



StorNext QM1200, QS1200 or QS2400 Base System

# Replacing a Drive



StorNext QM1200, QS1200 or QS2400 Base System, Replacing a Drive, 6-67542-02 Rev B, April 2015, Product of USA.

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# Replacing a Drive in the StorNext QM1200, QS1200 or QS2400 Base System

In this procedure, you will replace a failed drive with a new drive.

Before you start to replace a drive in the base system, gather antistatic protection and a replacement drive.

You can determine whether you have a failed drive in two ways:

- The Recovery Guru directs you to replace a failed drive.
- You locate the failed drive by checking the amber Service Action Required LEDs in three locations:
  - Base system
  - Drive drawer
  - Drive itself

## Locating the Service Action Required LEDs

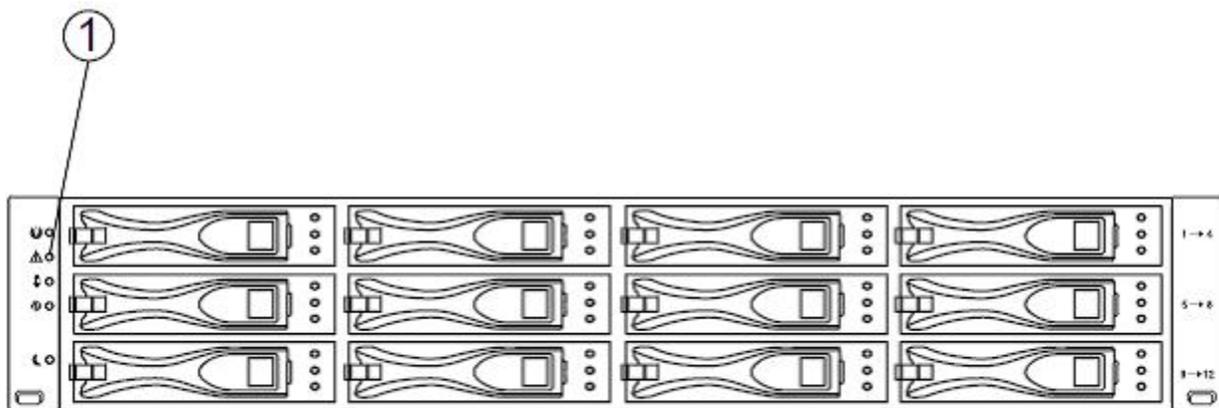
Refer to the following sections to locate the service action required LEDs:

- [QM1200/QS1200 Drive Tray](#)
- [QS2400 Drive Tray](#)
- [Drive Status LEDs](#)

### QM1200/QS1200 Drive Tray

Figure 1 provides an illustration of the QM1200/QS1200 service action required LED.

**Figure 1** QM1200/QS1200 Service Action Required LED

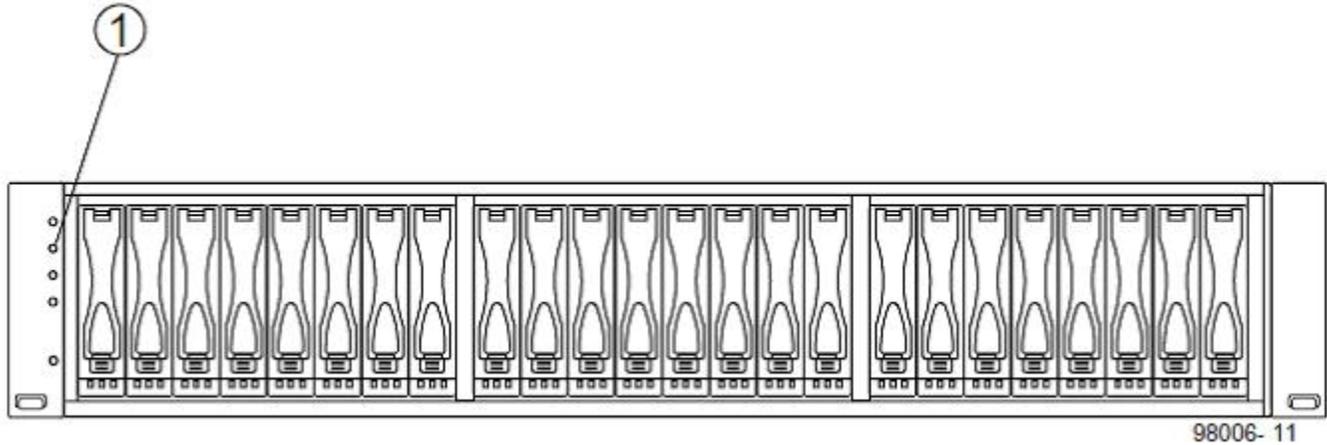


1. Service Action Required LED (Amber)

## QS2400 Drive Tray

Figure 2 provides an illustration of the QS2400 service action required LED.

**Figure 2 QS2400 service action required LED**

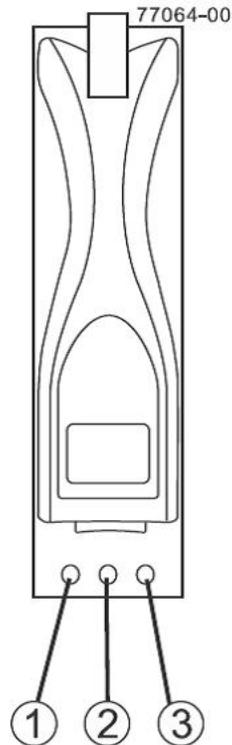


1. Service Action Required LED (Amber)

## Drive Status LEDs

Figure 3 provides an illustration of the drive status LED.

**Figure 3 Drive StatusLED**



1. Drive Service Action Allowed LED (Blue)
2. Drive Service Action Required LED (Amber)
3. Drive Power LED (Green)

## Removing a Drive from the Drive Tray

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**ATTENTION Possible equipment damage** – You must replace the drive within three minutes after removal to prevent the possibility of overheating the equipment.

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**ATTENTION Possible loss of data access** – Never insert drives into the base system without first confirming that the drive firmware level is compatible with the other drives. Inserting a drive with an incorrect firmware level can cause loss of data access. For information about the supported drive firmware levels, contact your Customer and Technical Support representative.

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**ATTENTION Possible loss of data access** – Magnetic fields can destroy all data on the drive and cause irreparable damage to the drive circuitry. To avoid the loss of data access and damage to the drives, always keep drives away from magnetic devices.

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**ATTENTION Possible hardware damage** – To prevent electrostatic discharge damage to the tray, use proper antistatic protection when handling tray components.

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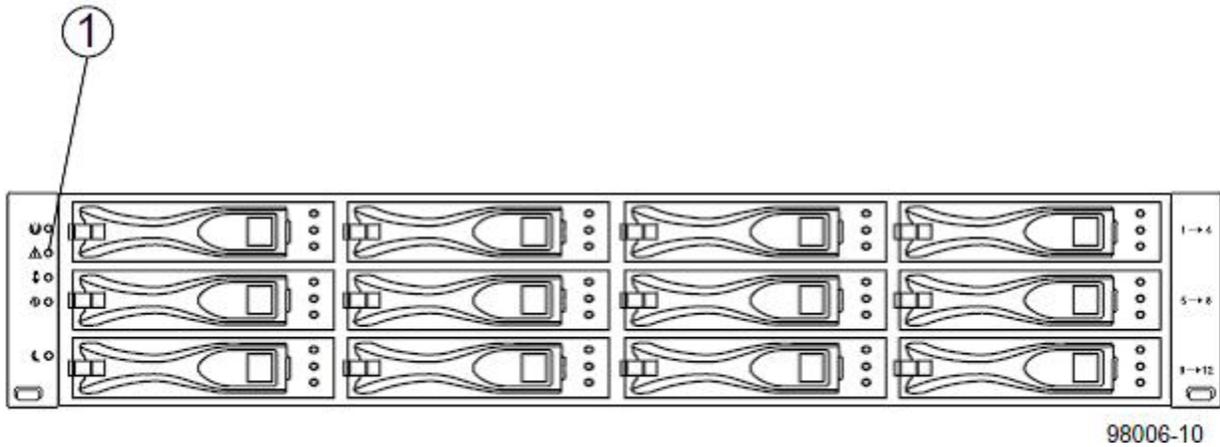
**NOTE** Install only drives that are specifically designed for your base system and that have been specifically tested and qualified in the factory.

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1. Gather support data about your storage array by using one of these methods:
  - Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window, select **Monitor >> Health >> Collect Support Data**. Then name and specify a location on your system where you want to store the support bundle.
  - Use the command line interface (CLI) to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to *Command Line Interface and Script Commands*. Running this command can temporarily impact performance on your storage array.
2. Did the Recovery Guru direct you to replace a failed drive?
  - **Yes** – Continue.
  - **No** – Run the Recovery Guru to identify the failed component.
3. Put on antistatic protection.
4. Unpack the drive.
  - a. Set the new drive on a flat, static-free surface near the base system.
  - b. Save all packing materials in case you need to return the drive.

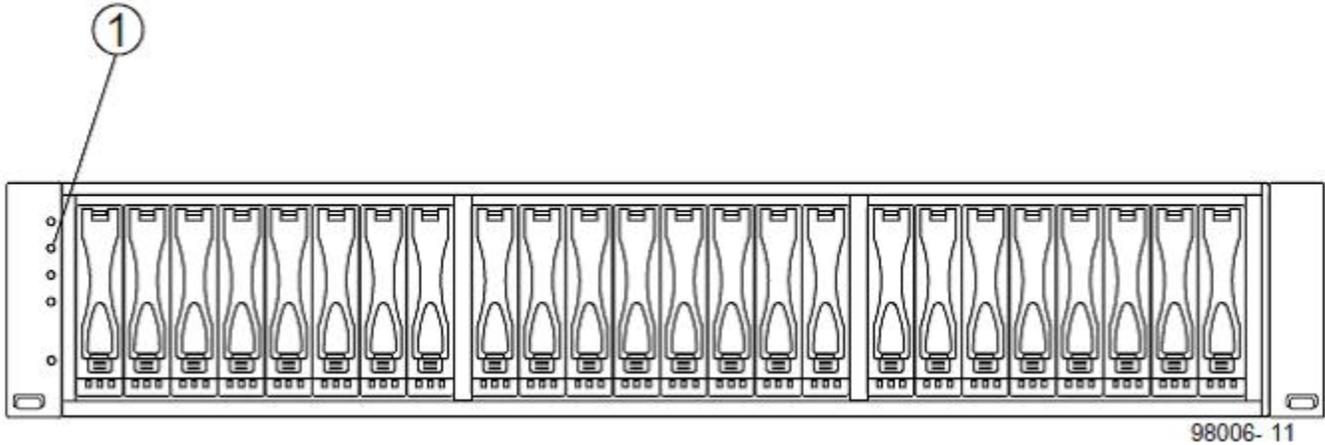
5. Check the Controller-Drive Tray Service Action Required LED to locate the failed drive (Figure 4 and Figure 5).  
You can also check the Drive Service Action Required LED on the drive (Figure 6).

**Figure 4 QM1200/QS1200 Service Action Required LED**



1. Service Action Required LED (Amber)

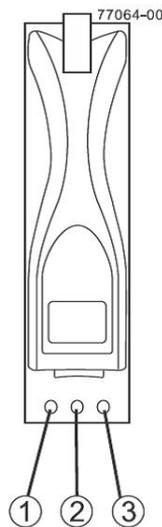
**Figure 5 QS2400 service action required LED**



1. Service Action Required LED (Amber)

Figure 6 provides an illustration of the drive status LED.

**Figure 6 Drive StatusLED**



1. Drive Service Action Allowed LED (Blue)
2. Drive Service Action Required LED (Amber)
3. Drive Power LED (Green)

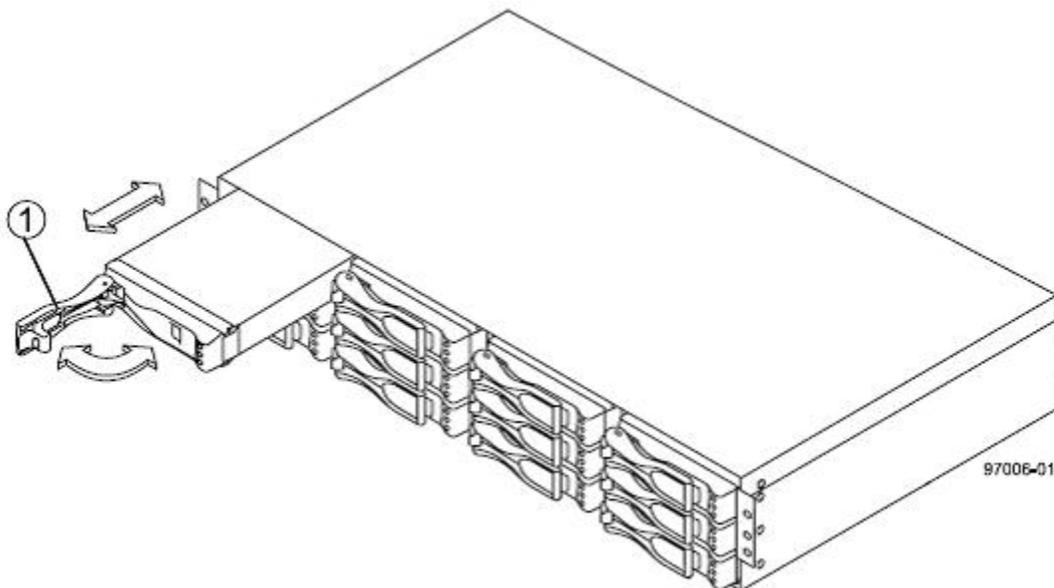
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**ATTENTION Potential damage to drives** – Bumping drives against another surface can damage the drive mechanism or connectors. To avoid damage when removing or installing a drive, always place your hand under the drive to support its weight.

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6. If a fault is detected, the amber Drive Service Action Required LED is on (Figure 6, Item2). Before you can safely remove the drive, the blue Drive Service Action Allowed LED must be on (Figure 6, Item1).
7. Remove the failed drive from the base system.
  - a. Pull the drive handle to the left for a drive in the QM1200 or QS1200 base system (Figure 7).

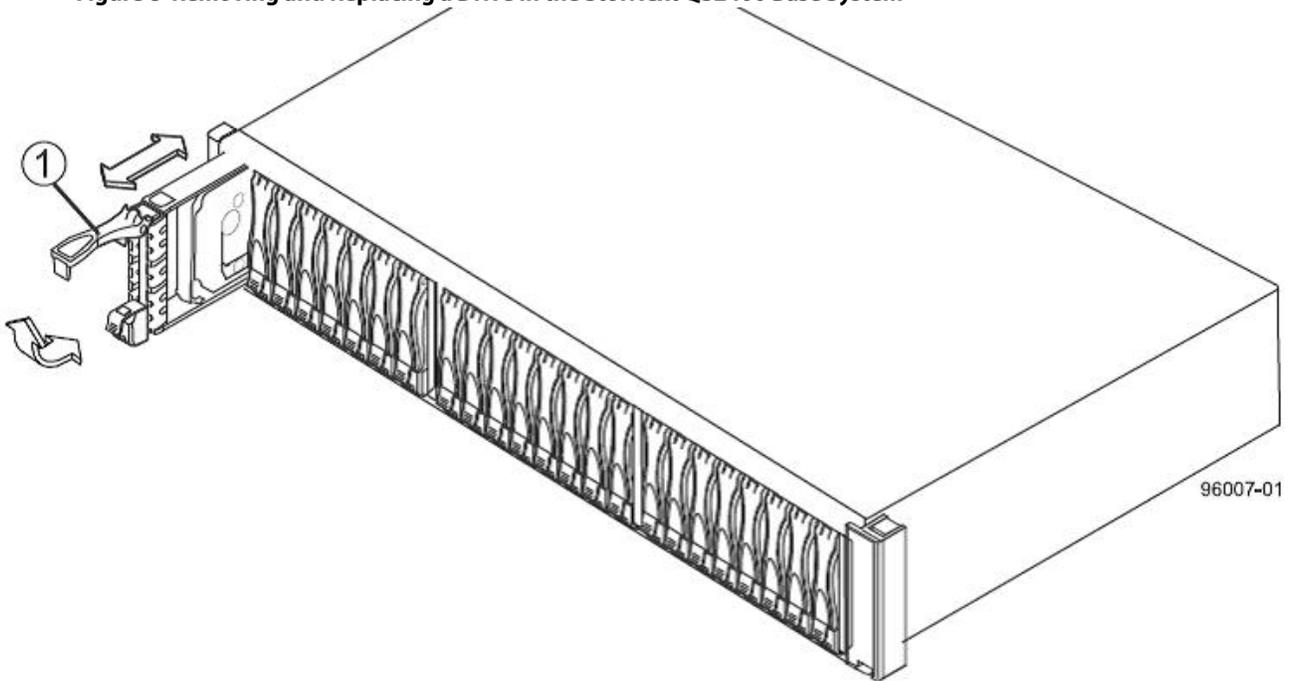
**Figure 7 Removing and Replacing a Drive in the StorNext QM1200 or QS1200 Base System**



1. Drive Handle

- b. Pull the drive handle up for a drive in the QS2400 base system (Figure 8).

**Figure 8 Removing and Replacing a Drive in the StorNext QS2400 Base System**



1. Drive Handle

- c. Use the drive handle to pull the drive out a few centimeters, and allow the drive to spin down.
- d. Use the drive handle to pull the drive out of the slot.
- e. Put the drive on an antistatic, cushioned surface away from magnetic fields.

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**NOTE** If you accidentally remove an active drive, wait at least 30 seconds, and then reinstall it. For the recovery procedure, refer to the storage management software.

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## Installing the Drive into the Drive Tray

1. Wait 30 seconds for the storage management software to recognize that the drive has been removed.
  - a. Place the replacement drive on the slot guides, and slide the drive all of the way into the slot.
  - b. Push the drive handle down or to the right to lock the drive securely in place.

As the drive spins up, the Drive Power LED might blink intermittently, which indicates that data is being restored to the new drive.

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**NOTE** Depending on your configuration, the controller might automatically reconstruct data to the new drive. If the base system uses hot spares, the controller might need to perform a complete reconstruction on the hot spare before the controller copies the data to the replaced drive. This reconstruction process increases the time that is required to complete this procedure.

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2. Check the Drive Power LED and the Drive Service Action Required LED (Figure 6). Based upon the LED status, perform one of these actions:
  - **The Drive Power LED is off** – The drive might not be installed correctly. Remove the drive, wait 30 seconds, and then reinstall it. Go to step 3.

- **The Drive Power LED is on, or the Drive Service Action Required LED is off** – Go to step 4.
- **The Drive Service Action Required LED is on** – The new drive might be defective. Replace it with another new drive. Go to step 3.

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**NOTE** In cases where the drive is bypassed, reconstruction does not occur automatically. The drive does, however, blink as the system recognizes the drive and DACstore is read.

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3. Did this action correct the problem?
  - **Yes** – Go to step 4.
  - **No** – If the problem has not been resolved, contact your Customer and Technical Support representative.
4. Check the status of all of the trays in the storage array.
5. Does any component have a Needs Attention status?
  - **Yes** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem has not been resolved, contact your Customer and Technical Support representative.
  - **No** – Go to step 6.
6. Remove the antistatic protection.
7. Gather support data about your updated storage array by using one of these methods:
  - Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window, select **Monitor >> Health >> Collect Support Data**. Then name and specify a location on your system where you want to store the support bundle.
  - Use the CLI to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to *Command Line Interface and Script Commands*. Running this command can temporarily impact performance on your storage array.