

**INSTALLATION AND OPERATING  
INSTRUCTIONS FOR THE**

**DX-view**

**SOFTWARE**

**Manual Version 6  
December 2016**



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## 1 Update from Previous Version

This manual is version 06. Below is a table explaining the primary updates from the previous version.

Feature	Location	Explanation
<b>Serial Number Field</b>	Device Settings: Configuration tab	There is now a field in the Device Settings page where you can add the device's serial number.
<b>Acknowledge Alarm</b>	Device Settings: Configuration tab	The Acknowledge Alarm feature, when enabled, causes the Rad-DX alarm to "latch" or to stay alarming when a radiation alarm occurs. The device will not stop alarming until the user presses the Acknowledgement popup on the device.  This new feature requires the firmware version 265 be updated on your Rad-DXs.

## 2 Firmware Version

The firmware version for each the DX products are as follows:

- Rad-DX: Version 265
- Mini Rad-DX: Version 113
- DX-link: Version 45

## 3 DX-View Introduction

The DX-View is a PC application used to monitor and configure Mini Rad-DX, Rad-DX and other DX enabled radiation detectors. The DX-View software is also used to view and download data from one or more Rad-DX radiation detectors. Using this software, you can set radiation alarm levels, view a real-time graph, download historical data and more.

### 3.1 Products Supported

This manual supports version 491 of the DX-View software. It also supports configuration and communication with the Rad-DX radiation detector, the Mini Rad-DX handheld PRD, the DX-Link USB radio transmitter, and the Rad-DXG portal monitor.

### 3.2 Username and Password Credentials

In Section 4 you will be directed to our website to register and download the DX-View software. You will not be assigned a Customer ID. You will need to determine your own appropriate Username, Password, and Customer ID. Please record your Username, Password, and Customer ID. For security reasons we do not have the ability to restore or recall your Password if it is lost.

If for some reason your Password is lost, you will have to create a new account which includes resetting all DX units to their factory default settings and reconfiguring them.

## 4 DX-View Installation

The DX-View software is available for download. To download the software, please follow the steps outlined below.

1. Go to the website: <https://dx.dtectsystems.com/web/registerScreen.html>
2. Complete the DX Account registration form. Be sure to check the Download DX-View checkbox before clicking Submit.



**Figure 1: DX-View and DX-Dashboard Registration Page**

3. A confirmation email with a link to download the DX-View software will be sent to the specified email address.
4. Install DX-View. Several installation windows will appear that will require you to click Next, Install, and Finish. You will also be required to accept the Software License Agreement.

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- The installer will place the DX-View icon on your desktop. Click the icon to launch the DX-View. Alternately you can navigate to the software by clicking through the Start menu: Start > All Programs > D-tect Systems > DX-View.



Figure 2: DX-View Desktop Icon

## 5 Configuration

### 5.1 Home Screen

The Home screen is the first screen displayed when DX-View is opened. The Home screen can show a map or a blueprint. It can also save and display the location of your devices.

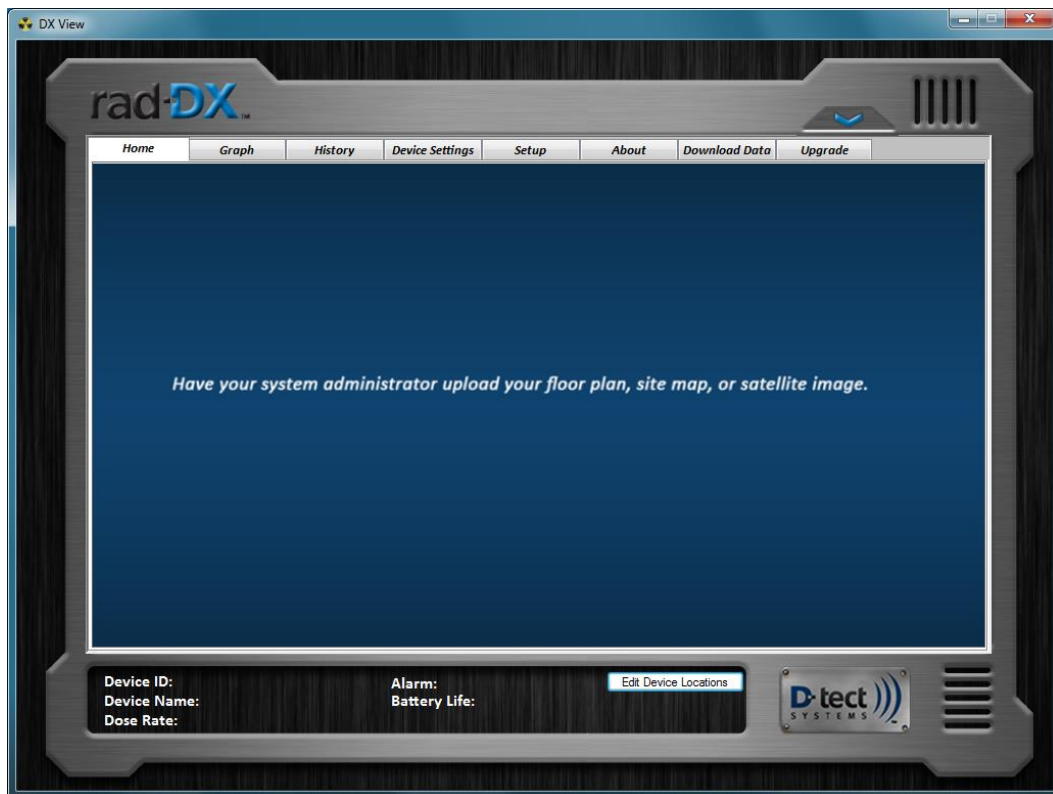
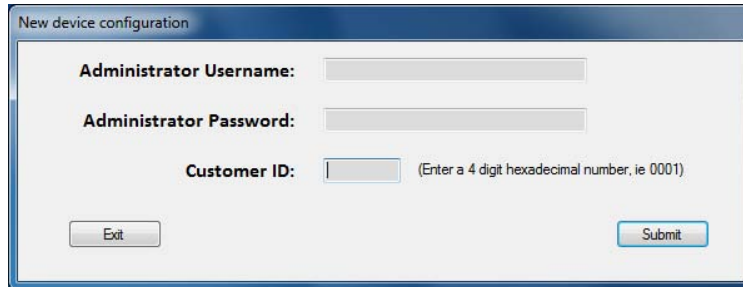


Figure 3: DX-View Home Screen

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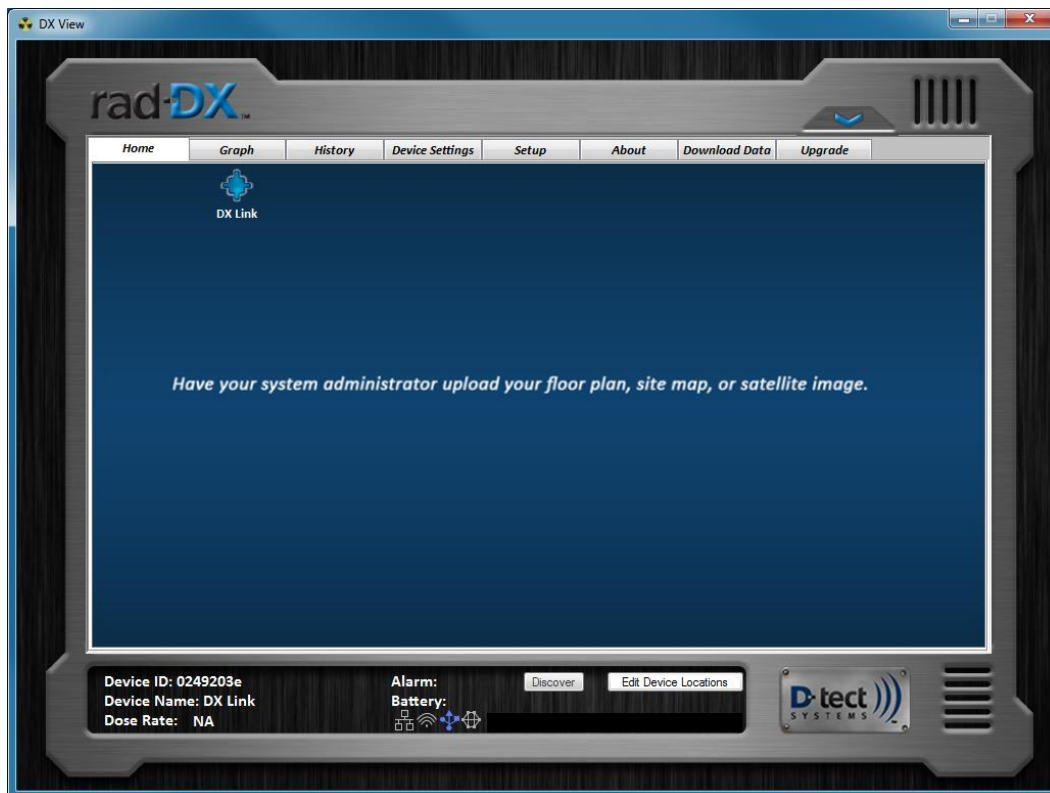
### 5.1.1 DX-View Initial Setup

1. Turn on device. Once the device has powered up, connect it to your computer via the USB cable. If using a DX-Link USB radio transmitter, plug the transmitter directly into the USB port on your computer.
2. After a few moments, the “New device configuration” popup window will appear. You are now creating a secure network for your devices. Please record the username and password. If the username or password is lost, the network will have to be recreated.



**Figure 4: New Device Configuration Window**

3. After entering the login credentials, an icon corresponding with the device type will appear on the Home screen.



**Figure 5: DX-View Home Screen with One DX-Link Icon**

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4. When any of the icons on the Home screen are clicked, the bottom window will be populated with attributes specific to the selected detector such as Device ID, Device Name, Dose Rate, Alarm Level, and Battery Life (if applicable).

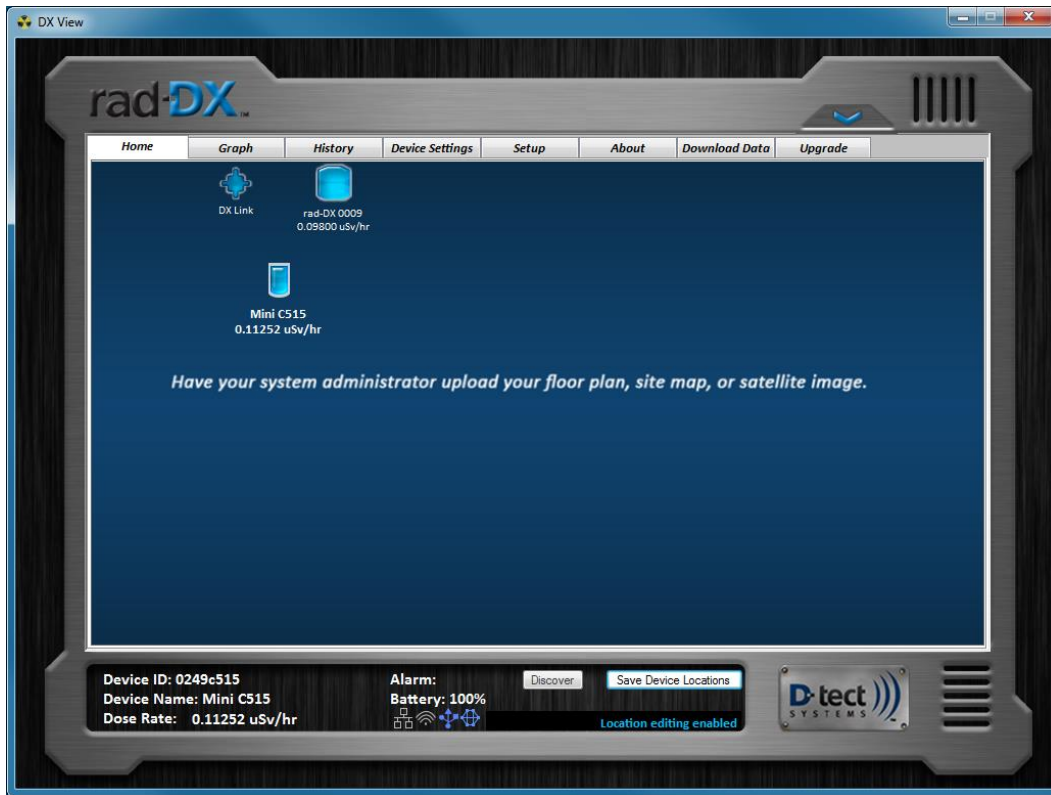
### 5.1.2 Adding Devices to the Network

Once a network has been created with DX-View, additional devices can easily be added in two ways:

- Use the USB cable to connect the devices to your PC one at a time.
- Select the Discover button to add multiple devices at the same time that are turned on but not yet configured.

### 5.1.3 Device Location

The device icons are locked in place by default. To move them click the “Edit Device Locations” button, then click and drag them to any desired location. When you are done, click the “Save Device Locations” button.



**Figure 6: Device Location**

**Note:** You will need to click on a device icon on the Home screen before you can view the Graph, History, Device Settings, Download Data, and Upgrade tabs.

## 5.2 Device Settings Screen

You can set or change specific device settings such as device LCD display settings, alarm levels, and communication settings. Click “Submit” to save any of these settings to a device.

Within the Device Settings tab there are 3 tabs—Configuration, Communications, and Firmware Update.

### 5.2.1 Device Settings: Configuration: Rad-DX

The Configuration tab on the Device Settings screen shows a list of items that can be changed on each device. Settings that do not apply to the selected device will be grayed out. You may change the settings for the LCD screen, Device Name, Radiation Unit type, and the time frame of the Graph Window. The Graph Window can be set to 1 minute, 6 minute, or 30 minute intervals.

**Time Zone:** Select the appropriate time zone by clicking on the Time Zone drop-down box, then selecting the correct time zone. Select daylight savings time if necessary.

**Radiation Alarm:** View or edit the four levels of radiation activity that will trigger an alarm. Select  $\mu\text{Sv/hr}$  or  $\text{mRem/hr}$  to ensure that the units correspond with the alarm levels.

**Background Filter Time:** Set the background radiation level averaging time by clicking on the drop-down box and selecting a different level. Changing the Background Filter impacts how often the dose rate changes on the LCD screen. The displayed data changes more slowly and less often if there is a long integration time.

**Rad-DX LCD Display Settings:** Select the viewable screens for a selected Rad-DX in the Rad-DX LCD Display Settings screen. From this screen you can also enable or disable the selected device’s audio alarm and its touch screen functionality.

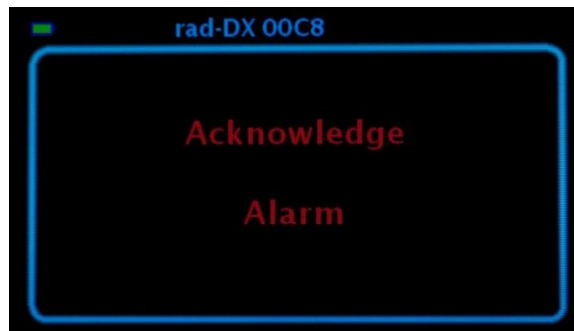


Figure 7: Rad-DX Alarm Screen



**Relay Switch Configuration Section:** The Relay Switch Configuration section is only applicable when the Rad-DX is connected by USB to the 4-Channel USB relay module. The Sensor Failure option initiates a relay based on the failure of the PMT detector inside the device. For more information about the USB relay module, please contact your distributor.

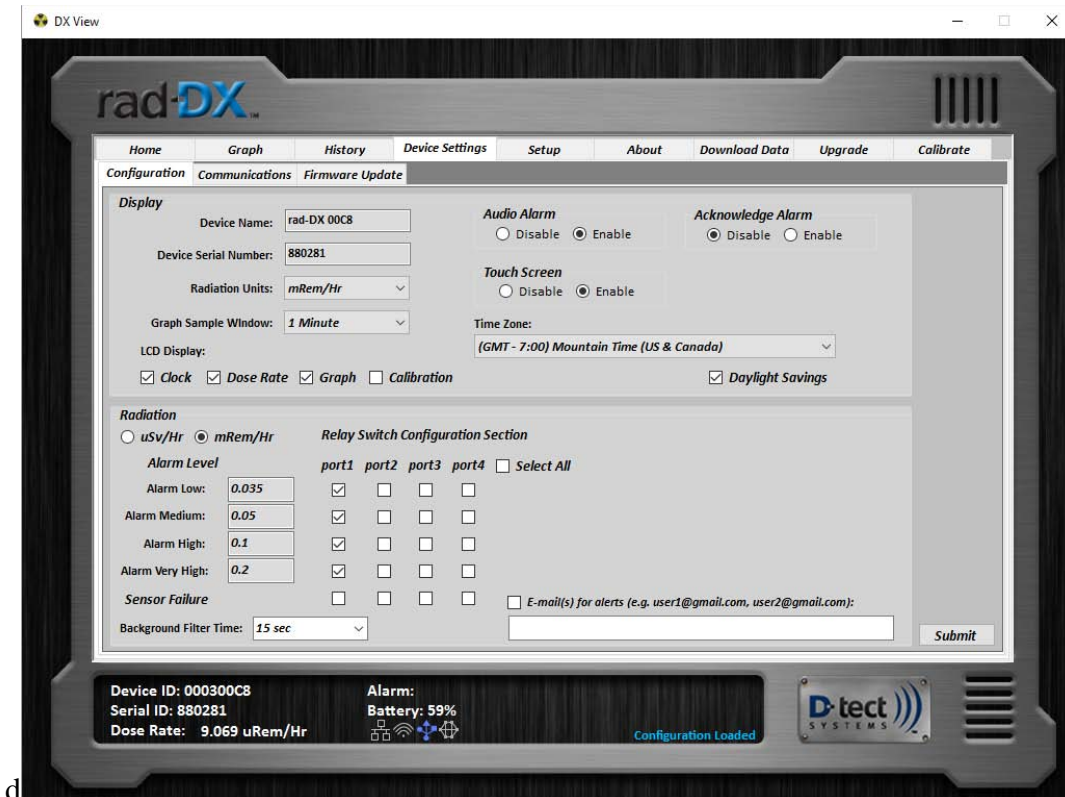


Figure 8: DX-View Device Settings: Configuration Screen

### 5.2.2 Device Settings: Configuration: Mini Rad-DX

**Device Name:** Change the device name in this field.

**Device Serial Number:** Add the serial number of the device in this field.

**Radiation Units:** Change the radiation units from mR/hr to Sv/hr using the drop-down menu.

**Device Configuration Lock:** By clicking the Device Configuration Lock, an administrator can lock the Mini Rad-DX so users cannot change any settings on the device itself.

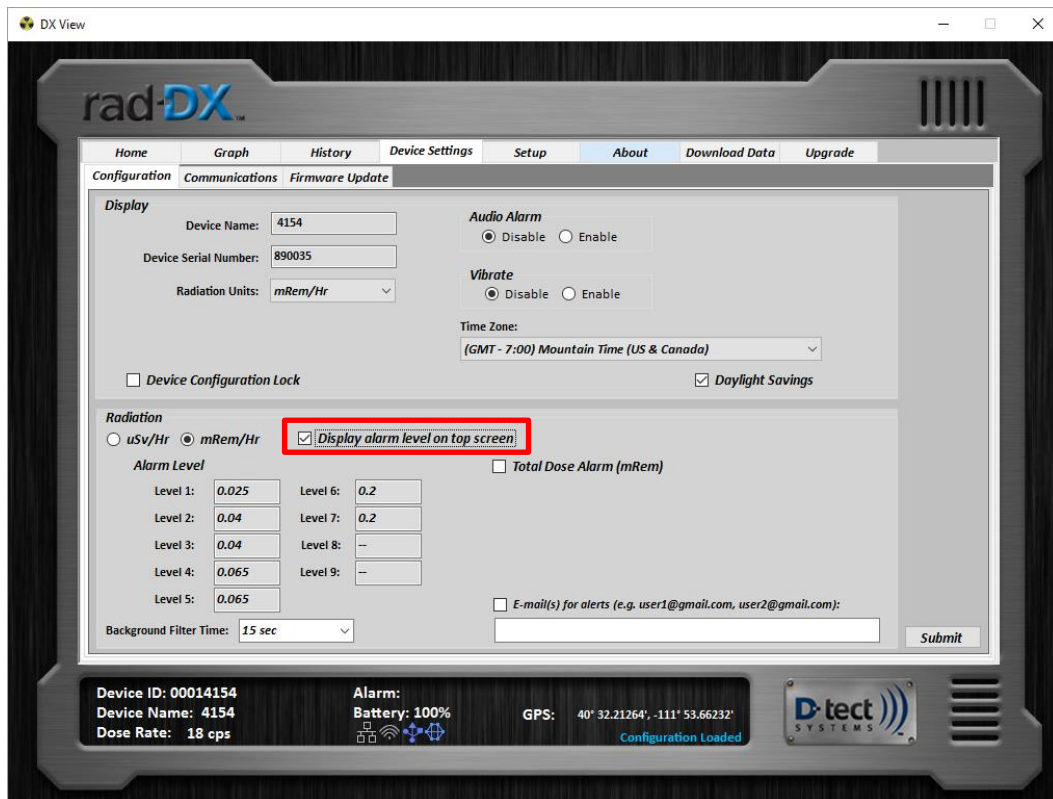
**Audio Alarm:** Enable or disable the audio alarm.

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**Vibrate Alarm:** Enable or disable the vibration alarm.

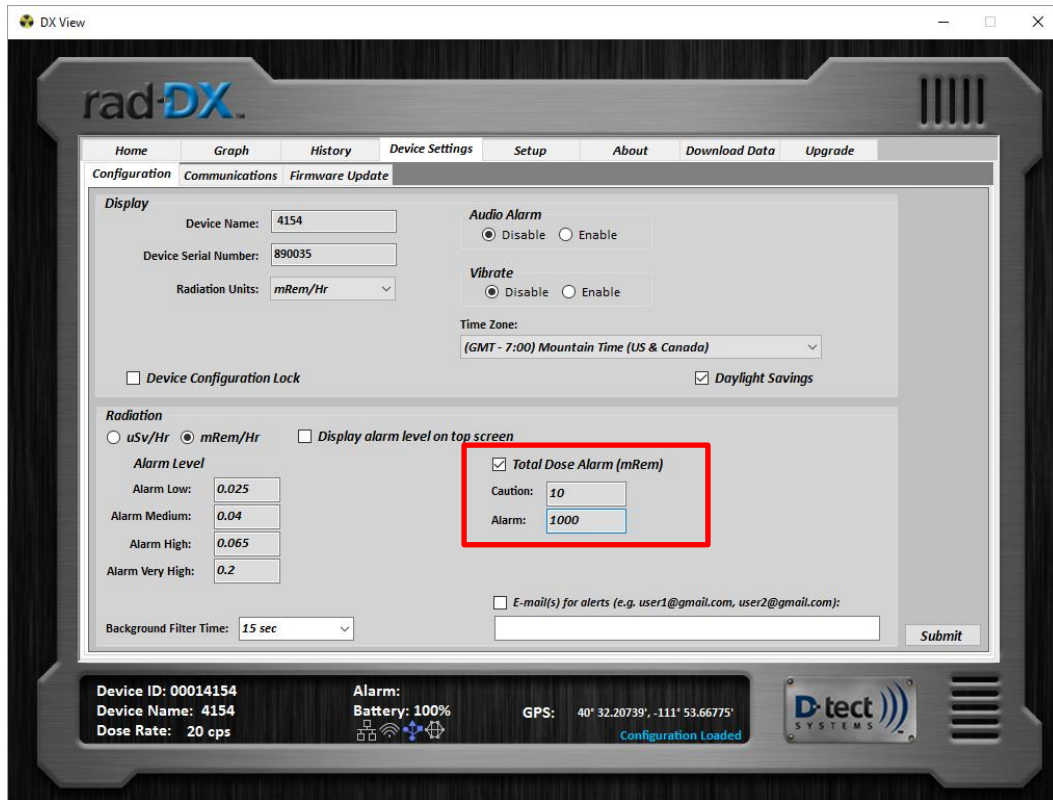
**Time Zone:** Select the time zone and enable daylight savings.

**Display Alarm Level on Top of Screen:** Add the 1-9 display on the top OLED screen and add custom alarm settings. Click the “Display alarm level on top screen” box to display the 1-9 scale then press submit, or leave it unchecked to display the dose readings.



**Figure 9: Device Configuration: Mini Rad-DX**

**Total Dose Alarm:** Click the “Total Dose Alarm” checkbox and click “Submit” to enable accumulative dosage tracking or leave it unchecked to keep it disabled. Use the text boxes to customize the alarm levels for each device.



**Figure 10: Mini Rad-DX Total Dose Alarm**

**Background Filter Time:** The background filter time is the time the device averages the background counts. A longer filter setting will cause the background to be more smooth or stable. This setting does not affect the response times.

**Email:** Add the email addresses to recipients who are to be notified when a radiation alarm occurs.

### 5.2.3 Display Settings: Communications

The Communications tab under Device Settings configures the SensorNet Mesh channel for each device, which can be enabled or disabled for the selected device. The channel (frequency) that the SensorNet network operates on can also be changed in the Communications tab. If the channel is changed for one device, then all of the other devices will need to be changed to the same channel to be able to communicate with each other on the SensorNet network.

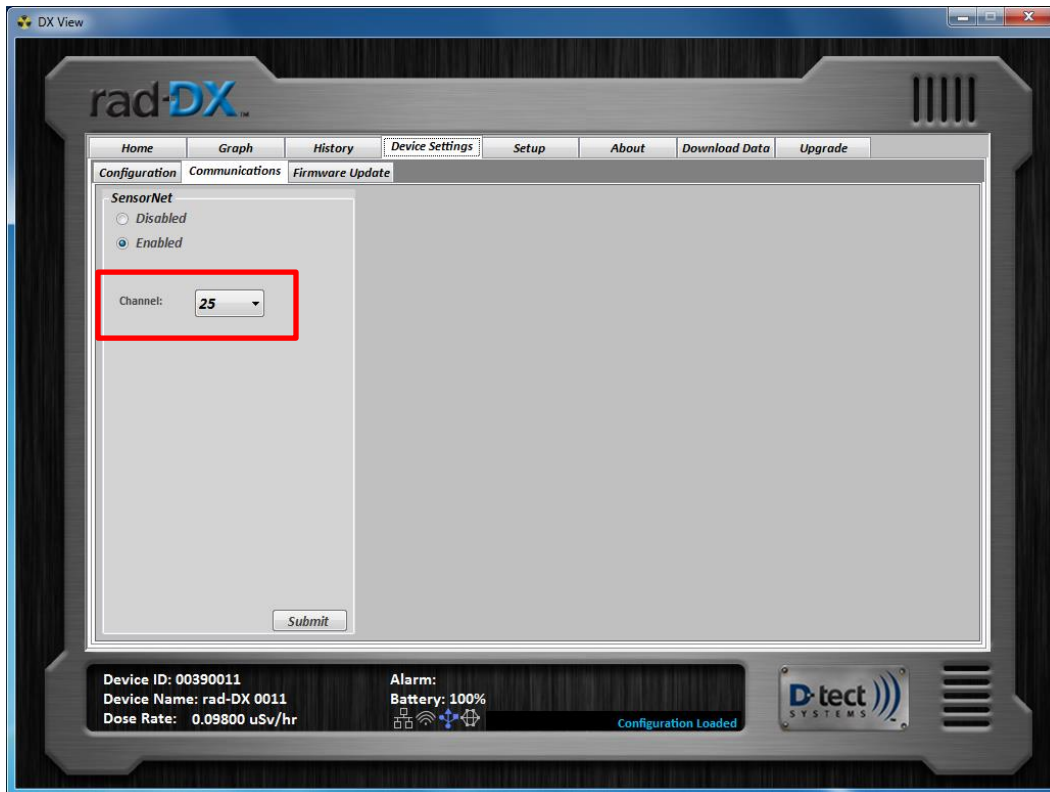


Figure 11: DX-View Device Settings: Communications Screen

#### 5.2.4 Display Settings: Firmware Update

As new firmware versions become available, you will be notified and given instructions to upload a new or updated firmware version to your device. Save the included firmware version in a convenient location. Select the device to be updated. Locate the firmware file using the “Browse” feature, and press “Submit” to update. The update may take several minutes.

**Restore to Factory Calibration:** A device’s calibration may be erased and restored to the factory calibration by pressing the Restore to Factory Calibration button. It is not recommended that you restore any device to the factory calibration without first consulting with your distributor or D-tect Systems.

**Reset Account Settings:** A selected device can be reset to factory account settings by using the “Reset Factory Settings” button in the upper right corner of the screen.

**Note:** Devices with account settings restored will need to be configured again with the network username and password.

**Serial Number:** The serial number is displayed on the bottom left of the screen.

**Firmware Version:** The device’s firmware version is shown on the bottom left of the screen.

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**Calibration Date:** The calibration date is shown on the bottom left of the screen.



Figure 12: DX-View Device Settings: Firmware Update Screen

### 5.3 Setup Screen

The Display Settings are located in the top section of the Setup screen. Display settings updates will take effect without pressing the submit button.

**Radiation Units:** Change the units displayed on the Home screen by changing the Radiation Units.

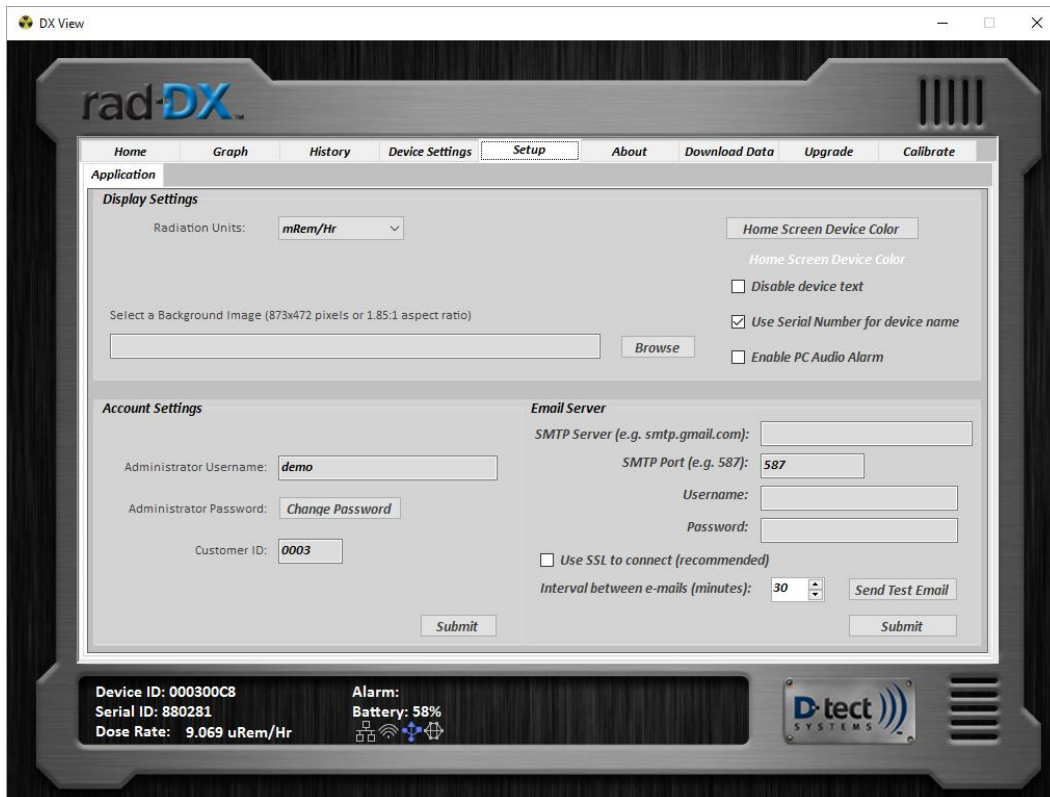
**Background Image:** Use the background image setting to upload a map or floor plan to the Home screen background.

**Font Color:** Change the font color on the Home screen using the “Home Screen Device Color” button.

**Use Serial Number for Device Name:** Select this box to display the Serial Number of the device on the Home screen.

**PC Audio Alarm:** Select the “Enable PC Audio Alarm” box to enable an audio alarm for radiation alerts.

The bottom section of the screen displays Account Settings such as Administrator Username, Administrator Password, and Customer ID. This information is populated from the pop-up window that appears when the software is first launched. These settings can only be changed when a device is connected via USB cable.



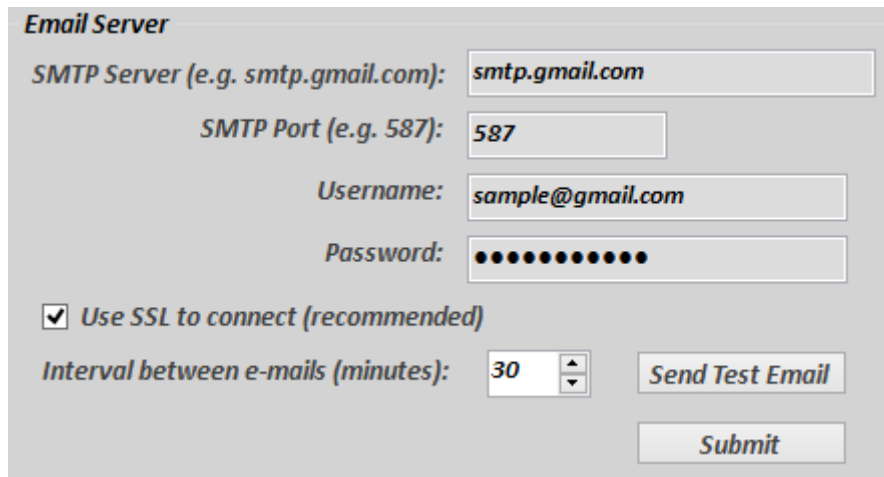
**Figure 13: DX-View Setup Screen**

### 5.3.1 Email Setup

On the Setup tab, there is a section to configure email settings to send email or SMS (if supported by the mobile carrier) messages in the event of a radiation alarm.

In the event of a radiation alarm, an email or SMS message, if supported by your mobile carrier, may be sent out. Follow the steps below to configure the messaging feature.

1. Enter the SMTP Server and Port information.
2. Enter the username (Email Address) and password (for that email account).
3. Check the “SSL” box (optional, provides better security).
4. Select desired email interval.
5. Send Test email and verify that it arrived properly.
6. Click “Submit.”
7. Add destination email addresses. This is done under the Device Settings: Configuration tab for each device.



The screenshot shows the 'Email Server' configuration window. It contains the following fields and options:

- SMTP Server (e.g. smtp.gmail.com):** smtp.gmail.com
- SMTP Port (e.g. 587):** 587
- Username:** sample@gmail.com
- Password:** [masked with dots]
- Use SSL to connect (recommended)**
- Interval between e-mails (minutes):** 30 (with up/down arrows)
- Buttons:** Send Test Email, Submit

**Figure 14: Email Server Setup**

Figure 14 shows a sample setup for an email configuration. Once an email is entered like this, the DX-View software will login to the email account and use it to send alerts to the addresses specified for each device in its separate device settings page. The configuration shown in the example above is a valid example for a Gmail account.

Replacing the username and password with those from the desired Gmail account and entering the other configurations as shown will allow DX-View to send an email from that Gmail account.

Some email servers, including Gmail, require the client to set up additional settings in their account before allowing other programs to send emails through their account.

Selecting the SSL checkbox forces DX-View to encrypt the communication between itself and the email server to aid in the security of your account.

The DX-View can send multiple emails over the course of a single alarm. The interval feature limits the number of emails that the DX-View will send over the course of any alarm. The default setting is 30 minutes. You may want to reduce that time, depending on how often you want to be notified during the course of a single alarm. The DX-View will send a new email, regardless of the interval setting, if the dose rate increases enough to cause the alarm level to increase.

Email Domain	SMTP Server	SMTP Port
Gmail.com	smtp.gmail.com	587
Yahoo.com	smtp.mail.yahoo.com	465
Hotmail.com	smtp.live.com	465
Outlook.com	smtp.live.com	587
Comcast.net	smtp.comcast.net	587
For additional email domains contact your network administrator.		

**Figure 15: SMTP settings for common email domains**

The figure above shows settings for four popular email domains. Settings for other domains can be found online and private email servers can be configured by their network administrator.

Once the email configuration is set up, press the “Send Test Email” button to send a test email.

After you have successfully received a test email, press the “Submit” button.

Ensure that the email is successfully sent before moving on in the system configuration. Leaving an improperly configured email account active can cause communication problems with the software and each of the Rad-DX detectors.

Now that the email server is configured, each device needs to be configured to set which email addresses to send the alarm notification emails to.



### 5.3.1.1 Adding Email Addresses to Each Device

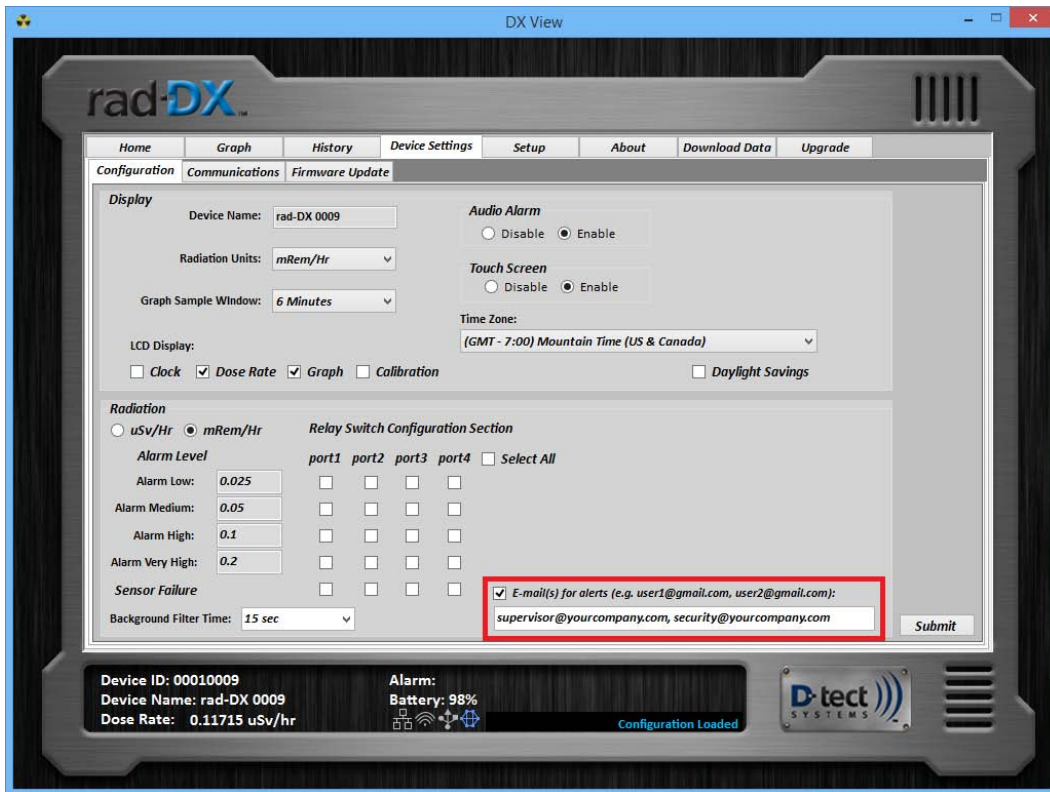


Figure 16: Target Email Address Configuration

Once the email server has been set up, each device can be configured to notify different combinations of email addresses. Figure 16 shows where to enter the email addresses. Make sure they are separated by commas. The DX-view also supports SMS messaging to phones using the proper domain for each carrier. The domains for some popular mobile carriers are included in Figure 17. The format for these addresses is 10-digit-number@domain (e.g. 8009991234@vtext.com).

Mobile Carrier	SMS Email Domain
Verizon	vtext.com
AT&T	txt.att.net
T-Mobile	tmomail.net
Sprint	messaging.sprintpcs.com

Figure 17: Mobile Carrier Domains

## 5.4 Upgrade Screen

The Upgrade screen allows you to select the appropriate firmware update file for each device type. After selecting the desired devices click “Upgrade” to start an OTA (over the air) or mass update for all selected devices communicating over the SensorNet mesh network. Note that updating a large number of devices (10+) through the mesh network can take several hours.

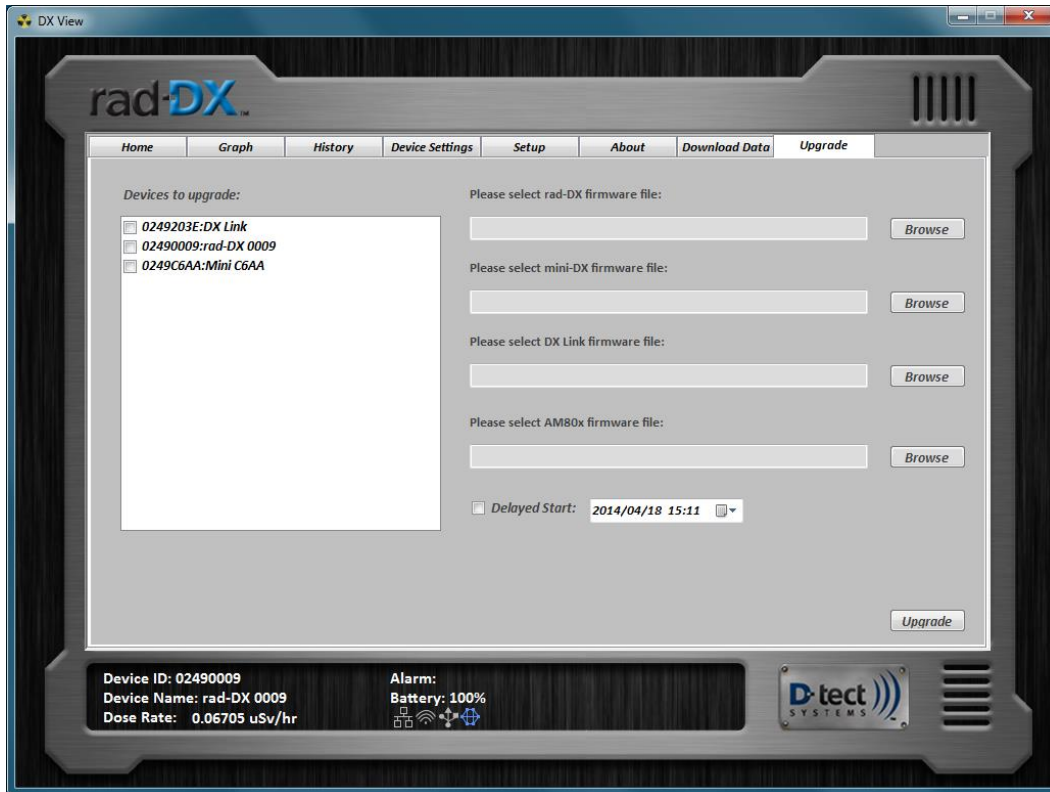

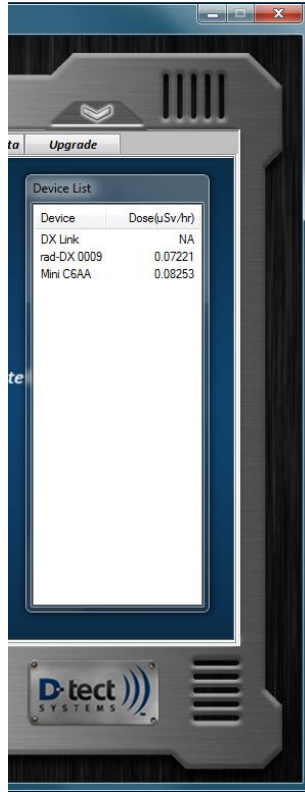


Figure 18: DX-View Upgrade Screen

## 6 Operation




### 6.1 Home Screen

To see a summary of all of the detectors, click the  button found in the top right portion of the Home screen. Devices currently communicating with DX-View and devices previously connected to your network will show up in the list.







**Figure 19: DX-View Device List**

During normal operation, each device icon will appear blue. The color of each device icon indicates the status of that particular detector. If it is blue the DX-View software on the computer is communicating with the device. If it is orange the device is detecting gamma radiation above the minimum alarm threshold. If it is gray the device no longer has a communication path to your PC.

		
Normal (non-alarming) device	Alarming device	Non-operational or disconnected device

**Table 1: Device Icon Colors**

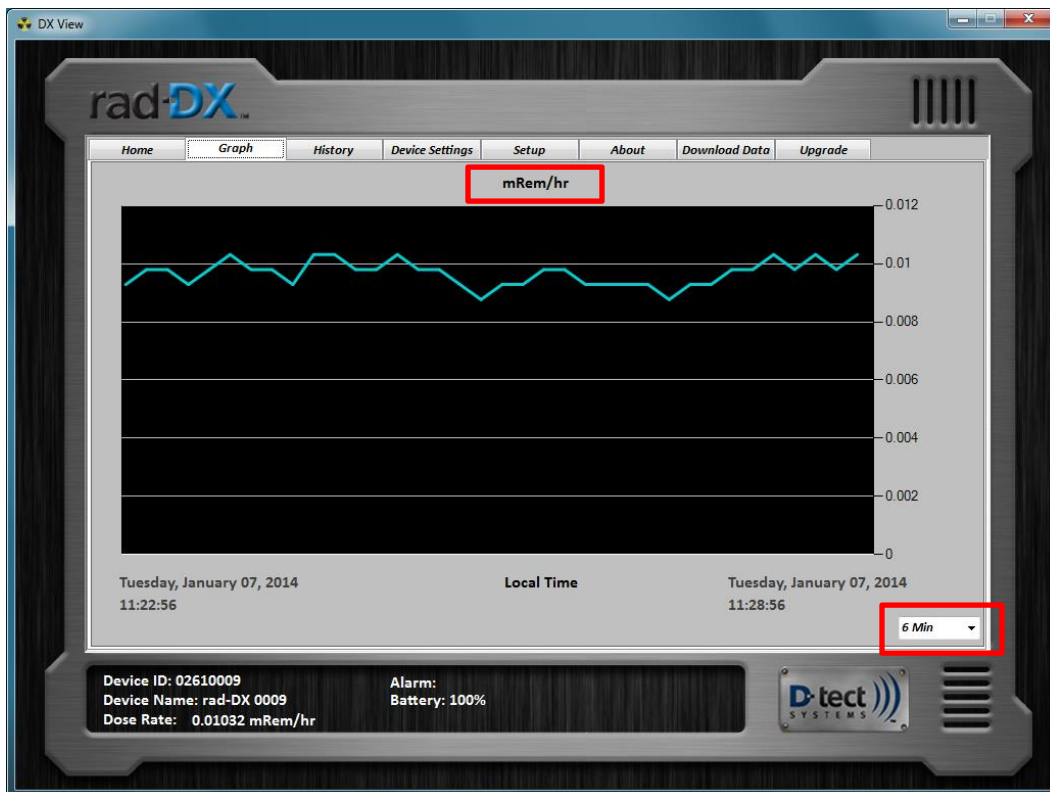
Each device type in the DX family has a different icon in DX-View. The icons are defined as follows:

			
Rad-DX icon	Mini Rad-DX icon	DX-Link icon	Portal Monitor icon

**Table 2: Device Icon Types**

## 6.2 Graph Screen

The Graph screen shows the real-time dose rate (including background radiation) in a 6 minute or 30 minute window. You can change the display range by selecting an option in the drop-down box located in the bottom right corner of the screen. You can change the units of measurement by clicking the listed units at the top of the screen.



**Figure 20: DX-View Graph Screen**

### 6.3 History Screen

On the History screen, select a Begin time and an End time then press “Plot” to view a historical graph.

To view information about a specific point on the graph click the blue graph line. You will be shown its date, time, and dose rate below the graph in red.

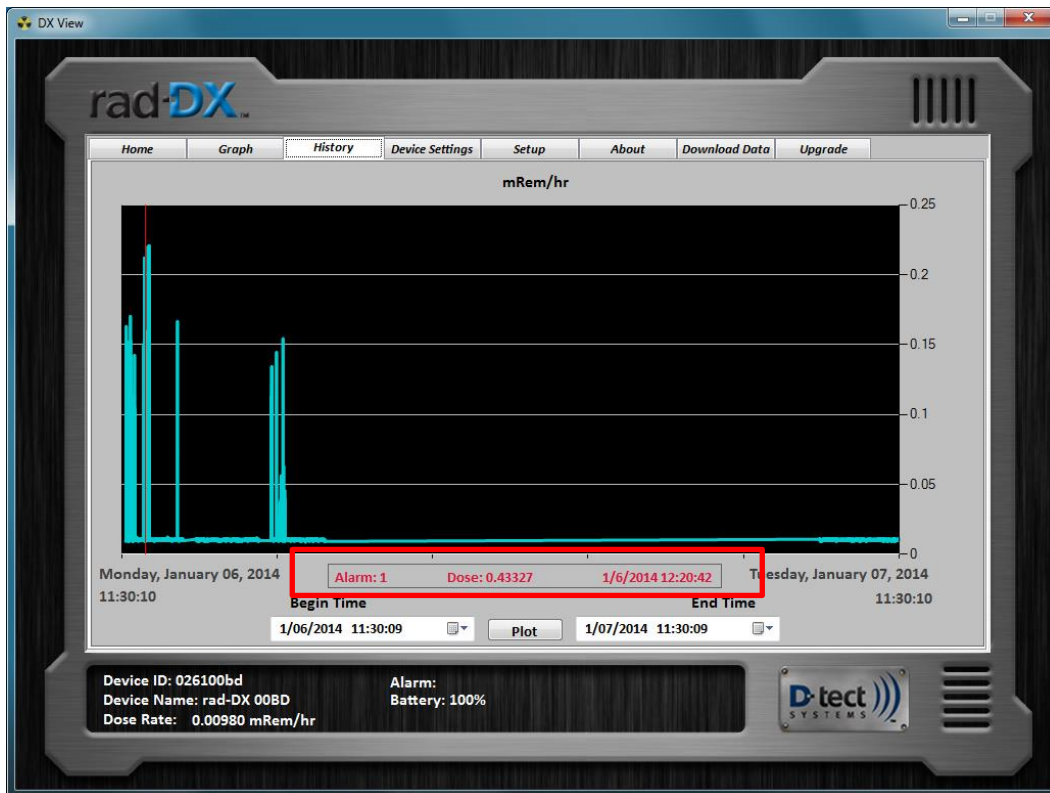


Figure 21: DX-View History Screen

## 6.4 About Screen

The About screen displays the current version of DX-View and contact information for technical support.



Figure 22: DX-View About Screen

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## 6.5 Download Data Screen

You can export a specific timeframe of data to a Microsoft Excel spreadsheet for further analysis in the Download Data screen.

1. Choose which detectors to include.
2. Select a Start time and an End time.
3. Select the Time Zone.
4. Press Download. This will download all of the data between your Start and End times. To download only alarmed events between your Start and End times select the “Show Alarm Events Only” box, then press “Download.”

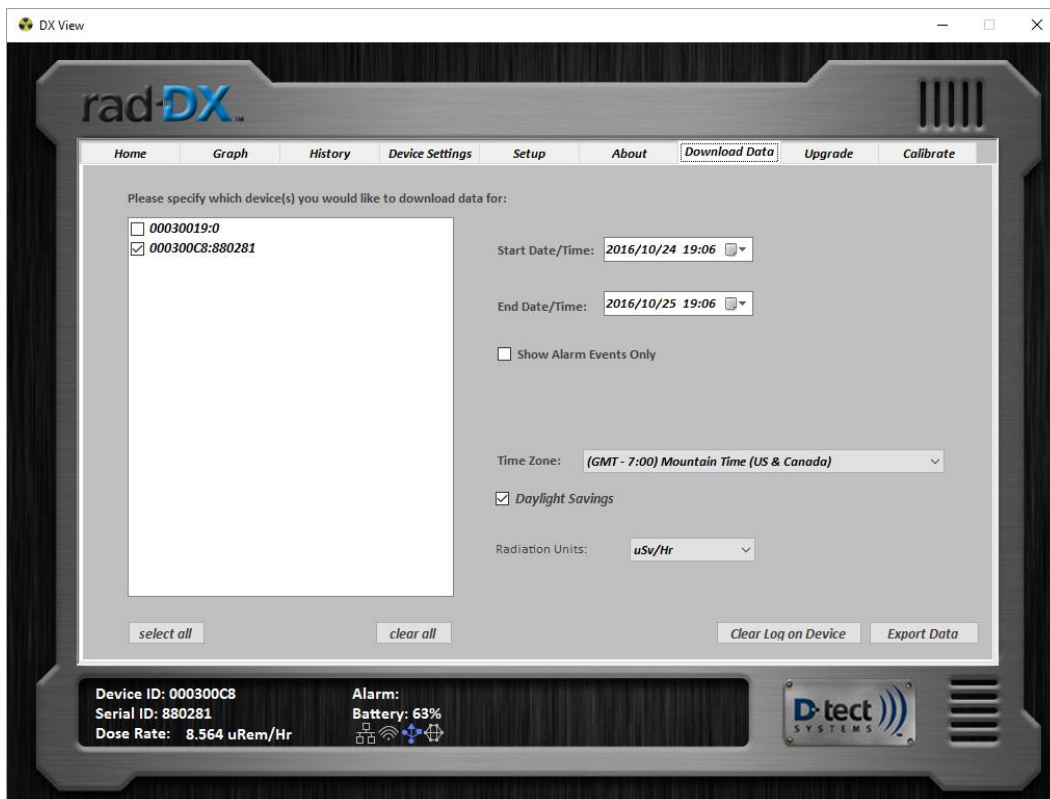


Figure 23: DX-View Download Data Screen

## 7 Software Usage Statement

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)

## 8 Technical Support

You are encouraged to contact your distributor with any technical questions, or you may contact us directly.

Phone: 801-260-4000

**Email:** [techsupport@dtectsystems.com](mailto:techsupport@dtectsystems.com)

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