

## NXT Reader Setup



NXT Readers are used exclusively with Keri's revolutionary access control system based on the NXT and the MSC Series of IP-based Controllers. Communication to the readers is via the controller's RS-485 buses, enabling the data to be encrypted and allowing the readers to be fully supervised - reader events will be generated in the event of reader failure or disconnection

- (these reader 'offline' events can be setup as 'alerts' in the software).

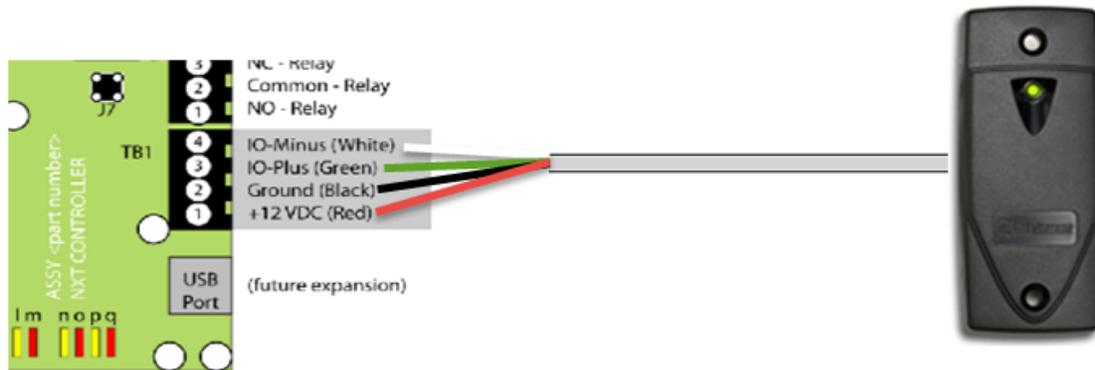
Another NXT reader benefit is the fact you can add an NXT Exit reader (supported with the NXT-MSC controllers). The Exit reader is added to the same bus as the standard NXT reader but provides you with true In/Out reader capability without burning an additional reader port. Even though the readers are wired into the same bus they show as independent readers within Doors.NET allowing you to control 4 x read IN and 4 x read OUT doors with a 4-door controller.

The RS-485 communication method also allows for a maximum cable run distance of 1,000 feet (approx. 300m) from the controller. The readers are compatible with all NXT Series cards and tags plus the readers can now be configured to read HID 125KHz credentials via a quick firmware upgrade which can be easily performed from the software.

This guide explains how to connect the readers to the controller, how to perform a firmware upgrade, program the reader to read HID credentials and how to add and use an NXT Exit reader.

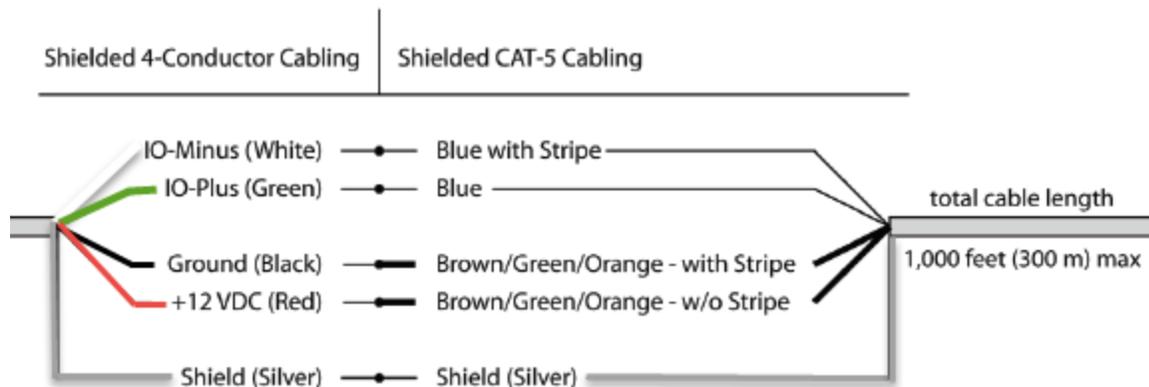
## NXT Reader Setup

### NXT Reader Wiring to the Controller



**NOTE:** The recommended cable type is shielded, stranded, 4-conductor, (Belden 9534, or equivalent) or shielded CAT-5.

### Wiring when using CAT-5 Cable

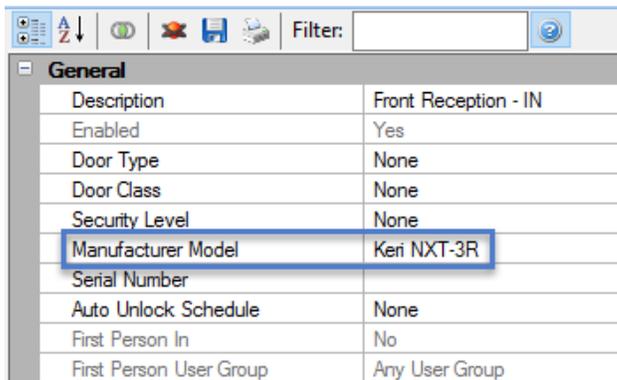


### Setting the Manufacturer Model

Once the reader has been connected to the controller then the controller will start to communicate to it automatically. You should notice a reader online event in live events when the reader comes online. You should however, ensure the correct reader model is selected in the reader properties.

## NXT Reader Setup

1. Go to **Setup >> Hardware Setup >> All** this will take you to the hardware tree.
2. Double-click the controller which will be listed beneath the communications gateway.
3. Locate and select the NXT reader by expanding the controller bus.
4. Once selected, the reader properties will be displayed on the right.
5. Verify the correct NXT reader model is selected for the **Manufacturer Model**.



## Upgrading the NXT Reader Firmware

Keri NXT readers are now flash upgradable and Doors.NET version 3.5.1.22 includes a firmware version (**04.00.03**) that allows the NXT readers to read both NXT credentials and most 125KHz HID credentials, including; ProxCard II®, ISOProx® II, and ProxKey®II.

## Firmware Upgrade Procedure

### Verify the readers are upgradable

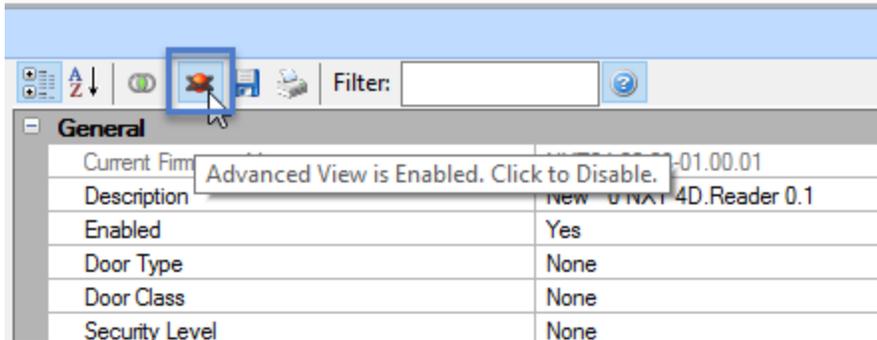
**Note:** Only NXT readers with firmware version **04.00.00** and above can be flash upgraded. So the first thing to do is check if the reader can be flash upgraded. There are two ways you can check if the NXT reader is upgradeable:

- Check on the reverse of the reader and you will see a serial number. If the serial number has a letter F suffix then the reader CAN be upgraded.

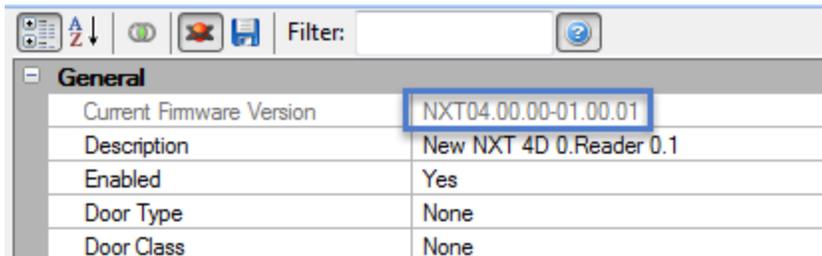
Or:

1. If the reader is online, highlight it in the hardware tree.
2. Ensure **Advanced View** is enabled for the reader properties.

## NXT Reader Setup



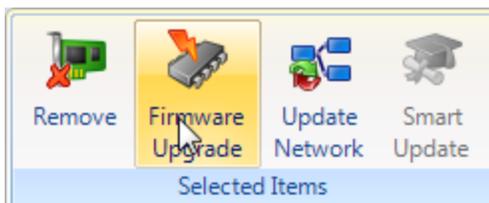
- At the top of the reader's **General** properties you will see the current firmware version.



- If the reader firmware does not begin 04 then the reader CANNOT be upgraded.

## Upgrading when using Standard NXT hardware

- Navigate to the hardware tree.
- Highlight a standard NXT controller.
- Click the Firmware Upgrade icon.

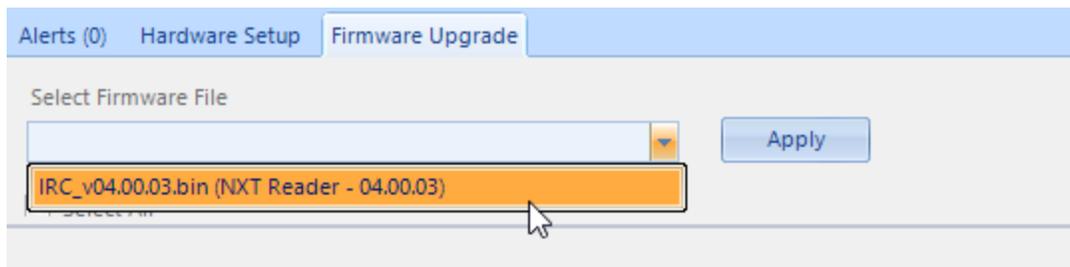


- The firmware upgrade window will appear and the NXT controller will be highlighted.
- Click the expander (plus sign) located to the left of the controller, and you will see listed the NXT readers which are connected to the controller.

## NXT Reader Setup

Description	HardwareType	ControllerType	Firmware
New 0 NXT 4D	Controller	KERI_NXT_4D	02.05.68
HardwareType	Description	Firmware	
NXT Reader	New 0 NXT 4D.Reader 0.1	NXT04.00.00-01.00.01	
NXT Reader	New 0 NXT 4D.Reader 0.2	NXT04.00.00-01.00.01	
NXT Reader	New 0 NXT 4D.Reader 0.3	NXT04.00.00-01.00.01	
NXT Reader	New 0 NXT 4D.Reader 0.4	NXT04.00.00-01.00.01	

6. Highlight the first NXT reader in the list.
7. From the **Select Firmware File** list, select the new 04.00.03 firmware (it will be the only NXT reader firmware available).



Drag a column header here to group by that column.

Description	HardwareType
New 0 NXT 4D	Controller
HardwareType	Description
NXT Reader	New 0 NXT 4D.Reader 0.1
NXT Reader	New 0 NXT 4D.Reader 0.2

8. Once selected, click the APPLY button.
9. You will see a message notifying you that during the upgrade the reader may go off-line for a few minutes.
10. If you are happy to proceed click the YES button.
11. The new firmware will be sent to each of the NXT readers connected to the controller (one-after-the-other).
12. While a reader is being upgraded the reader's LED will be quickly flashing. Each reader should take no longer than 30 seconds to update.
13. A green progress bar will inform you of when the upgrading is complete.

## NXT Reader Setup

Firmware	BootLoader	ProgressPercent	Progress
02.05.68	02.00.01	26	<div style="width: 26%; background-color: green;"></div>

**Note:** DO NOT attempt to update the NXT readers on more than one NXT controller at a time.

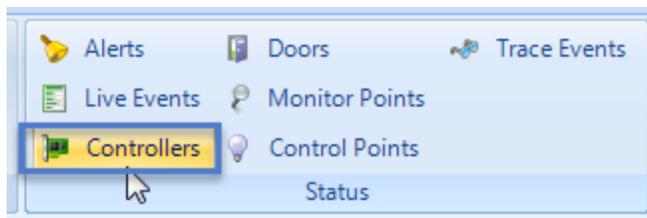
- Once complete, the new firmware version will be displaying for all the NXT readers connected to the controller.

HardwareType	ControllerType
Controller	KERI_NXT_4D
Description	Firmware
New 0 NXT 4D.Reader 0.1	NXT04.00.03-01.00.01
New 0 NXT 4D.Reader 0.2	NXT04.00.03-01.00.01
New 0 NXT 4D.Reader 0.3	NXT04.00.03-01.00.01
New 0 NXT 4D.Reader 0.4	NXT04.00.03-01.00.01

- You can now close down the firmware upgrade window as the readers are now ready for use.

## Reader Firmware Update Procedure - NXT Mercury Powered

- From the home tab, click on the controller status icon.



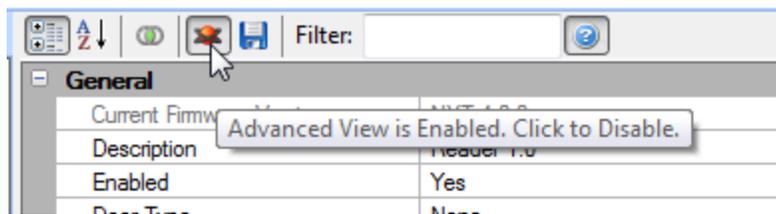
- The controller status grid should display at the bottom of the screen.
- Check that the NXT-MSC controller is using firmware version 1.201, or greater

## NXT Reader Setup

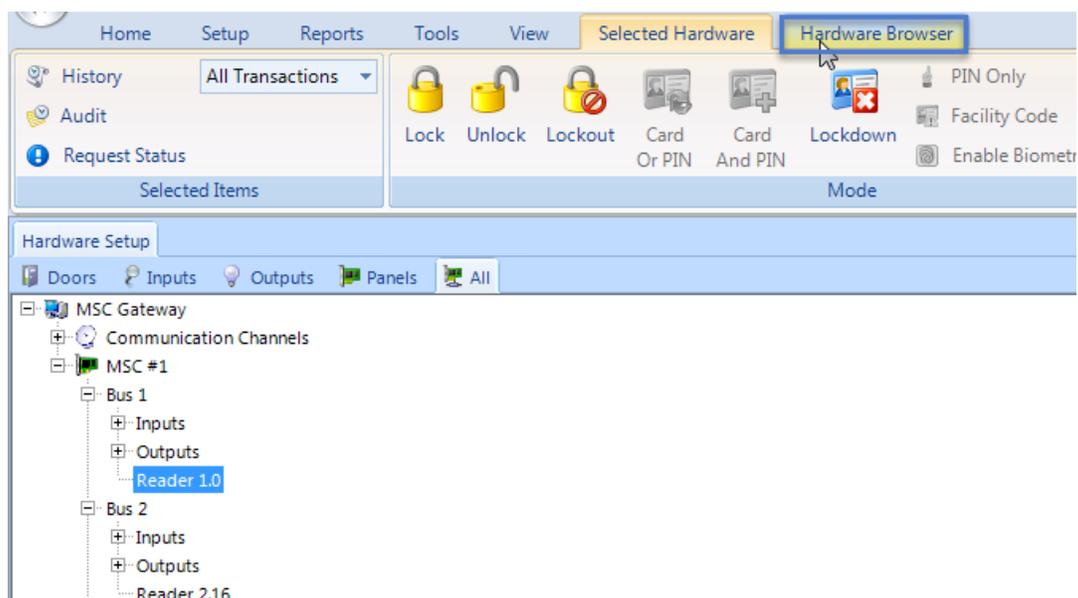
Controllers						
Drag a column header here to group by that column.						
Gateway	Description	TimeStamp (Controller)	Communication	Firmware	Model	Detail
Unknown	New Controller 1	17/07/2015 13:45:12	Online	1.201	KERI NXT-4D-MSC	Controller - Online

**Note:** To upgrade NXT reader firmware using NXT Mercury Powered controllers you MUST at least have controller firmware v\_1.201

- Click on Setup >> Hardware Setup >> All.
- Ensure you have Advanced View enabled for the hardware properties.

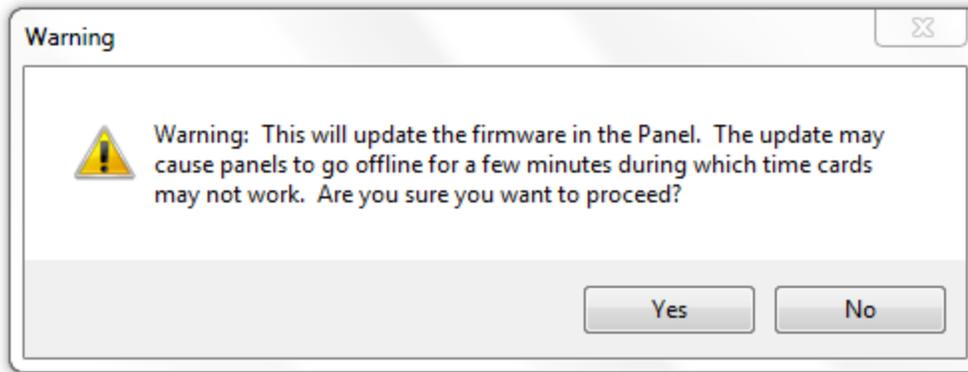


- Expand an NXT-MSC controller via a double-click.
- Expand the controller bus (which has an NXT reader connected to it).
- Highlight the NXT reader.
- At the top of the reader properties you will see the reader's current firmware version.
- With the NXT reader still highlighted, click the **Hardware Browser** tab.



## NXT Reader Setup

11. Click the Firmware Upgrade icon.
12. Select the **v\_04.00.03** firmware file, then click Open.
13. The following message will appear.



14. Click Yes and the reader firmware will be updated. During the firmware upgrade the reader's LED will flash: green, red, amber, green, amber, red, amber, etc. If you cannot see the reader's LED then take a look at the live events grid. You will see a message has been generated: "Firmware Upgrade has started" - wait for the 'Firmware Upgrade Has Completed' message - Once it is completed the reader's LED will be a steady amber.

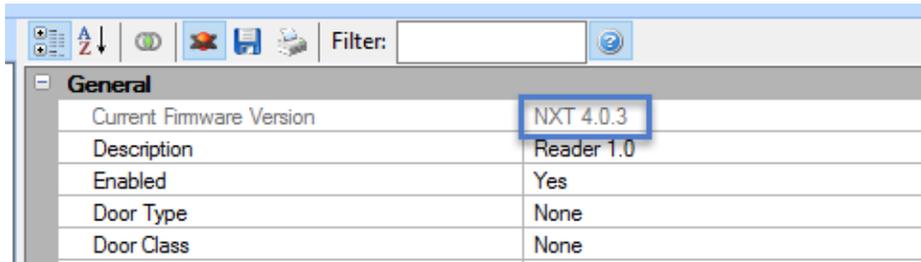
**Note:** Please be patient during the upgrade process as it will take almost 2 minutes for the reader upgrade to complete.

Live Events				
Drag a column header here to group by that column.				
	Timestamp (Server)	Location	Message	Detail
	7/21/2015 9:02:51 AM	Door 4	Reader Online	NXT Reader
	7/21/2015 9:02:37 AM	Door 4	Reader Offline	
	7/21/2015 9:02:36 AM	Door 4	Firmware Upgrade has completed.	
	7/21/2015 9:00:55 AM	Door 4	Firmware Upgrade has started.	

**WARNING:** Do not attempt to update a second NXT reader until the first upgrade is completed. The NXT-MSK hardware does not support multiple concurrent firmware upgrades to connected devices. You must upgrade the NXT readers one-at-a-time.

## NXT Reader Setup

If the reader is still highlighted in the hardware tree the new firmware version should now be displaying.



General	
Current Firmware Version	NXT 4.0.3
Description	Reader 1.0
Enabled	Yes
Door Type	None
Door Class	None

## NXT Exit Readers

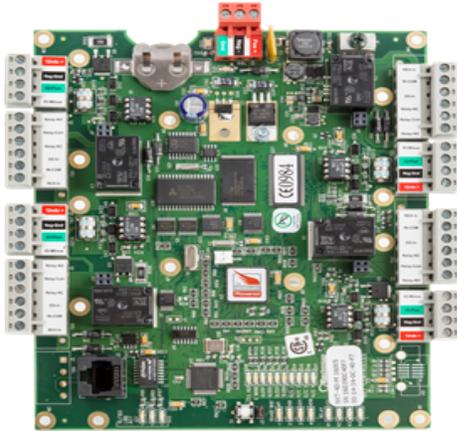
Typically, a 2-door controller would control access to two individual doors, a proximity reader is used to enter a room/or an area and a request-to-exit button would be used for egress.

With an NXT Exit reader you can control two individual doors but with a reader for both entry and egress. Each reader, although they activate the same lock relay, they are treated independently in the Doors.NET software (such as for access groups and events that appear in Live Events).

The NXT Exit reader is connected to the same bus as the standard NXT reader so minimizing installation time as well.

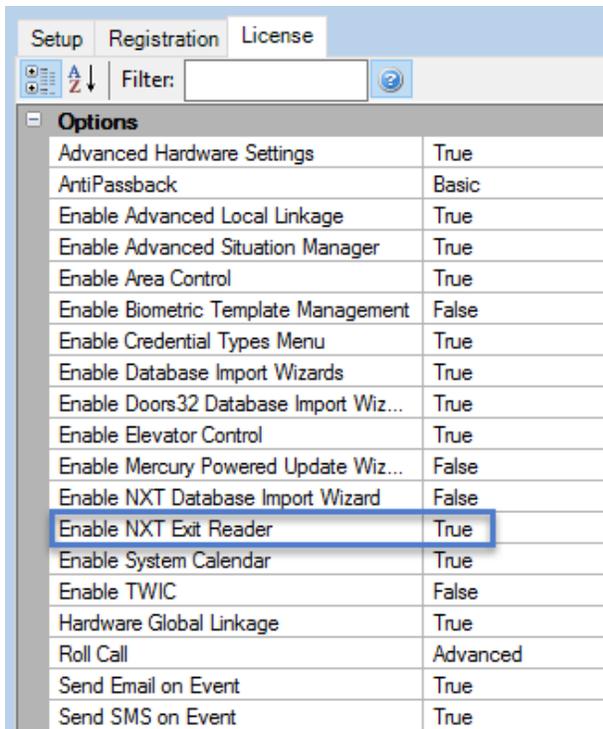
**Note:** The NXT Exit Reader is only supported when used with the NXT Mercury-Powered controllers.

## NXT Reader Setup



The Process for Adding an NXT Exit reader is as follows:

1. Open the LicenseManager.exe program in the folder where your instance of Doors.NET is installed (typically in the **C:\Keri\DoorsNET** folder).
2. Click the License tab and scroll through the list of license values until you locate “Enable NXT Exit Reader”. This item should be set to “True.”

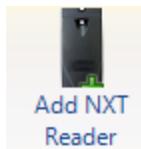
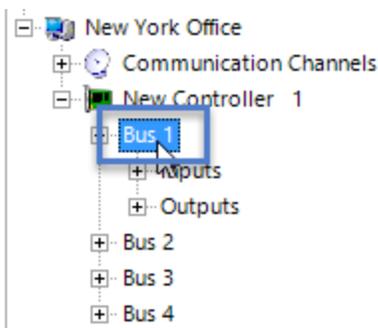


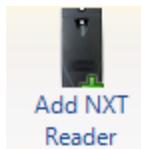
## NXT Reader Setup

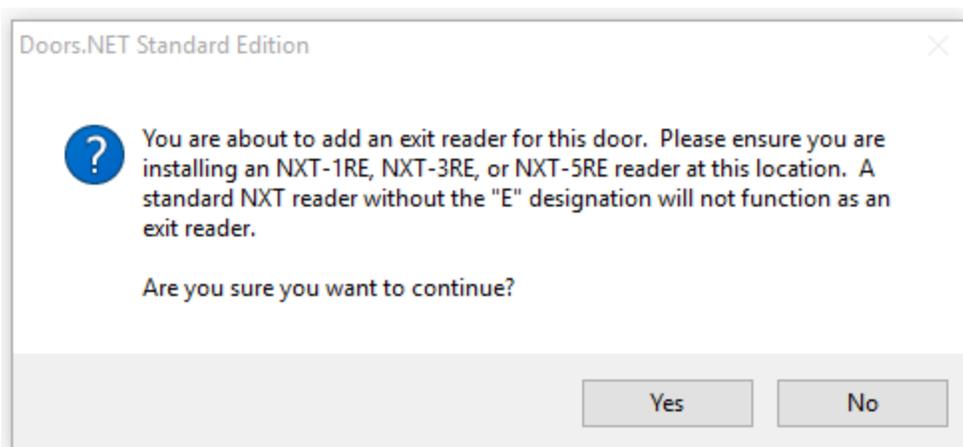
3. If this item is NOT set to True, you must contact Keri Systems' Inside Sales department to have your license updated.



4. Click on the  icon from the Setup tab, then click the 'All' tab.
5. Highlight the bus where both the NXT-R (standard) reader and the NXT-RE (Exit) reader are wired.



6. The  icon will be displayed on the ribbon bar. Click this icon and you will see the following message.



7. Click Yes to the above message and an NXT Exit reader will be added to the bus in the hardware tree.

## NXT Reader Setup

8. Highlight the new reader in the hardware tree and in the properties, give it a description.
9. The reader will be automatically configured as the exit reader for that bus.

Master/Slave (In/Out)	
Reader Function	Slave
Paired Reader	NXT - ENTRY

10. A valid card read at each of the readers will activate the same strike relay but the reader locations in Live Events will be different.

TimeStamp (Controller)	Location	Message	Detail	Cardnumb
4/4/2016 10:42:43 AM	NXT - ENTRY	Access Granted		169713
4/4/2016 10:42:52 AM	NXT - EXIT	Access Granted		169713

11. The entrance and exit readers can be assigned to completely different access groups.

Doors Inputs Outputs Panels Cameras All

Drag a column header here to group by that column.

Gateway	Controller	Panel Description	Description	Detail
Miami Office (NXT)	Standard NXT 2	NXT 4D	Executives Conference Room	
Miami Office (NXT)	Standard NXT 2	NXT 4D	Executives Offices	
Miami Office (NXT)	Standard NXT	NXT 4D	Front Door	
Miami Office (NXT)	Standard NXT	NXT 4D	IT Room	
Miami Office (NXT)	Standard NXT	NXT 4D	Main Entrance	
New York Office (MSC)	MSC Controller...	Reader 1	NXT - ENTRY	
New York Office (MSC)	MSC Controller...	NXT Slave reader	NXT - EXIT	
Miami Office (NXT)	Standard NXT	NXT 4D	Parking Lot	
New York Office (MSC)	MSC Controller...	Reader 2	Accounting Area	
New York Office (MSC)	MSC Controller...	Reader 3	Manufacturing Floor	
New York Office (MSC)	MSC Controller...	Reader 4	Janitorial Closet	
Miami Office (NXT)	Standard NXT 2	NXT 4D	Shipping Dock	

12. Transaction reports can also be run on the readers independently. Click Reports >> Transactions, then from the Report Type drop down list, select All Messages (Reader). You will see that both the readers appear in the Hardware Selection list.

## NXT Reader Setup

Transactions Report Wizard

### Select ALL Transactions by Calculated Date (Today - 7 days) by Hardware Locations

#### Select Hardware Type(s)

- Gateway
- Controller
- Panel
- Reader
- Monitor Point
- Control Point

Select the hardware types and locations that you want to include in the report. Reports that include selections for cardholders will restrict selectable hardware types to Gateway, Controller, or Reader. Multiple Hardware Types are allowed for reports that do not include cardholders and are restricted to Panels, Readers, Monitor Points, and Control Points. Select the "Next >>" button when all selections have been made.

- Readers
  - Dubai Office
  - London Office
  - Mexico City Office
  - New York Office
    - Reader 2.16 (Reader 2)
    - Reader 3.32 (Reader 3)
    - Reader 4.48 (Reader 4)
    - Reader IN (Reader 1)
    - Reader OUT (NXT Slave reader)
  - San Jose Headquarters
    - Accounting Area (Onboard DDM)
    - Building 2 Back Door (Onboard DDM)
    - Building 2 Front Door (Onboard DDM)
    - Building 2 Roll Up Door (Onboard DDM)
    - Building 2 Side Door (Onboard DDM)
    - Executive Conference Room (Onboard DDM)
    - Executive Offices (Onboard DDM)
    - Front Door - IN (Onboard DDM)
    - Front Door - OUT (Onboard DDM)

13. You can also run a report that includes both the readers, should you wish to.

Alerts (0) Hardware Setup Cardholders Transaction Reports

Drag a column header here to group by that column.

Icon	TimeStamp	Controller	Gateway	Controller	Location	Message	Detail	Cardnum
	4/4/2016 11:10:30 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Denied - Not In File	Card Number : 169689 Issue Code : -1	169689
	4/4/2016 11:10:24 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Denied - Not In File	Card Number : 169688 Issue Code : -1	169688
	4/4/2016 11:10:14 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169687
	4/4/2016 11:10:09 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		165698
	4/4/2016 11:10:02 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169691
	4/4/2016 11:09:58 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Denied - Not In File	Card Number : 948600 Issue Code : -1	948600
	4/4/2016 11:09:54 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169691
	4/4/2016 11:09:46 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169678
	4/4/2016 11:09:39 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169715
	4/4/2016 11:09:35 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		162974
	4/4/2016 11:09:28 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Reader Tamper Offline		
	4/4/2016 11:09:11 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Granted		162974
	4/4/2016 11:08:41 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Granted		169715
	4/4/2016 11:06:21 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169691
	4/4/2016 11:05:58 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Granted		169691
	4/4/2016 11:04:25 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Remote Temp Unlock - Door...		
	4/4/2016 11:04:05 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Denied - Not In File	Card Number : 169675 Issue Code : -1	169675
	4/4/2016 11:03:44 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Granted		165698
	4/4/2016 11:03:07 AM		New York Office (M...	MSC Controller 1	NXT - EXIT	Access Granted		169687
	4/4/2016 11:01:56 AM		New York Office (M...	MSC Controller 1	NXT - ENTRY	Access Denied - Not In File	Card Number : 165698 Issue Code : -1	165698



## NXT Reader Setup

### Contact Keri Systems

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E-mail: <a href="mailto:sales@kerisys.com">sales@kerisys.com</a> <a href="mailto:techsupport@kerisys.com">techsupport@kerisys.com</a>	E-mail: <a href="mailto:sales@kerisystems.co.uk">sales@kerisystems.co.uk</a> <a href="mailto:tech-support@kerisystems.co.uk">tech-support@kerisystems.co.uk</a>

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