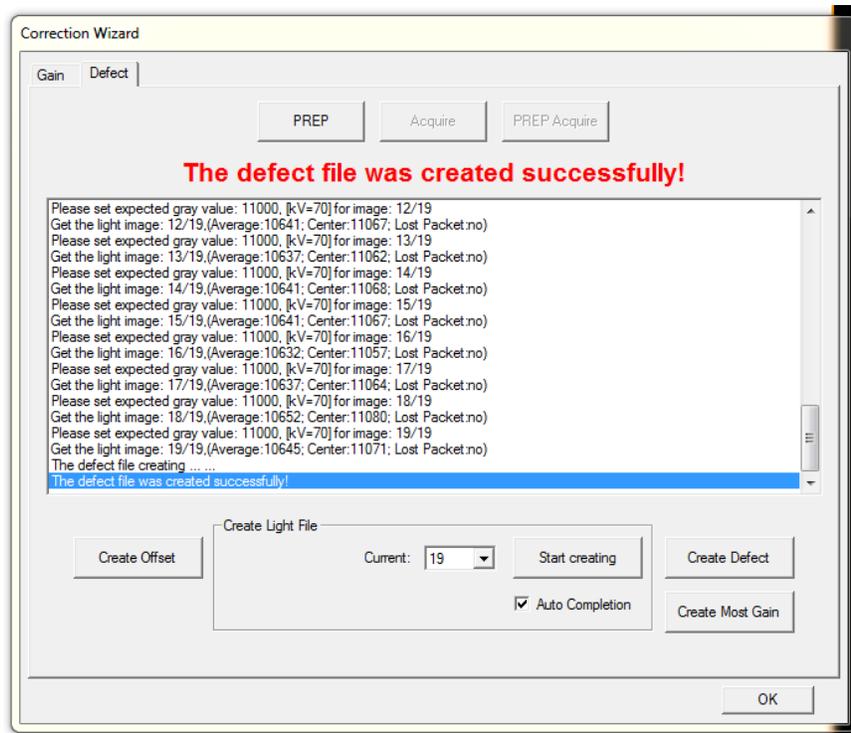


Figure 19

Estimated exposure levels

1000GV ~ 70kv .3mas

1000GV ~ 40kv 2.5mas

4000GV ~ 100kv .6mas

~ 19. 11000GV ~ 70kv 5.2mas

- x. Once all 19 images are exposed
- xi. Click Create Defect wait up to 60 seconds for this process to complete.

Moving the calibration and configuring Opal

1. Copy calibration files from *\\Demo\\res\\correct* to c:\Opal\data\default\correct*
2. Launch Opal
3. Select create new study > fill in required fields >select acquire
4. Hold ctrl + shift and click the options button > click **Developer tab** > change the use New Venu Drivers dropdown to True **Figure 21**

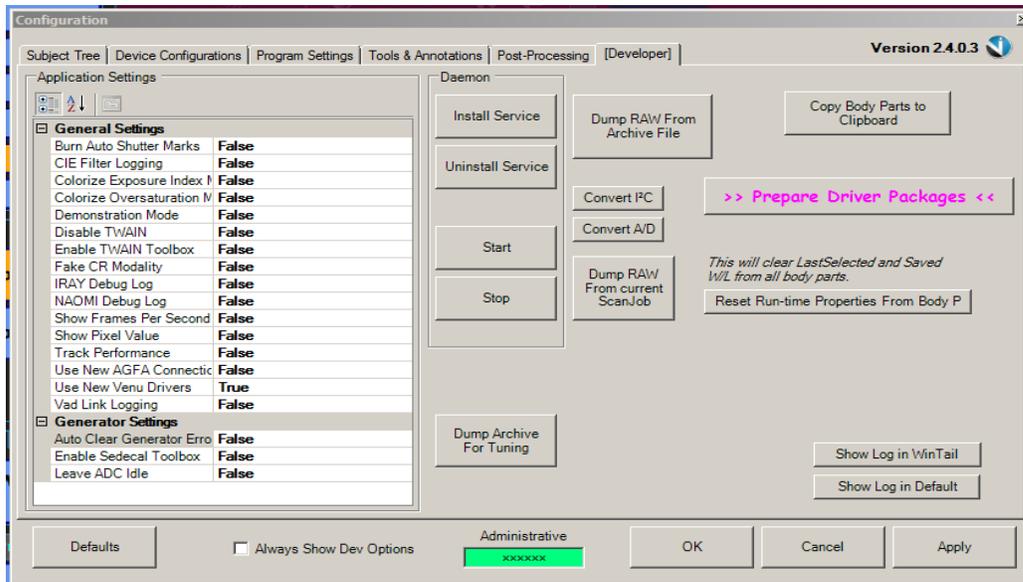


Figure 20

5. Select Apply > OK
6. Exit the study and logoff Opal > Launch Opal > select the previously created study > select add new image
7. To review options and configurations > select options > select Device Configuration Tab
8. X-Ray Synchronization: selecting this drop down posts a menu of 3 possible trigger solutions 1. Passive Mode it is used for non integrated x-ray sources typical exposure window is 30000 msec 2. Hand switch mode this feature is not unlocked yet, but will be used to integrate into the hand switch on generators without a bucky circuit 3. Bucky mode this is used to integrate into a bucky circuit typical exposure window is 1000 msec **Figure 22**
9. Network interface settings are to match the network card settings used to connect to the 1417CK local IP : 192.168.8.188 local port: 28000 (this setting will become important in the future for use with dual 1417Ck detectors)

10. Selecting and enabling the wired adapter will allow Opal to have a persistent Opal managed connection to the panel via the backup cable
11. Selecting and enabling the Wi-Fi Adapter then adding SSID and Key info will allow Opal to have a persistent Opal managed connection to the Panel Via the selected Wi-Fi adapter
12. Once all options are selected and configured return to the Acquire screen and capture some test images.

H. Battery charging station

1. Orient the battery with labels downwards. **Figure 23**
2. Slide battery into the charging station at a slight angle mating the charging connector with the battery connector. While sliding the battery check alignment of the charging connector with the battery connector.
3. Push battery down, there is a locking detent on both side of the charger that locks the battery into place.
4. The battery charger can charge 2 batteries at once; insert the second battery following the same process. **Figure 24**

There is 3 led's that state charge levels of the battery. The first bar flashing shows 0-33%, the second bar flashing shows 33-66%, the third bar flashing shows 66-100%.

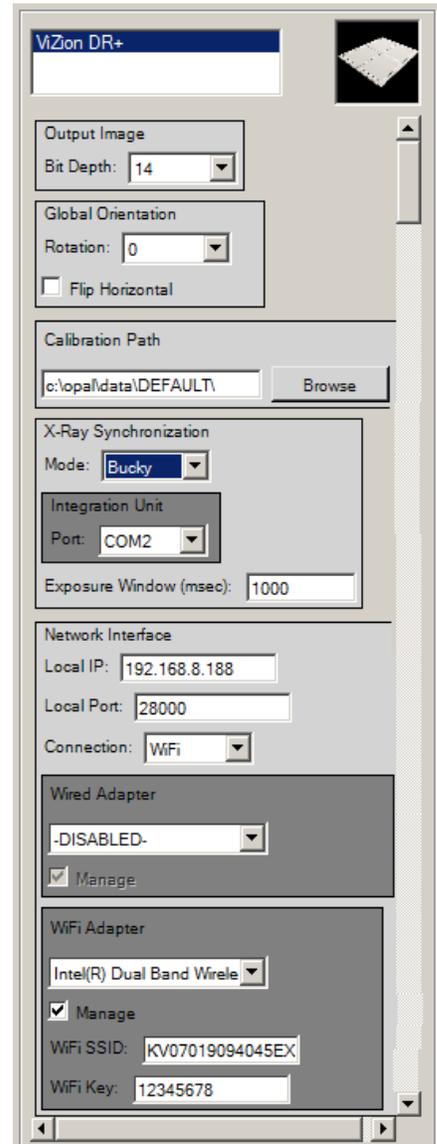


Figure 21

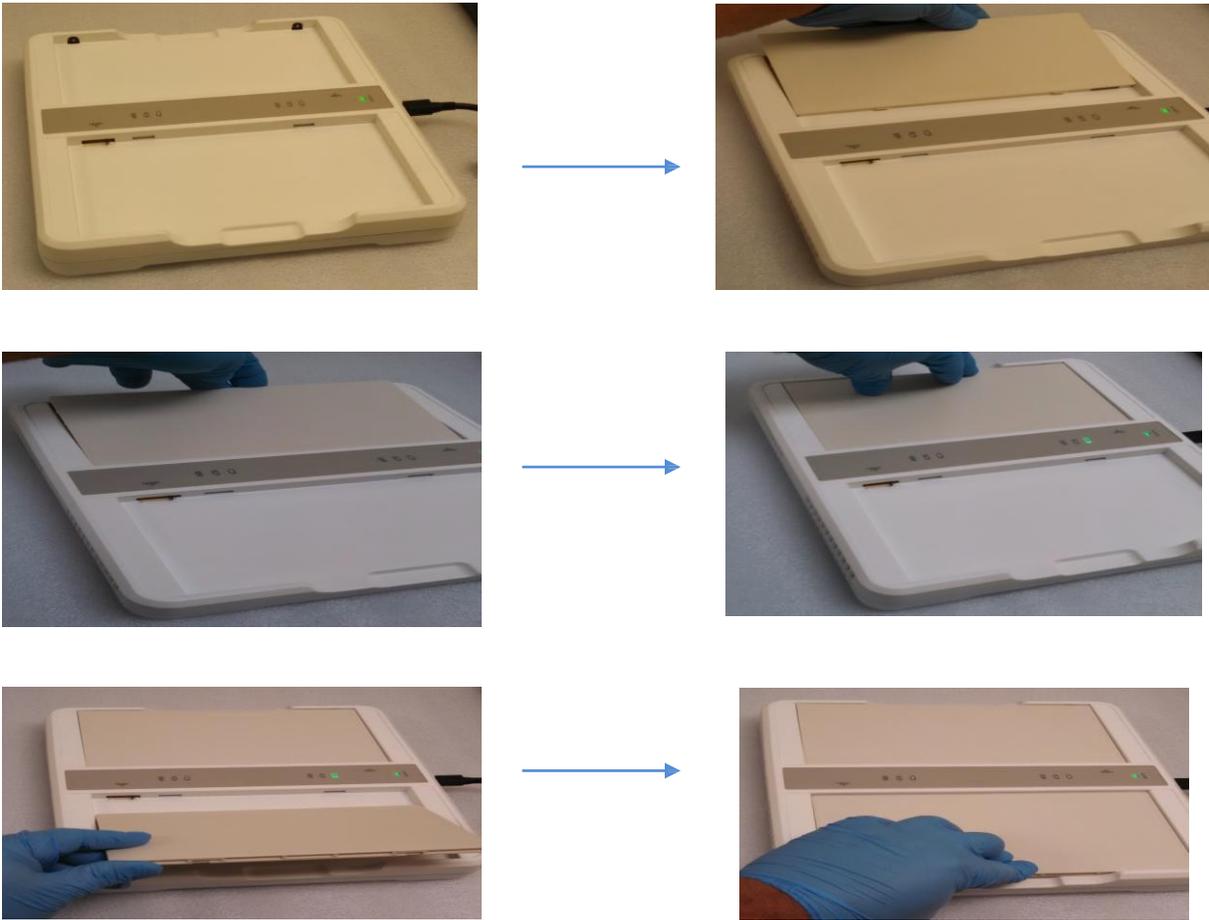


Figure 22



Figure 23