Replacing a Failed Drive in the ST2501 M2 Drive Module

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Revision History

Version and Date	Description of Changes
51344-00, Rev. A May 2011	Initial release of the document.

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Replacing a Drive in a ST2501 M2 Drive Module

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

Before you start to replace a drive in the drive module, 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 LEDs on the drive (Figure 1 on page 2).

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

ATTENTION **Possible loss of data access** – Never insert drives into the drive module 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 a Customer and Technical Support representative.

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.

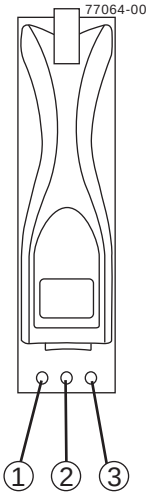
ATTENTION **Possible hardware damage** – To prevent electrostatic discharge damage to the module, use proper antistatic protection when handling module components.

IMPORTANT Install only drives that are specifically designed for your drive module and that have been tested and qualified by the factory.

1. If possible, use the storage management software to create, save, and print a new storage array profile.
2. Did the Recovery Guru direct you to replace a failed drive?
   - **Yes** – Go to step 3.
   - **No** – Run the Recovery Guru to identify the failed component.
3. Put on antistatic protection.
4. Unpack the new drive.
   a. Set the new drive on a dry, level surface near the drive module.
   b. Save all the packing materials in case you need to return the drive.
5. Locate the failed drive by checking the Drive Service Action Required LEDs on the front of the drive module.

   If a fault is detected, the amber Drive Service Action Required LED is on. If you can safely remove the drive, the blue Service Action Allowed LED is on (Figure 1).

Figure 1 Drive Status LEDs



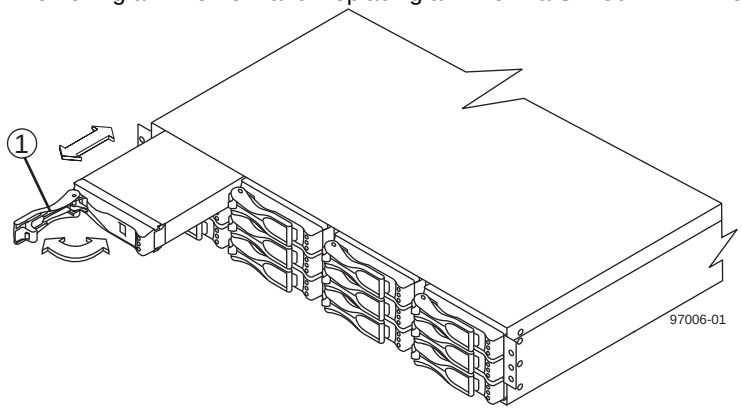
1 Drive Service Action Allowed LED (Blue)
2 Drive Service Action Required LED (Amber)
3 Drive Power LED (Green)

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.

6. Remove the failed drive from the drive module:
   a. Pull the drive handle either to the left (ST2501 M2 drive module) or up (DE5600 drive module).
   b. Use the drive handle to pull the drive out of the slot.

c Put the drive on an antistatic, cushioned surface away from magnetic fields.

Figure 2 Removing a Drive from and Replacing a Drive in a ST2501 M2 Drive Module



1 Drive Handle

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

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7 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 to the right (ST2501 M2 drive module) 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.

NOTE Depending on your configuration, the controller might automatically reconstruct data to the new drive. If the drive module 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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8 Look at the Drive Power LED and Drive Service Action Required LED (Figure 1). Based on 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 9.
- **The Drive Power LED is on *and* the Drive Service Action Required LED is off** – Go to step 10.
- **The Drive Service Action Required LED is on** – The new drive might be defective. Replace it with another new drive. Go to step 9.

9 Did this action correct the problem?

- **Yes** – Go to step 10.
- **No** – If the problem has not been resolved, contact a Customer and Technical Support representative.

10 Remove the antistatic protection.

11 Bring the new drive back online by using the storage management software.

12 Check the status of all the modules in the storage array.

13 Does any component have a Needs Attention status?

- **Yes** – Go to step 14.
- **No** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem has not been resolved, contact a Customer and Technical Support representative.

14 Create, save, and print a new storage array profile.

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