TANDBERG DATA

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Sphere**3D**



Product Manual

RDX[®] QuikStation[®] 4 and 8

Part Number 1021970 Rev. A June 2016

www.tandbergdata.com

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PRODUCT MANUAL

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).
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	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).
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A 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.

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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.



on 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
•	wai ning	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.

2

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.

4

RDX QuikStation 4 Components

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

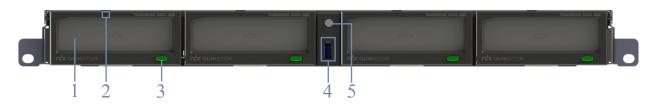


Figure 1-4 RDX QuikStation 4 front panel components

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.	

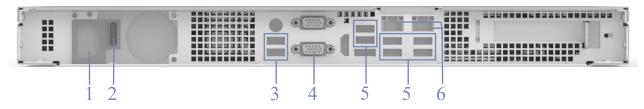


Figure 1-5 RDX QuikStation 4 back panel components

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)

6

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	윰	 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	格	 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	e-√a→	 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. 	

8

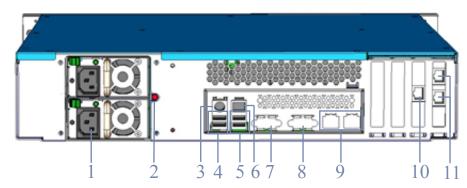


Figure 1-7 RDX QuikStation 8 back panel components

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)

2

Installation and Setup

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

Preparing for Installation	page 12
Installing the Desktop RDX QuikStation 4	page 12
Installing the Rack-Mount RDX QuikStation	4page 13
Installing the Rack-Mount RDX QuikStation	8 page 15
Connecting Network and Power Cords	page 18
Installing Media	page 20
• Obtaining the IP Address	page 20
Connecting to the Remote Management Cons	sole page 22
Configuring the RDX QuikStation	

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

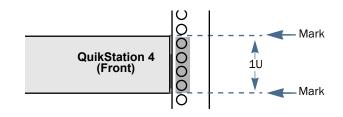
Unpacking the Unit

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.

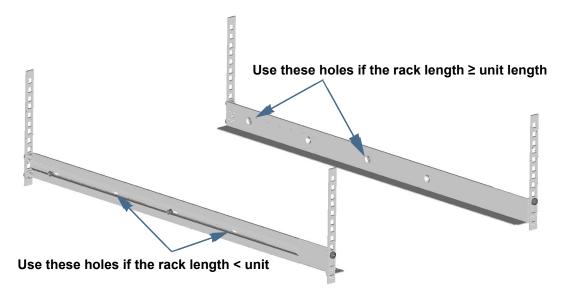
Installing Rails in Rack

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

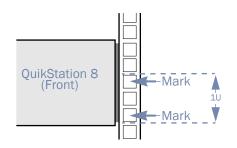
Unpacking the Unit

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

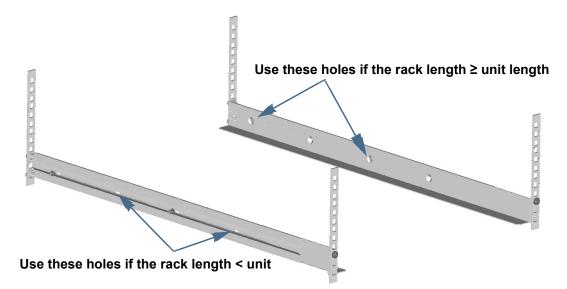
The rack-mounted RDX QuikStation 8 is designed for use in a 19-inch rack using 2U of rack space. The rails install in the bottom of a 2U space, the same as a 1U install. The rails can be fully installed with all front screws. The length of the power cord and the Ethernet cables may restrict placement.

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.

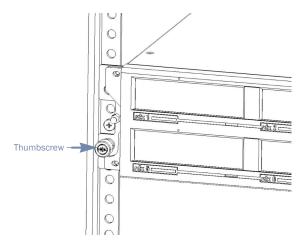
Installing the Unit in the Rack

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

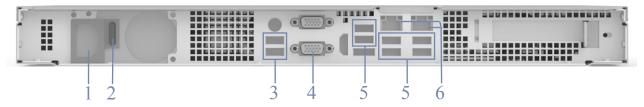


Figure 2-1 RDX QuikStation 4 back panel components

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

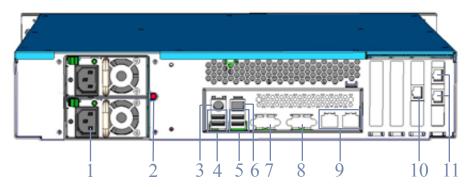


Figure 2-2 RDX QuikStation 8 back panel components

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.

BONDO 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**.
- 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.

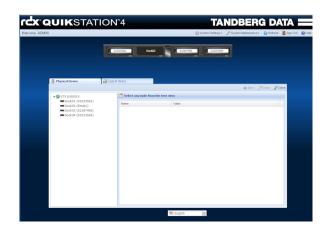
The default user name and password is admin and Admin!.

Note: Passwords are case-sensitive.

Sign In to the RDX Quik	station 4	?
User Name: Password:	User Name	
	Sign In	
	🗏 English 💉	
Sign In to the RDX Qui	kStation 8	?
User Name:	User Name	
Password:		
	Sign In	
	English 🗸	

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.

Sign In to the RDX Qu	uikStation 4	?
User Name:	User Name	
Password:		
		Sign In
	📟 English 🛛 💙	

2. The menu of languages available appears.

📟 English	~
💻 English	
🔲 Français	
💻 Deutsch	
● 日本語	
💹 简体中文	
🚾 Español	
🚃 Русский	
🔲 Italiano	
🔚 Norsk	

3. Highlight the desired language.

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

Melden Sie sich bei RI	X QuikStation 4 an	?
Benutzername:	Benutzername	
Kennwort:		
		Anmelden
	Deutsch	
	- Deutsch	

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

📱 Physikalisches Gerät 🛛 🛃 Lo	gisches Gerät			
			📥 Auswerfer	n 🖉 Löschen 🛛 🚽 Kloner
4 🔮 VTX1U00012	😤 Wählen Sie einen beliebigen Knoten aus der Strukturansicht aus			
Dock01 (00354273) Dock02 (00625877)	Name	Wert		
Dock03 (Leer)				
Dock04 (00601107)				
	[
		💻 Deutsch 👻		

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 sys	stem 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	ge 28
Connecting to iSCSI Targets Without Authenticationpa	ge 29
Set iSCSI Security	ge 37

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 (page 29)
- Connecting iSCSI Targets for Linux (page 32)
- Connecting iSCSI Targets for Mac OS X (page 34)

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.)

gets Discover	y Favorite Targe	ets Volumes and Devices	RADIUS Configuratio
arget portals The system will	look for <u>T</u> argets o	n following portals:	R <u>e</u> fresh
Address	Port	Adapter	IP address
	Tort	ridgetter	1 0001033
	t portal, click Disco		Discover Portal

The Discover Target Portal dialog window opens.

Discover Target Portal	
Enter the IP address or DNS name and p want to add.	ort number of the portal you
To change the default settings of the dis the Advanced button.	covery of the target portal, dick
IP address or DNS name:	Port: (Default is 3260.)
10.250.4.211	3260
Advanced	QK <u>C</u> ancel

- **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.

	ator Propert	ies			_
largets	Discovery	Favorite Targets	Volumes and Devices	RADIUS	Configuration
Quick C	onnect				
		on to a target usir arget and then dick	ng a basic connection, t Quick Connect.	ype the IP	address or
<u>T</u> arget	:			Qu	uick Connect
Discove	ered targets				
					<u>R</u> efresh
Name				Status	
ian.20	010-01.com.	tandbergdata:stora	age.rdx1-1.989200	Inactive	
			age.rdx2-2.989200	Inactive	
		-	age.rdx3-3.989200	Inactive	
		-	age.rdx4-4.989200	Inactive	
lick Co		ivanced options, s	elect a target and then		Connect
To com then cli		nnect a target, sel	ect the target and		
	ICK DISCONNE		cer are target and		Disconnect
	get propertie	ct.	uration of sessions,		Disconnect
select f	get propertie the target ar nfiguration o	ct. es, including config nd click Properties.	-		
select t For cor the tar	get propertie the target ar nfiguration o get and ther	ct. es, including config nd click Properties. f devices associate	d with a target, select		Properties
select t For cor the tar	get propertie the target ar nfiguration o get and ther	et. es, including config d dick Properties. f devices associate n dick Devices.	d with a target, select		Properties

- 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.

CSI Initiator Properties	
Targets Discovery Favorite Targets Volumes and Devices Quick Connect To discover and log on to a target using a basic connection, in DNS name of the target and then click Quick Connect. Target: I	
Discovered targets	<u>R</u> efresh
iqn.2010-01.com.tandbergdata:storage.rdx1-1.989200 iqn.2010-01.com.tandbergdata:storage.rdx2-2.989200 iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 iqn.2010-01.com.tandbergdata:storage.rdx4-4.989200	Connected Connected Inactive

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 ION 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.
```

Ho

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:

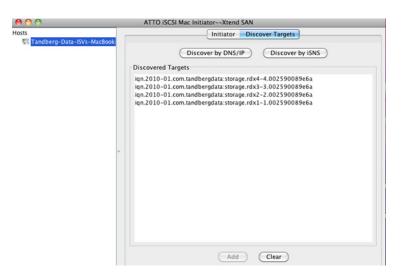
1. Open Xtend SAN iSCSI Initiator. Click the Discover Targets tab, then click [Discover by DNS/IP].

ts			Initiator	r	Discover Targets
Tandberg-Data-ISVs-MacBook	Discover Configure	Targets the static discov	very.		2
	Address:	10.1.50.211			×
	Port:	3260			
	СНАР				
	Target	User Name:	iq	qn.19	95–12.com.attotech:xtendsan:ser.wq93
^	Target	Secret:			
	Mutual	Authentication			
	Initiato	r User Name:			
	Initiato	r Secret:			
			Finis	sh	Cancel

The following dialog window opens.

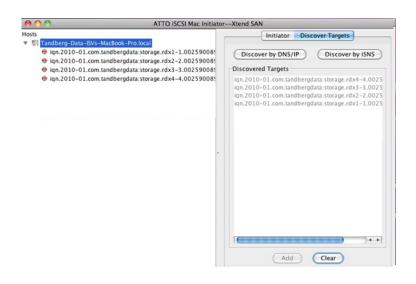
2. In the Address field, type the IP address for the RDX QuikStation. If you are using a port number other than the default, type the number in the Port field. Otherwise leave the default 3260 port number. Click [Finish].

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.

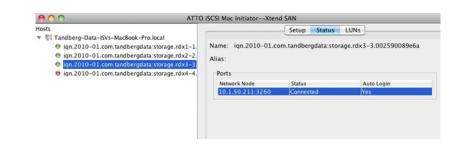
(Setup Status LUNs	
Name: iqn.2010-01.com	tandbergdata:storage.rd>	(1-1.002590089e6a
Alias:		
Ports		
Network Node	Visible	Auto Login
10.1.50.211:3260		⊻

- b. Select the "Visible" checkbox and the "Auto Login" checkbox.
- c. Click the Status tab.

The target's connection status is displayed.

	Setup Status LUNs]
Name: iqn.2010-01.com.	tandbergdata:storage.rd:	x1-1.002590089e6a
Alias:		
Ports		
Network Node	Status	Auto Login
10.1.50.211:3260	Not Connected	Yes

- 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

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 <i>secret</i> (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 (page 38)
- Connecting iSCSI targets with CHAP for Windows (page 41)
- Connecting iSCSI targets with CHAP for Linux (page 42)
- Connecting iSCSI targets with CHAP for Mac OS X (page 44)

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.

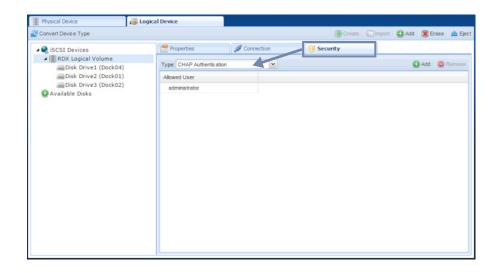
	Properties	Connection	😈 Security	
💐 iSCSI Devices 🔺 🗐 RDX Logical Volume	rioperdes d	Connection	- Security	
Disk Drive1 (Dock04)	Type: Host Authentication	~		🕒 Add 📗 🤤 Rem
🚔 Disk Drive2 (Dock01)	Allowed Host			
Disk Drive3 (Dock02)				
😌 Available Disks				

- **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.

Add iSCSI User	×
User Name: Secret Key:	
Verify Secret Key:	
	Add

- 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.
- 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].

Physical Device	Logical Device			
Convert Device Type			📑 Create 🛛 🗧	Import 😧 Add 🔀 Erase 📤 E
😪 iSCSI Devices	Properties	J Connection	i Security	
 RDX Logical Volume Disk Drive1 (Dock04) 	Type: Host Authentic atio	an 💌		🖸 Add 🛛 🤤 Remov
Disk Drive2 (Dock01)	Allowed Host			
Disk Drive3 (Dock02) Available Disks	10.250.4.7			
Available bisks				

The Add iSCSI Host dialog box opens.

Add iSCSI Host		×
Host IP Address:		
	Add	

- **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:

Advanced Settings	? <mark>×</mark>				
General IPsec					
Connect using					
Local adapter:	Default				
Initiator IP:	Default				
Target portal IP:	Default				
CRC / Checksum					
Data digest	Header digest				
Enable CHAP log on					
	CHAP Log on information				
CHAP helps ensure con an initiator.	CHAP helps ensure connection security by providing authentication between a target and an initiator.				
	To use, specify the same name and CHAP secret that was configured on the target for this initiator. The name will default to the Initiator Name of the system unless another name is specified.				
Name:	iqn.1991-05.com.microsoft:isvlab-isvlab				
Target secret:	•••••••				
Perform mutual authentication					
To use mutual CHAP, either specify an initiator secret on the Configuration page or use RADIUS.					
I se RADIUS to generate user authentication credentials					
Use RADIUS to generate user authentication credentials Use RADIUS to authenticate target credentials					

- 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.

Quick Connect To discover and log on to a target using a basic connection, type the IP address or DNS name of the target and then dick Quick Connect. Iarget: Quick Connect. Quick Connect Quick Connect. Discovered targets Refresh Name Status ign.2010-01.com.tandbergdata:storage.rdx1-1.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive ign.2010-01.com.tandbergdata:storage.rdx4-4.989200 Inactive	argets	Discovery	Favorite Targets	Volumes and Devices	RADIUS	Configuration
DNS name of the target and then dick Quick Connect. Iarget: Iarget: Igen Connect Igen Connect Igen 2010-01.com.tandbergdata:storage.rdx1-1.989200 Igen 2010-01.com.tandbergdata:storage.rdx2-2.989200 Inactive Igen 2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive	Quick C	onnect				
Discovered targets Refresh Name Status iqn.2010-01.com.tandbergdata:storage.rdx1-1.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx2-2.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive					ype the IP	address or
Refresh Name Status iqn.2010-01.com.tandbergdata:storage.rdx1-1.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx2-2.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive	<u>T</u> arget	: [Qu	iick Connect
Name Status iqn.2010-01.com.tandbergdata:storage.rdx1-1.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx2-2.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive	Discove	ered targets			_	
iqn.2010-01.com.tandbergdata:storage.rdx1-1.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx2-2.989200 Connected iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive						<u>R</u> efresh
ign.2010-01.com.tandbergdata:storage.rdx2-2.989200 Connected ign.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive	Name				Status	
iqn.2010-01.com.tandbergdata:storage.rdx3-3.989200 Inactive	ign.20	010-01.com.	tandbergdata:stora	ge.rdx1-1.989200	Connected	đ
			-	-		đ
iqn.2010-01.com.tandbergdata:storage.rdx4-4.989200 Inactive			-	-		
	iqn.20	010-01.com.	tandbergdata:stora	ge.rdx4-4.989200	Inactive	

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 vitext 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.

	Setup Status LUNs	
Name: iqn.2010-01.com.t	tandbergdata:storage.rd>	(1-1.002590089e6a
Alias:		
Ports		
Network Node	Visible	Auto Login

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

The Configure Security dialog window opens.

arget User Name:	iqn.1995-12.com.attotech:xtendsan:ser.wq9394wa66d
arget Secret:	[
lutual Authentication:	
itiator User Name:	
itiator Secret:	

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.

(Setup Status LUNs]
Name: iqn.2010-01.com	.tandbergdata:storage.rd	x1-1.002590089e6a
Alias:		
Ports		
Network Node	Status	Auto Login
10.1.50.211:3260	Not Connected	Yes

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.

com.tandbergdata:storage.rdx3-3.002590089e6a
Status Auto Login
Connected Yes

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 page 48
Setting 1	Date and Time page 49
Configu	ring Network Information page 49
Setting 1	Email Notifications page 57
Setting 1	RDX QuikStation Optionspage 59
Managin	ng User Groups page 65
Recover	ing the Built-In Administrator Passwordpage 69

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.

و	System Settings 🕶	<i>₿</i> Sy
	Date/Time	
+	Network	
	Notification	
2	User Management	
2	Convert Device Ty	pe
×	Options	

The Date/Time Settings dialog window opens.

Date/Time Settings	K
Time Zone:	Europe/Oslo
System Date:	2015/04/13
System Time:	18 🔷 : 42 🗢
Keep time synchronized with NTP	server
Time Server:	0.europe.pool.ntp.org,0.north-america.pool.ntp.org
	Update Close

- 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.

وي ا	System Settings 🔹 🎤 Sy
**	Date/Time
Ŧ	Network
	Notification
æ	User Management
2	Convert Device Type
×	Options

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

Modify Bonding		
ist Name:	vtx1u00012	
Interface	Information	Edit
ond0	0	0

Modify Bonding			
ost Name:	vtx2u000001	L	
Interface	Information	Edit	
bond0	0	•	
bond1	0	٠	

- 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.

Modify Bonding			
lost Name:	vtx2u00001		
Interface	Information	Edit	
eth4	0	٠	
bond0	0		
bond1	0		

odify Bonding			
Host Name:	vtx1u00012		
Interface	bond0	none	
eth0	M		
eth1	M		

Figure 4-1 QuikStation 4 Modify Bonding dialog

lost Name:	vtx2u000001		
Interface	bond0	bond1	none
eth0	₩		
eth1	M		
eth2	₽ĭ		
eth3	M		

Figure 4-2 QuikStation 8 Modify Bonding Dialog

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

Interface	bond0	bond1	none
eth0	M		
eth1	M		
eth2	M		
eth3	M		
eth4			×

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.

Modify Network Interface Settings		×
Interface:	bond0	
MAC Address:	78:24:af:84:e4:6c	
MTU size (bytes):	1500	
Bonding Configuration:	Active Backup (Failover)	
IPv4 IPv6		
O Disable this interface		
OHCP Configuration (DHCP)		
 Static IP Address Configuration 		
Search Domain:	overland.myoverland.net	
IP Address:	10.250.4.221	
Subnet Mask:	255.255.224.0	
Default Gateway:	10.250.1.1	
Primary DNS:	10.250.11.100	
Secondary DNS:	10.250.11.103	
	OK Cance	el

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.

Interface bond0 MAC Address 78:24:af:84:e4:6c Link Speed 1000 MTU size (bytes) 1500 Search Domain IPv4 IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.100 Secondary DNS 10.250.11.103 IPv6 IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway Primary DNS	General	
MAC Address 78:24:af:84:e4:6c Link Speed 1000 MTU size (bytes) 1500 Search Domain Interference IPv4 IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.100 Secondary DNS 10.250.11.100 IPv6 IP IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway 10.250.11		
Link Speed 1000 MTU size (bytes) 1500 Search Domain 1500 IPv4 IPv4 IP address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.100 Secondary DNS 10.250.11.100 IPv6 IP IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway 64		
MTU size (bytes) 1500 Search Domain IPv4 IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.1.00 Secondary DNS 10.250.11.100 IPv6 IP IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway 10.250.11		78:24:af:84:e4:6c
Search Domain IPv4 IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.1 Secondary DNS 10.250.11.100 IPv6 IP IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway 10.250.11	Link Speed	1000
IPv4 IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.1.100 Secondary DNS 10.250.11.103 IPv6 IP Address IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway 10.250.11		1500
IP Address 10.250.4.221 Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.11.100 Secondary DNS 10.250.11.103 IPv6 IP Prefix 64 Default Gateway 64	Search Domain	
Broadcast Address 10.250.31.255 Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.11.100 Secondary DNS 10.250.11.103 IPv6 IP Prefix 64 Default Gateway 64	IPv4	
Subnet Mask 255.255.224.0 Default Gateway 10.250.1.1 Primary DNS 10.250.11.100 Secondary DNS 10.250.11.103 IPv6 IP Address Prefix 64 Default Gateway 64	IP Address	10.250.4.221
Default Gateway 10.250.1.1 Primary DNS 10.250.11.100 Secondary DNS 10.250.11.103 IPv6 IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway	Broadcast Address	10.250.31.255
Primary DNS 10.250.11.100 Secondary DNS 10.250.11.103 IPv6 IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway	Subnet Mask	255.255.224.0
Secondary DNS 10.250.11.103 IPv6 IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway	Default Gateway	10.250.1.1
IPv6 IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway	Primary DNS	10.250.11.100
IP Address fe80::7a24:afff:fe84:e46c Prefix 64 Default Gateway	Secondary DNS	10.250.11.103
Prefix 64 Default Gateway	IPv6	
Default Gateway	IP Address	fe80::7a24:afff:fe84:e46c
	Prefix	64
Primary DNS	Default Gateway	
	Primary DNS	
Secondary DNS	Secondary DNS	
		OK

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.

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.

Table 4-2Port bonding options

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.

🍪 S	System Settings 🔹 🎤 Sy
	Date/Time
+	Network
	Notification
2	User Management
2	Convert Device Type
×	Options

The Notification Settings dialog displays.

Notification Settings		×
Basic Authentication Cu	ustomization	
Email Recipient1:	jdoe@overlandstorage.com	
Email Recipient2:	jdoe@tandbergdata.com	
Email Server:	EXCHANGE.overland.tandberg.net	
Use SSL/TLS to connect	this server	
	Change Reset Cancel	
	Change Reset Cancel	

- 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.

Notification Settings Basic Authentication	Customization	×
If your email server requires user id and password here.	SMTP authentication, you can configure your	
User:	jdoe@tandbergdatal.com	
Password:		
Method:	CRAM-MD5	
	Change Reset Cancel	

- 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.

Notification Settings		×
Basic Authentication Cu	stomization	
You can customize the "Fror the fields blank will generate	n" email address and/or subject line. Leaving the default text.	
"From" Email:	sysinfo@tandbergdata.com	
Subject Text:	RDX QS4 Update	
	Change Reset Cancel	

- 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.

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.

Table 4-3	RDX QuikStation	option settings
-----------	-----------------	-----------------

To access the Options dialog window:

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

🍪 System Settings 🔹 🎤 Sy		
🛗 Date/Time		
L Network		
Notification		
🧟 User Manage	ment	
🧝 Convert Devi	се Туре	
💥 Options		

The Options dialog window opens with the System tab selected.

Options					×
System	Removable Disk	Automation	Diagnostics		
	e Update Check Optior k firmware update at				
	iSCSI Connections	ections			
This op targets.	tion allows multiple s	essions from on	e or more iSCSI	initators for all ISCSI	
	d data corruption, d when operating			ions should only be n!	
				OK Cancel	

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.

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.

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

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.

Convert Device Type		Move Media 🛛 💥 Advanced Optic
🔍 iSCSI Devices	Properties	
 StorageLibrary T40 Tape Drive1 	Name	Value
Tape Drive2	Element Address	113
Tape Drive3	Media Label	601391L3
Tape Drive4	Media Usage	0.63/160GB (0.4%)
Sots Sots		

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.

Convert Device Type		Move Media 🛛 💥 Advanced Option
🔍 iSCSI Devices	Properties	
StorageLibrary T40 Tape Drive1	Name	Value
Tape Drive2	Element Address	1
Tape Drive3	Media Label	7A007AL3
Tape Drive4	Media Usage	0/750GB (0%)
Slot1 (Dock01)		
Slot2 (Dock02)		
Slot3 (Dock03)		
Slot4 (Dock04)		
Slot5 (Dock05)		
Slot6 (Dock06)		
Slot7 (Dock07)		
Slot8 (Dock08)		

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.

		🚔 Eject 🧷 Erase 🚽 Clone 🖼
4 🥝 QS9890	Cock 01 Properties	
Dock01 (7A007AL3) Dock02 (1278R9L3)	Name	Value
Dock03 (G0N0KAL3)	Dock Status	Good
Dock04 (7A00EAL3)	Dock LCD Text	7A007AL3
Dock05 (B25CSWL3)	Dock FW Rev	0063
Dock06 (601391L3)	Cartridge Status	Good
Dock07 (766906L3)	Cartridge Serial Number	575466F0
Dock08 (588189L3)	Cartridge Label	7A007AL3
	Cartridge Capacity	750GB
	Cartridge Temp(C)	23C degrees
	Write Protected	Not protected

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 (page 65)
- Adding users to a group (page 67)
- Removing users from a group (page 68)
- Editing user information (page 68)

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
-----------	-------------------	-------------------

following:following:functchange their log-in password.view group information.This	Administrator
 refresh/update device information manually. set options for diagnostic log level. change their log-in password. view physical and logical device information. refresh/update device information manually. 	dministrators have access to all nctionality. his 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. clone data on RDX media. perform system diagnostic tests. access all other system

Adding Users to a Group

To add users to a group:

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

وي	System Settings 🗸 🎤 Sy
	Date/Time
+	Network
	Notification
æ	User Management
2	Convert Device Type
×	Options

The User Management dialog window opens.

Jser Managemen	it		×
😋 Add 🛛 🤤 Rem	nove 🌮 Edit Password		
User	Group	Description	
admin	Administrator	built-in administrator account	
user	User	built-in user account	

- 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].

Jser Management			5
😳 Add 📔 🤤 Remo	ove 🛛 🌪 Edit Password		
User	Group	Description	
admin	Administrator	built-in administrator account	
user	User	built-in user account	
JohnDoe	User		
			Close
			Close

The User Account Control window displays.

User Account Contr	ol
Type your RDX Qu Administrator pass verification.	uikStation 4 word for

- 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.

User Group Description admin Administrator built-in administrator account	
user User built-in user account	
JohnDoe Administrator 🗸	

- 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].

Change Password: JohnDoe	×
New Password:	
Verify New Password:	
	OK Cancel

- 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.

User Name:	User Name Forgot your password
Password:	
	Sign.In

2. The Password Reset dialog appears.

Password Reset	×
Select your user group:	
 Administrator 	
🔘 Some other group	
	Continue Cancel

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

The Administrator Password Reset dialog window opens.

Administrator Password Reset	×
Note: This process only applies to the built-in "admin" account. Choose one of two options below: 1. Reset Administrator Password via email	
Click the Request Key button to send a password reset key to the email	
address specified in the Remote Management Console.	
Reset Password	
2. Reset Administrator password via US8	
Insert a USB memory stick loaded with the password reset file into the USB slot on the front of the RDX QuikStation 4. When the USB symbol LED on the front of the RDX QuikStation 4 stops blinking, click the Reset Password button below. Refer to the product manual for information about the password reset file.	
Reset Password	
Close	

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.

Administrator Password Reset	t 🗙
Reset Key:	
New Password:	
Verify New Password:	
	Reset Cancel

- 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: -,!@#\$%^&*_.

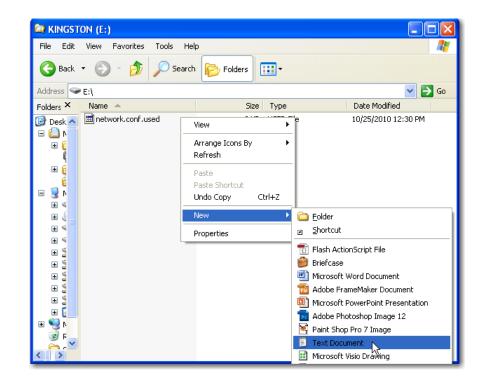
Resetting the Password via USB

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.)

Folders ×	Name 🔺	Size	Туре	Date Modified
	network.conf.used password.reset	3 KB 0 KB	USED File Text Document	10/25/2010 12:30 PM 2/25/2011 2:20 PM
	Rename	If you change a file nam Are you sure you want l	to change it?	may become unusable.

- 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.

Sign In to the RDX Q	uikStation 4	S. C.	
User Name: Password:	User Name		Forgot your password?
		Sign In	
	🕮 English 💌]	

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

The Administrator Password Reset dialog window opens.

oti	e: This process only applies to the built-in "admin" account.
	noose one of two options below:
	1. Reset Administrator Password via email
	Click the Request Key button to send a password reset key to the email address specified in the Remote Management Console.
	Request Key
	Reset Password
[2. Reset Administrator password via USB
	Insert a USB memory stick loaded with the password reset file into the USB slot on the front of the RDX QuikStation 4. When the USB symbol LED on the front of the RDX QuikStation 4 stops blinking, click the Reset Password button below. Refer to the product manual for information about the password reset file.
	Reset Password
L	

- 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
Selecting the Logical Device Type page 77
Disk Autoloader
Managing Tape Library Configurationspage 102
Viewing Active iSCSI Connections for Tape Libraries page 104
Moving a Media Cartridge page 105
Setting the Unique Inquiry Optionpage 106
iSCSI Device Overview

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

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

 Table 5-1
 Comparison of logical device types

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.

more information abo If you are using a d option, you must in device. Otherwise, f	all the cartridges in the RDX QuikStation 4 and restart the sys ut logical device types, refer to the RDX QuikStation 4 produ device type with an RDX drive, such as the Disk Confi stall RDX Utility on each Windows host attached to a the eject button will not work properly.	ct manual. guration
Download the lates	·	
- Current Selected Type RDX Drive (Four TI		
	D RDX drive targets)	
RDX Drive (Four T		
	D RDX drive targets)	
RDX Drive (Four TI	D RDX drive targets) D RDX drive targets)	
RDX Drive (Four TI Disk Configuration	D RDX drive targets) D RDX drive targets) uration	

Figure 5-1 QuikStation 4 Logical Device Type Settings

more information about logical device types, refer to the F	
If you are using a device type with an RDX drive, s option, you must install RDX Utility on each Windo device. Otherwise, the eject button will not work p Download the latest RDX Utility <u>Here.</u>	ws host attached to an RDX
- Current Selected Type	
RDX Drive (Eight TD RDX drive targets)	
Disk Configuration	
RDX Drive (Eight TD RDX drive targets)	
Disk Automation Configuration	(
RDX Logical Volume Configuration	
RDX Protected Volume Configuration	
Tape Automation Configuration	
Hybrid Configuration	

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.

Convert Device Type				🔤 Move Media 🔀 A	tvanced Option
🖌 🍳 iSCSI Devices	Properties	Ø Connection	10 Security		
Disk Drive1 (Dock01)	Name	Value			
Disk Drive3 (Dock03)	Vendor	TANDBERG			
Disk Drive4 (Dock04)	Product	RDX			
	Revision	0101			
	Serial Number	PD00000590	80		
	ISC SI Name	ign.2010-01.	om tandbergdata storage ro	tx1-1.989200015	
	Target ID/LUN	1/0			
	Status	Good			
	Fixed Disk	Off			

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.

		QuikStation 4 and restart the syst to the RDX QuikStation 4 produce	
option, you must device. Otherwise		drive, such as the Disk Confi <u>c</u> Windows host attached to ar work properly.	
- Current Selected Ty	pe		
Fixed Disk RDX I	ogical Volume (Up to 4 RD	X cartridges as single fixed t	arget)
		······································	
Disk Configuration			(
Disk Configuration RDX Logical Volume C			(
Disk Configuration RDX Logical Volume C) Fixed Disk RDX L	Configuration ogical Volume (Up to 4 RDX ca		ble target)
Disk Configuration RDX Logical Volume C) Fixed Disk RDX L	Configuration ogical Volume (Up to 4 RDX ca RDX Logical Volume (Up to 4 F	artridges as single fixed target)	ble target)

Figure 5-3 QuikStation 4 Fixed Disk RDX Logical Volume

	the RDX QuikStation 4 and restart the system. For pes, refer to the RDX QuikStation 4 product manual.
Current Selected Type	
Eixed Dick PDY Logical Volume (Un	to 4 RDX cartridges as single fixed target)
Fixed Disk KDX Edgical Volume (op	to 4 Nox calculages as single fixed targety
Disk Configuration	
Disk Configuration RDX Logical Volume Configuration	
Disk Configuration RDX Logical Volume Configuration Fixed Disk RDX Logical Volume (Up to	(
Disk Configuration RDX Logical Volume Configuration Fixed Disk RDX Logical Volume (Up to	0.4 RDX cartridges as single fixed target)

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.

more information about logical device types, re	DX QuikStation 8 and restart the system. For ifer to the RDX QuikStation 8 product manual.
If you are using a device type with an RE option, you must install RDX Utility on ea device. Otherwise, the eject button will n Download the latest RDX Utility <u>Here.</u>	ch Windows host attached to an RDX
Current Selected Type	
Two Fixed Disk RDX Logical Volumes (To cartridges as fixed targets)	p row and bottom row: Up to 4 RDX
Disk Configuration	
RDX Logical Volume Configuration	
	ow and bottom row: Up to 4 RDX cartridges as
fixed targets)	
	Top row and bottom row: Up to 4 RDX
 Two Removable Disk RDX Logical Volumes (cartridges as a removable targets) 	,
Two Removable Disk RDX Logical Volumes (Top row and bottom row: Up to 4 RDX

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.

ogical Device Type Settings		
This action will eject all the cartridges in the RDX QuikStation 4 more information about logical device types, refer to the RDX Q		
If you are using a device type with an RDX drive, such a option, you must install RDX Utility on each Windows he device. Otherwise, the eject button will not work proper Download the latest RDX Utility <u>Here.</u>	ost attached to an F	
- Current Selected Type		
Removable Disk RDX Logical Volume (Up to 4 RDX carte target)	idges as a single re	emovable
Disk Configuration		0
RDX Logical Volume Configuration		6
Fixed Disk RDX Logical Volume (Up to 4 RDX cartridges as sin	ngle fixed target)	
Removable Disk RDX Logical Volume (Up to 4 RDX cartridges)	s as a single removable	e target)
RDX Protected Volume Configuration		
Tape Automation Configuration		6

Figure 5-6 QuikStation 4 Removable Disk RDX Logical Volume

nore information about log		ation 8 and restart the system. For e RDX QuikStation 8 product manual
option, you must install	RDX Utility on each Wind ect button will not work	such as the Disk Configuration lows host attached to an RDX properly.
Current Selected Type		
Two Removable Disk RI cartridges as a removab		row and bottom row: Up to 4 RD
Disk Configuration		
RDX Logical Volume Configura	ion	
	al Volumos (Top row and b	ottom row: Up to 4 RDX cartridges a
Two Fixed Disk RDX Log fixed targets)	ai volumes (Top Tow and D	
fixed targets)	Logical Volumes (Top row a	and bottom row: Up to 4 RDX
 fixed targets) Two Removable Disk RD: cartridges as a removable 	Logical Volumes (Top row a targets)	
fixed targets) Two Removable Disk RD	Logical Volumes (Top row a targets)	

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.

Physical Device	😹 Logical Device	
Convert Device Type		🕞 Create 🕢 Import 🚯 Add 🕱 Erase 🚖 Eject
4 🌏 iSCSI Devices	Properties	
RDX Logical Volume 1 (Empty)	Name	Value
Available Disks 1 (Dock01)	Dock	1
Available Disks 2 (Dock02) Available Disks 3 (Dock03)	Disk Serial Number	873101523595
Available Disks 4 (Dock04)	RDX Logical Volume UUID	
	Disk Logical Volume ID	
	Status	Good
	Disk Capacity	2000 GB
	Write Protected	Not protected

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

Name:	RDX Logical Volume :	1 (Empty)				
Type:	Linear	~				
All data currently on the disks used to create the logical volume will be lost.						
Dock	Disk Capacity	Create				
1	2000 GB					
2	2000 GB					
3	2000 GB					
4	2000 GB					

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.

Physical Device	allogical Device			_	
Convert Device Type		🛞 Create	🔄 Import	🕒 Add	🖹 Erase 🛛 📤 Eje
🔍 iSCSI Devices	Properties				
RDX Logical Volume 1 (Empty)	Name	Value			
Available Disks 1 (Dock01)	Dock	1			
Available Disks 2 (Dock02) Available Disks 3 (Dock03)	Disk Serial Number	873101523595			
Available Disks 3 (Dock03)	RDX Logical Volume UUID	2W67DI-tMjY-BOCO-1YB3-75gs-MVLa-R	knSCz		
Available bisks + (bocko+)	Disk Logical Volume ID	YnQ2rk-XXBs-Va62-6NZ7-05dj-Q2CW-r2	24cDx		
	Status	Good			
	Disk Capacity	2000 GB			
	Write Protected	Not protected			

The Import dialog allows you to accept the import operation.

In	nport Logical Volume	×
	This operation will import the Logical Volume UUID:	
	dRYZH1-yo30-2gfV-GFOk-r9YX-l9Jv-JEz7Bc	
	Do you wish to continue?	
	Import	

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.

Physical Device	logical Device	
Convert Device Type		📑 Create 🖅 Import 🛛 🔂 Add 🛛 🔀 Erase 🛆
4 🍳 iSCSI Devices	Properties	
 RDX Logical Volume 1 Disk Drive1 (Dock01) 	Name	Value
Disk Drive2 (Dock01)	Dock	2
Available Disks 1 (Dock02)	Disk Serial Number	873201387496
Available Disks 2 (Dock03)	RDX Logical Volume UUID	
· · · · · · · · · · · · · · · · · · ·	Disk Logical Volume ID	
	Status	Good
	Disk Capacity	2000 GB
	Write Protected	Not protected

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.

This operatio	n will add the selected disks t	o the logical volume.
Name:	rdxl-1444158384	
All data curre lost.	ently on the disks added to the	e logical volume will b
Dock	Disk Capacity	Add
3	2000 GB	V
4	2000 GB	

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].

all disks belo	on will remove all log onging to the Logica	gical volume information from I Volume.
Name:	RDX Logical	Volume
lost.	an uisks which are pa	rt of the logical volume will be
Dock	Disk Capacity	Status
Dock01	2000 GB	Good
Dock04	2000 GB	Good
	2000 GB	Good
Dock03		

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.

Eject Logical Volume		×
RDX Logical Volume		
RDX Logical Volume UUID:	HnNJXn-3KPa-11nm-suMW-27WV-MZ3I-FoAgJe	
Disk Logical Volume UUID:		
Disk Drive1 (Dock01):	KUmdLe-3v3V-3pbQ-PVtB-denG-4TJI-jThdTy	
Disk Drive2 (Dock04):	moyDJq-bxet-v3lU-STfg-HMvz-PKxe-LW1Hb8	
Disk Drive3 (Dock02):	y1cRW3-cOAt-g0ey-faRl-2FX4-xigb-hvkfWD	
	Print	
This operation will eject all disks belo	nging to the Logical Volume.	
Please mark this disk set with this Log	ical Volume UUID:	
HnNJXn-3KPa-11nm-suMW-	27WV-MZ3I-FoAgJe	
Do you wish to continue?		
	OK	

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.

Physical Device	😹 Logical Device		
Convert Device Type			
▲ 🌺 iSCSI Devices	iSCSI Devices		
RDX Logical Volume 1 (Empty)	ISCSI Devices ISCSI Devices RIX Logical Volume 1 (Empty) Available Disks 1 (Dock03) RDX 99920001809	iSCSI Name	
Available Disks 1 (Docku3)	RDX	98920001809	

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.

Physical Device	😹 Logical Device		
Convert Device Type		🥅 Move Media 🛛 💥 Advan	
A 🌒 ISCSI Devices	Properties		
RDX Logical Volume (Empty)	Name	Value	
Disk Drive (Dock03)			
Disk Drive (Dock04)			

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.

		ion 4 and restart the system. For RDX OuikStation 4 product manual.
option, you must install	RDX Utility on each Window eject button will not work pr	uch as the Disk Configuration ws host attached to an RDX roperly.
- Current Selected Type		
Fixed Disk RDX Protect with 1 disk fault tolera		tridges as single fixed target
Disk Configuration		
RDX Logical Volume Configura	ation	
	uration	
RDX Protected Volume Config	uration	
-		ges as single fixed target with 1 disl
 Fixed Disk RDX Protecte fault tolerance) 	d Volume (Up to 4 RDX cartridg	ges as single fixed target with 1 disl artridges as a single removable targ

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.

ogical Device Type Settings	
This action will eject all the cartridges in the RDX QuikStation 8 and restart the system. For more information about logical device types, refer to the RDX QuikStation 8 product manual. If you are using a device type with an RDX drive, such as the Disk Configuration option, you must install RDX Utility on each Windows host attached to an RDX device. Otherwise, the eject button will not work properly. Download the latest RDX Utility <u>Here.</u>	
Current Selected Type	
Fixed Disk RDX Protected Volume (Up to 8 RDX cartridges as single fixed target with 2 disk fault tolerance)	
Disk Configuration (+
RDX Logical Volume Configuration	+
RDX Protected Volume Configuration	Ξ
Two Fixed Disk RDX Protected Volume (Top row and bottom row: Up to 4 RDX cartridges a fixed targets each with 1 disk fault tolerance)	is
Two Removable Disk RDX Protected Volume (Top row and bottom row: Up to 4 RDX cartridges as removable targets each with 1 disk fault tolerance)	
Fixed Disk RDX Protected Volume (Up to 8 RDX cartridges as single fixed target with 2 disk fault tolerance)	
 Removable Disk RDX Protected Volume (Up to 8 RDX cartridges as a single removable targe with 2 disk fault tolerance) 	t
Tape Automation Configuration	+
Hybrid Configuration	+
Change Cancel	

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.

ogical Device Type Settings	
This action will eject all the cartridges in the RDX QuikStation 4 more information about logical device types, refer to the RDX (
If you are using a device type with an RDX drive, such option, you must install RDX Utility on each Windows h device. Otherwise, the eject button will not work prope Download the latest RDX Utility <u>Here.</u>	as the Disk Configuration lost attached to an RDX
- Current Selected Type	
Removable Disk RDX Logical Volume (Up to 4 RDX cart target)	tridges as a single removabl
Disk Configuration	
Disk Configuration RDX Logical Volume Configuration	
RDX Logical Volume Configuration	ingle fixed target)
RDX Logical Volume Configuration	
RDX Logical Volume Configuration	
RDX Logical Volume Configuration Fixed Disk RDX Logical Volume (Up to 4 RDX cartridges as s Removable Disk RDX Logical Volume (Up to 4 RDX cartridge	

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.

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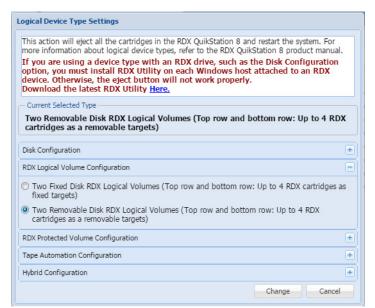


Figure 5-11 QuikStation 8 Removable Disk RDX Protected Volume

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

Physical Device	allogical Device	
Convert Device Type		🚼 Create 😓 Import 😳 Extend 🔀 Erase 📤 E
GSSI Devices GSSI Devices GSX Protected Volume 1 (Empty)	Properties	
	Name	Value
Available Disks 1 (Dock01)	Dock	1
Available Disks 2 (Dock02) Available Disks 3 (Dock03)	Disk Serial Number	873101523595
 Available Disks 3 (Dock03) Available Disks 4 (Dock04) 	RDX Protected Volume UUII)
Valiable Disks 4 (DOCKV4)	Disk UUID	
	Status	Available (available)
	Disk Capacity	2000 GB
	Write Protected	Not protected

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

selected disks.					
Name:	RDX Protected Volume	e 1 (Empty)			
Type:	Protected Volume (1	Protected Volume (1 disk tolerance 💌			
All data currently Volume array wil	on the disks used to crea I be lost.	ate the Protected			
Dock	Disk Capacity	Create			
1	2000 GB				
2	2000 GB				
3	2000 GB				
4	2000 GB				

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.

Physical Device	😂 Logical Device				
Convert Device Type		📑 Create	🕢 Import	🕒 Extend 🛛 🔀 Erase 🖌 🚄	Ej
A iSCSI Devices IDX Protected Volume 1 (Empty) Available Disks 1 (Dock01)	Properties				
	Name	Value			
Available Disks 2 (Dock02)	Dock	1			
Available Disks 2 (Dock02)	Disk Serial Number	873101523595			
Available Disks 4 (Dock03)	RDX Protected Volume UUID	0d45023c:65d04b88:a7b0a65f:d321a5b9			
	Disk UUID	06348565:2f4bf830:9070cc8a:a292	52d4		
	Status	Available (available)			
	Disk Capacity	2000 GB			
	Write Protected	Not protected			

The Import dialog allows you to accept the import operation.

nport Protected Volume Array	
This operation will import the Protected Volume A	Array UUID:
0d45023c:65d04b88:a7b0a65	if:d321a5b9
Do you wish to continue?	
	Import Cancel

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.

Physical Device	al Logical Device			2		
Convert Device Type			🚼 Create 🛛 🚛 Import	🕃 Extend	🔀 Erase	📤 Eject
Content of the second sec	Properties					
	Name	Value				
	Dock	4				
	Disk Serial Number	873101523594				
	RDX Protected Volume UUID					
	Disk UUID					
	Status	Available (available)				
	Disk Capacity	2000 GB				
	Write Protected	Not protected				

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.

This operation Volume array.	will add the selected disk t	o extend the Protected		
Name:	RDX Protected Volum	RDX Protected Volume 1		
All data curren array will be lo	tly on the disk added to th ost.	e Protected Volume		
Dock	Disk Capacity	Extend		
4	2000 GB			

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.

⊨ 🔿 🔐 🚺	📆 🔀 🖬	🗃 🔯 😹					
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free
Volume	Simple	Type Basic	NTFS	Healthy (B	148.91 GB	33.11 GB	22 %
RDXQS-LV (F:)	Simple	Basic	NTFS	Healthy (B		3725.64	22 % 100 %
System Reserved	Simple	Basic	NTES	Healthy (S		72 MB	72 %
1		111					
📼 Disk 0							
	System Reserved						
	100 MB NTFS	148.91 0					
Unline	Healthy (System, A	A Healthy	(Boot, Page File	, Crash Dump,	Primary Partitior		
Disk 1 Removable (E:) No Media							
Basic				777			
	RDXQS-LV (F:) 3725.89 GB NTFS			3726.02	GB		
	Healthy (Primary I	Partition)		Unalloc			
			<u> </u>				
CD-ROM 0 DVD (D:)							
No Media							
No Media							
No Media							

- 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.

	nd the volume.
Ayaitable: Add > C Remove C Remove A	Selected: Diek 2 3815439 MB
Total volume size in megabytes (MB):	7630749
Maximum available space in MB:	3815439

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

	iew <u>H</u> elp	🖉 🚽 向 🖪	3				
		-	1		1	-	
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free
∍ (C:)	Simple	Basic	NTFS	Healthy (B		33.11 GB	22 %
RDXQS-LV (F:) System Reserve	Simple d Simple	Basic Basic	NTFS NTFS	Healthy (P Healthy (S		7451.54 72 MB	100 % 72 %
ill System Reserve	u simple	Dasic	NIT5	rieditity (5	100 1010	72 100	12 /6
(
	i					-1	
Disk 0						-	
Basic 149.01 GB	System Reserve 100 MB NTFS		GB NTFS				
Online	Healthy (System		iy (Boot, Page Fil	le, Crash Dump,	Primary Partitio	r	
			,,		,		
Disk 1							
Removable (E:)							
No Media							
INO IVIEDIA							
Basic	RDXQS-LV (F:	\ \					
7451.91 GB	7451.90 GB NTF						
Online	Healthy (Prima						
CD-ROM 0							
DVD (D:)							
No Media							
NO MEUIA							
No media							
	-						

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].

Name:	RDX Protecte	RDX Protected Volume 1			
All data on a will be lost.	all disks which are par	t of the Protected Volume array			
Dock	Disk Capacity	Status			
Dock01	160 GB	Active device 0			
Dock02	160 GB	Active device 1			
Dock03	160 GB	Active device 2			
Dock04	640 GB	Active device 3			
Dock05	2000 GB	spare			
Dock06	3000 GB	Active device 4			

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.

ject Protected Volume Array		
RAID_UUID_RAID:	0d45023c:65d04b88:a7b0a65f:d321a5b9	
Disk Protected Volume Array UUID:		
Disk Drive1 (Dock01):	06348565:2f4bf830:9070cc8a:a29252d4	
Disk Drive2 (Dock02):	e7fb86ec:e3085df4:419064c2:c6f4e660	
Disk Drive3 (Dock03):	8561d5b8:ac0cc563:312813ce:63c64cc9	
This operation will eject all disks belo	nging to the Protected Volume Array.	
Please mark this disk set with this Pro	tected Volume Array UUID:	
0d45023c:65d04b88:a7b0	a65f:d321a5b9	
Do you wish to continue?		
	Print OK Cano	el

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.

Physical Device	😂 Logical Device	
2 Convert Device Type		🧱 Move Media 🛛 💥 Advanced Optio
🖌 🍳 iSCSI Devices	Properties	
 RDX Protected Volume 1 (Empty) Available Disks 1 (Dock04) 	Name	Value

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]

Convert Device Type		📑 Create 🖅 Import 📑 Add 🛛 🔀 Erase 📤
🔍 iSCSI Devices	Properties	
A E RDX Protected Volume 1	Name	Value
Disk Drive1 (Dock01)	Dock	3
Disk Drive2 (Dock04) Available Disks 1 (Dock03) RDX Protected Volume 2	Disk Serial Number	880701815721
	RDX Protected Volume UUIE	
Disk Drive1 (Dock05)	Disk UUID	
Disk Drive2 (Dock06)	Status	Available (available)
Disk Drive3 (Dock07)	Disk Capacity	3000 GB
	Write Protected	Not protected

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.

Name:	/olume array. RDX Protected Volume 1
All data cu array will b	rrently on the disk added to the Protected Volume le lost.
Dock	Disk Capacity
3	2000 GB
4	3000 GB

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

Physical Device	allogical Device	
Convert Device Type		🕃 Create 🛛 Import 🚯 Extend 🔀 Erase 📥 Ejec
4 🍳 iSCSI Devices	Properties	Security
A 📑 RDX Protected Volume 1	Name	Value
Disk Drive1 (Dock01) Disk Drive2 (Dock03)	RDX Protected Volume Name	vtx2u00001:0
Disk Drive3 (Dock04)	RDX Protected Volume UUID	6c65d446:db85434d:ece983a2:51fcd169
RDX Protected Volume 2	RDX Protected Volume Total Size	6000 GB
Disk Drive1 (Dock05)	RDX Protected Volume Devices	3
Disk Drive2 (Dock06)	RDX Protected Volume Type	Protected Volume-5
Disk Drive3 (Dock07)	Fixed Disk	On
	iSCSI Name	iqn.2010-01.com.tandbergdata:storage.raid-1.989300001
	Target ID/LUN	1/0
	Status	Clean Degraded Recovering
	Recovery	0%

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.

Physical Device	i 😓 Logical Device			
Convert Device Type			🔤 Move Media	X Advanced Options
4 🍳 iSCSI Devices	Properties	Connection	🤴 Security	
4 🛄 RDL DiskLibrary	Name	Value		
Disk Drive1 (Dock02)	Element Address	97		
IE Port	Vendor	TANDBERG		
Disk Slots	Product	RDL DiskLibrary		
Slot1 (Dock01)	Revision	1.03		
Slot3 (Dock03)	Serial Number	89300001L110		
Slot4	iSCSI Name	iqn.2010-01.com.tandbergdata	storage.rdisk-lib-1.989300001	
Slot5	Target ID/LUN	1/0		
Slot6	Status	Good		
Slot7				
Slot8				

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

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
1	208.000		

Property Name	Description
For the autoloader and its taj	pe 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.

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.

 Table 5-3
 Autoloader option setting

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.

nore information about log If you are using a device option, you must install	 cartridges in the RDX QuikStation 8 and restart the system. For iical device types, refer to the RDX QuikStation 8 product manu e type with an RDX drive, such as the Disk Configuratio RDX Utility on each Windows host attached to an RDX 	ial.
levice. Otherwise, the ej Download the latest RD>	ject button will not work properly. X Utility <u>Here.</u>	
Current Selected Type		
TD StorageLibrary T24 ((Two LTO-3 drive and eight slots)	
Disk Configuration		2
RDX Logical Volume Configura	tion	
RDX Protected Volume Configu	uration	
	'n	
Tape Automation Configuratio		
	One LTO-3 drive and eight slots)	
) TD StorageLoader LTO ((One LTO-3 drive and eight slots) Two LTO-3 drive and eight slots)	

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.

Disk Configuration	•
RDX Logical Volume Configuration	•
RDX Protected Volume Configuration	•
Tape Automation Configuration	•
Hybrid Configuration	
$\textcircled{\sc 0}$ TD StorageLoader LTO (One LTO-3 drive and four slots) and four TD RDX targets	
Change Cancel	

The following properties are displayed for virtual tape libraries.

Property Name	Description
For the library and its ta	pe 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 slo	ts
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.

Table 5-4Logical properties for virtual tape libraries

^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.

Convert Device Type			Move Media X Advanced Option
A 🔍 iSCSI Devices	Properties	Connection	🤯 Security
 StorageLibrary T40 Tape Drive1 (Dock01) 	Name	Value	View currently connected hosts to the RD Only one active connection per logical dev
Tape Drive2	Element Address	97	
Tape Drive3	Vendor	TANDEERG	
Tape Drive4	Product	StorageLoa	der
IE Port	Revision	0418	
Tape Slots	Serial Number	90089E6.AL	110
Slot2 (Dock02)	iSCSI Name	ign.2010-01	.com.tandbergdata:storage 140-1.00259008
Slot3 (Dock03)	Target ID/LUN	1./0	
Slot4 (Dock04)	Status	Good	
Slot5 (Dock05)			
Slot6 (Dock06)			
Slot7 (Dock07)			
Slot8 (Dock08)			

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.

Convert Device Type			Move Media 🛛 💥 Ar	dvanced Opt
SCSI Devices	Properties	Connection	W Security	
StorageLibrary T40	Connected Host IQ			
Tape Drive1 (Dock01)	tandbergdata1			
Tape Drive3	tanin general			
Tape Drive4				
IE Port				
Tape Slots				
Slot1				
Slot2 (Dock02)				
Slot3 (Dock03)				
Slot4 (Dock04)				
Slot5 (Dock05)				
Slot6 (Dock06)				
Slot7 (Dock07)				

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.

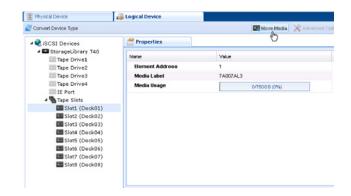
Note: If you move media to the IE port, the cartridge will be ejected from the dock, and the media will be logically removed from the library.

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.

IIIATTENTIO	NIII	
connected to	may conflict with any ba the logical library and co backup or restore operati	ould result in a failure of on. If a failure is
encountered	l, perform a re-inventory cation and try the job aga	
encountered	, perform a re-inventory	

- **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 <i>Magnum 224</i> (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.

Physical Device Logica Convert Device Type	l Device		
Convert Device Type Convert	Product Name RDX-LV	Serial Number 989200012	ISCSI Name iqn 2010-01.com.tandbergdata:storage.logvol-1.989200012
➡Disk Drive3 (Dock02) O Available Disks			
	<		

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.

Physical Device	logical Device			
Convert Device Type			🕃 Create 🛛 🕢 Import 🛛 🚱 Add	🔀 Erase 🛛 📤 Ejec
🛯 🍳 iSCSI Devices	Properties	💋 Connection	🤴 Security	
4 📳 RDX Logical Volume	Name	Value		
Disk Drive1 (Dock01) Disk Drive2 (Dock02)	RDX Logical Volume Name	rdxl-1444158384		
Available Disks	RDX Logical Volume UUID	Dwts5j-TVVs-NOwu-WUby-UmLq-R5Q1-1KuA1n		
Disk Drive (Dock03)	RDX Logical Volume Capacity	4000 GB		
Disk Drive (Dock04)	RDX Logical Volume Type	Linear		
	Fixed Disk	Off		
	iSCSI Name	iqn.2010-01.com.tandbe	rgdata:storage.rdx1-1.989200012	
	Target ID/LUN	1/0		
	Status	Good		

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 5-6
 RDX QuikStation RDX Logical Volume logical device properties

Physical Device	😂 Logical Device			
Convert Device Type			📖 Move Media	X Advanced Option
🍳 iSCSI Devices	Properties	/ Connection	🤯 Security	
Disk Drive1 (Dock01)	Name	Value		
Disk Drive2 (Dock02) Disk Drive3 (Dock03)	Vendor	TANDBERG		
Disk Drive4 (Dock04)	Product	RDX		
	Revision	0101		
	Serial Number	9876543210		
	iSCSI Name	ign.2010-01.com.tandbergda	ata:storage.rdx1-1.989200012	
	Target ID/LUN	1/0		
	Status	Good		
	Fixed Disk	Off		

 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 $\mathbf{\nabla}$ arrow, which appears when you move your mouse over the product or serial number column head.

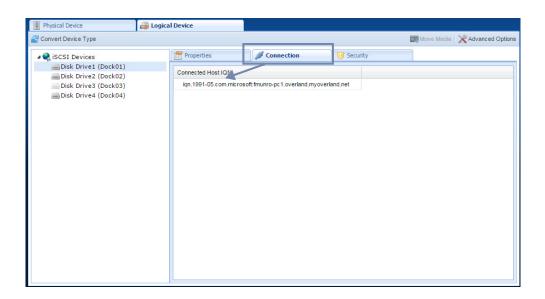
Viewing Active iSCSI Connections for iSCSI Devices

- 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.

Physical Device	🛃 Logical Device			
Convert Device Type				Move Media 🛛 💥 Advanced Options
▲ SiSCSI Devices ■ Disk Drive1 (Dock01) ■ Disk Drive2 (Dock02) ■ Disk Drive3 (Dock03) ■ Disk Drive4 (Dock04)	Connected Host IQN Ign.1991-05.com.mic rod	Soft fmunro-pc 1.overland.myoverla	i Security	

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

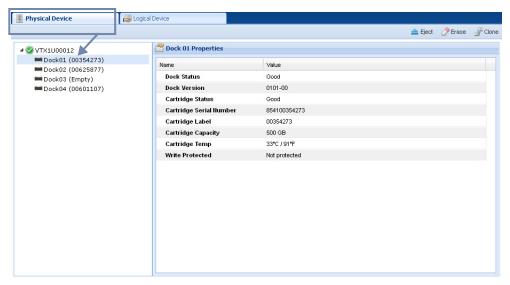
This chapter describes the Remote Management Console's Physical Device interface.

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 page 11	4
Ejecting RDX Media page 11	5
Reformatting RDX Media page 11	6
Cloning Data	7

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.

Physical Device	ical Device	
		📥 Eject 🛛 🔗 Erase 🛛 🚽 Clone
4 🔮 VTX1U00012	Cock 01 Properties	r.
Dock01 (00354273)	Name	Value
Dock02 (00625877) Dock03 (Empty)	Dock Status	Good
Dock04 (00601107)	Dock Version	0101-00
	Cartridge Status	Good
	Cartridge Serial Number	854100354273
	Cartridge Label	00354273
	Cartridge Capacity	500 GB
	Cartridge Temp	33°C / 91°F
	Write Protected	Not protected

- 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.

III WAR	NING !!!
	Eject all disks in the logical volume
	This disk is part of an active logical volume.
	Do you wish to continue?
	Yes No

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.

Physical Device	👃 Logical Device	
		📤 Eject 🔗 Erase 🖉 Clone
4 🥝 VTX1U00012	Cock 01 Properties	
Dock01 (00354273) Dock02 (00625877)	Name	Value
Dock02 (00823877)	Dock Status	Good
Dock04 (00601107)	Dock Version	0101-00
	Cartridge Status	Good
	Cartridge Serial Number	854100354273
	Cartridge Label	00354273
	Cartridge Capacity	500 GB
	Cartridge Temp	33°C / 91°F
	Write Protected	Not protected

- 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].

Physical Device	😂 Logical Device		
	4	🚖 Eject 🧷 Ei	rase 🚽 🚽 Clone
4 🔮 VTX1U00012	Cock 01 Properties		
Dock01 (00354273)	Name	Value	
Dock02 (00625877) Dock03 (Empty)	Dock Status	Good	
Dock04 (00601107)	Dock Version	0101-00	
	Cartridge Status	Good	
	Cartridge Serial Number	r 854100354273	
	Cartridge Label	00354273	
	Cartridge Capacity	500 GB	
	Cartridge Temp	33°C / 91°F	
	Write Protected	Not protected	

The Clone dialog window opens.

during the clor the source car a long time to Also be aware	d destination RDX cartridges are offline ning process. Depending on the size of tridge, the cloning process could take
Source:	No available source
Destination:	v
	Start Cancel

- 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.

dx quik sta	TION [™] 4	TANDBERG	DATA =
come, ADMIN	01523581 Obock02	System Settings • PSystem Maintenance •) Refresh 🛛 📜 Sign Out 🛛 🌘
Physical Device	Logical Device	End 1	Frase Glone
 ✓ VTX100015 ■ Dock01 (01523581) ○ Dock02 (Offline) ○ Dock03 (Offline) ■ Dock04 (01523594) 	Dock 02 Properties Name Dock Status Dock Version	Value Offine 0101-00	
Cloning Dock02 to Dock03	L-	5% completed	Cancel

Cloning job status bar

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 page 120
Generating System Logs page 121
Restarting and Shutting Down the RDX QuikStation page 123
Exporting System Configuration Files page 124
Importing RDX QuikStation System Configuration Files page 125
Manually Updating Firmware
Using a USB Flash Drive for System Tasks

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.

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.

 Table 7-1
 RDX QuikStation System Maintenance Menu

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.

🍪 System Settings 🗸 🎤 Sy				
	Date/Time			
\perp	Network			
	Notification			
2	User Management			
2	Convert Device Type			
×	Options			

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

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

Options		×
System Removable D	isk Diagnostics	
Only change the follow technical support. Diagnostic Log Opti		are instructed to do so by Tandberg Data
Log Level:	Normal	~
The log level will det	ault to normal once	e the browser session is closed.
This option allows or prevents remote access via SSH to the RDX QuikStation 4.		
		OK Cancel
		Carleer

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.

PS	🎤 System Maintenance 🗸 🚺		
E	System Log		
0	System Restart		
0	System Shutdown		
Ð	Import Configuration		
	Export Configuration		
٢	Update Firmware		

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.

🎤 System Maintenance 🔹 🚺		
E	System Log	
0	System Restart	
0	System Shutdown	
Ð	Import Configuration	
	Export Configuration	
٢	Update Firmware	

- 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.

Ex	sport Configuration	×
	Save logical device settings, network settings, notification settings, and user accounts to your local disk.	
	Export Cancel	

- 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.

Import Configuration	x	
Select the configuration settings that you want to import to the RDX QuikStation 4. In some cases, the system restarts after the import completes.		
Configuration to import Vetwork Settings Include identification information (host name, static IP address)		
Image: Time Zone/Time Server Image: Notification Settings User Account Settings Image: Logical Device Settings		
Configuration File: Select a file.	Import Cancel	

- 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: vtxlu-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.

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.

 Table 7-2
 Uses for RDX QuikStation USB Flash Drive

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.

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	page	132
Power specifications	page	134
Environmental specifications	page	134
Safety and regulatory agency compliance	page	135

Physical Specifications

QuikStation 4 Desktop Unit

Part Number	8922-RDX
Dimensions (D x W x H)	48.1cm x 44.0cm x 6.8cm/
Dimensions (D x w x n)	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
1 V	Unlimited offline capacity
Data Transfer Rate	Up to 200 MB ^a /second across multiple docks
Data Halistel Kate	(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/
Dimensions (D x W x H)	18.8in. x 17.3in. x 1.7in.
Weight	6.02 kilograms/13.3 pounds
Form Factor	1U Rackmount
	RDX media dependent (online):
Capacity	4 x 3TB RDX media
	Unlimited offline capacity
Data Transfer Rate	Up to 200 MB ^a /second across multiple docks
Data Iransier Kate	(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
	RDX media dependent (online):
Capacity	8 x 3TB RDX media ^a
	Unlimited offline capacity
D.4. T	Up to 1000 MB ^b /second across multiple docks
Data Transfer Rate	(write, uncompressed)
Network Connectivity	4 x 1 Gigabit Ethernet
Network Connectivity	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 61000-6-3: 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	. page	140
Electrical safety precautions	. page	141
ESD precautions.	. page	141

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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