TANDBERG DATA

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Product Manual

RDX® QuikStation® 4 and 8

Part Number 1021970 Rev. A June 2016

www.tandbergdata.com

PART NUMBER 1021970 Revision A

REVISION HISTORY

Revision	Date	Description
A	June 2016	Initial release

Note: The most current information about this product is available at Tandberg Data's web site (www.tandbergdata.com).

Product Warranty Caution

The RDX QuikStation by Tandberg Data is warranted to be free from defects in materials, parts, and workmanship and will conform to the current product specification upon delivery. For the specific details of your warranty, refer to your sales contract or see the Tandberg Data web site (www.tandbergdata.com).

The warranty for the appliance shall not apply to failures caused by:

- Physical abuse or use not consistent with the operating instructions or product specifications.
- Repair or modification by anyone other than Tandberg Data's personnel or agent in a manner differing from the maintenance instructions provided by Tandberg Data.
- Removal of the Tandberg Data identification label(s).
- Physical abuse due to improper packaging of returned unit.

If problems with the RDX QuikStation occur, contact your maintenance organization; do not void the product warranty by allowing untrained or unauthorized personnel to attempt repairs.

Caution

Returning the RDX QuikStation in unauthorized packaging may damage the unit and void the warranty. If you are returning the unit for repair, package it in its original packaging (or in replacement packaging obtained from your vendor.)

Contacting Tandberg Data

Visit the Support section of the Tandberg Data web site (www.tandbergdata.com) for information on contacting technical support.

NOTES

CONTENTS

About This Manual

This manual describes how to install and operate the RDX QuikStation and is intended for use by anyone deploying the RDX QuikStation 4 or the RDX QuikStation 8 into their network environment. Familiarity with system and network configuration is highly recommended.

The following chapters are included in this manual:

Overview

- Chapter 1 provides an overview of the features and components of the RDX QuikStation.

Installation and Setup

- Chapter 2 describes information on how to rack-mount, connect, and initially configure the RDX QuikStation.
- Chapter 3 describes how to connect host computers to RDX QuikStation iSCSI targets, including how to set up iSCSI security.

Using the RDX Remote Management Console

- Chapter 4 describes RDX QuikStation system configuration tasks, such as network configuration and user account management.
- Chapter 5 provides information about the logical device interface in the Remote Management Console.
- Chapter 6 provides information about the physical device interface in the Remote Management Console, including ejecting RDX media and reformatting and cloning data.
- Chapter 7 describes RDX QuikStation system maintenance tasks, such as importing and exporting configuration files and updating firmware.

Supplemental Information

- Appendix A provides basic troubleshooting information.
- Appendix B provides product specifications.
- Appendix C describes important safety precautions to observe when using the RDX QuikStation.

Related Publications

For additional information about the RDX QuikStation 8, refer to the following publications, which are available at www.tandbergdata.com.

- *RDX QuikStation 4 Quick Start Guide, part number 10218207*
- *RDX QuikStation 8 Quick Start Guide, part number 1021778*
- *RDX QuikStation Knowledge Base articles available online at www.tandbergdata.com*

Conventions Used in This Manual

This manual uses the following conventions:

The information in this manual applies to both the RDX QuikStation 4 and the RDX QuikStation 8. When there is a significant operational difference, the RDX QuikStation 4 or RDX QuikStation 8 is specified.

Note: Notes provide additional information or suggestions about the topic or procedure being discussed.

Important Read text marked by the "Important" icon for information that will help you complete a procedure or avoid extra steps.

Caution Read text marked by the "CAUTION" icon for information you must know to avoid damaging the RDX QuikStation or losing data.

Warning Read text marked by the "WARNING" icon for information you must know to avoid personal injury.

Warning Avertissement: Lisez le texte marqué par le symbole "WARNING" pour prendre note des informations que vous devez connaitre afin d'éviter des dommages corporels.

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Product Overview

The RDX QuikStation 4 and RDX QuikStation 8 are multi-drive, network-attached, removable disk-based array built on RDX technology, which combines the removability, durability and economy of tape with the random accessibility and performance of disk. Both the RDX QuikStation 4 and 8 can be used with different RDX media sizes and configurations; therefore, the storage capacity can be adapted to match online storage needs with unlimited off-line capacity. The RDX QuikStation 4 can offer as much as twelve terabytes of online capacity when used with 3TB RDX media, while the RDX QuikStation 8 can offer as much as twenty-four terabytes of online capacity when used with 3TB RDX media.

This chapter provides an overview of the RDX QuikStation's features and components.

Figure 1-1 *RDX QuikStation 4 Rack Mount Unit*

Figure 1-2 *RDX QuikStation 4 Desktop Unit*

Figure 1-3 *RDX QuikStation 8 Rack Mount Unit*

RDX QuikStation Features

This section provides an overview of the RDX QuikStation's features.

Configuration Flexibility

You can configure the RDX QuikStation as individual Tandberg Data RDX drives with removable iSCSI disk targets or a single or multiple RDX logical volume combining the capacity of the maximum RDX media.

RDX QuikStation 4

You can configure the RDX QuikStation 4 as four Tandberg Data RDX drives with four removable iSCSI disk targets or a single RDX logical volume combining the capacity of up to four RDX media. The logical volume can be protected against the loss of a disk.

You can also configure the RDX QuikStation 4 as a disk autoloader which can automatically load the next disk when one is ejected.

RDX QuikStation 8

You can configure the RDX QuikStation 8 as eight Tandberg Data RDX drives with eight removable iSCSI disk targets or two RDX logical volumes combining the capacity of up to four RDX media. The logical volumes can be protected against the loss of a disk.

It is also possible to create a protected logical volume of all eight disks which can continue to operate with the loss of two drives.

Additionally, the RDX QuikStation 8 can be configured as a virtual tape library. You can also configure the RDX QuikStation 8 as a disk autoloader which can automatically load the next disk when one is ejected.

High Performance and Capacity

RDX QuikStation 4

- When configured as four removable disks, the RDX QuikStation 4 can simultaneously read and write media from all four RDX docks.
- With all four docks using 3-terabyte RDX media, the RDX QuikStation 4 has an online capacity of twelve terabytes, and unlimited offline storage capacity.

RDX QuikStation 8

- When configured as eight removable disks, the RDX QuikStation 8 can simultaneously read and write media from all eight RDX docks. Faster speeds may be obtained if the optional 10Gb Ethernet card is installed.
- With all eight docks using 3-terabyte RDX media, the RDX QuikStation 8 has an online capacity of twenty-four terabytes, and unlimited offline storage capacity.

Compatible with Major Backup Software

The RDX QuikStation is compatible with major backup software applications. For a complete list of backup software applications that are compatible with the RDX QuikStation, visit the Tandberg Data web site (www.tandbergdata.com), or contact your backup software vendor.

Integrated Web-based Management

The RDX QuikStation Remote Management Console allows you to use a standard web browser from any location to manage, control, diagnose, and configure security for the RDX QuikStation.

Dual Gigabit Ethernet

The RDX QuikStation 4 has two Gigabit Ethernet ports to provide failover protection and high availability network connectivity. You can configure the ports for either bonded or split setup, depending on your needs (see page 55). The RDX QuikStation 8 has four Gigabit Ethernet ports and an optional 10 Gigabit port.

Compact Design

The RDX QuikStation 4 uses only one unit (1U) of rack space and is also available as a desktop unit, while the RDX QuikStation 8 only uses two units (2U) of rack space, minimizing the impact on data center space requirements.

RDX QuikStation 4 Components

This section describes the RDX QuikStation 4's front panel and back panel components.

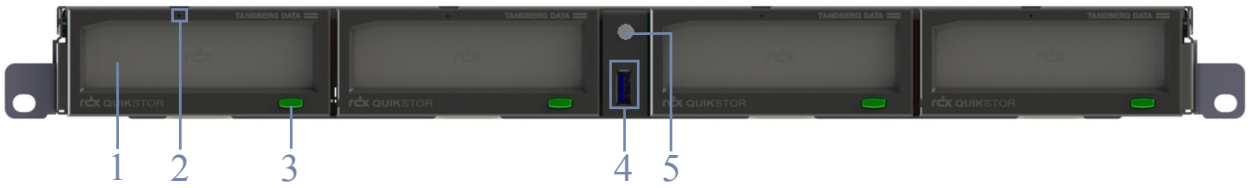

Figure 1-4 *RDX QuikStation 4 front panel components*

1	RDX dock (four each)
2	Emergency-eject keyhole (four each) Note: To use the emergency-eject function, use the Eject Key included in the RDX QuikStation accessory kit and insert it into the keyhole. You can also straighten a paper clip and insert it into the keyhole. The paper clip needs to be sturdy enough to engage the eject function.
3	RDX media-eject button/Status LED (four each), see below
4	USB 3.0 port used for configuration and diagnostics
5	Power button with LED (green when power is on)

RDX Media-Eject button Status LED

The following table describes Eject Button Status LED functionality.

LED Color	Status
Off (no color)	The dock does not have power.
Green	Power is on and the dock is working properly.
Blinking Green	The RDX dock is ejecting media.
Amber	A fault condition exists with the dock.
Blinking Amber	A host computer is accessing the media. Media eject is prevented by software.

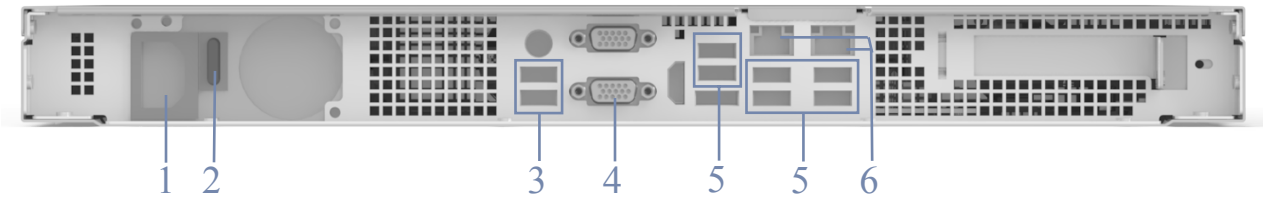

Figure 1-5 *RDX QuikStation 4 back panel components*

1	AC power connector
2	Power switch
3	USB 3.0 ports (2)
4	VGA/Display port
5	USB 2.0 ports (6)
6	Ethernet Ports (2)

RDX QuikStation 8 Components

This section describes the RDX QuikStation 8's front panel and back panel components.

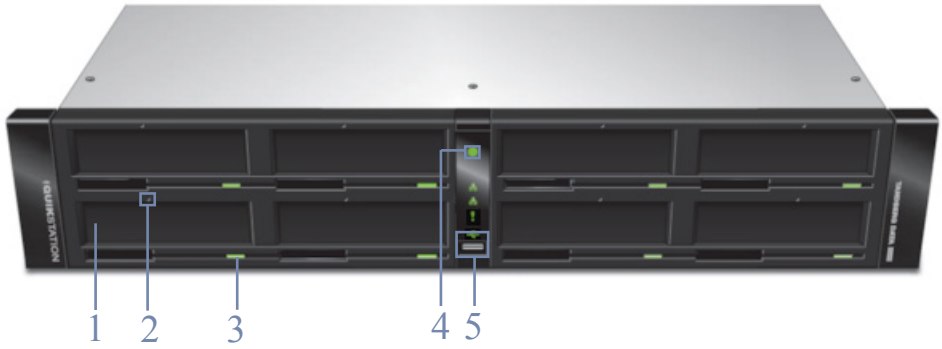

Figure 1-6 *RDX QuikStation 8 front panel components*

1	RDX dock (eight each)
2	Emergency-eject keyhole (eight each) Note: To use the emergency-eject function, use the Eject Key included in the RDX QuikStation accessory kit and insert it into the keyhole. You can also straighten a paper clip and insert it into the keyhole. The paper clip needs to be sturdy enough to engage the eject function.
3	RDX media-eject button/Status LED (eight each), see below
4	Power button
5	USB 2.0 port used for configuration and diagnostics

RDX Media-Eject button Status LED

The following table describes Eject Button Status LED functionality.

LED Color	Status
Off (no color)	The dock does not have power.
Green	Power is on and the dock is working properly.
Blinking Green	The RDX dock is ejecting media.
Amber	A fault condition exists with the dock.
Blinking Amber	A host computer is accessing the media. Media eject is prevented by software.

RDX Front Panel LED

The following table describes the power LED icons.

LED Usage	Appearance	Description
10 Gb connected		Software polls 10Gb interface for activity every (TBD) seconds. ▸ If there is activity, the LED is refreshed. ▸ If there is no activity, the LED is not refreshed. Hardware will turn on the LED when refreshed. Hardware will turn off the LED if not refreshed in (TBD) seconds.
1 Gb connected		Software polls 1Gb interface for activity every (TBD) seconds. ▸ If there is activity, the LED is refreshed. ▸ If there is no activity, the LED is not refreshed. Hardware will turn on the LED when refreshed. Hardware will turn off the LED if not refreshed in (TBD) seconds.
Warning		Turned on when there is an error or warning condition that requires the user to check the GUI.
USB in use		On or blinking when the front panel USB ports is in use for reading action files or writing status files. ▸ Do not remove the USB media when active. ▸ Only remove the USB media when the LED is off, indicating all activity is complete.

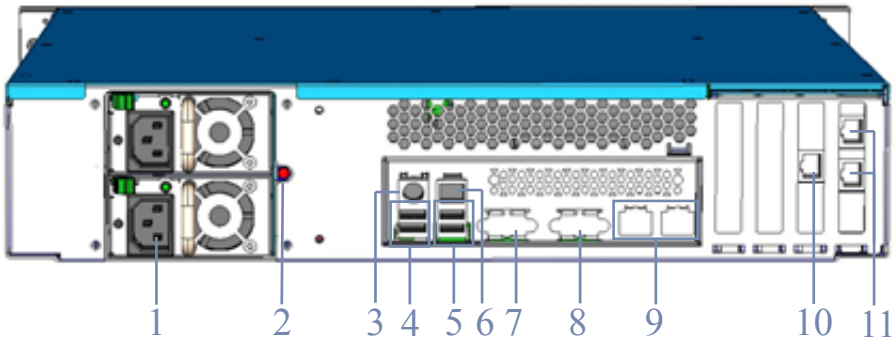

Figure 1-7 *RDX QuikStation 8 back panel components*

1	Power connectors (optional 2nd power supply shown)
2	Power Supply reset
3	Mouse/keyboard connector (green/purple)
4	USB 2.0 ports (2)
5	USB 3.0 ports (2)
6	Ethernet port - nonfunctional
7	Serial connector
8	VGA connector
9	Gigabit Ethernet Port (2)
10	10Gigabit Ethernet Port (optional)
11	Gigabit Ethernet Port (2)

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Installation and Setup

This chapter describes how to install and configure the RDX QuikStation and includes the following sections:

Preparing for Installation

For all host computers that will be backed up by the RDX QuikStation, verify that the host computer OS has iSCSI initiator software installed.

Windows	Linux	Mac OS X
iSCSI initiators are included with Windows operating systems. If necessary, download and install the appropriate iSCSI initiator from the Microsoft web site or from a third-party vendor.	iSCSI initiators are included with most Linux operating systems. If necessary, download and install the appropriate iSCSI initiator from your Linux Distribution web site or from a third-party vendor.	Mac OS X systems require the installation of a third-party iSCSI initiator. We recommend that you download and install an iSCSI initiator that has been tested or recommended for use with your chosen application.

- Keep the packing materials and box in case you need to ship the unit later.
- Select an appropriate location. The maximum recommended ambient temperature for the RDX QuikStation is 40° C (104° F). Install the appliance in an environment that is compatible with this temperature limit.
- Select an appropriate power source. The AC input for the RDX QuikStation is 100-240 VAC, and the rated input current is 2,0 -1,0A. Keep this information in mind when selecting a power source to prevent circuit overload. Plug the appliance's power cord into a high-quality power strip that offers protection from electrical noise and power surges. An uninterruptible power supply (UPS) is recommended.
- Verify that the work area is free from conditions that could cause electrostatic discharge (ESD). Discharge static electricity from your body by touching a known grounded surface, such as a computer's metal chassis.

Installing the Desktop RDX QuikStation 4

- Verify that the airflow around the front and back of the unit is not obstructed and that there is minimal dust.
- Verify at least 12cm free space in front of the unit to allow the operators to safely remove the RDX media.
- Do not place or store items upon the unit.

Proceed to "Connecting Network and Power Cords" on page 18.

Installing the Rack-Mount RDX QuikStation 4

The RDX QuikStation is designed for installation in a standard (EIA-310) 4-post, 19-inch rack and uses 1 unit (1U) of rack space.

- Verify the rack is placed on level ground. Use a level when installing the rack rails to prevent any potentially hazardous conditions caused by uneven mechanical loading.
- Use a ventilated rack to verify the appliance receives adequate air flow required for safe operation.
- Obtain the following items to complete the rack installation instructions
  - #2 Phillips screwdriver
  - Tape measure
  - Level

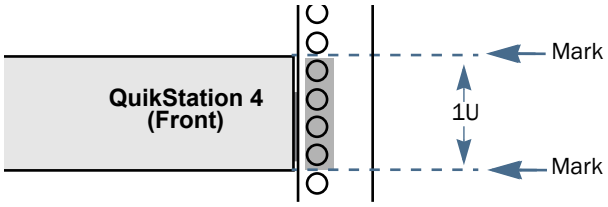
Unpacking the Unit

Place the unit and any supplied RDX media on a secure surface. Verify that the airflow around the front and back of the unit is not obstructed, there is minimal dust, and there is a minimum of 12cm free space in front of the unit to allow the operators to safely remove the RDX media.

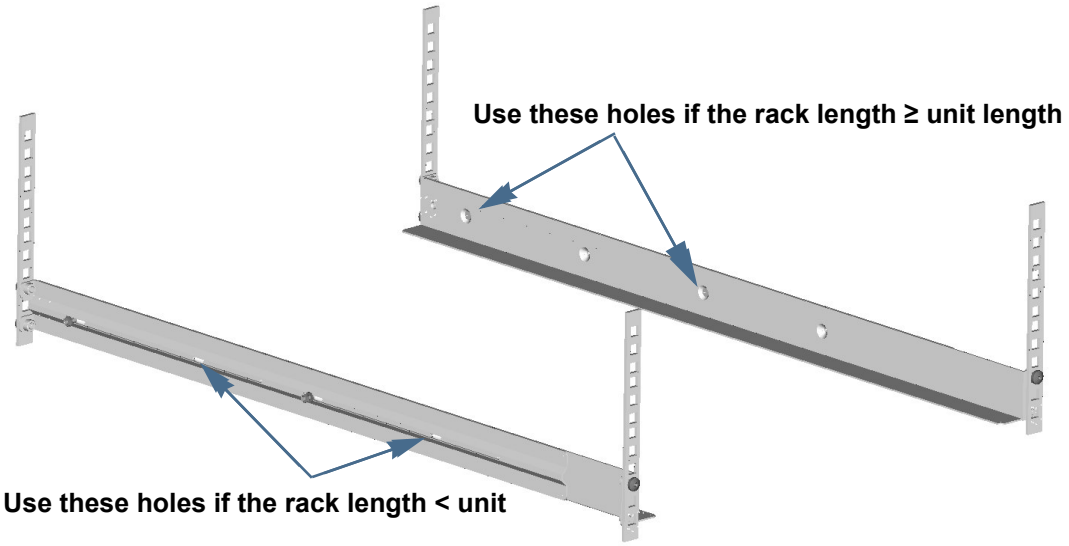
Installing Rails in Rack

The rack-mounted RDX QuikStation 4 is designed for use in a 19-inch rack using 1U of rack space. The length of the power cord and the Ethernet cables may restrict placement.

1. Determine the 1U area where the QuikStation 4 is to be mounted and mark (4.45cm/1.75 in.) of space on the front rack. At the rear, mark the first and third holes.

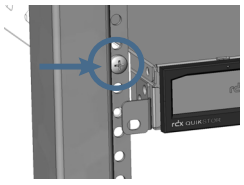


2. Measure the length between the front and rear rack mount rails.



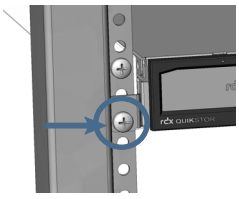
- If the measurement is shorter than the length of the QuikStation 4, secure the first and third rail holes with M4x12 screws, washers, and nuts.
- If the measurement is longer than the length of the QuikStation 4, secure the second and fourth rail holes with M4x12 screws, washers, and nuts.

3. Adjust the left rail to the length determined in **Step 2** using a 7 mm open-end wrench and screwdriver.



4. Align the left-front flange with the two marked holes on the front rack rail and loosely attach the rail with one screw in the top hole.
5. Align left-front flange with the two marked holes on the **rear** rack rail and loosely attach two screws in the marked holes.
6. Verify the rail is level and securely tighten all screws.
7. Repeat **Steps 1–6** for the right rail assembly.

Installing the Unit in the Rack



1. Lift and position the unit with the bracket holes aligned with the appropriate rack holes.
2. Using the two provided screws, attach the QuikStation 4 brackets to the rack and tighten them just enough to support the appliance. As needed, use any appropriate hardware that may be required for your type of rack.
3. Verify that the appliance is level, and tighten the screws.

Warning Do not place anything on top of the rack-mounted unit when it is extended from the rack.

Warning Avertissement: Ne rien poser sur l'unité installée dans le rack lorsqu'elle est étendue du rack.

Installing the Rack-Mount RDX QuikStation 8

The RDX QuikStation 8 is designed for installation in a standard (EIA-310) 4-post, 19-inch rack and uses 2 units (2U) of rack space.

- Verify the rack is placed on level ground. Use a level when installing the rack rails to prevent any potentially hazardous conditions caused by uneven mechanical loading.
- Use a ventilated rack to verify the appliance receives adequate air flow required for safe operation.
- Obtain the following items to complete the rack installation instructions
  - #2 Phillips screwdriver
  - Tape measure
  - Level

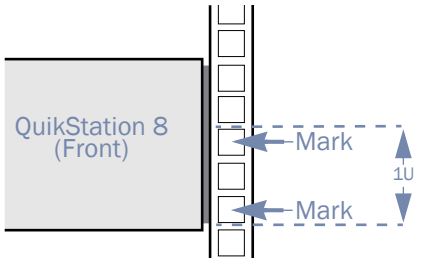
Unpacking the Unit

Place the unit and any supplied RDX media on a secure surface. Verify that the airflow around the front and back of the unit is not obstructed, there is minimal dust, and there is a minimum of 12cm free space in front of the unit to allow the operators to safely remove the RDX media.

Installing Rails in Rack

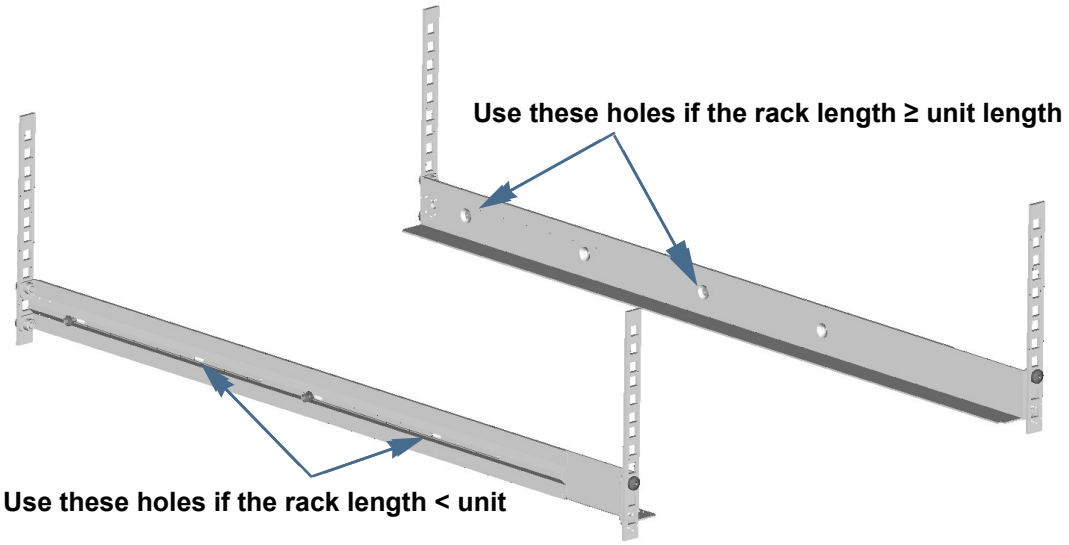
The rack-mounted RDX QuikStation 8 is designed for use in a 19-inch rack using 2U of rack space. The rails install in the bottom of a 2U space, the same as a 1U install. The rails can be fully installed with all front screws. The length of the power cord and the Ethernet cables may restrict placement.

1. Determine the 2U area where the QuikStation 8 is to be mounted and mark the bottom 1U (4.45cm/1.75 in.) of space on the front rack.



2. At the rear, mark the **first** and **third holes**.

3. **Measure** the length between the front and rear rack mount rails.



- If the measurement is **shorter** than the length of the QuikStation, secure the **first** and **third** rail holes with M4x12 screws, washers, and nuts.
- If the measurement is **longer** than the length of the QuikStation, secure the **second** and **fourth** rail holes with M4x12 screws, washers, and nuts.

4. Align the left-front flange with the two marked holes on the front rack rail and loosely attach the rail with two screws. Ensure the rail is level and attach the rail to the rack rear with two screws.

5. Repeat Step 2 for the right-side rail.

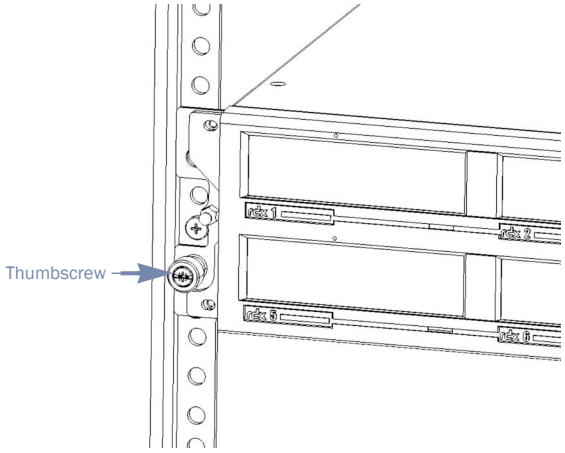
6. Verify the rail is level and securely tighten all screws.

Installing the Unit in the Rack

1. Lift and position the unit on the rails and push it in to full install depth with the front brackets touching the rail screws. Ensure the unit is level and that QuikStation 8 thumbscrews (shown below) align with the appropriate rack holes.

Warning Do not place anything on top of the rack-mounted unit when it is extended from the rack.

Warning Avertissement: Ne rien poser sur l'unité installée dans le rack lorsqu'elle est étendue du rack.



2. Using the thumbscrews, anchor the QuikStation 8 bracket right and left brackets to the rack.

Connecting Network and Power Cords

All cabling, power connections, and cooling vents are located on the QuikStation rear panel.

RDX QuikStation 4 Back Panel

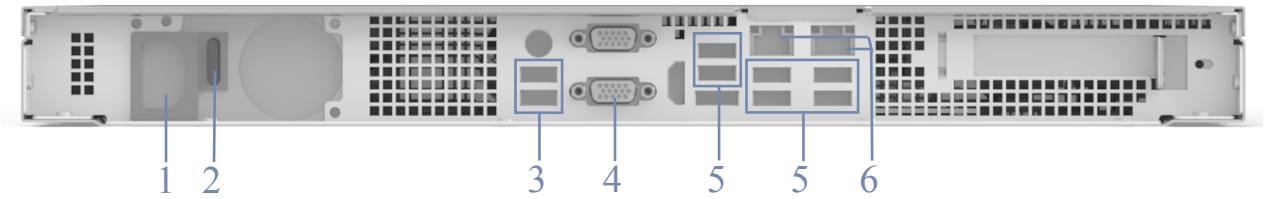


Figure 2-1 *RDX QuikStation 4 back panel components*

1	AC power connector
2	Power switch
3	USB 3.0 ports (2)
4	VGA/Display port
5	USB 2.0 ports (6)
6	Ethernet Ports (2)

1. Connect RDX QuikStation 4 Ethernet network ports to network ports on a switch or router.

   Note: Two network ports are recommended for failover protection and maximum performance. (See page 55 for more information about port configuration options.)

2. Connect the appropriate power cord to the QuikStation 4, and plug the power cord into a UPS appliance or a properly grounded AC power source.

3. Connect a VGA/Display monitor to determine whether the IP address for the RDX QuikStation 4 is assigned or use a USB stick after the unit is initialized to save the current network information to a text file (see page 21).

4. Turn the power on by pressing the power button on the front of the unit.

Note: If the unit does not power up, check that the power switch on the rear of the unit is set to on.

5. Verify that an IP address is displayed on the attached VGA monitor or use a USB stick after the unit is initialized to save the current network information to a text file (see page 21). If not, you must manually configure the IP address for the RDX QuikStation 4. See "Assigning a Static IP Address" on page 21.

RDX QuikStation 8 Back Panel

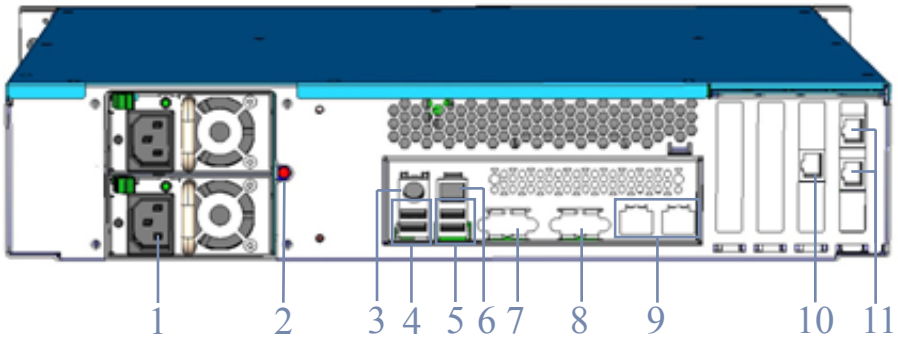


Figure 2-2 *RDX QuikStation 8 back panel components*

1	Power connectors (optional 2nd power supply shown)
2	Power Supply reset
3	Mouse/keyboard connector (green/purple)
4	USB 2.0 ports (2)
5	USB 3.0 ports (2)
6	Ethernet port - nonfunctional
7	Serial connector
8	VGA connector
9	Gigabit Ethernet Port (2)
10	10Gigabit Ethernet Port (optional)
11	Gigabit Ethernet Port (2)

1. Connect RDX QuikStation 8 Ethernet network ports to network ports on a switch or router.

   Note: At least two network ports are recommended for failover protection and maximum performance. (See page 55 for more information about port configuration options.)

2. Connect the appropriate power cords to the QuikStation 8, and plug the power cords into a UPS appliance or a properly grounded AC power source.

   Note: If two power modules are present, two live power cords must be connected. The Power Supply Unit will sound a warning if there are two power modules present and only one power cord is plugged in.

3. Connect a VGA/Display monitor to determine whether the IP address for the RDX QuikStation 8 is assigned or use a USB stick after the unit is initialized to save the current network information to a text file (see page 21).

4. Turn the power on by pressing the power button on the front of the unit.

Note: If the unit does not power up, check the power supply reset on the rear of the unit.

5. Verify that an IP address is displayed on the attached VGA monitor or use a USB stick after the unit is initialized to save the current network information to a text file (see page 21). If not, you must manually configure the IP address for the RDX QuikStation 8. See "Assigning a Static IP Address" on page 21.

Installing Media

1. Insert an RDX media into the RDX QuikStation 8 dock.

2. Slide the RDX media in until it locks in place.

3. Repeat **Steps 1–2** for each remaining RDX media.

Obtaining the IP Address

The default network configuration is set for dynamic IP addresses (DHCP), but static IP addresses are also supported.

Obtaining an IP address with a VGA monitor

To determine an IP address using a VGA monitor:

1. If it is not already present, attach a monitor to the VGA/display port.

2. Power on the unit by pressing the power button

   At the end of the boot procedure, the IP address is displayed on the VGA monitor.

   Note: For a dynamic IP setup, the IP address will display only if provided by the DHCP server.

Obtaining an IP address with a USB stick

The IP address may also be obtained using a USB stick with a single MBR partition formatted with either FAT32 or NTFS.

1. Create an empty `network.info` file on a USB stick.
2. **Insert the stick** in the USB port on the front of the unit and wait at least 30 seconds for the network configuration to download to the network.info file.
3. Move the USB stick to a **host computer** and scan the updated network.info file to determine the unit's IP addresses.

Assigning a Static IP Address

If DHCP support is not enabled in your network, set a static IP address for the unit:

1. Create a `network.conf` file on a USB stick that contains the following entries with IPv4 address, Default Gateway, and Prefix appropriate to the user's network.

   Note: The file content is case sensitive. Text shall start from the first column and no white space shall be used around equal sign (=). The Prefix is equivalent to the number of bits turned on in the Subnet Mask (for example, the Prefix for the mask 255.255.255.0 is 24).

   ```
   BOND0_IP4_CONFIG=static
   BOND0_IP4_ADDR=192.168.10.111
   BOND0_IP4_GW=192.168.10.1
   BOND0_IP4_PREFIX=24
   ```

2. Insert the stick in the USB port on the front of the unit and wait at least one minute for the network.conf file to update.
3. Remove the USB stick from the front port.

   The unit will restart with the updated network settings.
4. After the unit reboots, login to the Remote Management Console and finalize unit network settings such as DNS and search domain (refer to page 49).

   Note: To return the RDX QuikStation to the DHCP configuration, refer to "Automatically Assigning an IP Address" on page 21.

Automatically Assigning an IP Address

To automatically assign an IP address for the unit:

1. Create a `network.conf` file on a USB stick that contains the following entry for the IPv4 address.

   ```
   BOND0_IP4_CONFIG=dhcp
   ```

Note: No other parameters should be present in this case.

The file content is case sensitive. Text shall start from the first column and no white space shall be used around equal sign (=).

2. Insert the stick in the USB port on the front of the unit and wait at least one minute for the `network.conf` file to update.

3. Remove the USB stick from the front port.

   The unit will restart with the updated network settings.

Connecting to the Remote Management Console

Use a web browser to connect to the RDX QuikStation Remote Management Console from any computer on the same network as the RDX QuikStation. Supported operating systems include Microsoft Windows, Linux, and Mac OS X.

To connect to the Remote Management Console:

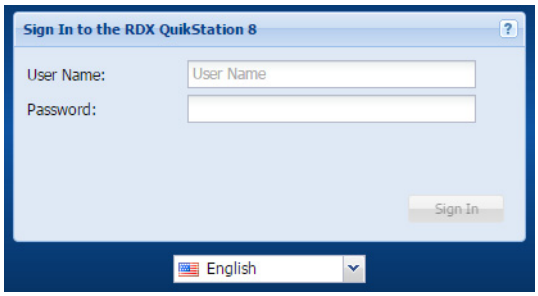
1. Obtain the unit's **IP address**.

2. From a network host, type the RDX QuikStation **IP address** in a web browser (http://<RDX QuikStation IP Address>).

3. Sign in to the **Console**.

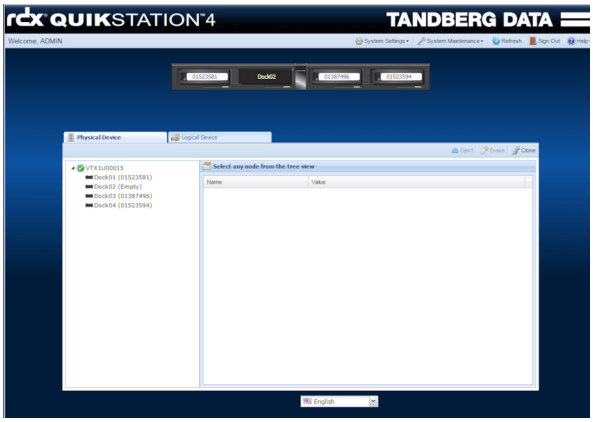
   The default user name and password is **admin** and **Admin!**.

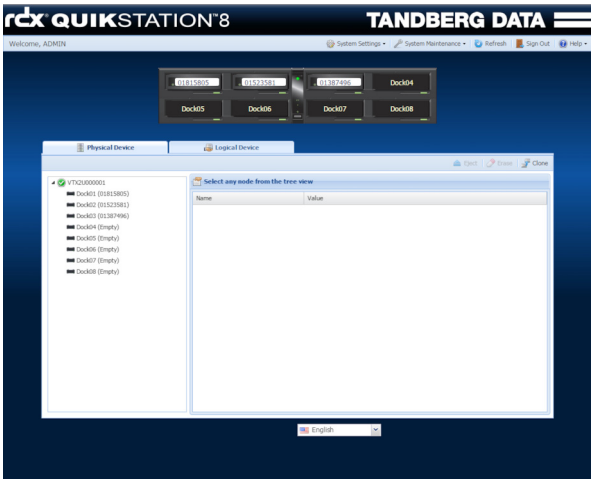
   Note: Passwords are case-sensitive.



The Remote Management Console opens.

Note: If you cannot access the Remote Management Console, verify first that your network infrastructure is operating correctly and that you are using a valid IP address. Contact Tandberg Data technical support if you need further assistance.





4. Go to the next section to configure your RDX QuikStation logical device type and other settings.

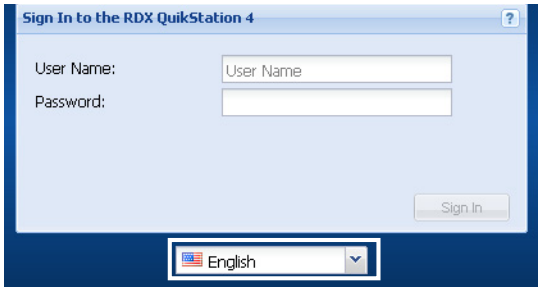
Configuring the RDX QuikStation

Setting Language

The language of the Remote Management Console may be changed by the user at any time from any page. Administrative permissions are not required.

To change the language:

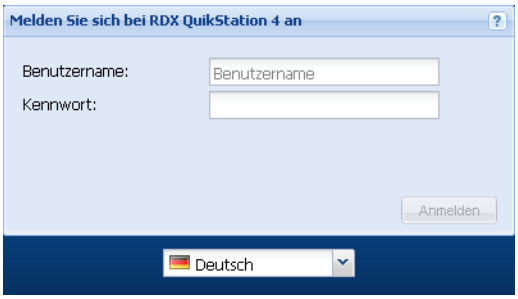
1. From any Remote Management Console window, click the language drop-down menu below the active window. In the example below, the login box is shown.



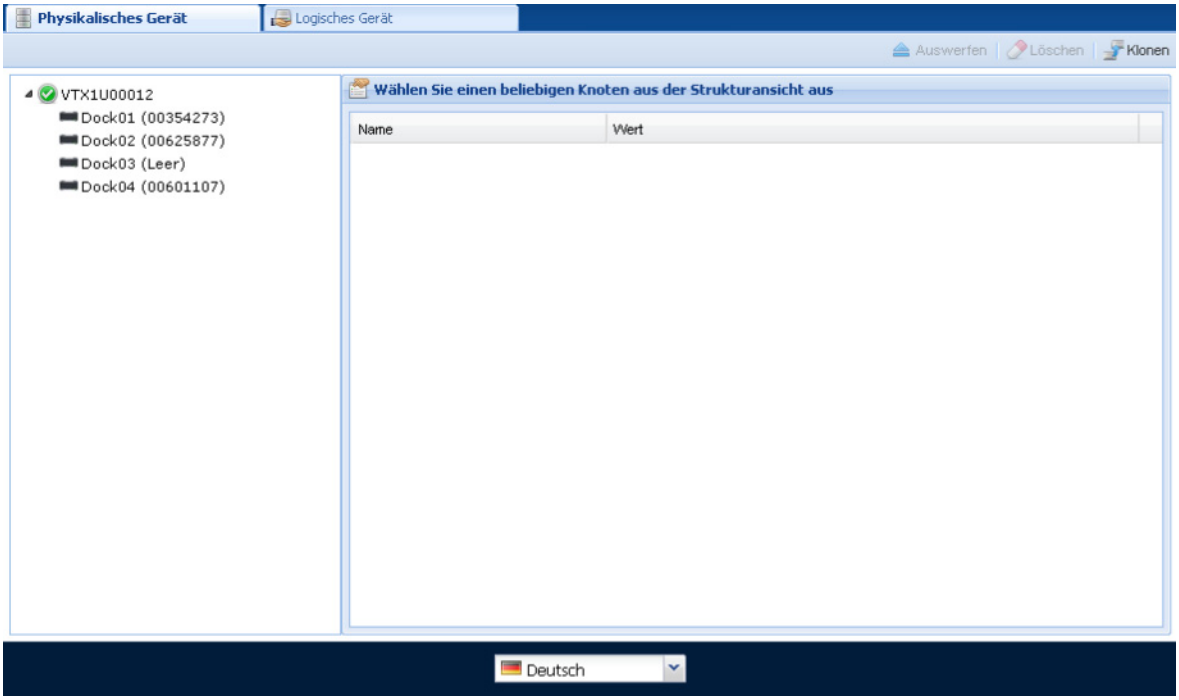
2. The menu of languages available appears.

3. Highlight the desired language.

The menu closes and the window appears in the selected language.



All subsequent pages will appear in the selected language. You may change the selected language from any page at any time.



Logical Device Type

You can configure your RDX QuikStation as multiple RDX drives (four or eight) or one RDX Logical Volume. The unit is shipped in the RDX Drive configuration.

For more information about best use for each logical device type, see Chapter 5.

System Settings

Refer to the table below to configure the following RDX QuikStation system settings. For more information, see Chapter 4 on page 47.

Table 2-1 *Recommended system settings*

Setting	Purpose	Where to find
Date/Time	Set the date and time to your time zone to receive accurate system and troubleshooting information. To avoid time drift, provide the NTP server address. See "Setting Date and Time" on page 49 for more information.	From the main menu bar in the Remote Management Console, go to System Settings > Date/Time.
Network Information	Tandberg Data recommends that you assign a static IP address to prevent inadvertent IP address changes of the iSCSI target. You can also configure optional DNS server addressing information. See "Configuring Network Information" on page 49 for more information.	From the main menu bar in the Remote Management Console, go to System Settings > Network. The RDX QuikStation automatically reboots after you have made your network changes.
Email Notification	A valid email address is needed for logging, error reporting, and password recovery. See "Setting Email Notifications" on page 57 for more information.	From the main menu bar in the Remote Management Console, go to System Settings > Notification.
User Management	As a best practice, change the built-in administrator account password. See "Editing a Password" on page 69 for more information.	From the main menu bar in the Remote Management Console, go to System Settings > User.

3

iSCSI Configuration

The data that you want to store, back up, and restore is transferred from your host computers to the RDX QuikStation via the iSCSI (Internet Small Computer System Interface) protocol. In iSCSI terminology, a host computer is referred to as an "initiator" and the storage device it connects to as the iSCSI "target."

This chapter includes the following sections:

iSCSI Configuration Overview

Before you can begin to back up and restore data with the RDX QuikStation, the host computers (initiators) must establish an iSCSI connection to the RDX QuikStation's storage targets.

To establish an iSCSI connection, you need to have iSCSI initiator software installed on the host. Verify that the host computer OS has iSCSI initiator software installed (see page 12).

Depending on how you configured the logical device type for the RDX QuikStation (see "Selecting the Logical Device Type" on page 77), you will have one to four (for the RDX QuikStation 4) or eight (for the RDX QuikStation 8) iSCSI targets to connect.

Note: For more information about viewing iSCSI targets, see "iSCSI Device Overview" on page 108.

You can configure iSCSI initiators with or without iSCSI security. The RDX QuikStation supports one-way Challenge Handshake Authentication Protocol (CHAP). CHAP is a protocol that is used to authenticate iSCSI connections and is based upon the initiator and target sharing a *secret* (a security key that is similar to a password).

With one-way CHAP authentication, the iSCSI target (storage device) authenticates the initiator (host). The secret is set just for the target. All initiators that want to access that target need to use the same secret to connect to the target. For more information, see "Set iSCSI Security" on page 37.

The following describes iSCSI Management rules for the RDX QuickStation iSCSI devices:

- Libraries and autoloaders can have up to 10 initiator users (CHAP) or hosts (host authentication).
- Single iSCSI storage targets (RDX drives, tape drives, logical volumes, and protected volumes) can only have one initiator user (CHAP) or host (host authentication)
  - If the Allow Multiple Host Connections option has been set (see section xxxx) then up to 10 initiator users (CHAP) or hosts (host authentication) may be set for each iSCSI storage target, including RDX drives, tape drives, logical volumes, and protected volumes.

Caution To avoid data corruption, multiple iSCSI initiator sessions should only be enabled when operating in a cluster aware filesystem.

Connecting to iSCSI Targets Without Authentication

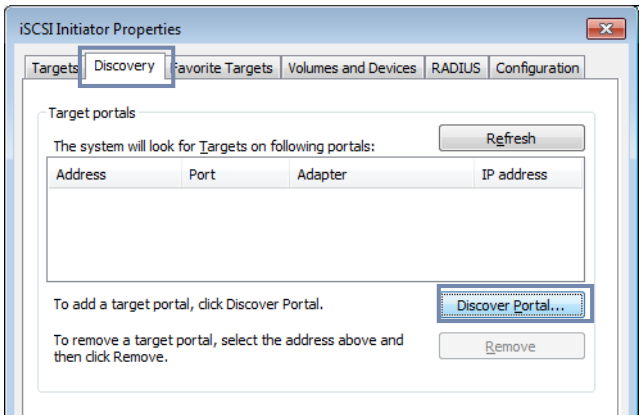
This section describes how to connect Windows, Linux, and Mac OS X hosts to RDX QuikStation iSCSI targets without authentication. If you plan on using one-way CHAP authentication, follow the instructions in "Set iSCSI Security" on page 37.

Connecting iSCSI Targets for Windows

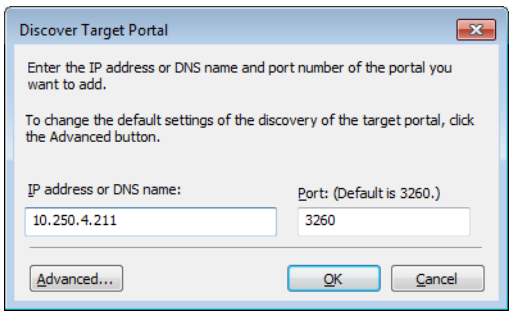
The following instructions describe how to connect your network host computers in Windows Server 2012 R2. Your iSCSI initiator interface may differ slightly depending on your Windows operating system.

To establish an iSCSI connection:

1. Open Microsoft iSCSI Initiator and click the Discovery tab.
2. Click [Discover Portal]. (Your version of iSCSI initiator may use [Add] depending on your Windows OS.)



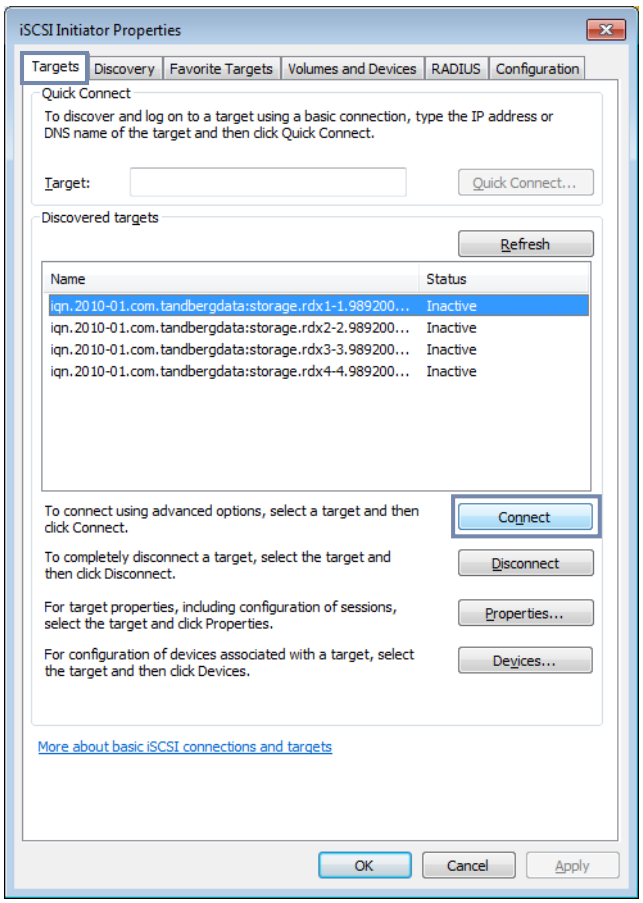
The Discover Target Portal dialog window opens.



3. In the Discover Target Portal dialog window, type the IP address for the RDX QuikStation. Click [OK].

4. Click the Targets tab.

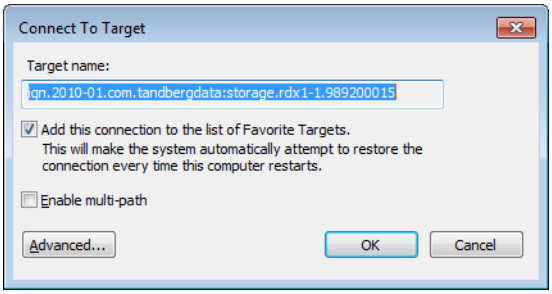
   Depending on how you configured the logical device type for the RDX QuikStation, you will see one to four or eight iSCSI targets.



5. For each iSCSI target, complete the following steps:

   a. Select an iSCSI qualified name (IQN). Click [Connect]. (Your version of iSCSI initiator may use [Log On] depending on your Windows OS.)

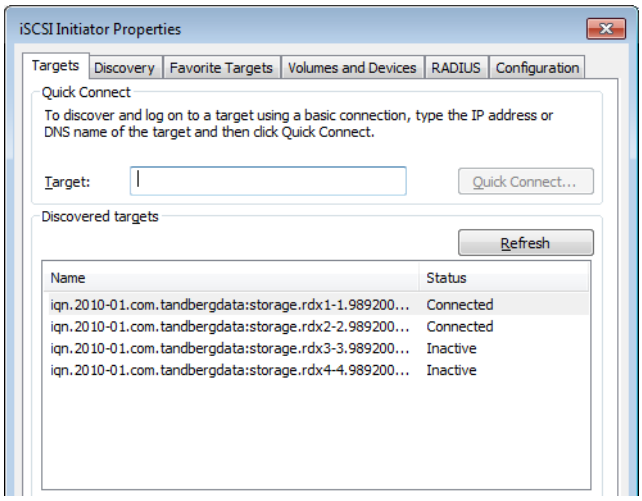
      The Connect to Target dialog window opens.



b. Select the "Add this connection to the list of Favorite Targets" checkbox.

c. Click [OK].

The RDX QuikStation's iSCSI target should display as "connected" in the Discovered Targets dialog window, as shown below.



! Important Before you shut down or restart the RDX QuikStation for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

Connecting iSCSI Targets for Linux

The following instructions describe how to connect iSCSI targets using Linux Open-iSCSI Initiator. Open-iSCSI Initiator is available for Redhat Enterprise Linux, CentOS, Fedora Linux, Debian, and Ubuntu operating systems. For more information about using Open-iSCSI with your specific Linux operating system, refer to your Linux distribution web site.

1. Install Open-iSCSI initiator.

   To install the iSCSI initiator, enter the following command:

   ```
   # yum install iscsi-initiator-utils
   ```

   For Ubuntu and Debian operating systems, enter the following command:

   ```
   $ sudo apt-get install open-iscsi
   ```

2. Discover iSCSI Targets.

   To discover the RDX QuikStation iSCSI targets, enter the following command, replacing the variable *RDX QuikStation IP address* with the actual IP address for your RDX QuikStation:

   `# iscsiadm -m discovery -t sendtargets -p` *RDX QuikStation ip address*

   Depending on how you configured the logical device type for the RDX QuikStation, you will see one to eight iSCSI targets.

3. Connect iSCSI targets.

   To connect all discovered iSCSI targets, enter the following command:

   ```
   # iscsiadm -m node -L all
   ```

   To connect to an individual target, enter the following command, replacing *target IQN name* with the iSCSI qualified name (IQN) of the target and replacing *target portal* with the RDX QuikStation 8 IP Address:

   `# iscsiadm -m node -T` *target IQN name* `-p` *target portal* `--login`

   Once all iSCSI targets are connected, the initiator (Linux host) can use the iSCSI disks as a normal disk. It appears under /dev/sdx devices and you can format, mount iSCSI disks like a normal disk.

Other “iscsiadm” Commands

1. Disconnect from an iSCSI target.

   To disconnect from an iSCSI target, enter the following command, replacing *target IQN name* with the iSCSI qualified name (IQN) of the target and replacing *target portal* with the RDX QuikStation 8 IP Address:

   `# iscsiadm -m node -T` *target IQN name* `-p` *target portal* `--logout`

2. Delete an iSCSI target.

   To delete a target, enter the following command, replacing *target IQN name* with the iSCSI qualified name (IQN) of the target:

   `# iscsiadm -m node -T` *target IQN name* `-o delete`

> **Important** Before you shut down or restart the RDX QuikStation for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

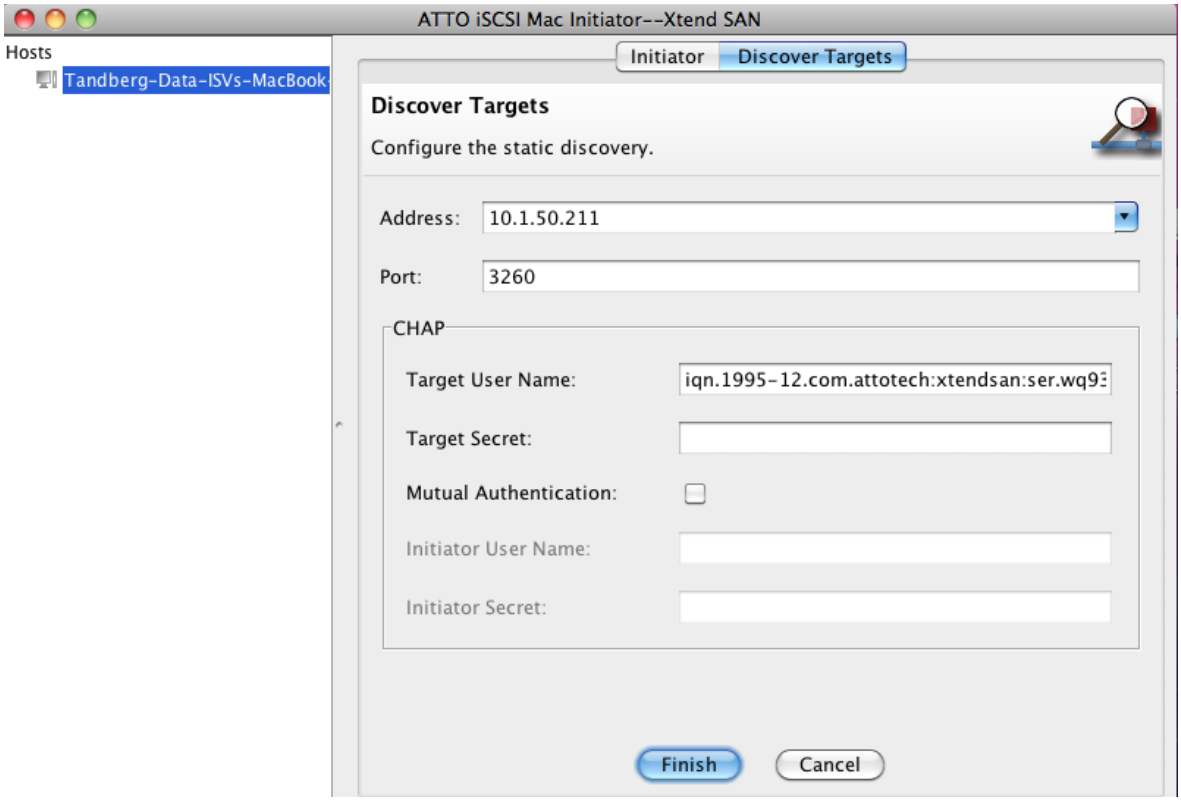
Connecting iSCSI Targets for Mac OS X

The following instructions describe how to connect your Mac OS X host computers using Atto Technology's Xtend SAN iSCSI initiator. Xtend SAN is compatible with Mac OS X 10.4.x and later. While we do not require you to use Xtend SAN as your third-party Mac OS X iSCSI initiator, we recommend that you use an iSCSI initiator that has been tested or recommended for use with your chosen backup application.

To establish a secure iSCSI connection:

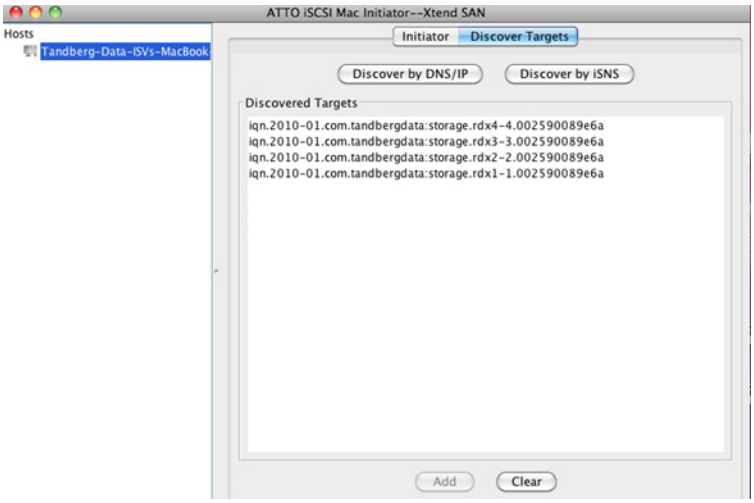
1. Open Xtend SAN iSCSI Initiator. Click the Discover Targets tab, then click [Discover by DNS/IP].

   The following dialog window opens.



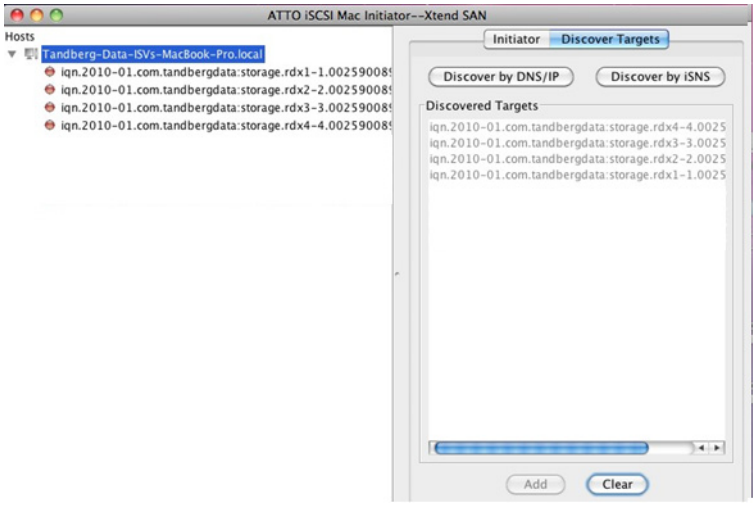
2. In the Address field, type the IP address for the RDX QuikStation. If you are using a port number other than the default, type the number in the Port field. Otherwise leave the default 3260 port number. Click [Finish].

   The dialog window displays the discovered iSCSI targets. Depending on how you configured the logical device type for the RDX QuikStation, you will see one to eight iSCSI targets. The screenshot below depicts a configuration of eight removable disks.



3. Highlight all the discovered targets and click [Add].

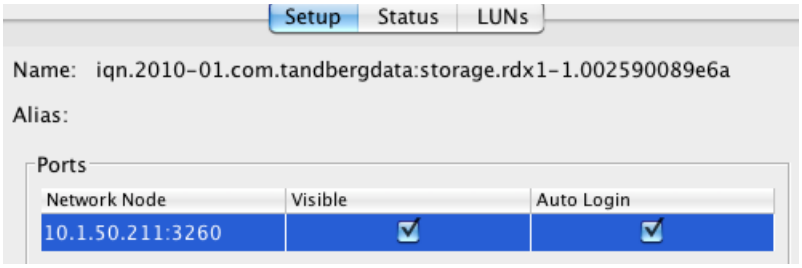
   The targets are displayed in the left pane with a red icon, signifying that they are not yet connected.



4. For each iSCSI target, complete the following steps to connect the target:

   a. Select an iSCSI qualified name (IQN) from the left pane.

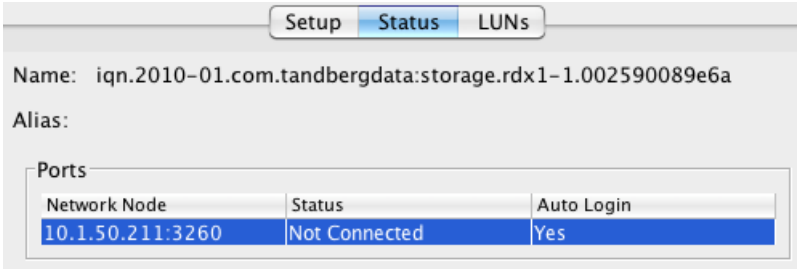
      The target's port information opens in the center pane.



b. Select the "Visible" checkbox and the "Auto Login" checkbox.

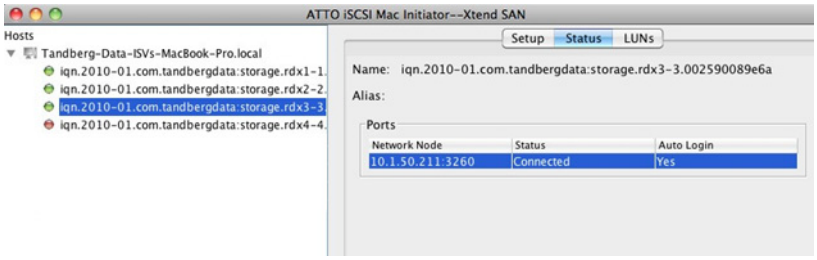
c. Click the Status tab.

The target's connection status is displayed.



d. Select the Network Node and click [Login].

e. The iSCSI targets will display with a green icon when they are connected to the RDX QuikStation, as shown below.



! Important Before you shut down or restart the RDX QuikStation for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

Set iSCSI Security

The RDX QuikStation allows you to set iSCSI security in one of the following ways

Security Type	Description
CHAP Authentication	CHAP is a protocol that is used to authenticate iSCSI connections and is based upon the initiator and target sharing a *secret* (a security key that is similar to a password). You can add up to 10 initiator users (hosts) per iSCSI target. However, for disk configuration, only one initiator can be actively connected to the disk target at a time.
Host Authentication	Only the hosts that you specify for an iSCSI target will be allowed to connect to the target. Without host authentication, any network host can connect to the iSCSI target. You can add up to 10 hosts per iSCSI target. However, for all logical device configurations, only one initiator can be actively connected to the disk target.

! Important As a best practice, set iSCSI security in the RDX QuikStation Remote Management Console first. Then, using the host's iSCSI initiator software, connect the host to your iSCSI targets on the RDX QuikStation 8.

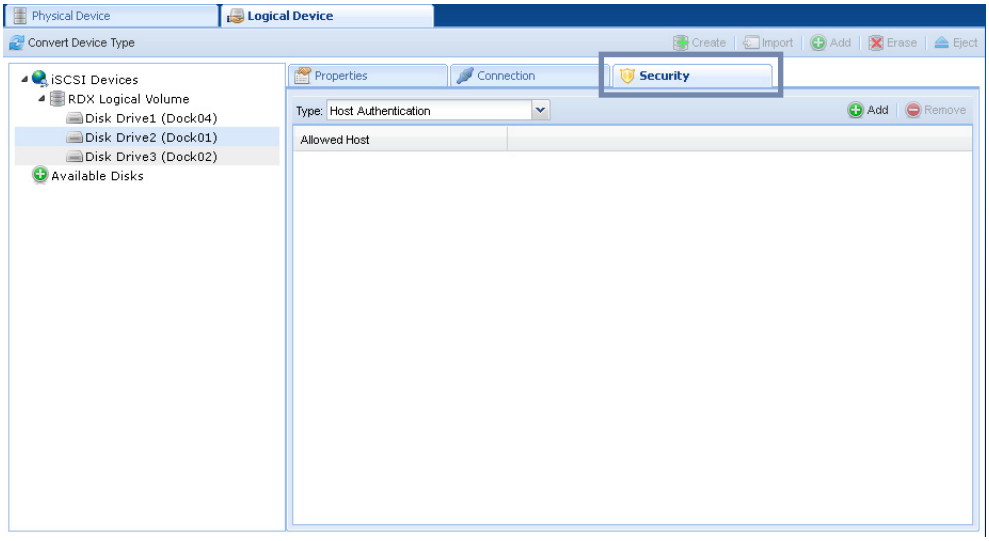
If you do not set security in the Remote Management Console first, any previously connected hosts will remain connected to the RDX QuikStation regardless of the security you set.

This section covers the following topics:

Setting iSCSI Security in the Remote Management Console

To set iSCSI security:

1. Sign in to the RDX QuikStation Remote Management Console (see page 22).
2. Click the Logical Device tab, then select the iSCSI target from the tree view in the left pane.



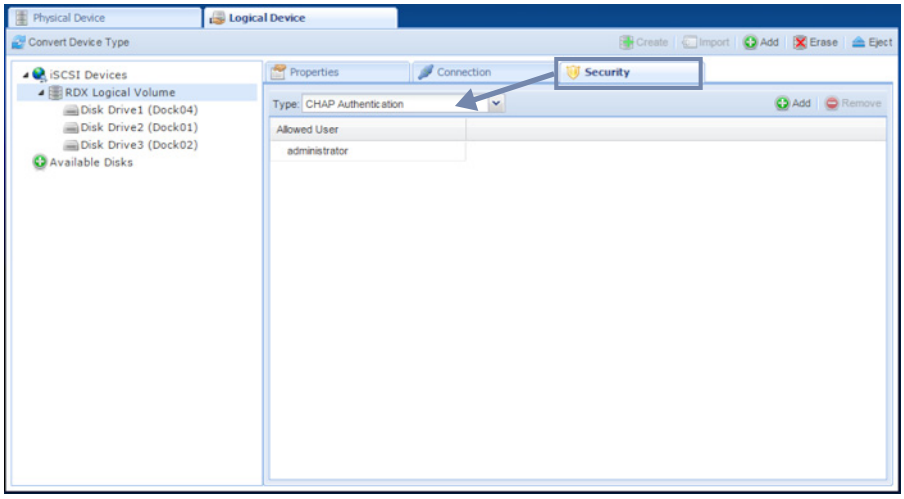
3. Click the Security tab.
   - To set CHAP authentication, see page 39.
   - To set host authentication, see page 40.

Enabling CHAP Authentication

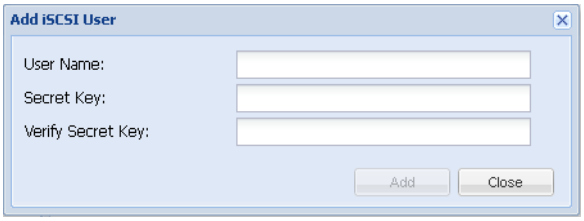
To add CHAP users (hosts) to an iSCSI target:

1. From the Security tab dialog window, make sure the CHAP Authentication option is shown in the pulldown window.

2. Click [+ Add].



The Add iSCSI User dialog box opens.



3. In the User Name field, enter the host initiator name. By default, this is the host IQN name, which you can find from your iSCSI host initiator software application.

   Note: You can create a unique user name in this field. If you do so, you must also change the default host initiator name in your host iSCSI initiator software to match this name.

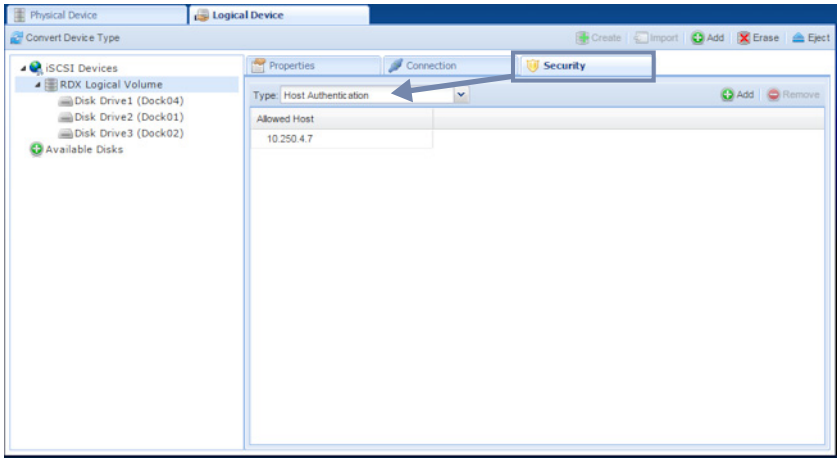
4. Type the CHAP secret. The secret must be 12 to 16 characters long. You can use any combination of letters, numbers, and the following special characters: -,!@#$%^&*_.

5. Type the CHAP secret again to verify. Click [Add].

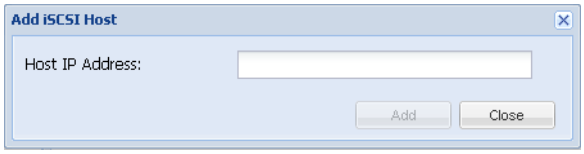
Enabling Host Authentication

To add hosts that will be allowed to connect to an iSCSI target:

1. From the Security tab dialog window, select Host Authentication from the pulldown window.
2. Click [+ Add].



The Add iSCSI Host dialog box opens.



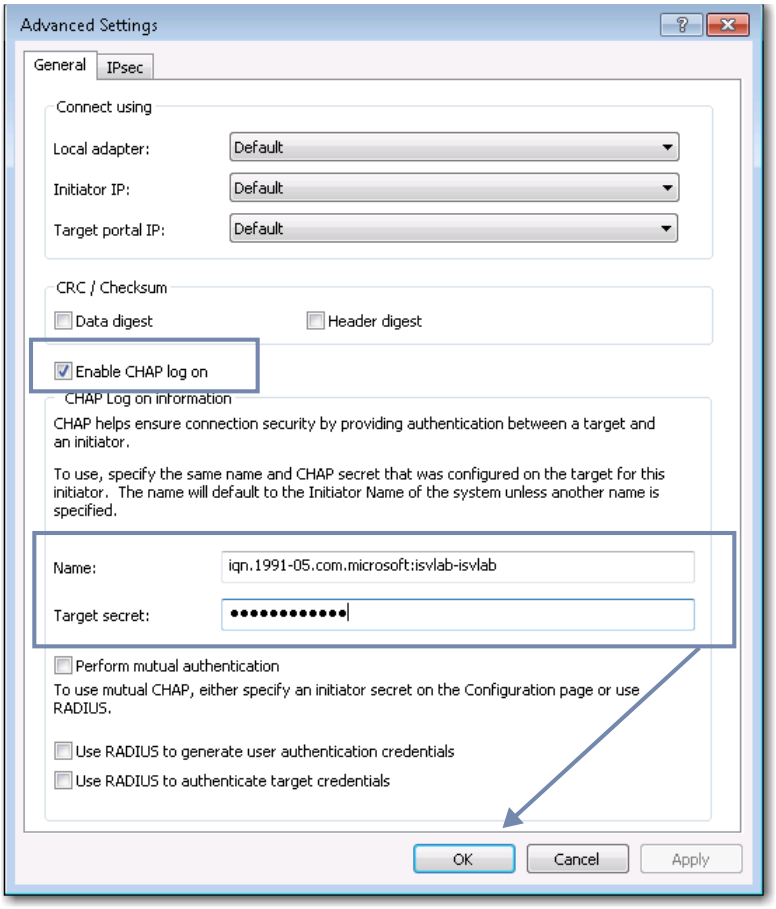
3. Type the IP address for the network host.
4. Click [Add].

Connecting iSCSI Targets with CHAP for Windows

The following instructions describe how to connect your network host computers in Windows Server 2012 R2. Your iSCSI initiator interface may differ slightly depending on your Windows operating system.

To establish an iSCSI connection with CHAP enabled:

1. Follow **Steps 1–5** on page 29 to discover the iSCSI targets.
2. In the Advanced Settings dialog window, complete the following actions:



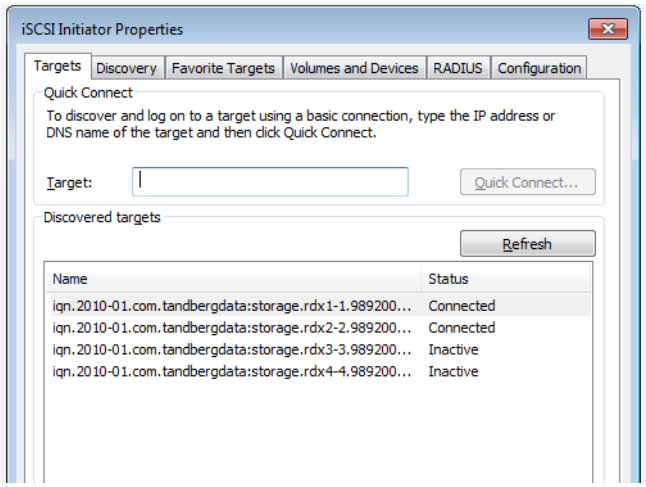
   a. Select the "Enable CHAP log on" checkbox.

   b. Type in the CHAP name. The name must match the name that was set in the RDX QuikStation Remote Management Console for this particular target.

   c. Type the target secret. This secret must match the CHAP secret that was set in the RDX QuikStation Remote Management Console for this particular iSCSI target.

   d. Click [OK], then click [OK] again in the Connect to Target dialog window.

      The RDX QuikStation's iSCSI target should display as "connected" in the Discovered Targets dialog window, as shown below.



! Important Before you shut down or restart the RDX QuikStation for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

Connecting iSCSI Targets with CHAP for Linux

The following instructions describe how to connect iSCSI targets with CHAP authentication using Linux Open-iSCSI Initiator. Open-iSCSI Initiator is available for Redhat Enterprise Linux, CentOS, Fedora Linux, Debian, and Ubuntu operating systems. For more information about using Open-iSCSI with your specific Linux operating system, refer to your Linux distribution web site.

1. Install Open-iSCSI initiator.

   To install the iSCSI initiator, enter the following command:

   ```
   # yum install iscsi-initiator-utils
   ```

   For Ubuntu and Debian operating systems, enter the following command:

   ```
   $ sudo apt-get install open-iscsi
   ```

2. Configure CHAP authentication.

   a. Open the `iscsid.conf` file using a vi text editor with the following command:

      ```
      # vi /etc/iscsi/iscsid.conf
      ```

   b. Set the authmethod to CHAP by replacing `None` with `CHAP` so that the following line reads:

      ```
      "node.session.auth.authmethod = CHAP"
      ```

c. Set the host initiator user name and CHAP password by uncommenting the following lines and replacing the variables with the actual host initiator name and password needed to connect to the iSCSI target.

```
#node.session.auth.username = (host initiator name)

#node.session.auth.password = (CHAP password)

#discovery.sendtargets.auth.username = (host initiator
name)

#discovery.sendtargets.auth.password = (CHAP password)
```

d. Restart the iSCSI service by entering the following command:

```
# /etc/init.d/iscsi start
```

3. Discover iSCSI Targets.

To discover the RDX QuikStation iSCSI targets, enter the following command, replacing the variable *RDX QuikStation IP address* with the actual IP address for your RDX QuikStation:

`# iscsiadm -m discovery -t sendtargets -p` *RDX QuikStation ip address*

Depending on how you configured the logical device type for the RDX QuikStation, you will see one to eight iSCSI targets.

4. Connect iSCSI targets.

To connect all discovered iSCSI targets, enter the following command:

```
# iscsiadm -m node -L all
```

To connect to an individual target, enter the following command, replacing *target IQN name* with the iSCSI qualified name (IQN) of the target and replacing *target portal* with the RDX QuikStation IP Address:

`# iscsiadm -m node -T` *target IQN name* `-p` *target portal* `--login`

Once all iSCSI targets are connected, the initiator (Linux host) can use the iSCSI disks as a normal disk. It appears under /dev/sdx devices and you can format, mount iSCSI disks like a normal disk.

! Important Before you shut down or restart the RDX QuikStation 8 for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

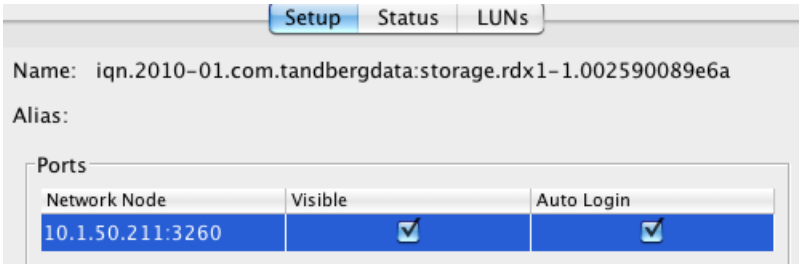
Connecting iSCSI Targets with CHAP for Mac OS X

The following instructions describe how to connect your Mac OS X host computers with CHAP authentication using Atto Technology's Xtend SAN iSCSI initiator. Xtend SAN is compatible with Mac OS X 10.4.x and later. While we do not require you to use Xtend SAN as your third-party Mac OS X iSCSI initiator, we recommend that you use an iSCSI initiator that has been tested or recommended for use with your chosen backup application.

To establish an iSCSI connection:

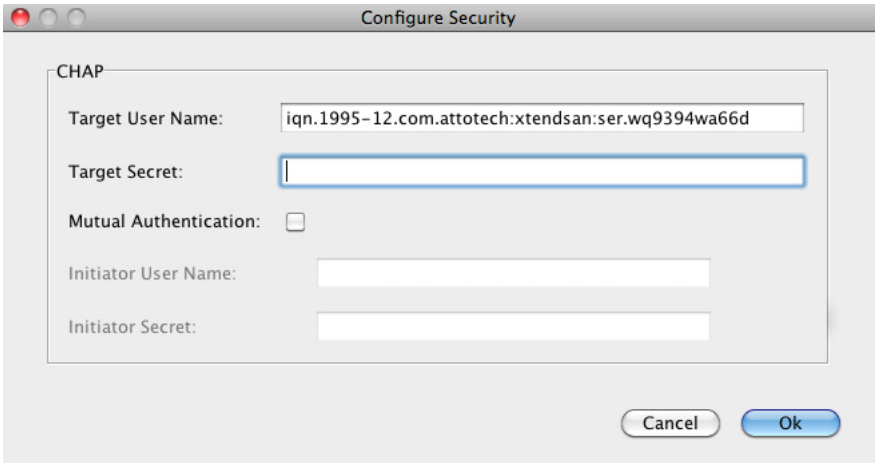
1. Follow **Steps 1–3** on page 34 to discover the iSCSI targets.
2. For each iSCSI target, complete the following steps to connect the target:
   a. Select an iSCSI qualified name (IQN) from the left pane.

      The target's port information opens in the center pane.



   b. Select the "Visible" checkbox and the "Auto Login" checkbox.
   c. Click [Security].

      The Configure Security dialog window opens.



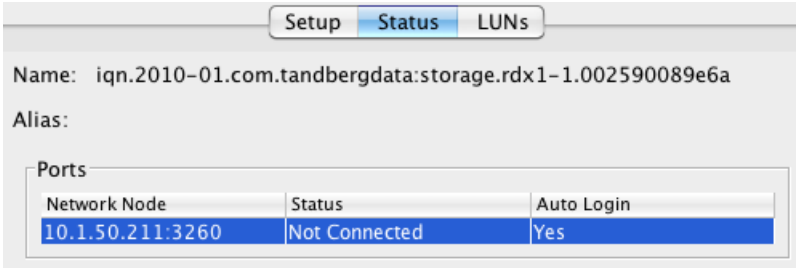
   d. Type the target secret. This secret must match the CHAP secret that was set in the RDX QuikStation Remote Management Console for this particular iSCSI target.

Note: The target user name (the host's IQN name), must match the user name that is specified in the iSCSI Management settings of the Remote Management Console.

e. Click [Ok].

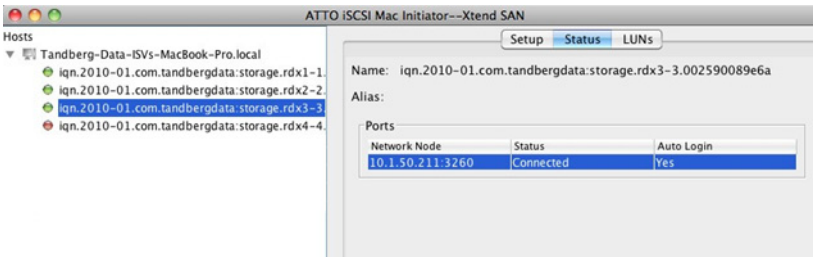
f. Click the Status tab.

The target's connection status is displayed.



g. Select the Network Node and click [Login].

The iSCSI targets will display with a green icon when they are connected to the RDX QuikStation, as shown below.



Important Before you shut down or restart the RDX QuikStation for any reason, Tandberg Data recommends that you disconnect all iSCSI targets.

4

System Configuration

This chapter describes the RDX QuikStation system settings that a user with administrator privileges can view and modify.

The chapter includes the following sections:

System Settings Overview

As a user with administrator permissions, the following functions are available for you to view and modify from the Remote Management Console's System Settings menu.

Table 4-1 *RDX QuikStation System Settings*

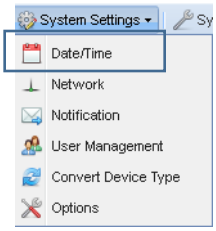
System Setting Menu Name	Description
Date and Time	Allows you to set the date, time, and NTP server for the RDX QuikStation (see page 49).
Network Information	Allows you to modify the RDX QuikStation name, assign a static IP address, configure DNS server addressing information, and set a port bonding mode (see page 49).
Notification	Allows you to specify email addresses where messages for error reporting and password recovery are sent, enable SMTP authentication, and customize email sender and subject line text (see page 57).
User Management	Allows an administrator to add, remove, and edit users that are allowed access to the RDX QuikStation Remote Management Console (see page 65).
Convert Device Type	Allows you to change the logical device type for the RDX QuikStation. For more information about logical device types, see Chapter 5. **Important:** If you convert the logical device type, make sure there are no active host connections to the iSCSI targets before doing so.
Options	The Options dialog window is divided into three tabs: System, Removable Disk, and Diagnostics. See "Setting RDX QuikStation Options" on page 59 for more information.

Setting Date and Time

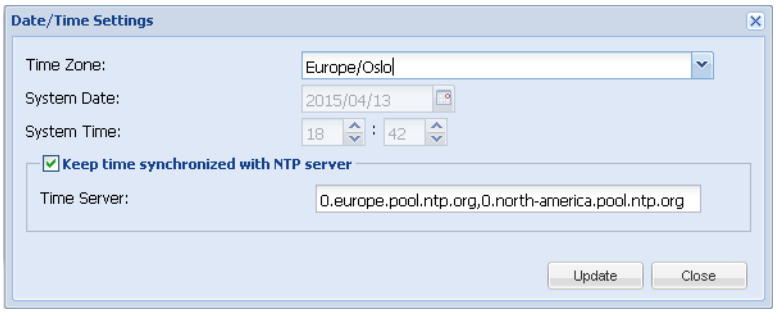
Note: You must have administrator privileges to set the date and time.

To set the date the time and time for your RDX QuikStation:

1. From the Remote Management Console main menu, select System Settings > Date/Time.



The Date/Time Settings dialog window opens.



2. Choose one of the following options:

   - Modify the Time Zone or System Date and System Time fields. Click [Update].
   - Select the "Keep synchronized with NTP Server" checkbox. Type the valid NTP server IPv4 address or its fully qualified domain name in the Time Server field. Multiple NTP servers may be entered separated by commas (,). Click [Update].

Note: The RDX QuikStation hardware clock is set to use UTC (Coordinated Universal Time). When changing the time zone, click [Update] before changing the date and/or the time.

At least one city from every time zone region is listed. If your city is not listed in the pull-down menu, select a city in the same time zone. For example, "America/Los Angeles" represents the Pacific time zone.

Configuring Network Information

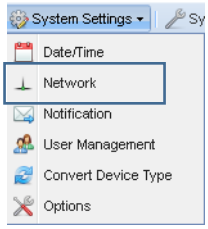
The RDX QuikStation has multiple network interfaces. These may be used as separate connections or may be 'bonded' together to act as a single connection to protect against failure or to improve throughput.

Notes: You must have administrator privileges to configure network information.

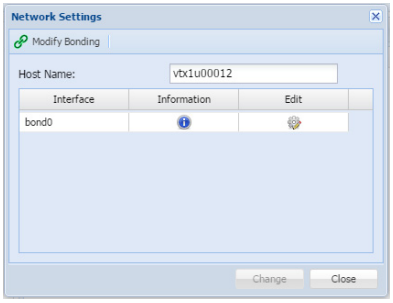
If a port is not connected to the Ethernet, be sure to set the port IPv4 setting to "Disable this interface," and set the bond for that interface to "none." If this is not done, it will take longer for the system to boot; under certain circumstances, ports that are connected may not function properly.

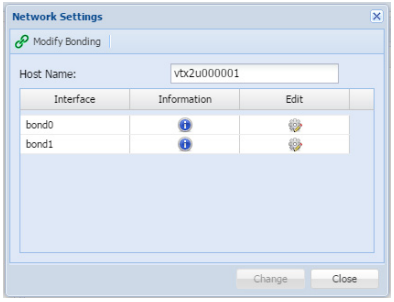
To configure network information for the RDX QuikStation:

1. From the Remote Management Console main menu, select System Settings > Network.



The Network Settings dialog window opens, showing only those interfaces that are not part of another bonded interface.





2. Modify the host name if desired. The default RDX QuikStation host name uses "vtx1u" or "vtx2u" and the last five digits of the unit's serial number.

3. To change the way in which the network interfaces are bonded, select the Modify Bonding button to open the Modify Bonding dialog.

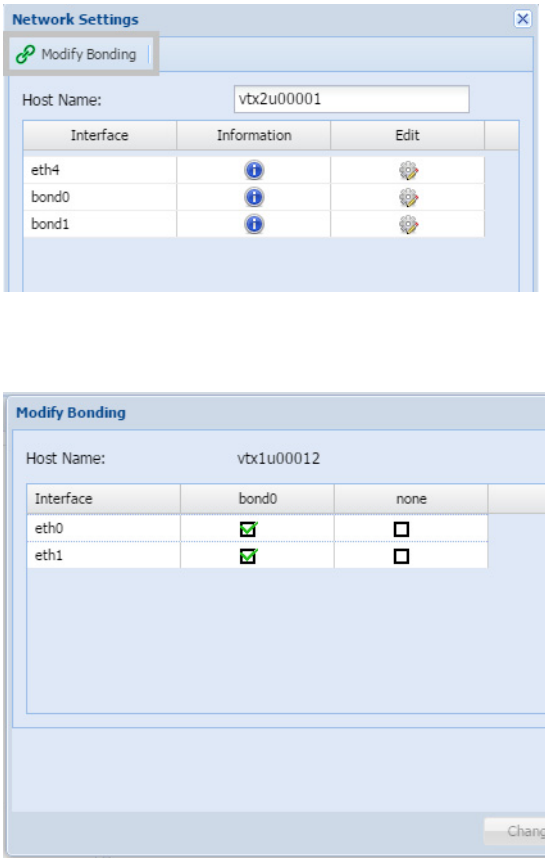


Figure 4-1 *QuikStation 4 Modify Bonding dialog*

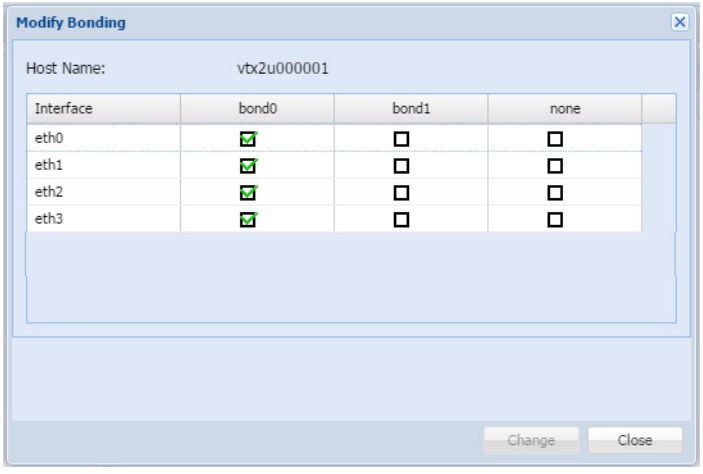


Figure 4-2 *QuikStation 8 Modify Bonding Dialog*

Note: The optional 10Gb Ethernet interface cannot be bonded with any of the other interfaces.

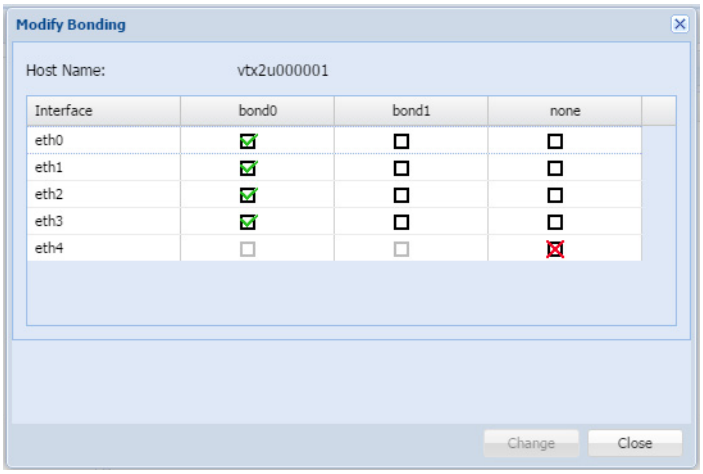


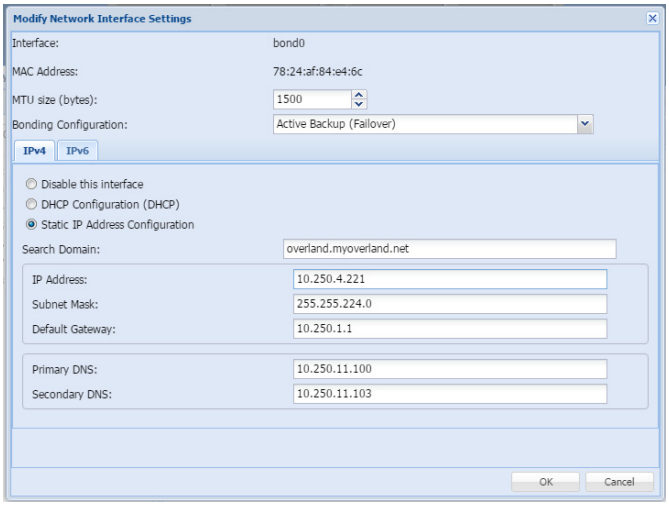
Figure 4-3 *QuikStation 8 with Optional 10Gb Ethernet Interface*

4. Select a new bonding configuration if desired. Normally, the interfaces will be bonded in pairs. Bonded interfaces will act like a single interface to the host (see Port Configuration Options for more information). Non-bonded interfaces will operate independently.

   Be sure to verify the network settings (see below) for each interface whose bonding has been changed.

5. Click [Change] to modify the bonding settings and return to the Network Setting dialog. Bonding changes will not be made permanent until all the network settings are saved.

6. To change the network settings, click the Edit icon to display the Modify Network Interface Settings page.



7. Set the MTU size used for the rest of the network, 1500 to 9000 bytes. The default value is 1500 bytes. All devices sharing a network should have the same MTU setting.

8. If you are configuring a bonded setup, select a bonding configuration. By default, the port setting is set for Active Backup, or Failover. In most cases, this default setting will suffice for your network environment. See Port Configuration Options in the section below for more information.

9. Choose to either obtain network addressing automatically via DHCP or set static addressing information. Tandberg Data recommends you set a static IP address to prevent inadvertent address changes.

   - When DHCP configuration is selected, the DHCP server in your network should provide all required information to configure network interfaces. No additional setting is required.

   - When static IP address is selected, IP address and Subnet mask must be set. DNS and Search Domains may only be set if the Default Gateway is set. Only one Default Gateway may be set for all interfaces.

10. If you have selected Static IP Address Configuration, enter the IP address, the subnet mask, and the default gateway.

    Note: You can configure DNS and search domain only for static configuration with gateway address set.

11. Add or modify the search domain (DNS lookup domain).

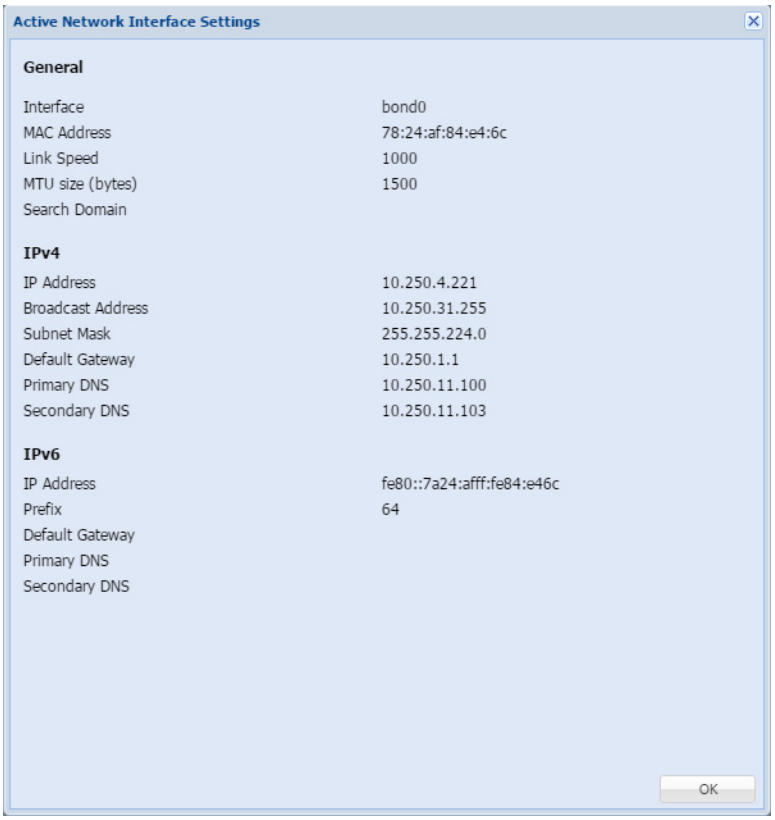
12. Enter a primary and secondary DNS server address.

13. Add or modify the search domain (DNS lookup domain).

14. Click [OK].

    Notes: If you change the IP address and the Remote Management Console is not connected within 3 minutes after reboot procedure started, close web browser window and open a new one with IP address you've configured.

15. After the unit has been rebooted, you can verify the changes. From the System Settings > Network Settings dialog, select Information to display the Active Network Interface Settings dialog.



16. Press [OK] to close.

Port Configuration Options

The RDX QuikStation 4 has two Gigabit Ethernet ports to provide failover protection and high availability network connectivity. The RDX QuikStation 8 has four Gigabit Ethernet ports standard. In network environments, it is a common practice to configure two or more external ports as a single, logical, bonded port using an industry standard feature called Link Aggregation, also known as port bonding or port trunking.

An optional 10Gigabit Ethernet port is also available for the RDX QuikStation 8. This port cannot be bonded with any other port.

Bonded Network Configuration

The behavior of the logically-bonded ports depends upon the mode. For the RDX QuikStation, you can configure port bonding for active backup/failover, adaptive load balancing, or dynamic link aggregation.

The following table describes the port bonding modes that are available in the RDX QuikStation.

Table 4-2 *Port bonding options*

Port bonding mode	Description
Active-backup (failover)	The Active-backup or failover mode is the default configuration for the RDX QuikStation. This mode uses one port (adapter) and is limited by that port's throughput. It will only switch to the other port if the active port fails.
Adaptive load balancing (balance-alb)	Adaptive Load Balancing provides load balancing of transmit and receive traffic. It also provides automatic failover if one cable fails. This option works with any switch and is best used in a multi-disk environment that has multiple iSCSI host connections. This mode can provide a maximum performance for multiple iSCSI sessions from the different IP addresses. You might consider using this option if you have configured your RDX QuikStation as the maximum number of RDX drives, and you are using most or all of the iSCSI disk targets.
Dynamic link aggregation (802.3ad)	Creates aggregation groups that share the same speed and duplex settings. Utilizes all slave network interfaces in the active aggregator group according to the IEEE 802.3ad specification. Requires 802.3ad support in Ethernet switch and host computer (iSCSI initiator). This mode shall be utilized as point-to-point between RDX QS 4 and the initiator host.This mode can provide a maximum performance for a multiple iSCSI sessions from the same IP address. If the network is not configured properly, using this port bonding mode can disrupt the entire network.

Split Network Configuration

When there is more than one Ethernet interface available to the host, each available interface is configured separately. Configuration of each separate interface is similar to the configuration of a single bonded interface above with a few exceptions:

- An unbonded interface dialog has no bonding mode settings.
- IP address must be different for all interfaces.
- Only one default interface can have gateway address set.
- If one interface is set in DHCP mode, it is considered a default interface.
- You can configure DNS and search domain only for interface with static configuration, which has gateway address set.

- At least one interface must be enabled in a split setup.

  Note: A split Ethernet port configuration should be used if ports are connected to the different networks. If ports are connected to the same network setup, use a bonded port configuration.

  You may also want to use split Ethernet connection if you choose to allow the Multiple Host Connections option. See "Setting RDX QuikStation Options" on page 59.

Setting Email Notifications

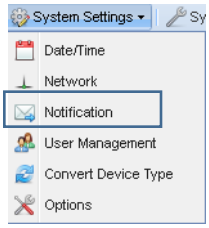
Note: You must have administrator privileges to set email notifications.

The Notifications Settings dialog window consists of three tabs: basic, authentication, and customization. The authentication tab allows you to add a user name and password for SMTP authentication, if your email server requires it. The Customization tab allows you to define the "From" email address and the subject text for email messages that are sent by the RDX QuikStation.

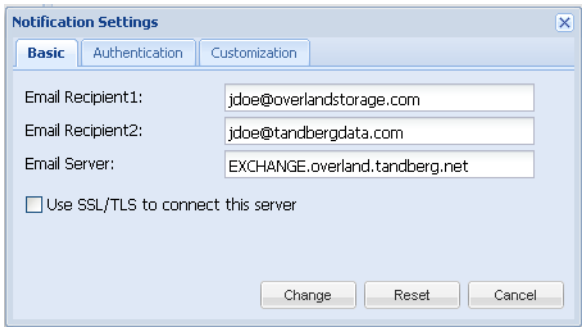
Note: If the network is set to a static IP address, the Default Gateway, Search Domain, and primary DNS server may have to be set to access the email server.

Setting Basic Email Notification

1. From the Remote Management Console main menu, select System Settings > Notification.



The Notification Settings dialog displays.



2. Type one or two valid email addresses in the email recipient fields. The RDX QuikStation will send any system error messages, such as a fan failure or an RDX dock failure, to the addresses that you specify. The RDX QuikStation will also send any password recovery requests to these addresses.

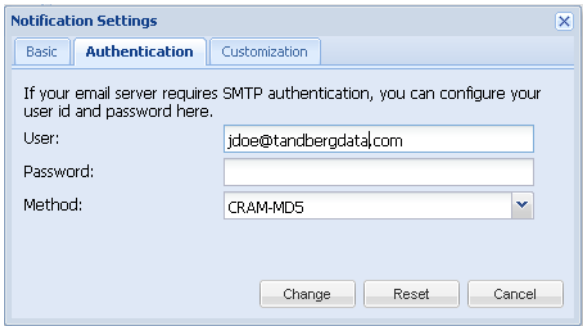
3. Enter a fully-qualified email server domain name. For example, `mailhost.mycompany.com`. You can also enter a valid IPv4 address. For example, `192.168.1.101`.

4. If your email server uses SSL/TSL, select the checkbox to enable it.

5. Click [Change].

Setting SMTP Authentication

1. Click the Authentication tab from the Notification Settings dialog window.



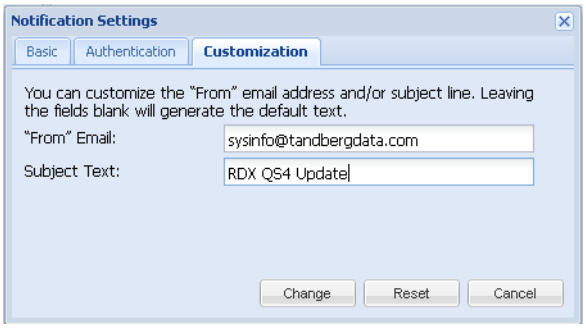
2. Type the SMTP user name and password for your email server.

3. Select the authentication method from the pulldown menu – either “plain” or “CRAM-MD5.”

4. Click [Change].

Customizing Email Subject and From Address

1. Click the Customization tab from the Notification Settings dialog window.



2. Type your desired "From" email address using standard email format, such as "myQuikStation@mycompany.com." The "From" email text does not need to be a valid email address.

3. If desired, type a custom subject text. This text will be used in all emails that are generated by your RDX QuikStation.

4. Click [Change].

Setting RDX QuikStation Options

The Options dialog window is divided into three tabs: System, Removable Disk, and Diagnostics.

Refer to the table below for information about each tab.

Table 4-3 *RDX QuikStation option settings*

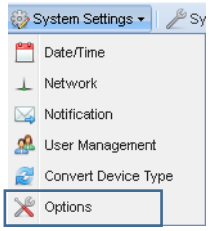
Tab	Option	Description
System	Check firmware update automatically	Recommended. Provides notifications about new firmware releases on Internet-accessible networks.
	Allow multiple host connections	Allows multiple iSCSI connections to drive targets from multiple hosts in cluster environments when hosts can manage drive access. To avoid data corruption, multiple iSCSI initiator sessions should only be enabled when operating in a cluster aware filesystem. This option also supports MPIO for a single host by allowing multiple connections from the host.
Removable Disk	Unsafe Eject	Allows you to enable the "Unsafe Eject" mode for RDX media that have an established host connection (see page 61).

Table 4-3 *RDX QuikStation option settings*

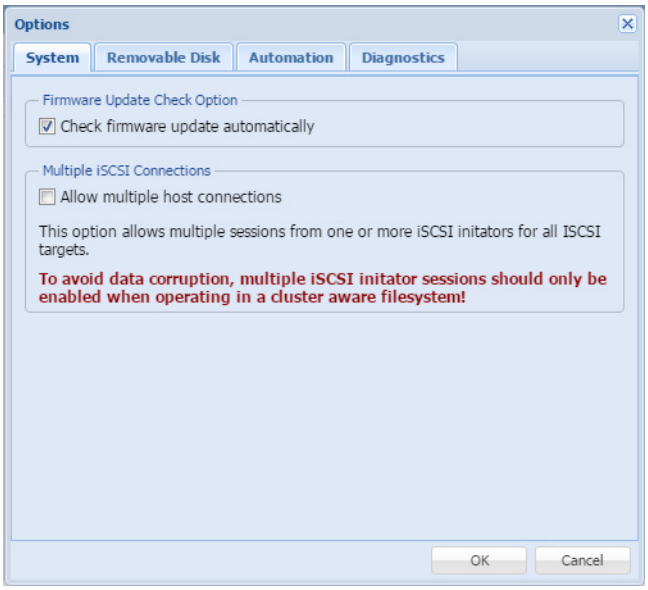
Tab	Option	Description
Automation	Auto-Insert Options	Allows you to enable the "Auto-Insert" mode tape automation devices. If set, then cartridges physically inserted in the QuikStation docks will be logically placed in an empty tape library rather than in the Import/Export slot (see page 61).
Diagnostics	Log Level	Allows you to change the log level from Normal to Detail or Extend. Tandberg Data recommends you only change the log level if you are instructed to do so by Tandberg Data Technical Support. **Note:** If you change the log level, the system will default to "normal" once the Management Console browser session is closed.
	Remote Access	Allows you to control remote access to the RDX QuikStation via SSH (Secure Shell) for Technical Support. This feature is enabled by default.

To access the Options dialog window:

- From the Remote Management Console main menu, select System Settings > Options.



The Options dialog window opens with the System tab selected.



The default setting for "Check firmware update automatically" is selected. This setting is recommended to receive notifications about new firmware releases on Internet-accessible networks.

The "Allow multiple host connections" setting defaults to off. **This option should only be enabled if the QuikStation is in a clustered environment where the hosts can properly share a single storage device without causing data corruption.** When set, this option allows more than one host to access the storage device at the same time.

Setting Removable Disk Options

Note: The removable disk option only applies to disk configurations.

You can enable the "Unsafe Eject" mode for RDX media that have an established host connection.

By default, when an RDX dock is configured as a logical disk drive that is connected to a host computer, you cannot manually eject the media using the RDX dock eject button or the eject function in the Remote Management Console. This is because the connected host computer's operating system has reserved the RDX media.

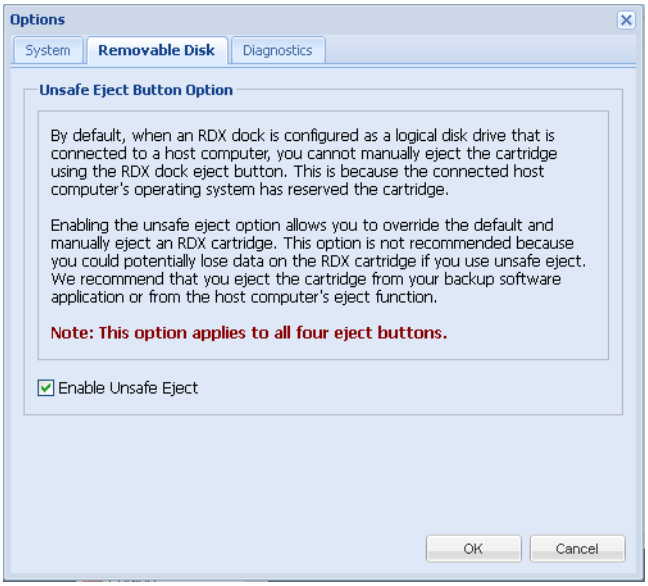
A fixed disk operation mode can also be used for Windows backup support.

Enabling the unsafe eject option allows you to override the default and manually eject an RDX media. This option is not recommended because you could potentially lose data on the RDX media if you use unsafe eject. We recommend that you eject the RDX media from your backup software application or from the host computer's eject function.

Caution When using this operation mode, do not eject any RDX media while data is being written or read as it might cause data loss and file system corruption.

To enable Unsafe Eject:

1. Click the Removable Disk tab from the Options dialog window.



2. Select the "Enable Unsafe Eject" checkbox.

3. Click [OK].

Setting the Auto-Insert Option

The auto-insert option controls how the RDX QuikStation handles tape library import/export slot functionality.

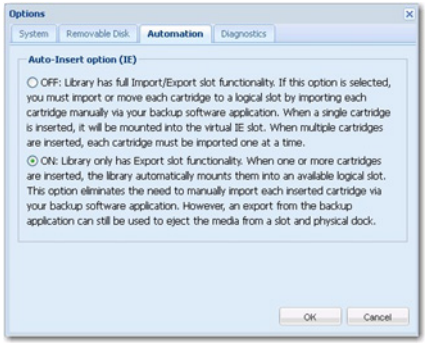
The following table describes RDX QuikStation behavior when this option is turned off and when it's turned on.

Table 4-4 *Auto-insert (I/E Port Behavior) Option Settings*

Auto-insert option setting	Behavior
OFF	When a single RDX cartridge is inserted into any dock, it will be mounted into the virtual IE port, awaiting an import command from your backup software. When multiple cartridges are inserted, the first cartridge that is detected by the library will be mounted to the virtual IE port. The remaining inserted cartridges will not display in the Remote Management Console until you import them one at a time via your backup software application (see Figure 4-1 and Figure 4-2). **Note:** Refer to your backup software documentation for tape library import/export commands and recommended use.
ON (Default)	When one or more RDX cartridges are inserted, the RDX QuikStation automatically moves them into an available logical slot (see Figure 4-3 and Figure 4-4). The auto-insert option eliminates the need to use your backup software to import each inserted cartridge. If the slot corresponding to the physical dock is available, that slot will be used by the RDX QuikStation. However, you can still perform an export from the backup application to eject the media from a slot and physical dock.

To change the auto-insert option:

1. Click the Automation tab from the Options dialog window.



2. Select your desired setting. Click **[OK]**.

Note: Te default is the ON setting. See Table 4-4.

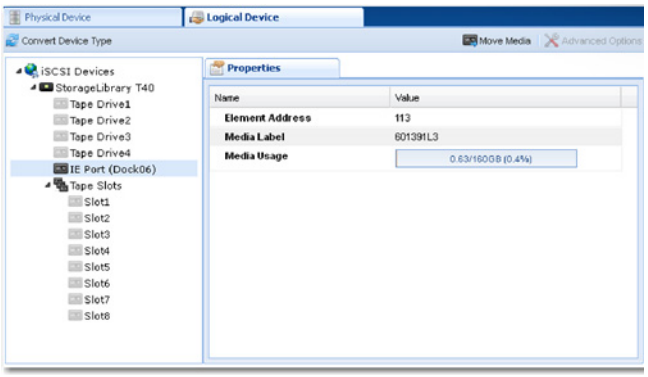


Figure 4-4 *Logical View of a Tape Library with the auto-insert option OFF*

Note: Only the IE Port displays as populated until the other cartridges are imported one a time with your backup software.

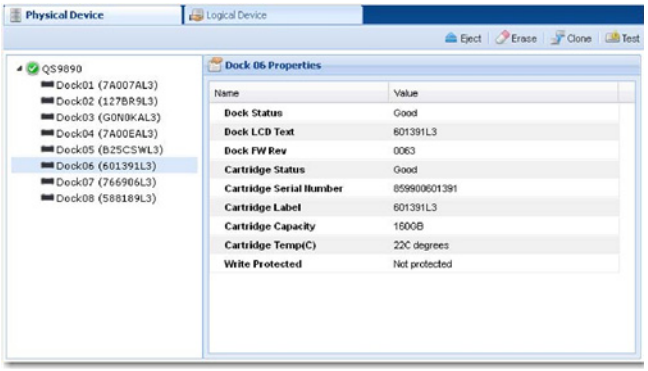


Figure 4-5 *Physical View of a Tape Library with the auto-insert option OFF*

Note: Four cartridges are displayed in their physical slots; in Figure 4-4, only one cartridge is displayed in the IE port.

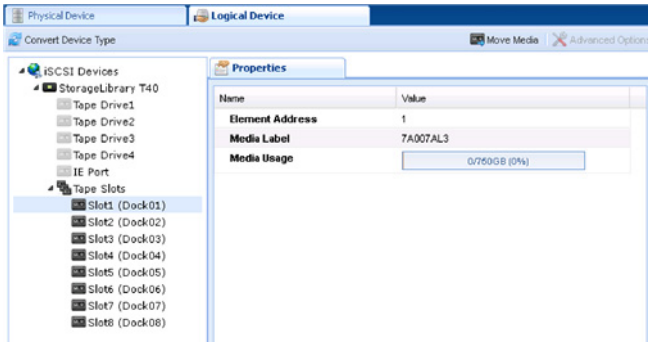


Figure 4-6 *Logical View of a Tape Library with the auto-insert option ON*

Note: Cartridges automatically mount to logical slots that correspond with their physical dock locations.

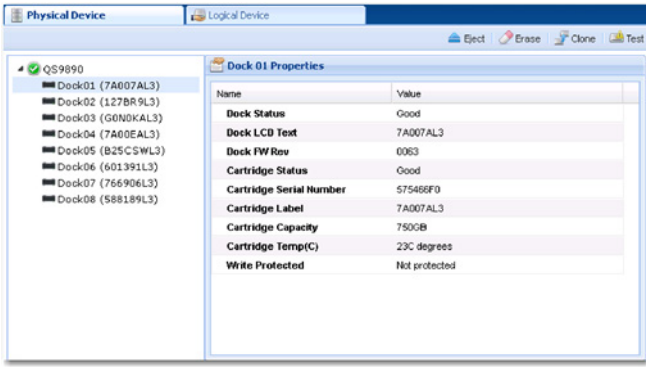


Figure 4-7 *Physical View of a Tape Library with the auto-insert option ON*

Note: The cartridges' physical locations correspond with their logical tape slot locations shown in Figure 4-6.

Managing User Groups

Note: You must have administrator privileges to manage user groups.

The RDX QuikStation allows you to set up three types of groups: administrator, manager, and user.

This section contains the following topics:

Group Permissions Overview

The following table describes the functionality each group can access in the Remote Management Console.

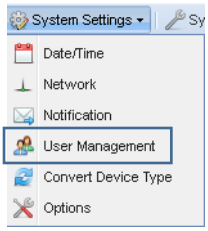
Table 4-5 *RDX QuikStation 8 Group Permissions*

User	Manager	Administrator
Users have permission to do the following: ▸ change their log-in password. ▸ view physical and logical device information. ▸ refresh/update device information manually.	Managers have permission to do the following: ▸ view group information. ▸ view iSCSI Management security and connection status. ▸ set options for diagnostic log level. ▸ change their log-in password. ▸ view physical and logical device information. ▸ refresh/update device information manually.	Administrators have access to all functionality. This includes permission to: ▸ set system and network configuration. ▸ set iSCSI security. ▸ add, remove, and edit groups. ▸ format/erase RDX media. ▸ clone data on RDX media. ▸ convert logical device type. ▸ update firmware. ▸ perform system diagnostic tests. ▸ access all other system maintenance tasks.

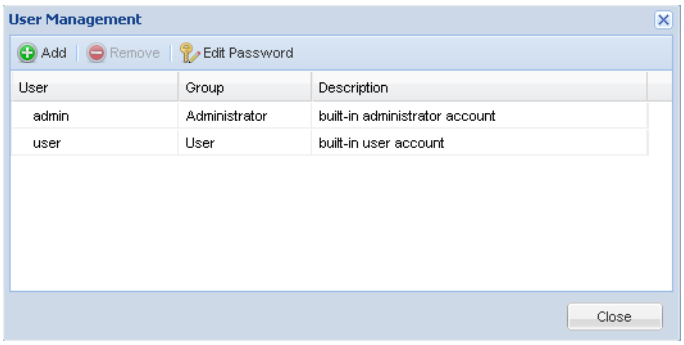
Adding Users to a Group

To add users to a group:

1. From the Remote Management Console main menu, select System Settings > User.



The User Management dialog window opens.

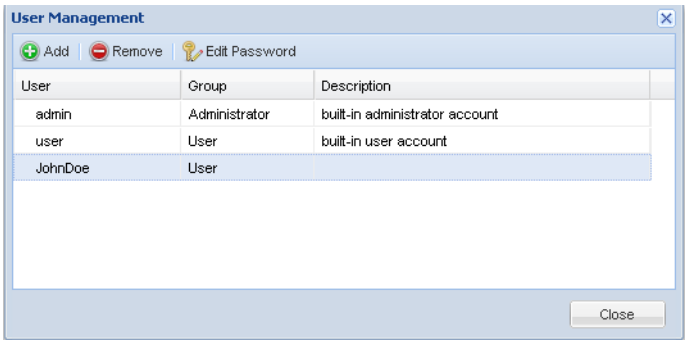


2. Click [+Add].
3. Type a user name and password in the applicable fields. The following conditions apply:
   - User names are not case sensitive and can only contain letters, numbers, and the underscore (_) character. Names are limited to 80 characters in length.
   - Passwords are case sensitive and must be 6 to 30 characters long. Passwords can contain any combination of letters, numbers, and the following special characters: -,!@#$%^&*_.
4. Select the group you want to assign the user to from the pulldown menu. For a description of the permissions available to each group, see page 65.
5. Type a description to identify the user, if desired.
6. Click [Add].

Removing Users from a Group

To remove users from a group:

1. From the User Management dialog window (go to System Settings > User), select the user that you want to remove. Click [- Remove].



The User Account Control window displays.

2. Type your RDX QuikStation administrator password. Click [OK].

3. Click [Yes] to confirm.

Editing User Information

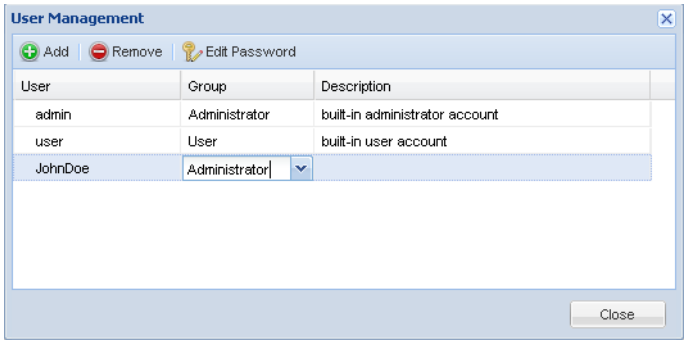
You can edit a user name, the group assignment, description, and password.

Note: For the built-in administrator account, you can only edit the password.

Editing the User Name, Group, or Description

1. From the User Management dialog window (go to System Settings > User), double-click in the field you want to edit.

   The field becomes editable, as shown below.



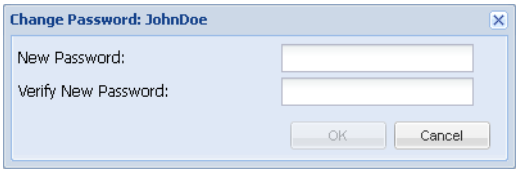
2. Make your desired changes. Click Enter.

Note: User names can only contain letters, numbers, and the underscore (_) character. Names are limited to 80 characters in length.

Editing a Password

1. From the User Management dialog window (go to System Settings > User), select the user.

2. Click [Edit Password].



3. Type a new password. Type the password again to verify. Click [OK].

Notes: For users assigned to administrator and manager groups, you must first enter your RDX QuikStation administrator password before editing the password.

Passwords are case sensitive and must be 6 to 30 characters long. Passwords can contain any combination of letters, numbers, and the following special characters: -,!@#$%^&*_.

Recovering the Built-In Administrator Password

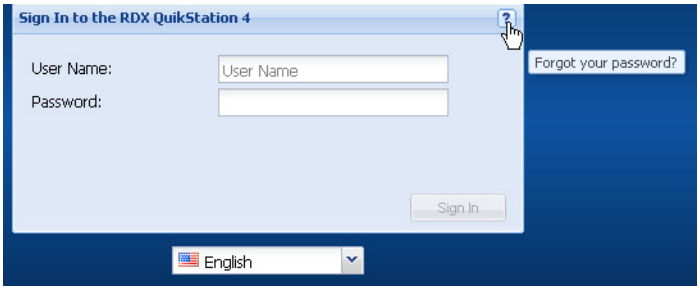
If you have forgotten the built-in administrator password, you can reset the password via email or via USB.

Note: The built-in administrator user name is **admin** (cannot be modified) and the default password is **Admin!** (case sensitive)**.**

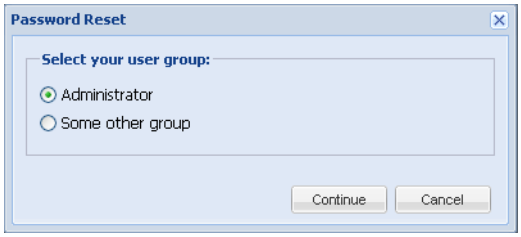
If you have forgotten the user name and password for any other account, contact the RDX QuikStation administrator, or sign in as the built-in administrator account to edit the password (see page 69).

Resetting the Password via Email

1. From the RDX QuikStation Sign-in dialog window, click the [?] in the upper-right corner.

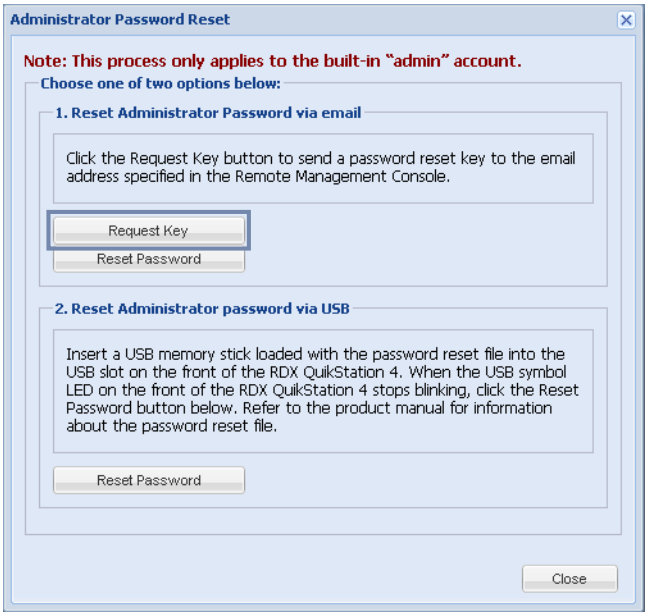


2. The Password Reset dialog appears.



3. Select the Administrator radio button. Click [Continue].

   The Administrator Password Reset dialog window opens.



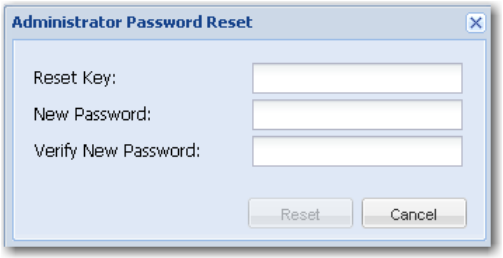
4. Select [Request Key].

The RDX QuikStation sends an email message to the address that was specified in the Remote Management Console (see page 57). The request key will remain valid for one hour.

5. Click [OK] and leave the Administrator Password Reset dialog window open.

   Note: If you close the browser session, the request key that was sent via email becomes invalid.

6. Copy the request key from the email message and paste it into the Reset Key field.



7. Type a new password. Type the password again to verify. Click [Reset].

   Note: Passwords are case sensitive and must be 6 to 30 characters long. Passwords can contain any combination of letters, numbers, and the following special characters: -,!@#$%^&*_.

Resetting the Password via USB

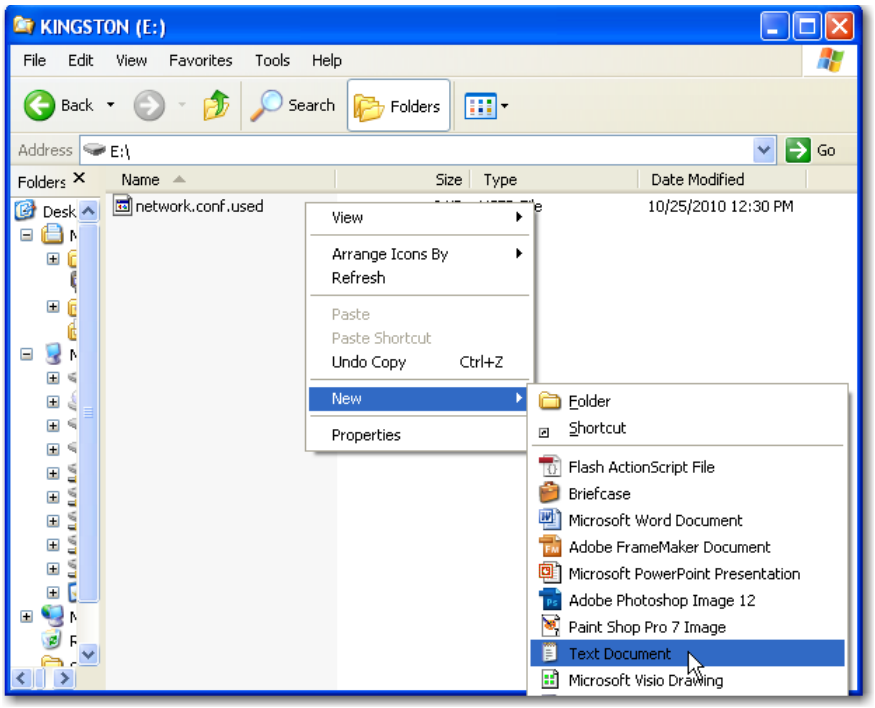
If an email notification address is not specified in the Remote Management Console, you can reset the built-in administrator password via USB by creating a `password.reset` file.

Important The Tandberg Data-supplied USB flash drive might include configuration example files. Change file extensions to `*.example` to make sure the correct action would be performed by RDX QuikStation firmware.

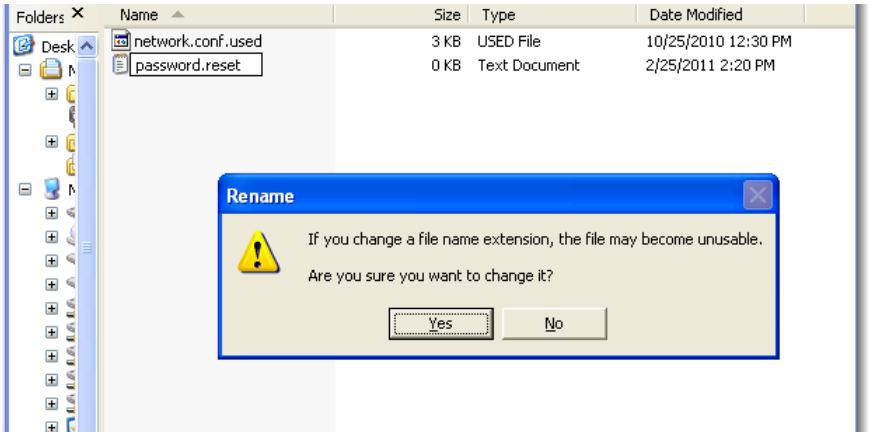
To create the `password.reset` file and reset the password via USB:

1. Insert the USB flash drive that was included in your RDX QuikStation accessory kit box into your computer. If you cannot find the flash drive, you can use any USB flash drive that is formatted with a VFAT32 or NTFS file system.

2. Navigate to the flash drive and create a blank text file on the drive. (In Windows, right-click in the directory window, and select New > Text Document, as shown below.)



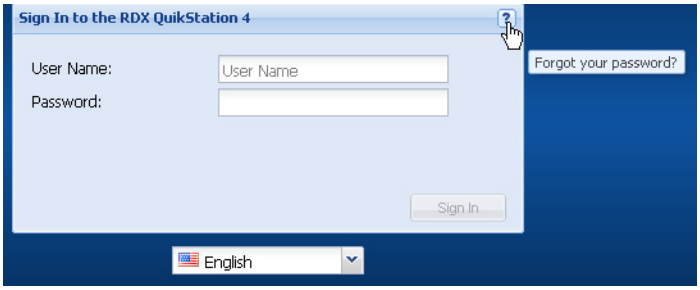
3. Rename the text file to `password.reset`. (In Windows, click [Yes] to confirm the file name change.)



4. Remove the USB flash drive from your computer and insert it into the RDX QuikStation's USB slot located on the center-front panel.

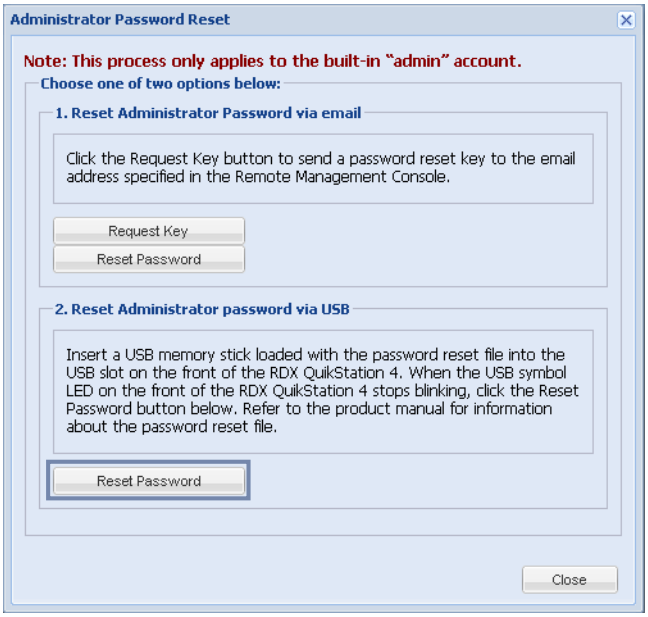
5. Remove the USB flash drive from the RDX QuikStation after 30 seconds.

6. Connect to the RDX QuikStation Remote Management Console (see page 22). From the Sign-in dialog window, click the [?] in the upper-right corner.



7. Select the Administrator radio button. Click [Continue].

The Administrator Password Reset dialog window opens.



8. Click [Reset Password] from the "Reset Administrator Password via USB" section of the dialog window.

9. Type a new password. Type the password again to verify. Click [Reset]. Click [OK].

   Note: Passwords are case sensitive and must be 6 to 30 characters long. Passwords can contain any combination of letters, numbers, and the following special characters: -,!@#$%^&*_.

5

Logical Device Management

This chapter describes the Remote Management Console's Logical Device interface.

The chapter includes the following sections:

Logical Device Type Overview

The following table compares the logical device types that the RDX QuikStation can emulate.

Table 5-1 *Comparison of logical device types*

Logical Device Type	QuikStation 4	QuikStation 8	iSCSI Targets	Reported Inquiry String
RDX drives	4 RDX drives (may be set to fixed disk mode; refer to	8 RDX drives (may be set to fixed disk mode; refer to "RDX Fixed Logical Volume" on page 79)	1 target for each RDX drive	RDX
Logical Volume Fixed Disk Target	Up to 4 RDX cartridges as a single fixed disk	N/A	1 target	RDX
Logical Volume Removable Disk Target	Up to 4 RDX cartridges as a single removable disk	N/A	1 target	RDX
2 Logical Volume Fixed Disk Targets	N/A	2 volumes with up to 4 RDX cartridges presented as fixed disks	2 targets	RDX
2 Logical Volume Removable Disk Target	N/A	2 volumes with up to 4 RDX cartridges presented as removable disks	2 targets	RDX
Protected Volume Fixed Disk Target	Up to 4 RDX cartridges presented as a single fixed disk with 1 disk fault tolerance	Up to 8 RDX cartridges presented as a single fixed disk with 2 disk fault tolerance	1 target	RDX
Protected Volume Removable Disk Target	Up to 4 RDX cartridges presented as a single removable disk with 1 disk fault tolerance	Up to 8 RDX cartridges presented as a single removable disk with 1 disk fault tolerance	1 target	RDX
2 Protected Volume Fixed Disk Targets	N/A	2 volumes with up to 4 RDX cartridges presented as fixed disks, each with 1 disk fault tolerance	2 targets	RDX
2 Protected Volume Removable Disk Target	N/A	2 volumes with up to 4 RDX cartridges presented as removable disks, each with 1 disk fault tolerance	2 targets	RDX

Table 5-1 *Comparison of logical device types*

Logical Device Type	QuikStation 4	QuikStation 8	iSCSI Targets	Reported Inquiry String
Disk Autoloader	One removable disk and four slot	One removable disk and eight slots	One disk target	RDX
Tandberg Data Storage Loader LTO	N/A	Emulated Tape Library with one tape drive and 8 storage slots	Library target LTO target	StorageLoader Ultrium 3-SCSI
Tandberg Data Storage Library 224	N/A	Emulated Tape Library with two tape drives and 8 storage slots	Library target 2 LTO targets	Magnum 224 Ultrium 3-SCSI
Hybrid: TD StorageLoader and 4 RDX Drives	N/A	Emulated Tape Library with one tape drive and 4 storage slots, plus 4 RDX drives	Library target LTO target 4 RDX targets	StorageLoader Ultrium 3-SCSI RDX

Selecting the Logical Device Type

To configure the logical device type:

1. Select the device type from the dialog window that opens when you first log on to the Remote Management Console.

Note: If you select the RDX Drive configuration, you should first install the RDX Utility, which is available from www.tandbergdata.com. A link is also provided in the Logical Device Type Settings dialog window.

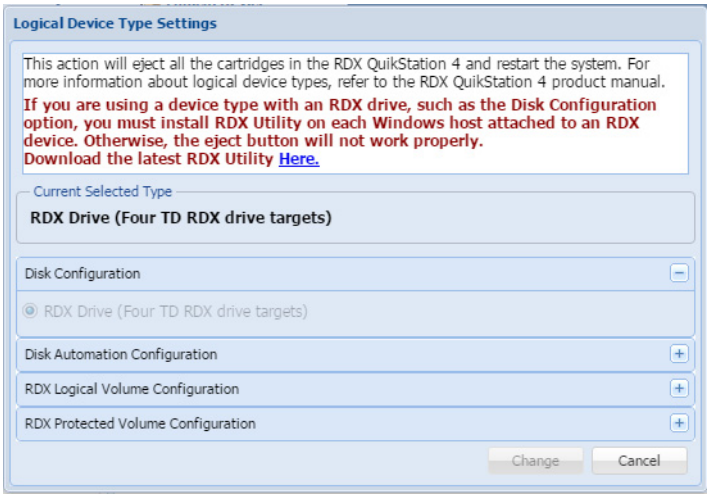


Figure 5-1 *QuikStation 4 Logical Device Type Settings*

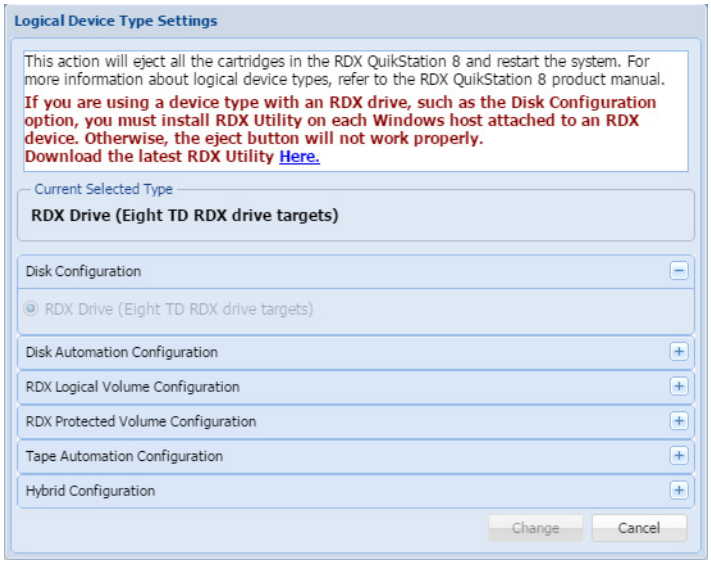


Figure 5-2 *QuikStation 8 Logical Device Type Settings*

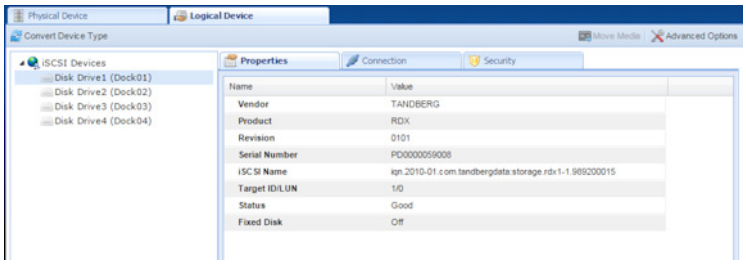
2. Click [Change].

RDX Drive (RDX Drive Targets)

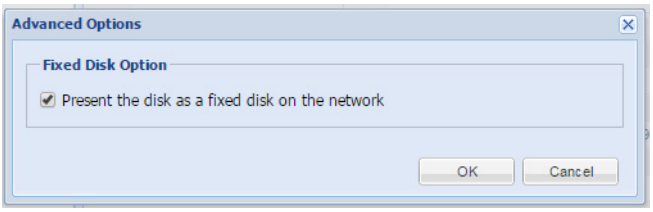
This configuration allows you to present each RDX dock to the host as an iSCSI RDX dock. By default the target will act like a normal RDX removable disk.

Optionally, you can set each RDX target to appear as a fixed disk to the host using the Advance Options button for the drive. In some environments, this will allow faster read and write times when connected to Windows OS and the use of RDX media with Windows-native backup applications.

1. From the Logical Device tab, select an available disk.



2. Click the Advanced Options button to open the Advanced Options dialog.



3. Select the checkbox to present the disk as a fixed disk on the network and click [OK].

RDX Logical Volume

The RDX Logical Volume combines up to either 4 RDX media (for the QuikStation 4) or 8 RDX media (for the QuikStation 8) into a single logical volume target. This configuration allows you to manage a single logical volume comprised of one or more of the RDX media in your system.

The RDX Logical Volume may be presented to the host as either a fixed disk or as an RDX device.

RDX Fixed Logical Volume

The Fixed Disk RDX Logical Volume is presented as fixed disk to the host computer. This means that the host computer will not expect the disk to be removed. The user interface software will not allow the logical volume to be ejected while it has an iSCSI connection to a host.

The Fixed Disk RDX Logical Volume may have faster write times than the Removable Disk RDX Logical Volume for some host operating systems.

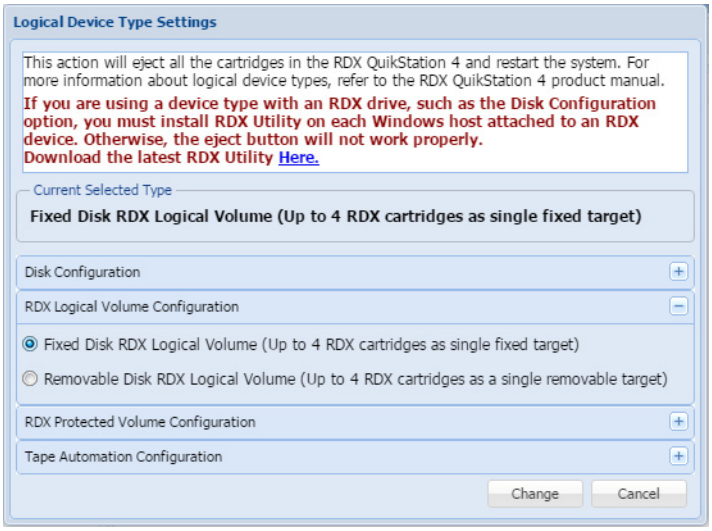


Figure 5-3 *QuikStation 4 Fixed Disk RDX Logical Volume*

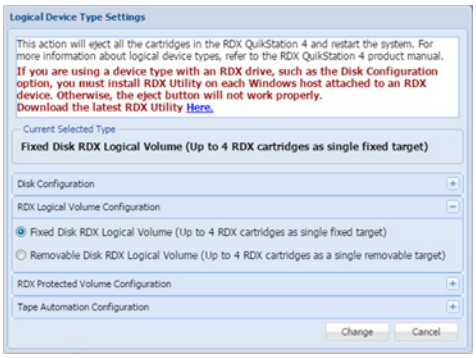


Figure 5-4 *QuikStation 8 Fixed Disk RDX Logical Volume*

In the QuikStation 8, you can configure two Fixed Disk RDX Logical Volumes. Each volume consists of up to 4 RDX cartridges either on the top or the bottom row.

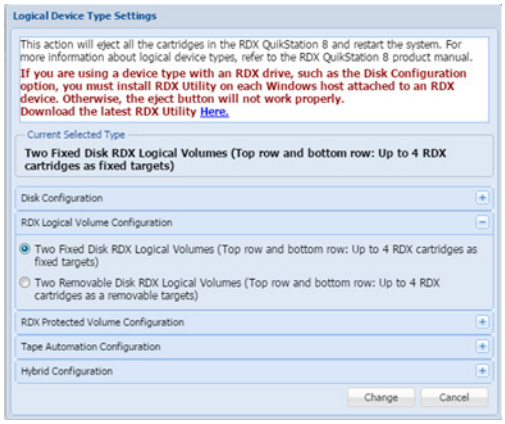


Figure 5-5 *QuikStation 8 Two Fixed Disk RDX Logical Volume*

RDX Removable Logical Volume

The Removable Disk RDX Logical Volume is presented as an RDX removable disk to the host computer. This means that the host computer expects that the disk may be removed. The host operating system may allow ejection of the device from the host. The user interface software will allow the logical volume to be ejected while it has an iSCSI connection to a host as long as the host software has allowed the removal.

When the RDX Logical Volume is ejected all RDX cartridges in the logical volume are ejected.

The Removable Disk RDX Logical Volume may have slower write times than the Fixed Disk RDX Logical Volume for some host operating systems.

Since the RDX Logical Volume is presented as an actual RDX device, it will work with any host software that can utilize an RDX drive.

Note: If you select the RDX Removable Logical Volume configuration, you should first install the RDX Utility, which is available from www.tandbergdata.com. A link is also provided in the Logical Device Type Settings dialog window.

The Removable Disk RDX Logical Volume is presented as a single RDX device. Even if no logical volume is present in the system, an RDX dock device will be available to the host iSCSI initiator. In this case the virtual dock will appear to be empty.

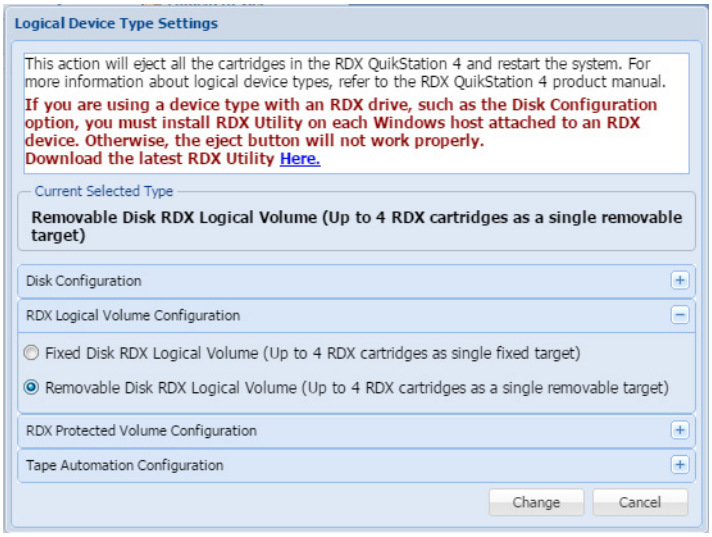


Figure 5-6 *QuikStation 4 Removable Disk RDX Logical Volume*

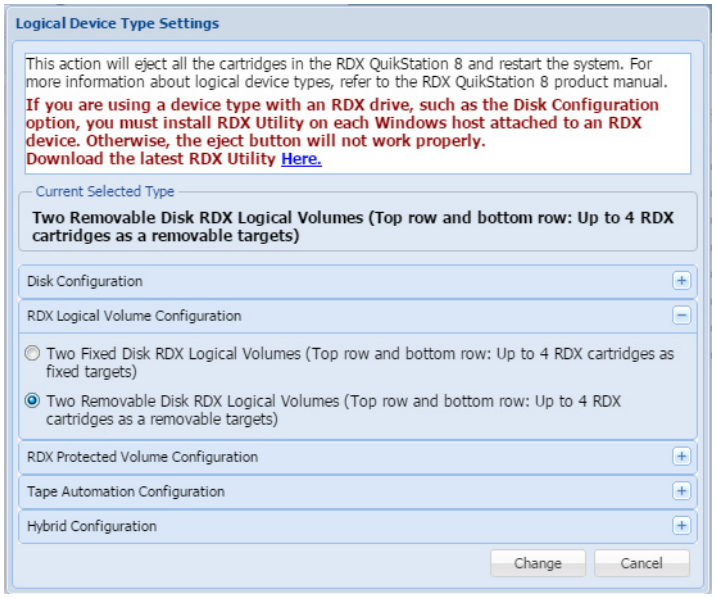
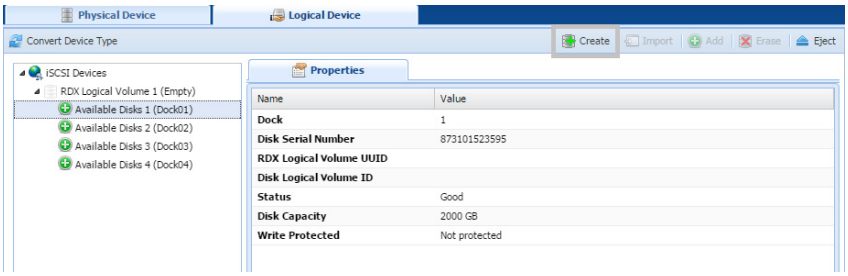


Figure 5-7 *QuikStation 8 Two Removable RDX Disk Logical Volume*

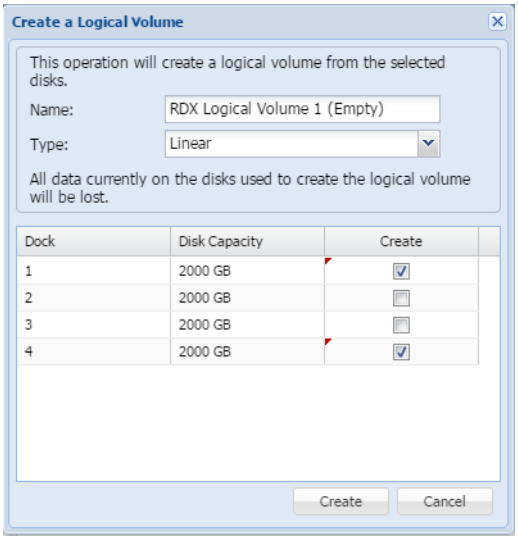
Creating a Logical Volume

If no logical volume is currently present, you can create a logical volume:

1. From the Logical Device tab, select an available disk.



2. Click the Create button to open the Create dialog.



The Create dialog allows you to select which available disks to use to create the logical volume.

Note: Write-protected and damaged media are not allowed in this operation.

3. Select the docks to use in the logical volume and click [Create].

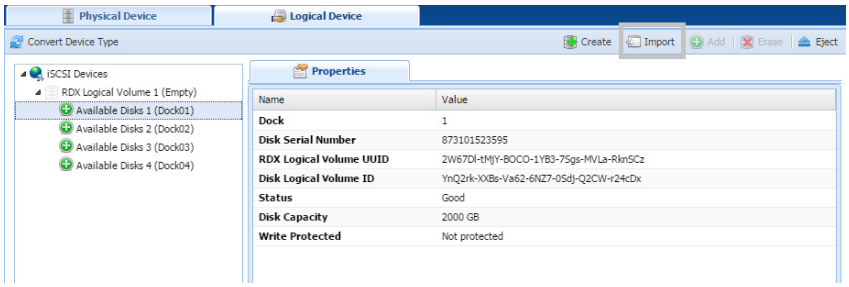
The logical volume is created.

Importing a Logical Volume

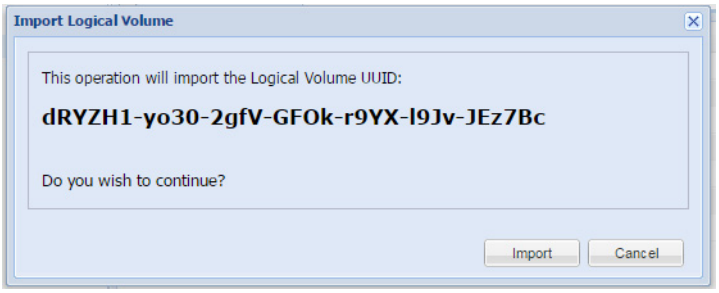
If no logical volume is currently present, you can also import a logical volume created on this or another RDX QuikStation 8 unit.

1. Insert all RDX media belonging to this logical volume.

2. From the logical device page, select one of the available disks that has a Logical Volume UUID and click the [Import] button.



The Import dialog allows you to accept the import operation.



3. Click [Import] to proceed.

   The logical volume will be ready to use if all the disks that comprise the Logical Volume are present.

Expanding a Logical Volume

If the logical volume contains fewer than eight disks, you may expand it.

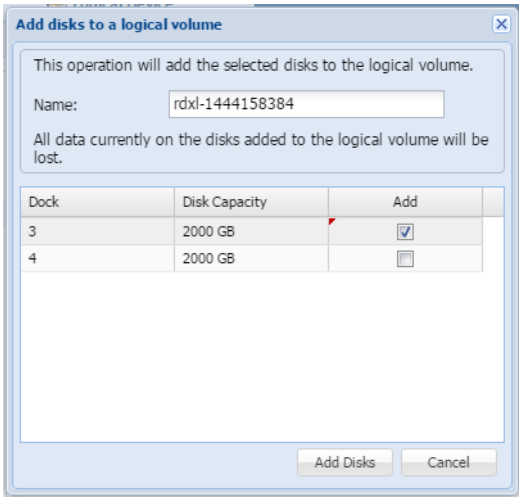
Note: The logical volume must be disconnected from any iSCSI host prior to adding available disks to the logical volume.

1. Select an available disk and click the [+Add] button.

The Add dialog allows you to select which available disks to add to the logical volume.

Note: Write-protected and damaged media are not allowed in this operation.

2. Select the disks to be added by selecting the Add checkmark.



3. Select [Add Disks] to complete the process.

Once the logical volume has been expanded, the iSCSI host is responsible for expanding the file system on the volume to take advantage of the extra space. How this is accomplished is dependent on the host operating system. Refer to the administrator's guide for your operating system.

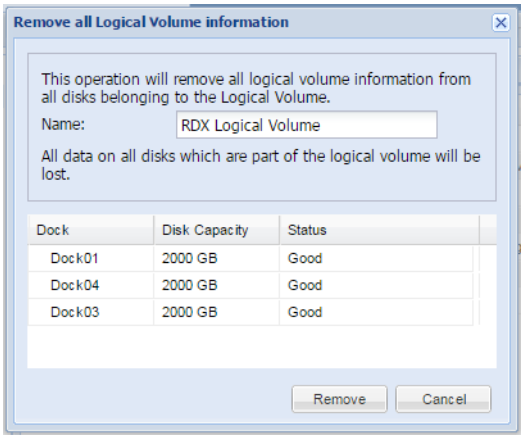
Erasing a Logical Volume

The entire logical volume may be also be erased using the Erase button.

Note: The logical volume must be disconnected from any iSCSI host prior to erasing the logical volume.

To erase an entire logical volume:

1. From the Logical Device dialog, select the logical volume and select [Erase].



The Erase dialog allows you to confirm that you want the logical volume destroyed.

2. Click [Remove].

   Once all logical volume information is removed, all disks will be shown as Available Disks.

Note: If you need a secure data erase, please use tools designated for that purpose. Actual data is not erased on the RDX Media, only the partition table on the disk and LVM metadata.

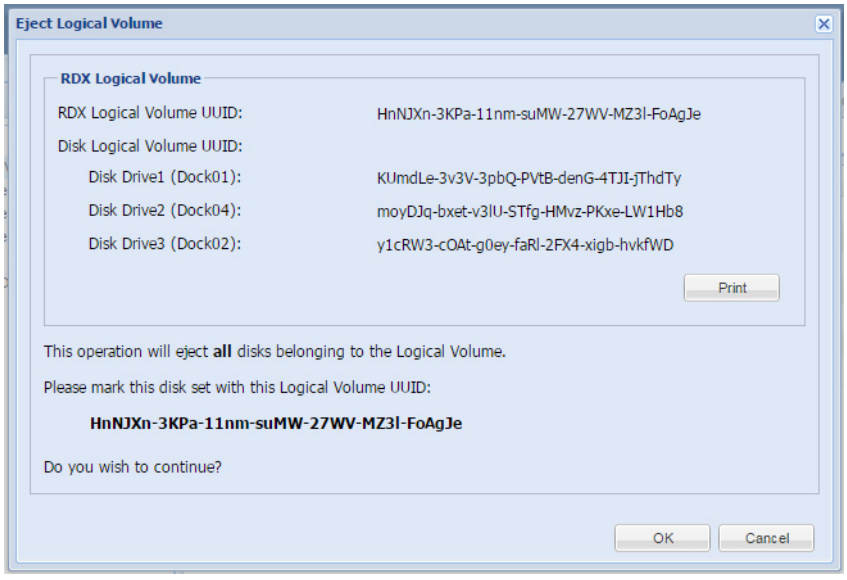
Exporting the Logical Volume

The logical volume may be exported by using the logical volume Eject button. The logical volume should be disconnected from any iSCSI host prior to ejecting the logical volume.

1. From the Logical Device interface, select the logical volume to export and select [Eject].

   The Eject dialog allows you to confirm that you would like all disks in the logical volume to be ejected.

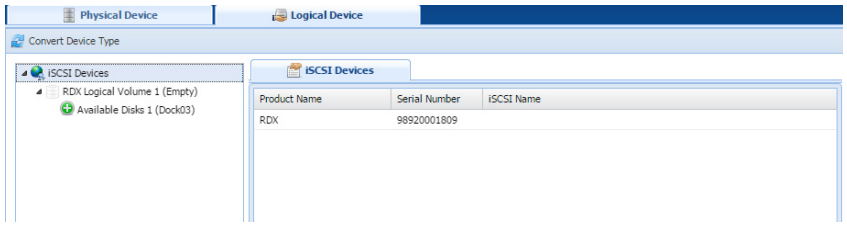
   Note: Print or copy the Eject dialog information to keep with the logical volume disk set after it is ejected.



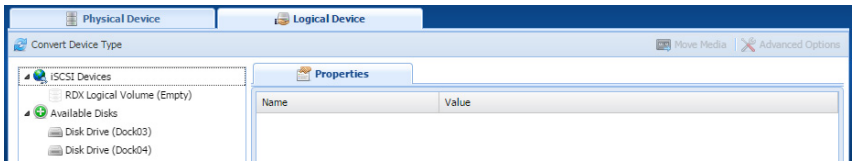
2. Click [OK] to confirm.

   Once the logical volume disks have been ejected, they should be carefully marked and kept as a set. The disk set, if complete, may be imported into this or any other RDX QuikStation.

When an RDX Logical Volume is ejected, the Logical Devices will show an empty logical volume.



Note: For a Removable Disk RDX Logical Volume, you can also export the logical volume by using the 'eject' facility of the host operating system.



RDX Protected Volume

In the QuikStation 4 the RDX Protected Volume combines up to 4 RDX media into a single protected volume target which will continue to function even if one of the RDX cartridges fails. This configuration allows you to manage a single protected volume comprised of one or more of the RDX media in your system with one disk fault tolerance. The Protected Volume must contain at least three disks.

In the QuikStation 8 the RDX Protected Volume combines up to 8 RDX media into a single protected volume target which will continue to function even if two of the RDX cartridges fail. This configuration allows you to manage a single protected volume comprised of four or more of the RDX media in your system with two disk fault tolerance. In addition, the QuikStation 8 also supports two 4 disk Protected Volumes with 1 disk fault tolerance.

An RDX Protected Volume may be presented to the host as either a fixed disk or as an RDX device.

Note: Adding fault protection to a volume requires some data redundancy. The loss of storage capacity may be roughly estimated as the capacity of the fault tolerated disks in the volume.

Note: When creating an RDX Protected Volume the size of the available space is dependent on the size of the smallest disk used to create the volume. It is strongly advised to use disks which are all the same size to create the protected volume.

RDX Fixed Protected Volume

The Fixed Disk RDX Protected Volume is presented as fixed disk to the host computer. This means that the host computer will not expect the disk to be removed. The user interface software will not allow the protected volume to be ejected while it has an iSCSI connection to a host.

The Fixed Disk RDX Protected Volume may have faster write times than the Removable Disk RDX Protected Volume for some host operating systems.

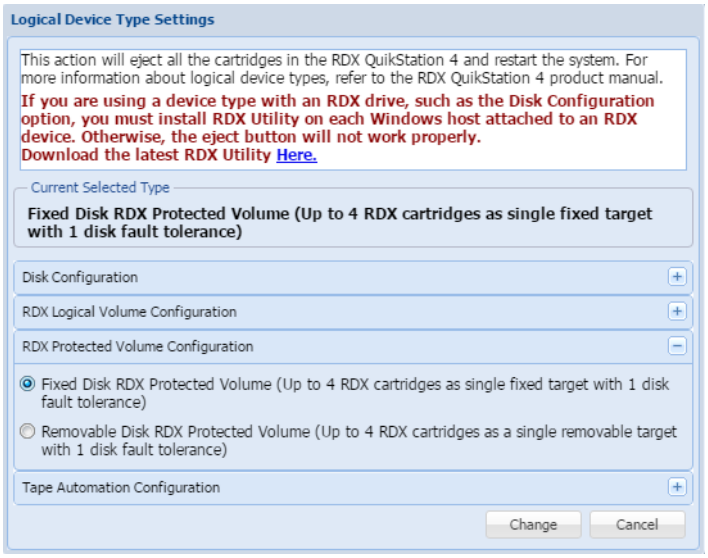


Figure 5-8 *QuikStation 4 Fixed Disk RDX Protected Volume*

In the QuikStation 8, you can configure two Fixed Disk RDX Protected Volumes with 1 disk fault tolerance. Each volume consists of up to 4 RDX cartridges either on the top or the bottom row. In addition, you can configure a single Fixed Disk RDX Protected Volume with 2 disk fault tolerance consisting of up to 8 RDX cartridges.

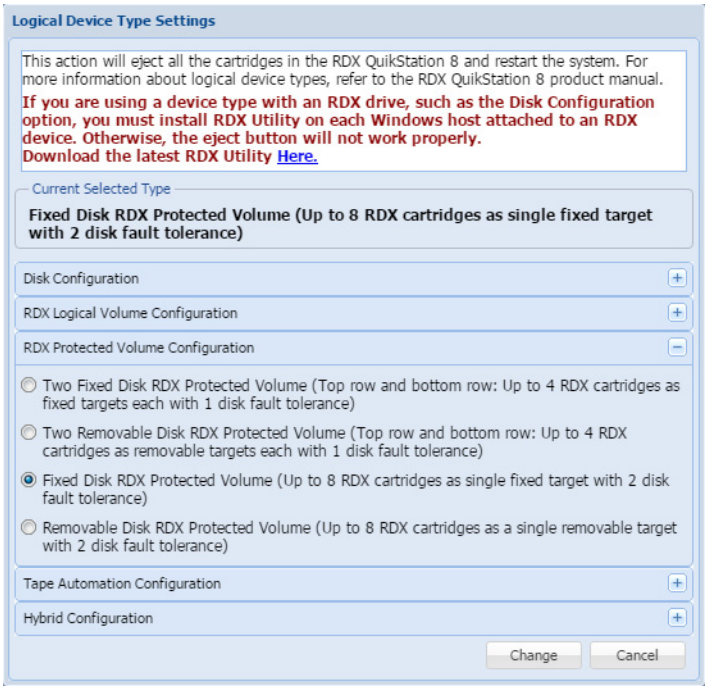


Figure 5-9 *QuikStation 8 Fixed Disk RDX Protected Volume*

RDX Removable Protected Volume

The Removable Disk RDX Protected Volume is presented as an RDX removable disk to the host computer. This means that the host computer expects that the disk may be removed. The host operating system may allow ejection of the device from the host. The user interface software will allow the protected volume to be ejected while it has an iSCSI connection to a host as long as the host software has allowed the removal.

When the RDX Protected Volume is ejected all RDX cartridges in the protected volume are ejected.

The Removable Disk RDX Protected Volume may have slower write times than the Fixed Disk RDX Protected Volume for some host operating systems.

Since the RDX Protected Volume is presented as an actual RDX device, it will work with any host software that can utilize an RDX drive.

Note: If you select the RDX Removable Protected Volume configuration, you should first install the RDX Utility, which is available from www.tandbergdata.com. A link is also provided in the Protected Device Type Settings dialog window.

The Removable Disk RDX Protected Volume is presented as a single RDX device. Even if no protected volume is present in the system, an RDX dock device will be available to the host iSCSI initiator. In this case the virtual dock will appear to be empty.

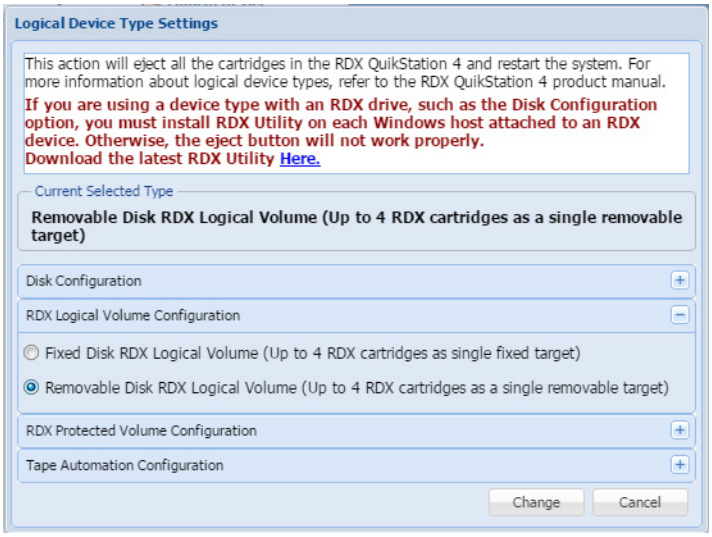


Figure 5-10 *QuikStation 4 Removable Disk RDX Protected Volume*

In the QuikStation 8, you can configure two Removable Disk RDX Protected Volumes. Each volume consists of up to 4 RDX cartridges either on the top or the bottom row.

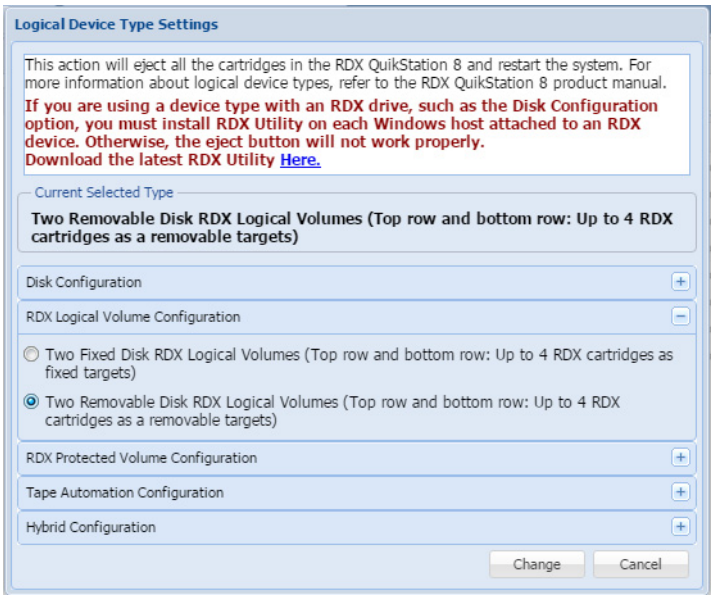


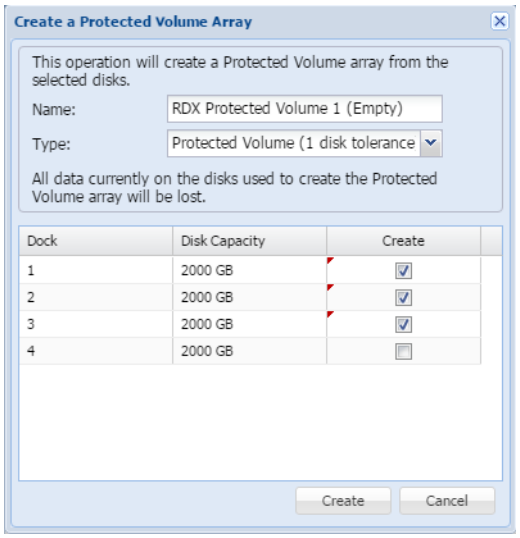
Figure 5-11 *QuikStation 8 Removable Disk RDX Protected Volume*

Creating a Protected Volume

If no protected volume is currently present, you can create a protected volume:

1. From the Logical Device tab, select an available disk

2. Click the Create button to open the Create dialog.



The Create dialog allows you to select which available disks to use to create the protected volume.

Note: Write-protected and damaged media are not allowed in this operation.

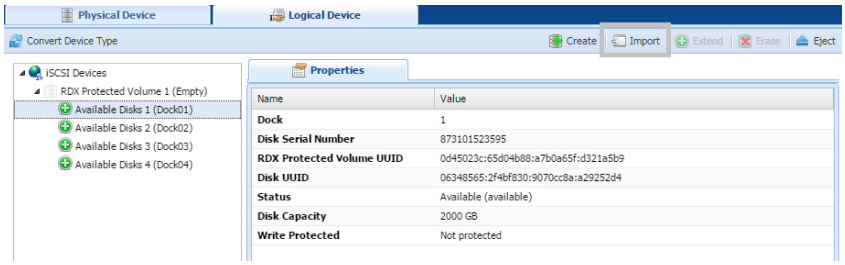
3. Select the docks to use in the protected volume and click [Create].

   The protected volume is created.

Importing a Protected Volume

If no protected volume is currently present, you can also import a protected volume created on this or another RDX QuikStation 4 unit.

1. Insert all RDX media belonging to this protected volume.
2. From the protected device page, select one of the available disks that belong to protected volume (has a Protected Volume UUID) and click the [Import] button.



The Import dialog allows you to accept the import operation.

3. Click [Import] to proceed.

The protected volume will be ready to use.

Expanding a Protected Volume

If the protected volume contains fewer than four disks, you may expand it.

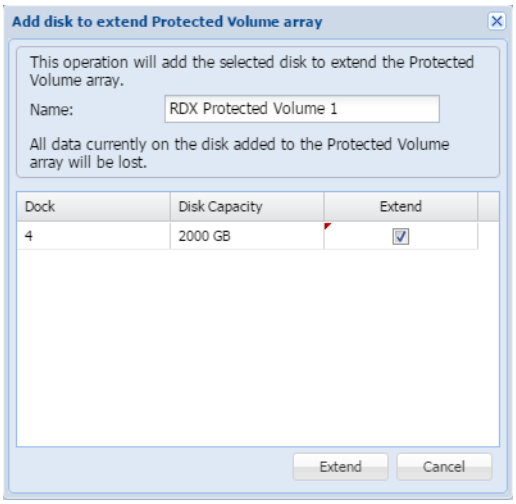
Note: The protected volume must be disconnected from any iSCSI host prior to adding available disks to the protected volume.

1. Select an available disk and click the [+Add] button.

The Extend dialog allows you to select which available disks to add to the protected volume.

Note: Write-protected and damaged media are not allowed in this operation.

2. Select the disks to be added by selecting the Add checkmark.



3. Select [Extend] to complete the process.

   Once the protected volume has been expanded, the iSCSI host is responsible for expanding the file system on the volume to take advantage of the extra space. How this is accomplished is dependent on the host operating system. Refer to the administrator's guide for your operating system.

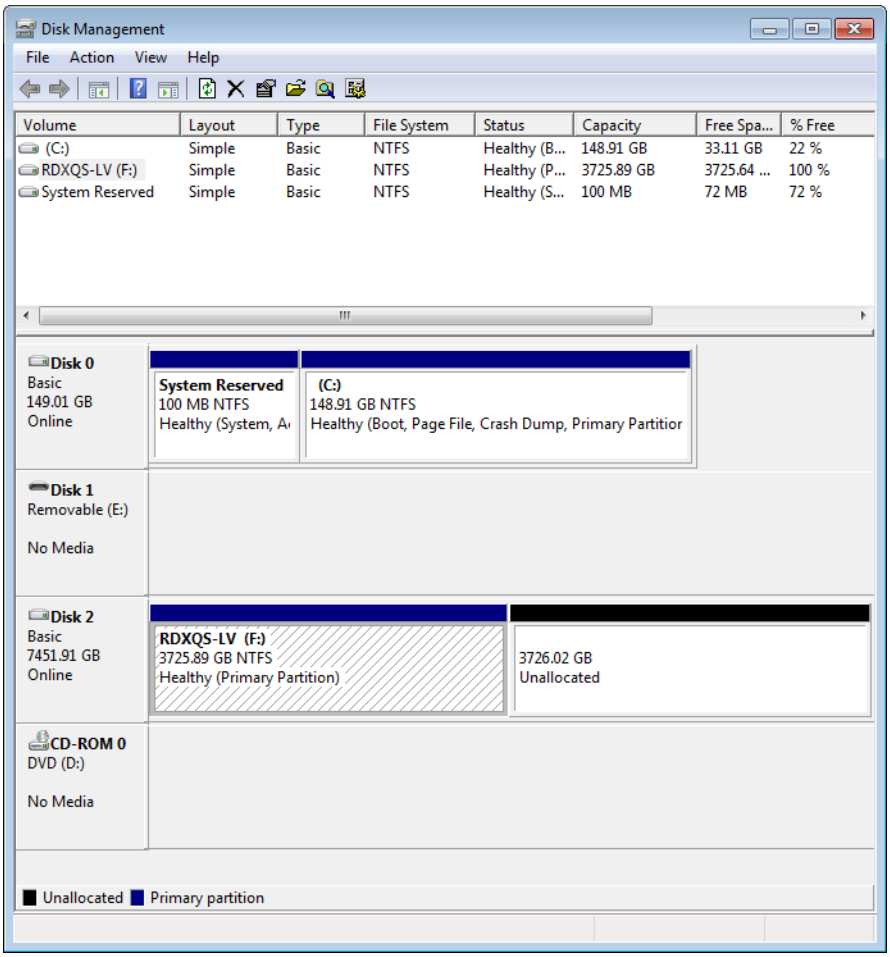
Expanding a Fixed Logical Volume File System for a Window Host

When one or more disks are added to an existing RDX Logical Volume, the file system on that logical volume is not enlarged. That must be done by the host file system handler.

For a Windows host, the file system on an RDX Fixed Logical Volume may be expanded as described below. Expanding the file system leaves all current data on the volume intact.

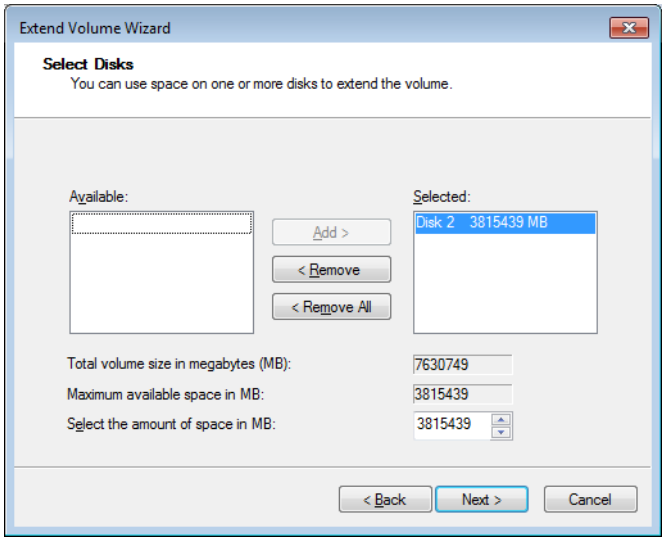
For a Windows host, the file system may be expanded:

1. Use the iSCSI initiator to reconnect to the expanded volume.
2. Open the Disk Management tool.

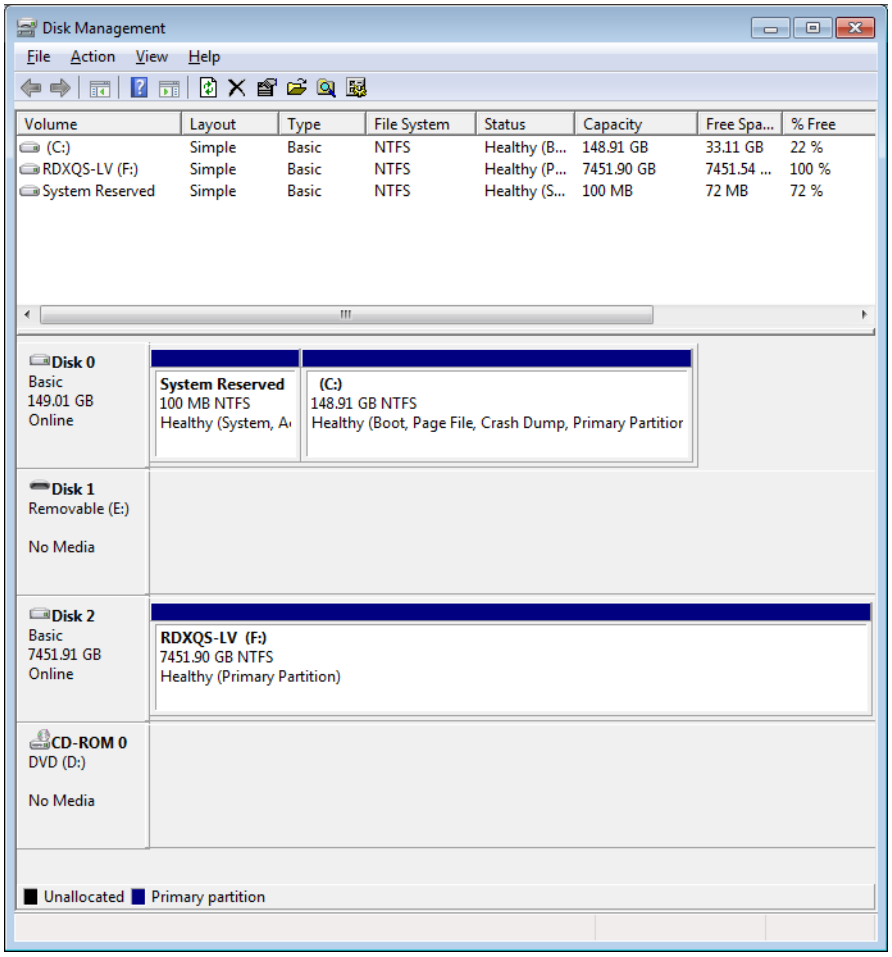


3. Right click on the logical volume and select the Extend Volume menu item.

4. In the Extend Volume Wizard, use the defaults to fully extend the file system.



5. Click [Next] and then complete the extension.



Expanding a Removable Logical Volume File for a Windows Host

When one or more disks are added to an existing RDX Logical Volume, the file system on that logical volume is not enlarged. That must be done by the host file system handler.

Windows does not allow extension of a removable disk. Therefore the following procedure must be followed to extend a Removable RDX Logical Volume:

1. Disconnect the host iSCSI initiator from the Removable RDX Logical Volume
2. Add one or more disks to the Removable RDX Logical Volume from the User Interface
3. Use the Convert Device Type button or menu item to convert the QuikStation 4 to **Fixed Disk RDX Logical Volume**.
4. Import the RDX Logical Volume on the Logical Device pane of the User Interface.

5. Connect the host iSCSI initiator to the Fixed RDX Logical Volume. It will have a different **IQN** than the Removable RDX Logical Volume, so the old IQN must be cleared from the initiator to do this step.

6. Follow the instructions in Expanding a Fixed Logical Volume File System for a Window Host.

7. Disconnect the host iSCSI initiator from the Fixed RDX Logical Volume.

8. Use the Convert Device Type button or menu item to convert the QuikStation to **Removable Disk RDX Logical Volume**.

9. Import the RDX Logical Volume on the Logical Device pane of the User Interface.

10. Connect the host iSCSI initiator to the Removable RDX Logical Volume. It will have a different **IQN** than the Fixed RDX Logical Volume, so the old **IQN** must be cleared from the initiator to do this step.

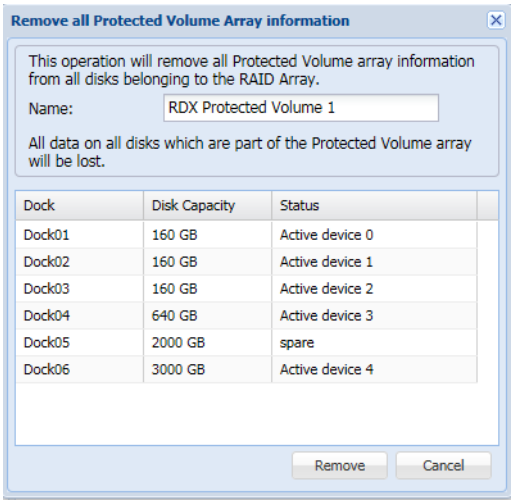
Erasing a Protected Volume

The entire protected volume may also be erased using the Erase button.

Note: The protected volume must be disconnected from any iSCSI host prior to erasing the protected volume.

To erase an entire protected volume:

1. From the Protected Device dialog, select the protected volume and select [Erase].



The Erase dialog allows you to confirm that you want the protected volume destroyed.

2. Click [Remove].

Once all protected volume information is removed, all disks will be shown as Available Disks.

Note: If you need a secure data erase, please use tools designated for that purpose. Actual data is not erased on the RDX Media, only the partition table on the disk and LVM metadata.

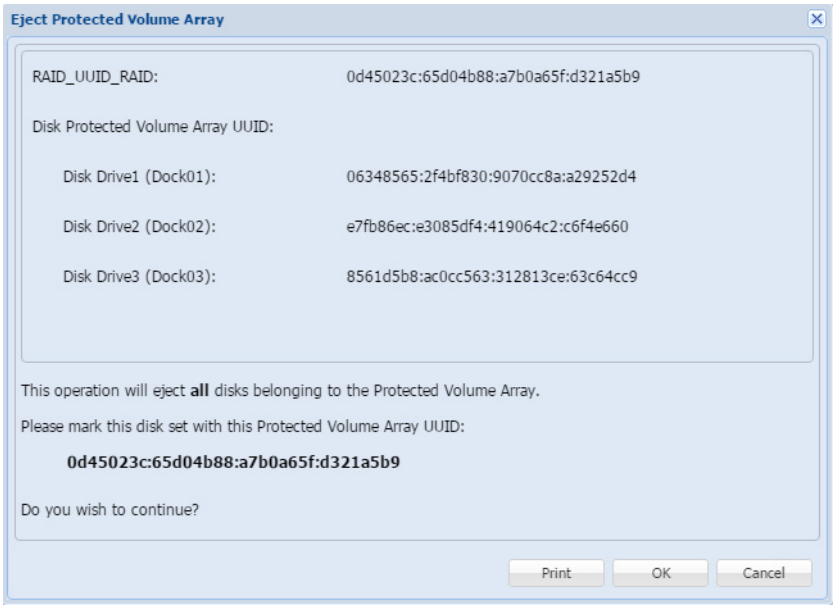
Exporting the Protected Volume

The protected volume may be exported by using the protected volume Eject button. The protected volume should be disconnected from any iSCSI host prior to ejecting the protected volume.

1. From the Protected Device interface, select the protected volume to export and select [Eject].

   The Eject dialog allows you to confirm that you would like all disks in the protected volume to be ejected.

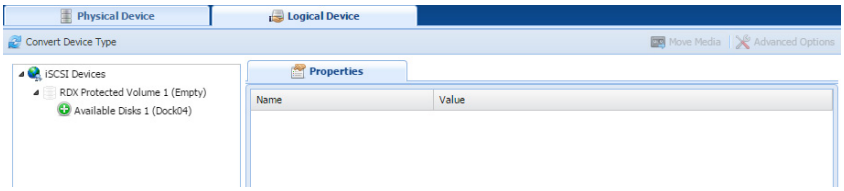
   Note: Print or copy the Eject dialog information to keep with the protected volume disk set after it is ejected.



2. Click [OK] to confirm.

   Once the protected volume disks have been ejected, they should be carefully marked and kept as a set. The disk set, if complete, may be imported into this or any other RDX QuikStation.

   When a Fixed Disk RDX Protected Volume is ejected, the Protected Devices will show no protected volumes. An empty protected volume is displayed.



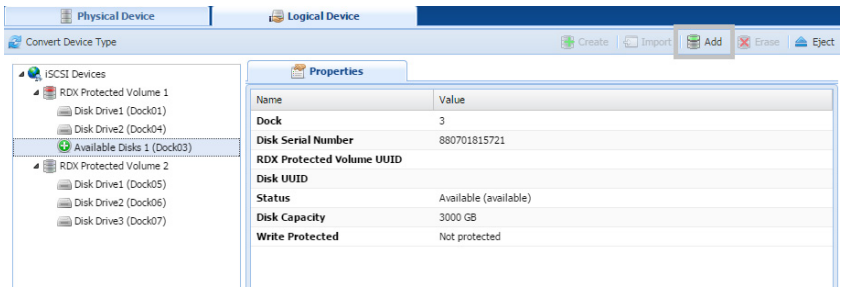
When an RDX Protected Volume is ejected, an empty protected volume will be shown and marked as **(empty)**.

Note: For a Removable Disk RDX Protected Volume you can also export the protected volume by using the 'eject' facility of the host operating system.

Recovering a Degraded Protected Volume

If a protected volume disk has failed, and the volume is in 'Degraded' status, you may restore the volume to full functionality by replacing the faulty disk.

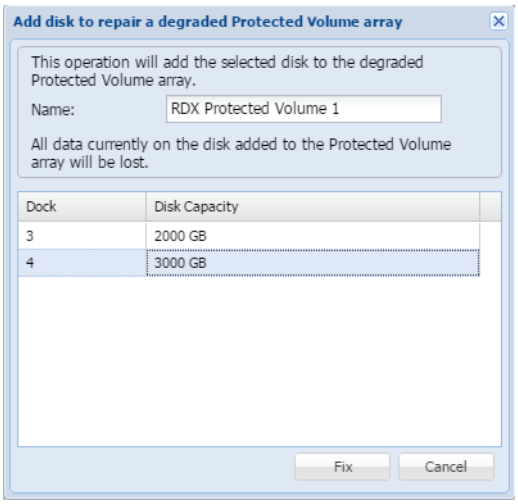
1. Remove the faulty disk from the QuikStation
2. Put a new disk of equal (or greater) size in the QuikStation
3. Select the new available disk and select [Add]



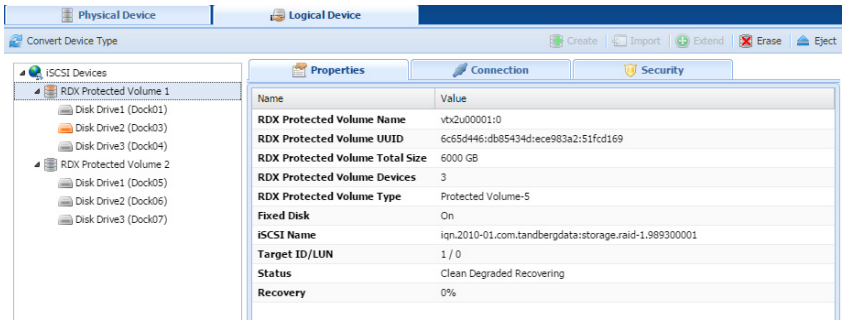
The Add dialog allows you to verify the disk you want to include in the protected volume.

Note: Write-protected and damaged media are not allowed in this operation.

4. Select the disk to be added to the degraded RAID by clicking on the desired disk's entry.



5. Select [Fix] to begin the process. The protected volume will begin the recovery process



The recovery process may take a considerable amount of time but the protected volume may be used while the rebuilding proceeds. Once recovery is complete the protected volume will no longer be degraded.

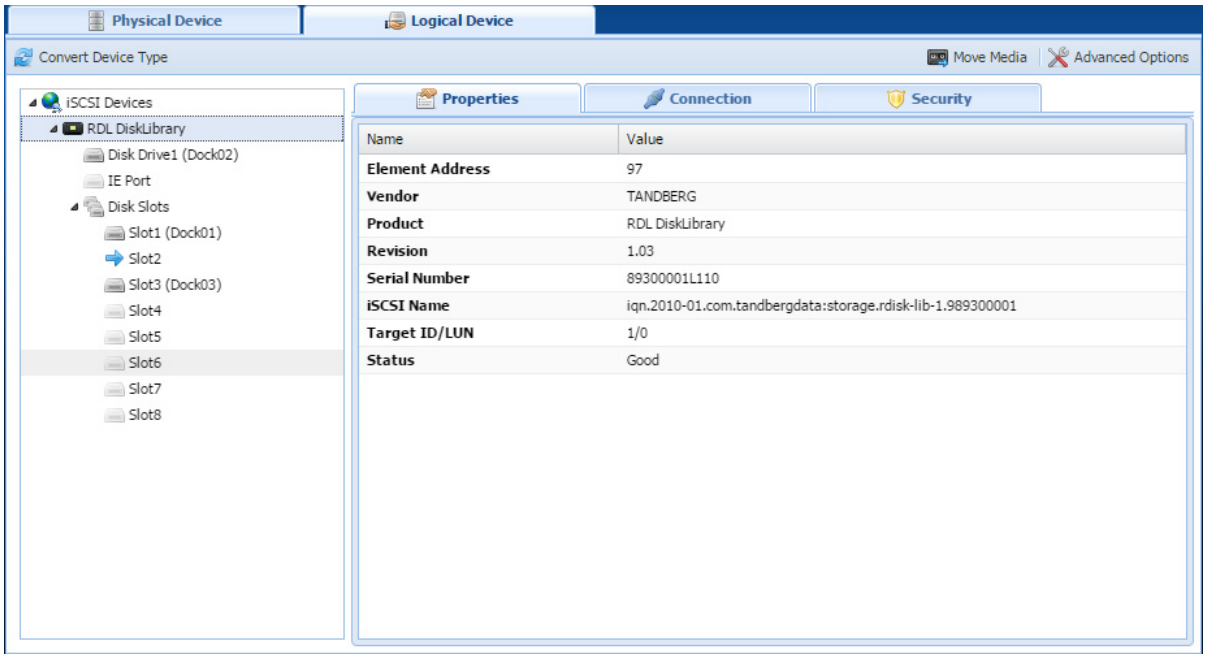
Only one disk may be added to a degraded Protected Volume at a time.

Disk Autoloader

When the QuikStation is configured as a Disk Autoloader, the host will primarily see an iSCSI removable disk target. When the host software ejects an RDX medium from the disk target the autoloader will virtually “move” the next disk into the disk target. The disk target will become ready and the host software can continue operation.

Depending on the setting of the “Autoloader Continuous Rotate” option, the host ejection of RDX media can cause a physical ejection or simply a logical removal.

The autoloader is also presented as an iSCSI target. However, there is no need for the host to interact with this device since normal logical motions are handle by the autoloader independently. The autoloader iSCSI target is presented mainly for diagnostic purposes.



In the Logical Device tab, the home slot for the currently loaded disk is indicated with a blue arrow: 

If the “Autoloader Continuous Rotate” option is off, when the disk is instructed to eject, the medium will be physically ejected and the next disk below the ejected one will be logically loaded.

If the “Autoloader Continuous Rotate” option is on, when the disk is instructed to eject, the medium will be logically ejected and remain in place. The next disk below the ejected one will be logically loaded. When the last disk has been ejected, the first disk will again be loaded.

If you have your RDX QuikStation configured as a disk autoloader, you can do the following tasks from the Logical Device interface:

- View logical properties (see page 101)
- View active iSCSI connections (see page 101)
- Set iSCSI security for each target (see page 37)
- Convert the logical device type (see page 25)
- Logically move media to another slot (see page 105)
- Set the autoloader option to continuously rotate cartridges (see page 102)

Viewing Logical Properties for Autoloaders

The following properties are displayed for autoloaders.

Table 5-2 *Logical properties for virtual autoloaders*

Property Name	Description
For the autoloader and its tape drive(s)	
Element address	The element address associated with the virtual location of the autoloader and drives.
Vendor	The vendor name for the autoloader and drives. For example, the vendor name for a disk autoloader is “TANDBERG,” and the vendor name for the RDX device is “TANDBERG”
Product	The product name for the virtual disk autoloader and drives. For example, the disk autoloader product name is “RDL DiskLibrary”. For the RDX virtual dock, the product name is “RDX”.
Revision	The firmware revision level for the logical device.
Serial number	The serial number for the logical device.
iSCSI name	The iSCSI name that identifies the autoloader device and its drive targets. The iSCSI name is used to connect the initiators (host computers) to the targets.
Target ID/LUN	The iSCSI target/logical unit number that identifies the autoloader and drives.
Status	Displays the operating status for the device. The status displays either “good”, “offline”, or an error state.
For I/E port and disk slots	
Element Address	The element address associated with the virtual location of the disk autoloader slots. The element address correlates to the RDX dock number.
Media label	The default media label is derived from the last eight digits of the RDX cartridge serial number.
Media state	The media state displays either “loaded” or “unloaded” depending on how the drive is set in your backup application.

Viewing Active iSCSI Connections Autoloaders

See the “Viewing Active iSCSI Connections for Tape Libraries” on page 104.

Note: You can also set iSCSI security from the iSCSI Management dialog window. See “Setting iSCSI Security in the Remote Management Console” on page 38 for more information.

Moving a Media Cartridge

See the "Moving a Media Cartridge" section for tape libraries (pg xx).

In most cases, you should use rely on your backup program and autoloader logically move media within the autoloader. This functionality is built into the RDX QuikStation mainly for testing and diagnostic purposes.

> **Important** Make sure that you do not have any backup jobs in progress before you logically move a cartridge.

Setting the Autoloader Option

The following table describes RDX QuikStation behavior when this option is turned off and when it's turned on.

In cases where you do not want the cartridge to physically eject from the dock, you can set the option to have cartridges continuously rotate through the slots. This option eliminates the need to re-insert the cartridges into the RDX docks.

Table 5-3 *Autoloader option setting*

Continuously rotate cartridges in the slots	Behavior
Off (Default)	Physically ejects the cartridge from the RDX dock when the virtual drive completes a backup job. Once the cartridge is ejected, the virtual autoloader loads media from the next subsequent slot into the drive. It will load cartridges from the slots sequentially and will stop when it reaches the last slot, even if new cartridges have been inserted.
On (checkbox is selected)	Does not physically eject the cartridge from the RDX dock when the virtual drive completes a backup job. Instead, the cartridges continuously rotate sequentially through the slots.

Managing Tape Library Configurations

If you have your RDX QuikStation configured as a virtual tape library or as a tape or disk autoloader, you can do the following tasks from the Logical Device interface:

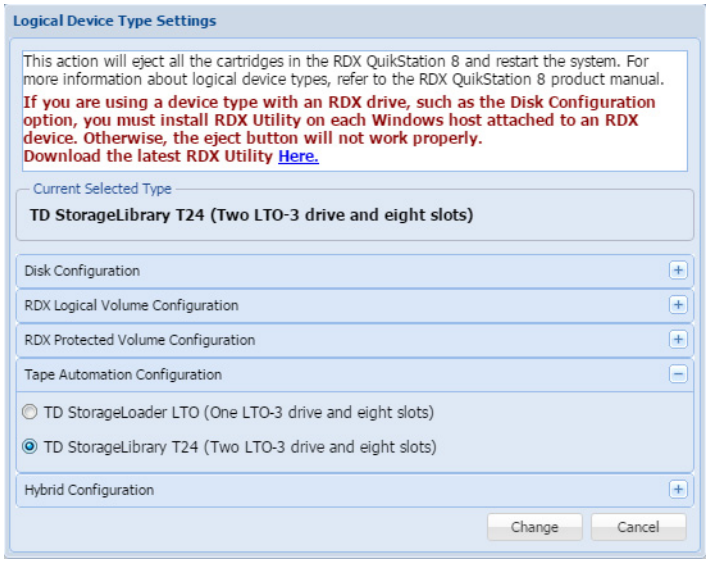
- View logical properties (see page 103)
- View active iSCSI connections (see page 110)
- Set iSCSI security for each target (see page 108)

- Convert the logical device type (page 77)
- Logically move media to another slot (see page 105)
- Set the Unique Inquiry String (see page 106)

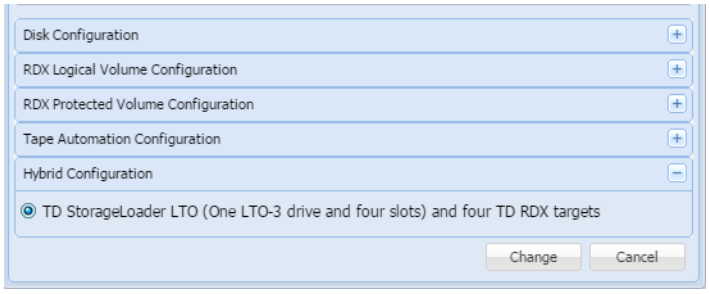
Note: From the System Settings menu, you can set an option to allow auto-insert (import/export functionality) of media cartridges. See page 59 for more information.

Viewing Logical Properties for Tape Libraries

Both the QuikStation 4 and the QuikStation 8 can be configured as a tape library with either one or two tape drives. The emulated library will contain the same number of slots as the QuikStation has docks. However, the slots are virtual and while they normally correspond to the equivalent dock there are situations in which this will not be true.



The QuikStation may also be configures as a “hybrid” device, comprised of a one drive tape library and a set of RDX drives. In this case half the docks will be used for tape library slots and half the slots will be used as RDX drives.



The following properties are displayed for virtual tape libraries.

Table 5-4 *Logical properties for virtual tape libraries*

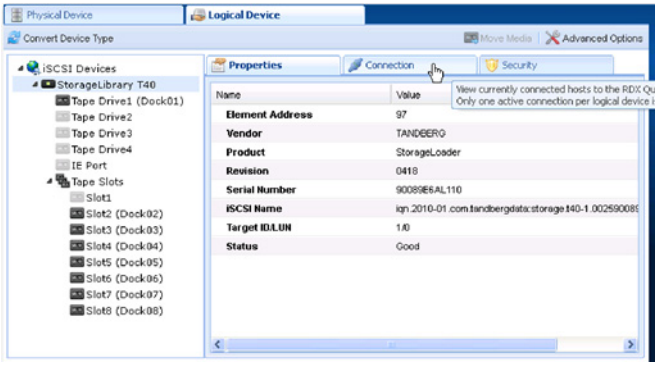
Property Name	Description
For the library and its tape drives	
Element address	The element address associated with the virtual location of the library and drives.
Vendor	The vendor name for the virtual library and drives. For example, the vendor name for a StorageLoader tape library is "Tandberg Data," and the vendor name for the tape drive is "HP."
Product	The product name for the virtual library and drives. For example, the StorageLoader tape library product name is "StorageLoader." For the LTO-3 virtual tape drive, the product name is "Ultrium 3-SCSI."
Revision	The firmware revision level for the logical device.
Serial number	The serial number for the logical device.
iSCSI name	The iSCSI name that identifies the library device targets. The iSCSI name is used to connect the initiators (host computers) to the targets.
Target ID/LUN	The iSCSI target/logical unit number that identifies the library and drives.
Status	Displays the operating status for the device. The status displays either "good," "offline," or an error state.
For I/E port and tape slots	
Element address	The element address associated with the virtual location of the tape library slots. The element address correlates to the RDX dock number.
Media label[a]	The default media label is derived from the last six digits of the RDX cartridge serial number and "L3," which refers to an LTO-3 tape cartridge.
Media state	The media state displays either "loaded" or "unloaded," depending on how the drive is set in your backup application.
Media usage[a]	Displays the percentage of capacity that has been used for the RDX cartridge (or virtual tape cartridge). **Note:** Media usage for RDX drives is unavailable. This property is only reported for tape library configurations.

[a] Visible if the dock has an RDX cartridge inserted.

Viewing Active iSCSI Connections for Tape Libraries

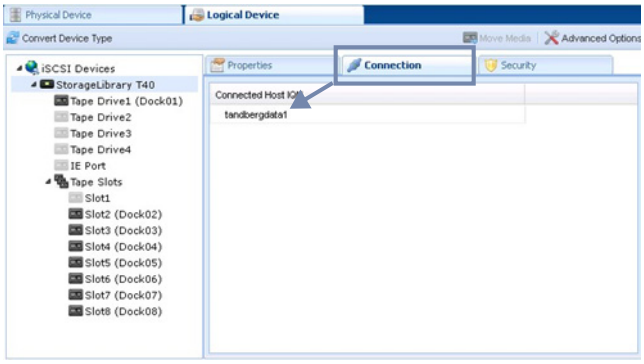
1. From the Logical Device interface, select the library or drive target from the tree view in the left pane.

   Note: The Connection tab only displays when you have selected an iSCSI device target from the left pane.



2. Click the Connection tab.

   If there is a host connected to the target, the host's initiator node name will be displayed in the Connection dialog window, as shown in the following example.



Note: You can also set iSCSI security from the iSCSI Management dialog window. See "Setting iSCSI Security in the Remote Management Console" on page 34 for more information.

Moving a Media Cartridge

With RDX QuikStation virtual library configurations, you can logically move media to an open slot, to the IE port, or to the tape drives.

Note: If you move media to the IE port, the cartridge will be ejected from the dock, and the media will be logically removed from the library.

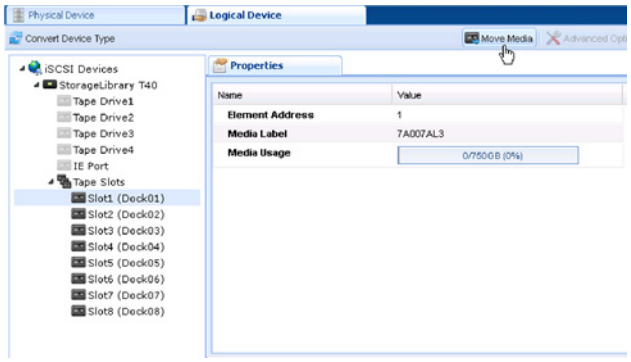
In most cases, you should use your backup software application to logically move media within the virtual library or autoloader. This functionality is built into the RDX QuikStation mainly for testing and diagnostic purposes.

> **Important** Make sure that you do not have any backup jobs in progress before you logically move a cartridge.

To logically move media:

1. From the Logical Device interface, select the tape slot, tape drive, or IE Port from the tree view in the left pane.

2. Select [Move Media].



The Move Media dialog window opens.

3. Select the Source slot and the Destination slot from the pull-down menus. The Source pull-down menu only displays the slots that contain an inserted cartridge, and the Destination pull-down menu only displays empty slots.

4. Click [Move].

Setting the Unique Inquiry Option

The Unique Inquiry option is available from the Advanced Options dialog.

You can set the RDX QuikStation to report the tape library/autoloader's unique inquiry string, or an RDX QuikStation inquiry string.

Table 5-5 *Inquiry String Settings*

Inquiry String setting	Behavior
Original device inquiry string (Default)	The virtual tape library reports the device's original inquiry string. This is the inquiry string that a physical version of the tape library reports. For example, the device inquiry string for a Tandberg Data StorageLibrary T24 is *Magnum 224* (derived from the library's former name).
RDX QuikStation inquiry string	The virtual tape library reports "RDX QuikStation" as the device inquiry string. This option is mainly used for diagnostic purposes.

iSCSI Device Overview

You can view general information about a logical device's iSCSI targets from the iSCSI Devices view in the Remote Management Console.

To navigate to the iSCSI Devices view:

- From the Logical Device interface, select iSCSI Devices from the tree view in the left pane.

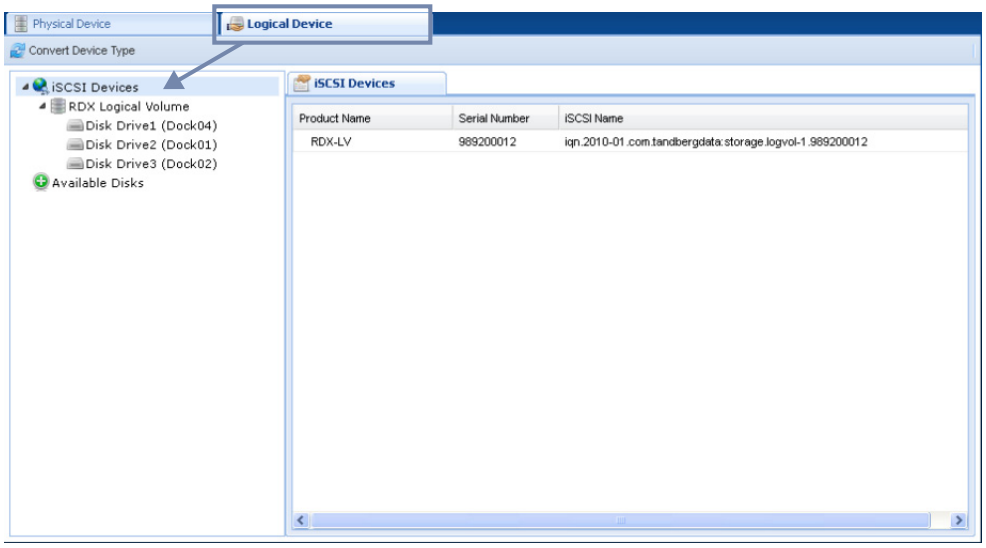


Figure 5-12 *iSCSI Devices view*

By default, the iSCSI Devices window displays the product name, serial number and iSCSI name for the logical device's iSCSI targets.

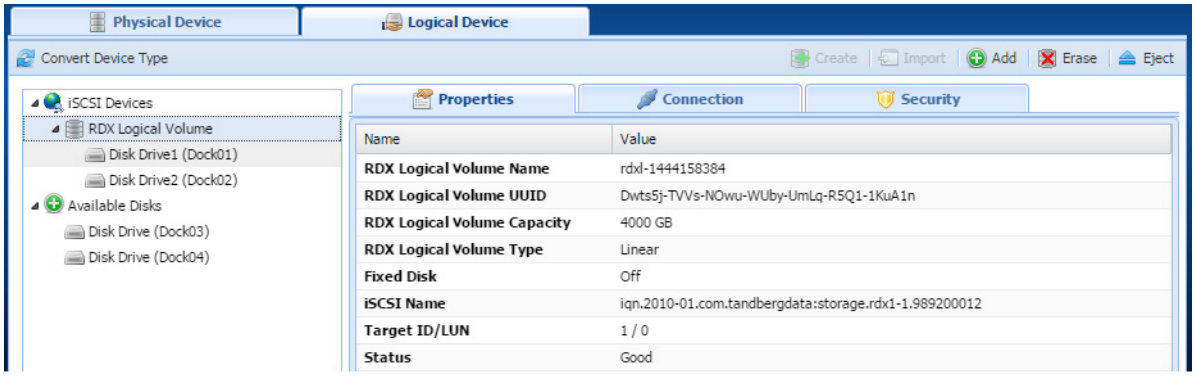


Table 5-6 *RDX QuikStation RDX Logical Volume logical device properties*

Property Name	Description
RDX Logical Volume Name	Name of the RDX volume.
RDX Logical Volume UUID	Unique identification number of the RDX volume.
RDX Logical Volume Capacity	Total capacity of the logical volume.
Fixed Disk	Presentation to the iSCSI initiator. Fixed disk on/off.
iSCSI Name	iSCSI name
Target ID/LUN	1 / 0
Status	Status of the RDX Logical Volume

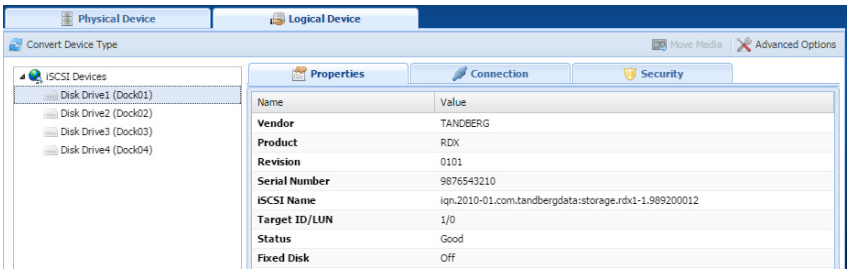


Table 5-7 *RDX QuikStation RDX Drive logical device properties*

Property Name	Description
Vendor	SCSI Inquiry Vendor ID
Product	SCSI Inquiry Product ID
Revision	Firmware version for RDX dock
Serial Number	RDX Dock Serial Number
iSCSI Name	iSCSI name
Target ID/LUN	1 / 0
Status	Status of the RDX doc
Fixed Disk	Fixed disk option on/off
Media Label	Volume Label for RDX cartridge
Media State[a]	State of the RDX cartridge

[a] Only present if media is present in the dock.

Customizing the iSCSI Devices View

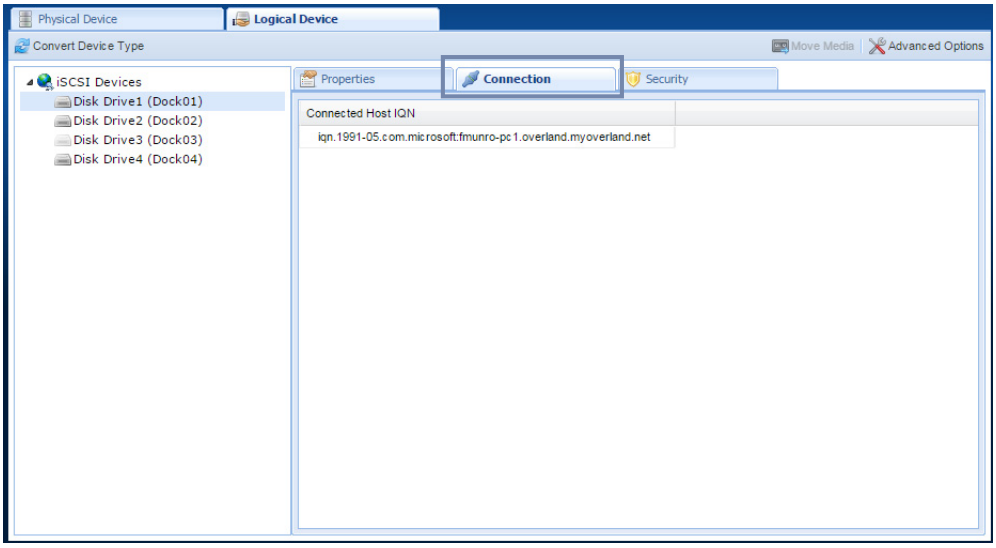
You can sort the columns in ascending or descending order and select which columns are visible.

To customize the iSCSI Devices view, select the ▼ arrow, which appears when you move your mouse over the product or serial number column head.

Viewing Active iSCSI Connections for iSCSI Devices

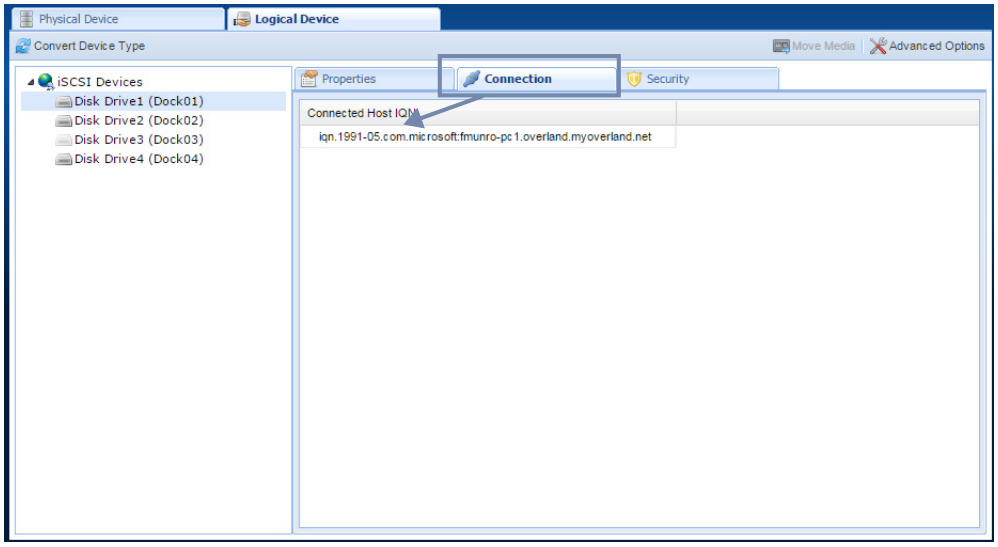
1. From the Logical Device interface, select an iSCSI device target from the tree view in the left pane.

   Note: The Connection tab only displays when you have selected an iSCSI device target from the left pane.



2. Click the Connection tab.

   If there is a host connected to the target, the host's initiator node name will be displayed in the Connection dialog window, as shown in the following example.



Note: You can also set iSCSI security for each iSCSI target. See "Setting iSCSI Security in the Remote Management Console" on page 38 for more information.

6

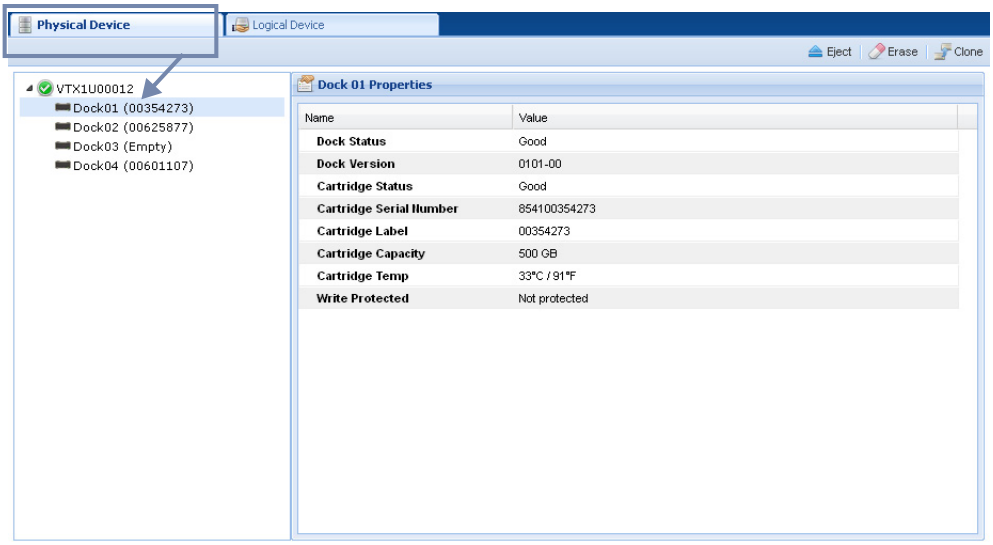
Physical Device Management

This chapter describes the Remote Management Console's Physical Device interface.

The physical device view is useful for determining the physical location of your RDX media, since logical library views can differ. You can also use the physical device view to force-eject RDX media, erase RDX media, and clone data from one RDX media to another.

The chapter includes the following sections:

Viewing Physical Device Properties



The following RDX dock properties are displayed when you select an RDX dock in the left pane of the Physical Device interface.

Table 6-1 *RDX dock properties*

Property Name	Description
Dock Version	The RDX dock firmware version.
Cartridge Status	The operating system status for the RDX QuikStation media. The status can either display good or an error state.
Cartridge Serial Number	Serial number of the RDX media.
Cartridge Label	By default, the text is derived from the RDX media serial number.
Cartridge Capacity	Storage size of the RDX media (used and unused).
Cartridge Temp (Celsius)	The current temperature of the inserted RDX media.
Write Protected	Displays information on whether the RDX media is write-protected or not.

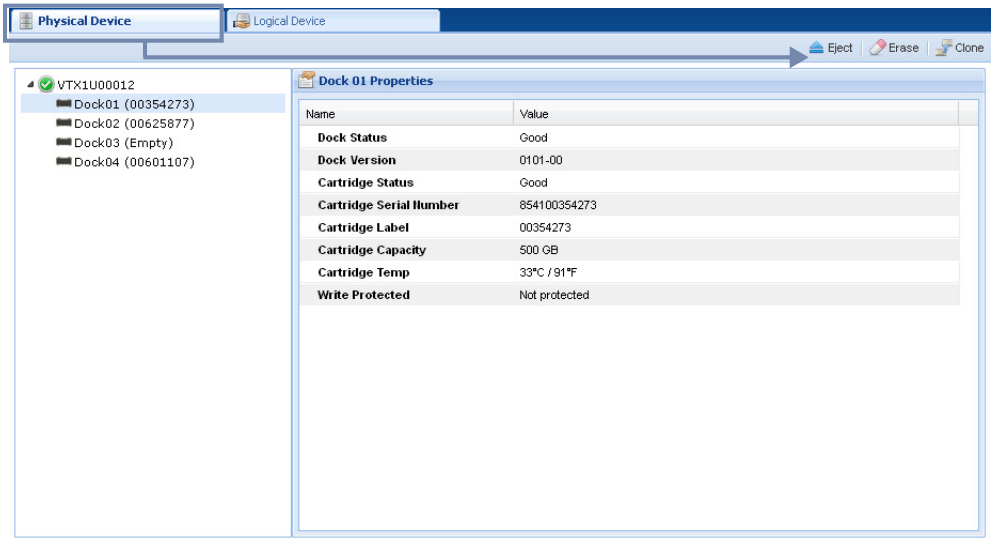
Ejecting RDX Media

You can eject an RDX media from the Remote Management Console. However, with removable disk configurations, unless you first enable the Unsafe Eject option (see page 61), the request to eject the RDX medium will only be executed if the disk is not connected to an iSCSI host or if the connected host has granted permission to remove the medium.

! Important Make sure that you do not have any backup jobs in progress before you eject RDX media from the Remote Management Console.

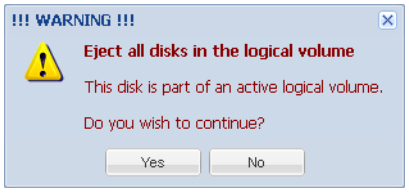
To eject RDX media:

1. From the Physical Device interface, select the dock where the RDX media is located.



2. Click [Eject].

   Note: If the RDX media selected is part of an active logical volume, the following warning will appear. Tandberg Data does not recommend ejecting RDX media that is part of an active logical volume.



   The RDX QuikStation ejects the RDX media. The dock displays “Empty” in the tree view.

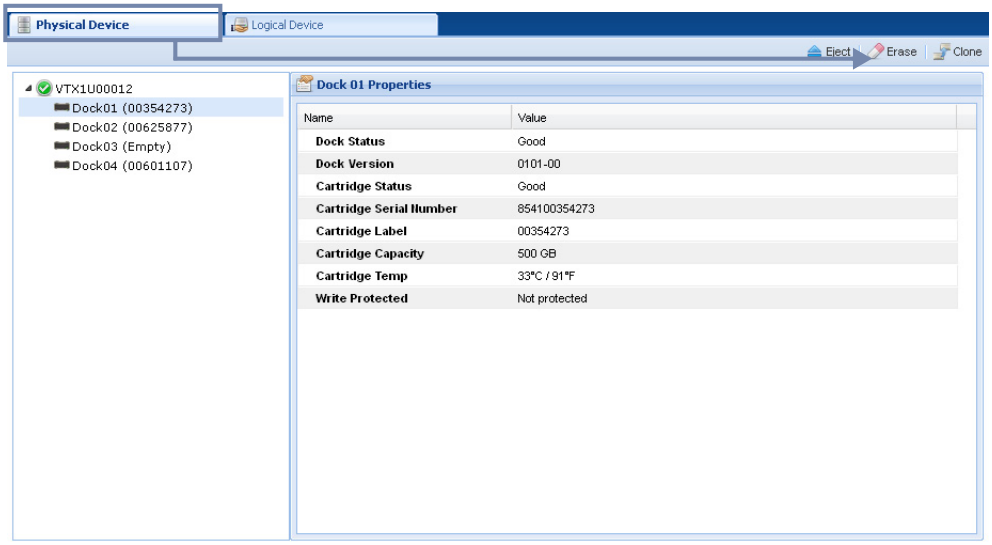
Reformatting RDX Media

You can reformat RDX media as a single NTFS partition from the Remote Management Console.

Note: You cannot reformat a disk in an RDX disk configuration if the iSCSI target related to that disk is connected to a host. You can also not reformat a disk that is part of an active logical volume.

To erase an RDX media:

1. From the Physical Device interface, select the dock where the RDX media is located.



2. Click [Erase].

3. Click [Yes] to confirm.

Cloning Data

You can copy data from one RDX media to another by using the cloning feature in the Remote Management Console. Disks that are part of an active logical volume may not be used in a cloning operation.

Caution Cloning a 3 TB disk or larger using code that is earlier than v01.002.00 may cause corruption of the destination disk and render it **Not Authorized** and unusable.

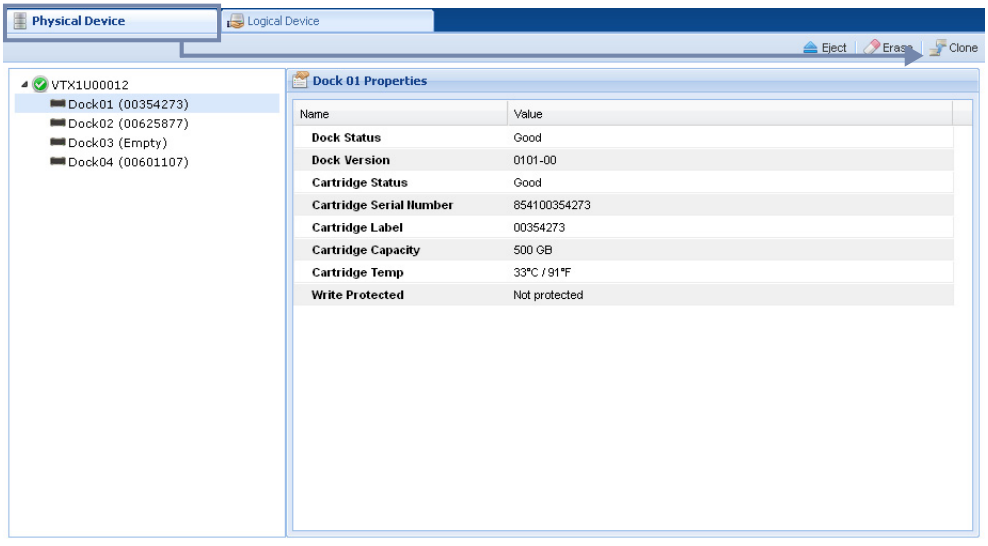
The cloning function copies the source RDX media to a destination media, sector by sector, so that the destination media will be an exact image of the source media.

- Cloning will be rejected if the destination media is smaller than the source media.
- If the destination RDX media is bigger, a part of the destination disk would be unreachable after cloning is finished.

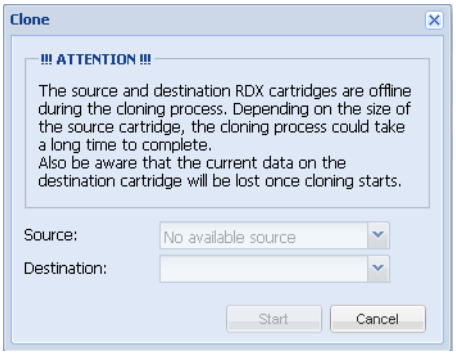
Note: Disks partitioned with GPT have a backup copy at the end of the media. Using bigger media will misplace that backup copy and might cause a warning in some OS.

To clone data:

1. Insert both the source RDX media and the destination RDX media into an available dock on the RDX QuikStation.
2. From the Physical Device interface, click [Clone].



The Clone dialog window opens.

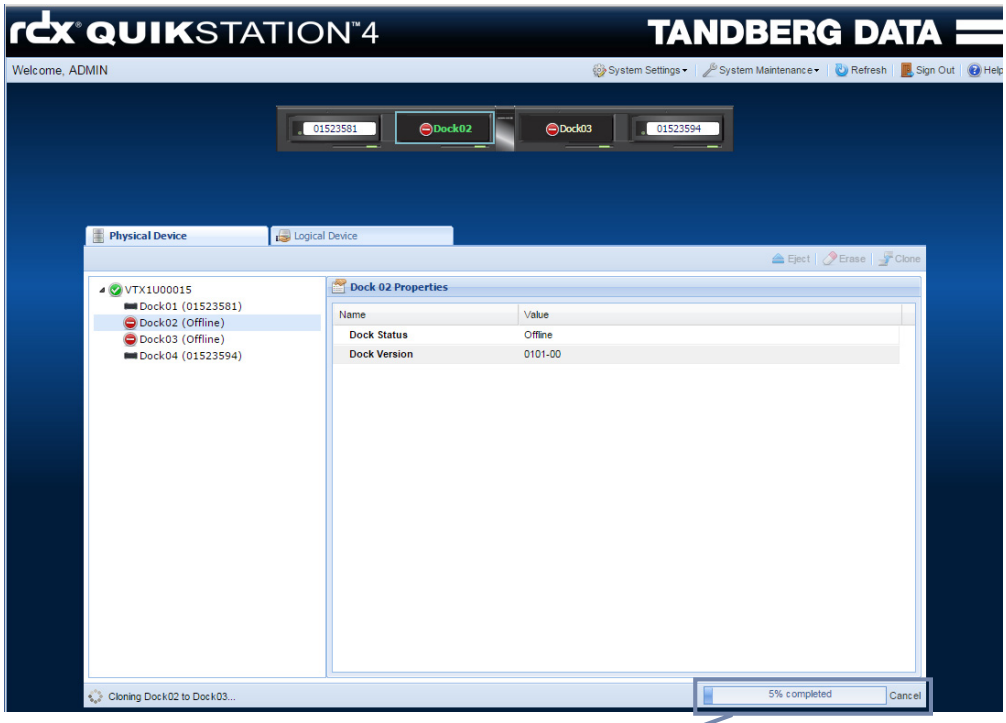


3. Select the Source RDX media from the pulldown menu.
4. Select the Destination RDX media from the pulldown menu.

Note: The iSCSI targets related to the source and destination RDX media will be offline during the cloning process.

5. Click [Start].

   The RDX QuikStation begins the cloning process. You can monitor the progress of the cloning job in the bottom-right corner of the Physical Device interface.



7

System Maintenance

This chapter describes the RDX QuikStation system maintenance tasks that a user with administrator privileges can perform.

The chapter includes the following sections:

System Maintenance Overview

As a user with administrator permissions, the following functions are available for you to perform from the Management Console's System Maintenance menu.

Table 7-1 *RDX QuikStation System Maintenance Menu*

System Maintenance Menu Name	Description
System Log	Allows you to download system log files to a host computer. These files are encrypted and are meant for Tandberg Data technical support only.
System Restart	Allows you to restart the RDX QuikStation. **Important:** Before you restart the system for any reason, make sure there are no active host connections to the iSCSI targets.
System Shutdown	Allows you to perform a soft shut down of the RDX QuikStation, which is the preferred way to turn off the power to the unit. If you need to do a hard shut down, press and hold the power button on the front of the RDX QuikStation for 10 seconds. **Important:** Before you shut down the system for any reason, make sure there are no active host connections to the iSCSI targets.
Import Configuration	Allows you to import RDX QuikStation system configuration files, such as network information, email notification setting, time zone, user names and passwords, logical device type settings, and iSCSI security settings to another RDX QuikStation.
Export Configuration	Allows you to export RDX QuikStation system configuration settings, such as network information, email notification, time zone, user names and passwords, logical device type settings, and iSCSI security settings. Tandberg Data recommends that you export your system configuration files as a backup in case you ever need to replace your current unit.
Update Firmware	Allows you to automatically check for updates and manually upload a firmware file. **Important:** Before you update firmware, make sure there are no active host connections to the iSCSI targets.

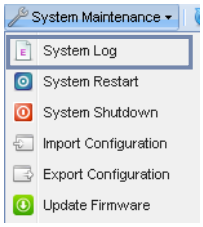
Generating System Logs

There are three levels of system logs that may be generated from the RDX QuikStation: Normal, Detail, and Extend (see page 59).

System logs are encrypted and only intended for use by Tandberg Data technical support. You do not need to generate a system log unless you are instructed to do so by Tandberg Data technical support. Logs may also be generated automatically if some issue is detected by firmware. You will be asked to save them locally and advised to send them to Tandberg Data technical support.

To generate a system log:

1. From the Remote Management Console main menu, select System Maintenance > System log.



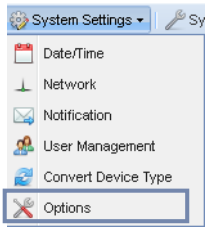
2. Save the file to your local host.

Note: You can also generate a log dump by inserting an empty USB flash drive (formatted with a VFAT32 or NTFS file system) into the RDX QuikStation. The RDX QuikStation automatically generates a log dump when a USB flash drive is detected. Make sure that the flash drive does not include any RDX QuikStation system configuration files (see page 127). Otherwise, the RDX QuikStation will read and process those files instead of generating a system log.

Diagnostics Tab Options

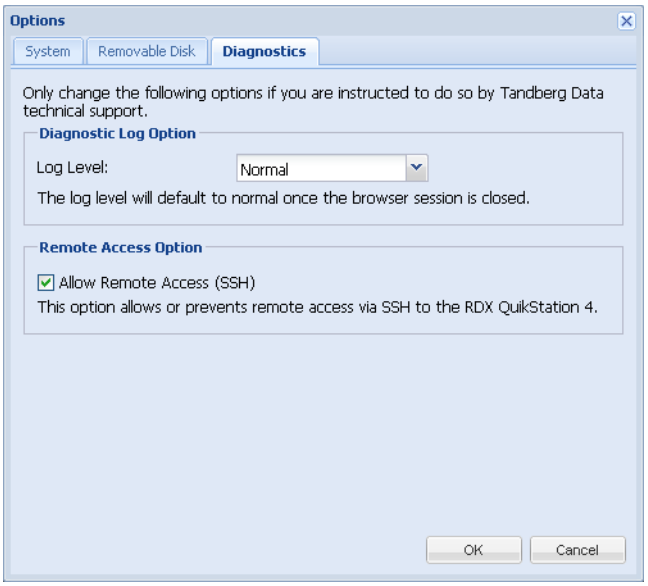
To access the Diagnostics tab:

1. From the Remote Management Console main menu, select System Settings > Options.



The Options dialog window opens with the Removable Disk tab selected.

2. Select [Diagnostics] to view the Diagnostics tab.



Tandberg Data recommends you only change the log level if you are instructed to do so by Tandberg Data Technical Support.

3. If directed to do so by Tandberg Data Technical Support, select the drop-down menu to change the log level from Normal to Detail or Extend.

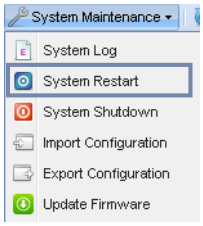
Note: If you change the log level, the system will default to "normal" once the Management Console browser session is closed.

Restarting and Shutting Down the RDX QuikStation

Important Before you restart or shut down the system for any reason, make sure there are no active hosts that are currently communicating with the iSCSI targets.

Restarting the RDX QuikStation:

1. From the Remote Management Console main menu, select System Maintenance > System Restart.

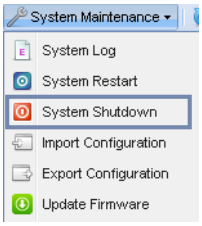


2. Click [Yes] to confirm.

   The system reboots. This process takes three minutes. When the reboot is complete, the Remote Management Console interface is active again. You do not have to sign in again to access the Console.

Shutting Down the RDX QuikStation

1. From the Remote Management Console main menu, select System Maintenance > System Shutdown.



2. Click [Yes] to confirm.

Note: If you cannot access the Remote Management Console, verify that your network infrastructure is up and running and you are using a correct IP address. Contact technical support if you need further assistance.

If the Remote Management Console is unavailable, you can initiate an OS shutdown by quickly pressing the power button (1-2 seconds).

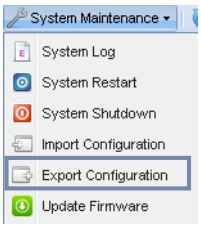
Important If you press and hold power button for more than 10 seconds, you will immediately cut off a unit's power for a hard power-off without any software shut down. Any non-disconnected iSCSI connection would be terminated. It is strongly advised to avoid using power button as a standard procedure.

Exporting System Configuration Files

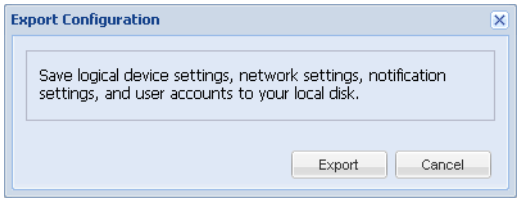
As a best practice, Tandberg Data recommends that you export your system configuration files as a backup in case you ever need to replace your current unit. The system exports all configuration settings, including network information, email notification settings, time zone setting, user names and passwords, logical device type settings, and iSCSI security settings.

To export RDX QuikStation system configuration files:

1. From the Remote Management Console main menu, select System Maintenance > Export Configuration.



The Export Configuration dialog window opens.



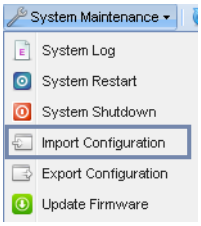
2. Click [Export] to generate the configuration file.
3. Click [Ok] to download the file to your local host.
4. Note the name and location of the downloaded file.

Importing RDX QuikStation System Configuration Files

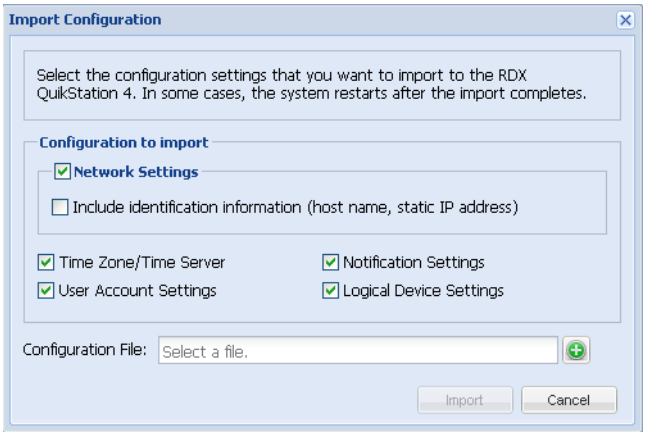
You can only import configuration files generated by an RDX QuikStation. Configuration files from other Tandberg Data products are not compatible.

To import system configuration files:

1. From the Remote Management Console main menu, select System Maintenance > Import Configuration.



The Import Configuration dialog window opens.



2. Select the network settings you want to import. By default, all configuration settings are selected.

3. Click the [+] icon to select the RDX QuikStation configuration file.

4. Click [Import].

   The system reboots. This process takes three minutes. When the reboot is complete, the Remote Management Console interface is active again. You do not have to sign in again to access the Console.

   If the imported file contains different network settings than are currently active, you may have to reopen the browser with the updated RDX QuikStation IP address. Refer to Chapter 2 on page 20 to determine the current IP address.

Manually Updating Firmware

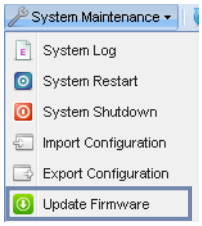
If the "Check firmware update automatically" option is enabled (see page 59), when... you sign in as an administrator user, the RDX QuikStation detects the firmware version (see page 59). If your system is not running the most current version, the RDX QuikStation prompts you to update the firmware. If you choose to update, the system automatically installs the new firmware version.

Follow these instructions if you need to manually update the firmware file to your system.

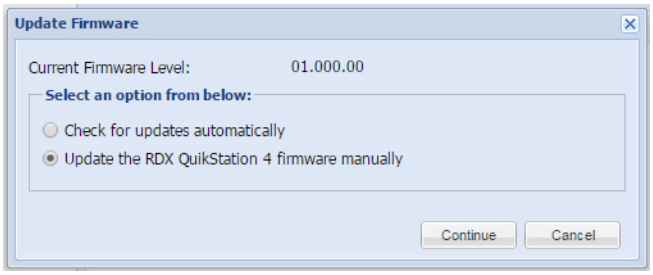
! Important Before you update firmware, make sure there are no active hosts that are currently communicating with the iSCSI targets.

To manually update the RDX QuikStation firmware:

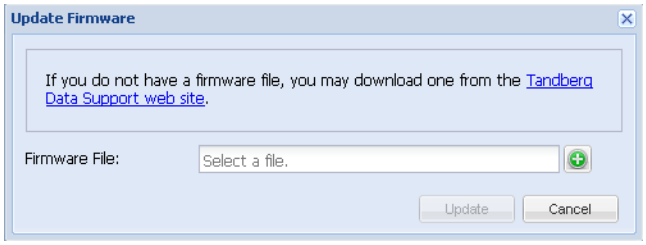
1. From the Remote Management Console main menu, select System Maintenance > Update Firmware.



The Update Firmware dialog window opens.



2. Select the “Update QuikStation firmware manually” radio button.



3. Click the “Tandberg Data Support Web Site” link to access the most current firmware file.

After you download the file from the web site, make sure you extract the zipped file before uploading it to the RDX QuikStation. The firmware file uses the following format: `vtx1u-aa.bb.cc.fw`.

4. Click the [+] icon to select the configuration file. The firmware file must be appropriate for your device, either for QuikStation 4 or for QuikStation 8. These code files are not interchangeable.

5. Click [Update].

6. Click [Yes] to proceed.

   The system reboots. This process takes three minutes. When the reboot is complete, the Remote Management Console interface is active again. You do not have to sign in again to access the Console.

   Note: You can also update firmware by saving the firmware file to a USB flash drive (formatted with a VFAT32 or NTF file system). Rename the firmware file `vtx1u.fw` and insert the flash drive into the RDX QuikStation. The RDX QuikStation automatically detects the firmware and updates the system.

Using a USB Flash Drive for System Tasks

The RDX QuikStation ships with a USB flash drive that you can use to perform many system tasks. If the RDX QuikStation flash drive is unavailable, you can use any USB flash drive that is formatted with a VFAT32 or NTFS file system.

! Important The Tandberg Data-supplied USB flash drive might include configuration example files. Change file extensions to `*.example` to make sure the correct action would be performed by RDX QuikStation firmware.

The following table describes the system tasks you can complete with a USB flash drive.

Table 7-2 *Uses for RDX QuikStation USB Flash Drive*

System Task	Description
Network information	You can get current active network settings by creating an empty file named `network.info` on USB stick. When the flash drive is inserted into the RDX QuikStation 8, the system automatically writes detailed network information into that text file. Any existing content in that file is erased prior to writing network settings.
Network configuration	You can configure network settings for the RDX QuikStation via the `network.conf` file, which is included on your RDX QuikStation USB flash drive. When the flash drive is inserted into the RDX QuikStation, the system automatically detects and imports the network settings from the file. For more information, see "Configuring Network Information" on page 49. **Important:** The file must be named `network.conf` in order for the RDX QuikStation to import network settings.
Firmware updates	You can update firmware by saving the firmware file to a USB flash drive and inserting the flash drive into the RDX QuikStation. The RDX QuikStation automatically detects the firmware and updates the system. For more information, see "Manually Updating Firmware" on page 126. **Important:** Rename the firmware file `vtx1u.fw` so that the RDX QuikStation can detect and load the file.
Password recovery	You can reset the built-in administrator password via USB by creating a `password.reset` file. For more information, see "Recovering the Built-In Administrator Password" on page 69.
System log dump	You can generate a log dump by inserting a USB flash drive into the RDX QuikStation. The RDX QuikStation automatically generates a system log when a USB flash drive is detected. For more information, see "Generating System Logs" on page 121. **Important: If any of the following files – `network.conf`, `password.reset`, `network.info` or `vtx1u.fw` – are loaded onto the flash drive, the RDX QuikStation will not generate a log dump, but will instead read and load the file.**

A

Troubleshooting

This appendix provides information on error codes and some basic troubleshooting questions and solutions.

For more detailed troubleshooting help, visit the Support section of the Tandberg Data web site (www.tandbergdata.com), or contact Tandberg technical support.

Basic Troubleshooting Information

The following table describes some basic troubleshooting information. If you have a problem that is not addressed in the table below, contact Tandberg Data technical support.

Table A-1 *Basic troubleshooting information*

Problem	Potential Solution(s)
Can't connect to an iSCSI target.	▸ Check to see if another host is already connected to the target (see page 110). In many cases, the RDX QuikStation allows only one active host connection per iSCSI target (see page 28). ▸ Check if any iSCSI security is enabled for the target (see page 38). ▸ If the target uses CHAP authentication, make sure the CHAP secret specified in the Remote Management Console (see page 39) matches the CHAP secret specified in your iSCSI initiator software. ▸ Refresh the discovered targets in your iSCSI initiator software. This may require restarting the iSCSI initiator.
The Remote Management Console has a "session timeout" error message.	The Remote Management Console times out after 30 minutes of inactivity. Click [OK] to return to the Console's sign-in page. Type your user name and password to re-connect to the Remote Management Console (see page 22).
RDX dock reports as "empty" in the Remote Management Console when an RDX media is loaded in the dock.	The RDX media may not be seated properly in the dock. Push the RDX media into the dock until you hear it click in place. If this does not work, try re-seating the RDX media by ejecting it and then re-inserting it.

Table A-1 *Basic troubleshooting information*

Problem	Potential Solution(s)
Test email notification is unsuccessful.	If the network is set to a static IP address, make sure that the Default Gateway, Search Domain, and Primary DNS are set correctly so that the email server may be accessed.
Can't access the Remote Management Console.	▸ Verify that your network is operating properly. ▸ Verify that you are using a correct IP address.

B

Specifications

This appendix provides the following information about the RDX QuikStation 8:

Physical Specifications

QuikStation 4 Desktop Unit

Part Number	8922-RDX
Dimensions (D x W x H)	48.1cm x 44.0cm x 6.8cm/ 18.9in. x 17.3in. x 2.7in.
Weight	9.78 kilograms/21.6 pounds
Form Factor	Desktop
Capacity	Media dependent (online): 4 x 3TB RDX media Unlimited offline capacity
Data Transfer Rate	Up to 200 MB[a]/second across multiple docks (write, uncompressed)
Network Connectivity	2 x 1 Gigabit Ethernet
USB 2.0 Ports	6 on rear panel
USB 3.0 Ports	1 on front panel, 2 on rear panel
Removable Media Drive	4 x RDX bays
RDX Media Compatibility[b] (Capacity)	Backward and forward to all RDX media of all capacities

[a] The data transfer rate is up to 200 MB/second when port configuration is configured for adaptive load balancing or dynamic link aggregation (see page 55).

[b] Only RDX QuikStation FW version 01.002.00 or higher supports media size greater than 2.2TB.

QuikStation 4 Rack-mount Unit

Part Number	8920-RDX
Dimensions (D x W x H)	47.8cm x 44.0cm x 4.3cm/ 18.8in. x 17.3in. x 1.7in.
Weight	6.02 kilograms/13.3 pounds
Form Factor	1U Rackmount
Capacity	RDX media dependent (online): 4 x 3TB RDX media Unlimited offline capacity
Data Transfer Rate	Up to 200 MB[a]/second across multiple docks (write, uncompressed)
Network Connectivity	2 x 1 Gigabit Ethernet
USB 2.0 Ports	6 on rear panel

USB 3.0 Ports	1 on front panel, 2 on rear panel
Removable Media Drive	4 x RDX bays
RDX Media Compatibility[b] (Capacity)	Backward and forward to all RDX media of all capacities

[a] The data transfer rate is up to 200 MB/second when port configuration is configured for adaptive load balancing or dynamic link aggregation (see page 55).

[b] Only RDX QuikStation FW version 01.002.00 or higher supports media size greater than 2.2TB.

Rack-mount QuikStation 8

Part Number	8930-RDX 8940-RDX
Dimensions (D x W x H)	47.8cm x 44.0cm x 8.6cm/ 18.8in. x 17.3in. x 3.4in.
Weight	14.96 kilograms/33.3 pounds
Form Factor	2U Rackmount
Capacity	RDX media dependent (online): 8 x 3TB RDX media[a] Unlimited offline capacity
Data Transfer Rate	Up to 1000 MB[b]/second across multiple docks (write, uncompressed)
Network Connectivity	4 x 1 Gigabit Ethernet 1 x 1 10 Gigabit Ethernet (optional)
USB 2.0 Ports	1 on front panel, 2 on rear panel
USB 3.0 Ports	2 on rear panel
Removable Media Drive	8 x RDX bays
RDX Media Compatibility[c] (Capacity)	Backward and forward to all RDX media of all capacities

[a] 3TB cartridge is the largest size available at time of print; however, the online capacity is only limited by the size of the RDX cartridge available. Please refer to TandbergData.com for current maximum capacity cartridges.

[b] 1 x 10 and 4 x 1 Gigabit Ethernet speed.

[c] Only RDX QuikStation FW version 01.002.00 or higher supports media size greater than 2.2TB.

Power Specifications

AC Input Voltage	100-240 VAC
Rated Input Current	2,0 -1,0 A
Rated Input Frequency	50/60 Hz
Power Consumption	<90 Watts, typical

Environmental Specifications

Operating Temperature	10° to 40° C (50° to 104° F)
Non-operating Temperature	-20° to 60° C (-4° to 140° F)
Operating Humidity	20% to 80%

Safety and Regulatory Agency Compliance

Tandberg Data products are designed, tested, and classified for their intended electromagnetic environment. The RDX QuikStation 8 is a Class A device and complies with the safety and regulatory agency standards listed below when installed in accordance with this manual.

Note: For regulatory purposes, the RDX QuikStation 8 is filed as regulatory model number RMN-A-01-16.

The cTUVus Mark for the RDX QuikStation 8 demonstrates that it has met the requirements of UL60950-1,2nd Ed, 2014-10-14.

European Community

This Information Technology Equipment has been tested and found to comply with the following European directives:

(1) EMC Directive 2014/30/EU of 26 February 2014

(2) LVD Directive to 2014/35/EU of 26 February 2014

(3) RoHS Directive 2011/65/EU of 8 June 2011

EN 55022: 2006 +AC: 2011, Class A

EN 61000-3-2: 2006 +A1:2009 +A2:2009

EN 61000-3-3: 2008

EN 61000-6-3: 2007 +A1: 2011

EN 55024: 2010

EN 61000-6-2: 2005

EN 60950-1: A2:2013

EN 62479: 2010

EN 50581: 2012

Waste of Electronic and Electrical Equipment (WEEE)

This device is in compliance with 2002\96\EC Waste of Electronic and Electrical Equipment (WEEE).

Australia and New Zealand

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to the Australian/New Zealand standard AS/NZS CISPR22 : 2009 for Information Technology Equipment and EN 55022 : 2010 + AC:2011 - Limits and Methods of Radio Disturbance Characteristics of Information Technology Equipment set out by the Australian Communications Agency.

China RoHS

This product is marked in accordance with China's Ministry of Information Industry (MII) “Management Methods for Controlling Pollution Cause by Electronic Information Products” Order #39. The Environmental Protection Use Period (EPUP) is determined to be 10 years. Packaging materials are also marked according to Chinese national standard GB 18455 - 2001 “Packaging and Recycling Symbols”.

Japan

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI－A

Translation: This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Korea

This product is marked in accordance with Korea’s Registration of Broadcasting and Communication Equipments. It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

United States: FCC Declaration of Conformity

We declare under our sole responsibility that:

Product Name: RDX QuikStation 8, regulatory model RMN-A-01-16

To which this declaration relates, is in conformity with the following standard(s) or other normative documents:

ANSI C63.4-2009 Methods of Measurement

Federal Communications Commission 47 CFR Part 15, Subpart A/B, Class B: 2013

This equipment has been tested and found to comply with the limits for a Class AB digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

C

Safety Guidelines

This appendix provides safety guidelines for the RDX QuikStation 8:

General Safety Precautions

- Keep the area around the RDX QuikStation clean and free of clutter.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come in contact with printed circuit boards or areas where power is present.
- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tmax) specified by the manufacturer (40° C or 104° F).
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).
- Never place objects on top of rack-mounted equipment.

Electrical Safety Precautions

- Be aware of the locations of the on/off switch on the chassis as well as the room's emergency power-off switch, disconnection switch or electrical outlet(s). The on/off switch does not disconnect power to the chassis. If an electrical accident occurs, quickly remove power to the system by removing the plug(s) from the outlet(s). Some models may have multiple power cords which connect to more than one outlet.
- The power cord must include a grounded plug and must be plugged into a grounded electrical outlet.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage electrical components or circuit boards they come into contact with.

ESD Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. The following measures are generally sufficient to neutralize this difference before contact is made to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Discharge static electricity from your body by touching a known grounded surface, such as a computer’s metal chassis.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the printed circuit boards.

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