Replacing an SFP Transceiver in the ST2500 M2 Array Module Configuration

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Revision History

Version and Date	Description of Changes
51353-00, Rev. A May 2011	Initial release of the document.

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Replacing an SFP Transceiver in the ST2500 M2 Array Module Configuration

Before you replace a Small Form-factor Pluggable (SFP) transceiver in the array module or drive module, gather antistatic protection and a replacement SFP transceiver.

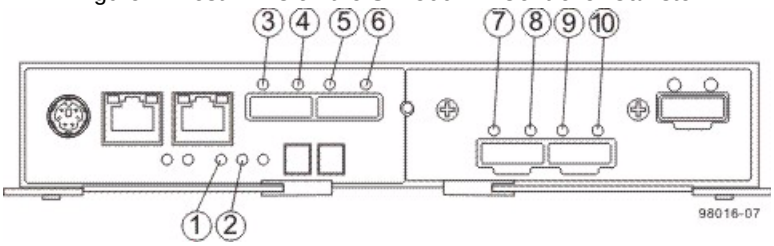
NOTE The SFP transceivers for 8-Gb/s Fibre Channel array modules are different than the ones used for 2-Gb/s and 4-Gb/s Fibre Channel array modules. The SFP transceivers look similar but behave differently.

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

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 controller CRU?
   - **Yes** – Go to step 3.
   - **No** – Run the Recovery Guru to identify the failed component, and go to step 3.
3. Put on antistatic protection.
4. Unpack the new SFP transceiver.
   a. Make sure that it is the same type of SFP transceiver that you are replacing.
   b. Set the new SFP transceiver on a flat, static-free surface near the array module or the drive module.
   c. Save all the packing materials in case you need to return the SFP transceiver.

5 To locate a failed SFP transceiver in the ST2500 M2 array module, look at the Host Link LEDs on the rear of the controller CRUs. Both Host Link LEDs for a particular port are off if an SFP transceiver has failed.

Figure 1 Host LEDs on the ST2500 M2 Controller Canister



1 Controller Service Action Allowed LED (Blue)
2 Controller Service Action Required LED (Amber)
3 Host Port 1 Fault LED (Amber)
4 Host Port 1 Active LED (Green)
5 Host Link 2 Fault LED (Amber)
6 Host Link 2 Active LED (Green)
7 Host Interface Card Link 3 Fault (Amber)
8 Host Interface Card Link 3 Active (Green)
9 Host Interface Card Link 4 Fault (Amber)
10 Host Interface Card Link 4 Active (Green)

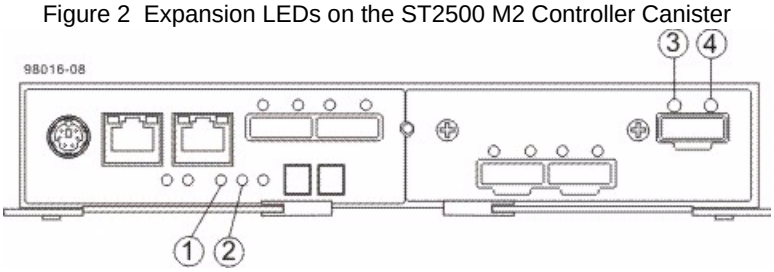
- **If both Host LEDs are off for a particular port** – You must replace the SFP transceiver. Go to step 6.
- **If at least one Host LED is on for a particular port** – The SFP transceiver is functional. The Host LEDs indicate a channel speed of 1 Gb/s, 2 Gb/s, 4 Gb/s, or 8 Gb/s.

ATTENTION **Potential degraded performance** – To prevent degraded performance, do not twist, fold, pinch, or step on fiber-optic cables. Do not bend the fiber-optic cables tighter than a 5-cm (2-in.) radius.

NOTE The Controller Service Action Required LED comes on whenever a loss of a path occurs. The storage management software's Tray Component information dialog provides both channel and port information to help you identify the components that are in the path.

6 Check the Expansion (Drive) LEDs on the rear of the ST2500 M2 controller CRU to locate the failed SFP transceiver. Both Expansion (Drive) LEDs are off if an SFP transceiver has failed.

Figure 2 Expansion LEDs on the ST2500 M2 Controller Canister

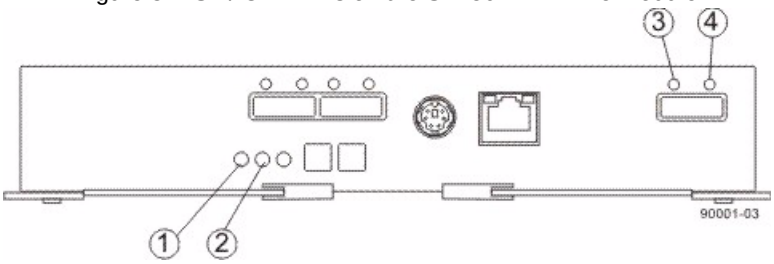


1 Controller Service Action Allowed LED (Blue)
2 Controller Service Action Required LED (Amber)
3 Expansion (Drive) Fault LED (Amber)
4 Expansion (Drive) Active LED (Green)

- **If all of the Expansion (Drive) LEDs are off for a particular port on the array module** – You must replace the SFP transceiver. Go to step 7.
- **If any Expansion (Drive) LED is on** – The SFP transceiver is functional. The Expansion (Drive) Fault LED and the Expansion (Drive) Active LED indicate a channel speed of 1 Gb/s, 2 Gb/s, 4 Gb/s, or 8 Gb/s. The Expansion (Drive) Fault LED is amber when a link is not sensed.

7 On a ST2501 M2 drive module, check the Expansion (Drive) Link LEDs on the rear of the ESM/IOM canister to locate the failed SFP transceiver. Both Expansion (Drive) Link LEDs are off if an SFP transceiver has failed.

Figure 3 ESM/IOM LEDs on the ST2501 M2 Drive Module

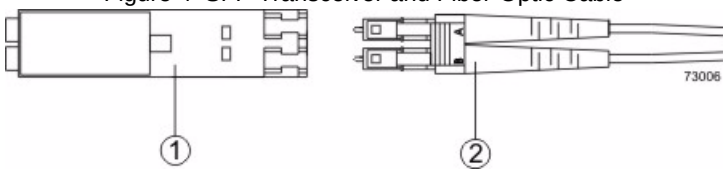


1 ESM Service Action Allowed LED (Blue)
2 ESM Service Action Required LED (Amber)
3 Expansion (Drive) Link Fault LED
4 Expansion (Drive) Link Active LED

- **If all of the Expansion (Drive) Link LEDs are off on the drive module** – You must replace the SFP transceiver. Go to step 8.
- **If any Expansion (Drive) Link LED is on** – The SFP transceiver is functional. The Expansion (Drive) Link Fault LED is amber when a link is not sensed.

8 If it is present, disconnect the fiber-optic cable from the failed SFP transceiver.

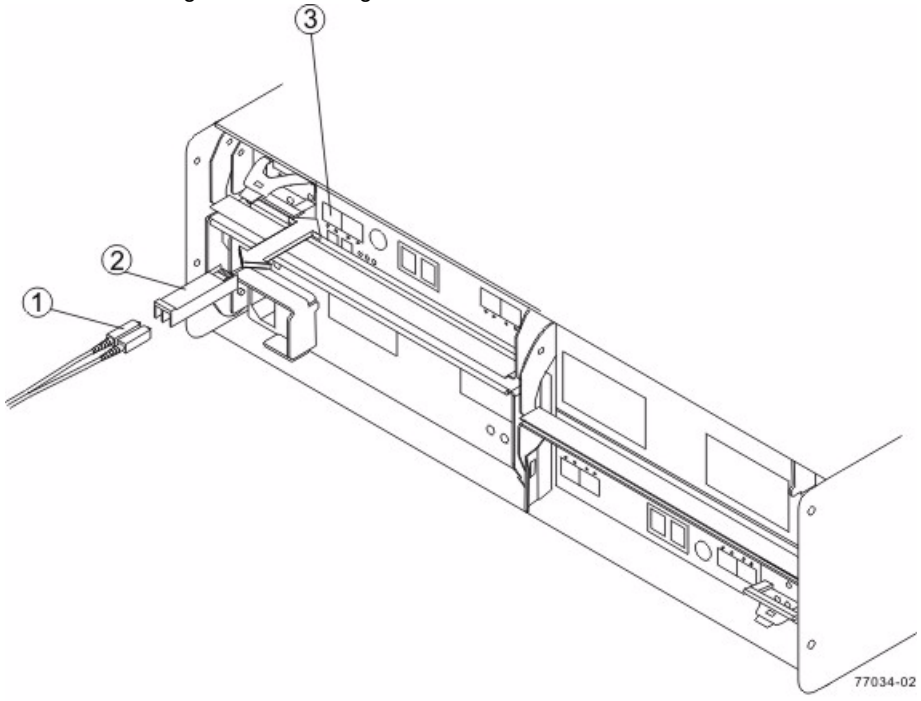
Figure 4 SFP Transceiver and Fiber-Optic Cable



1 SFP Transceiver
2 Fiber-Optic Cable

9 Remove the failed SFP transceiver from the interface port.

Figure 5 Removing an SFP Transceiver – Drive Module



1 Fiber-Optic Cable
2 SFP Transceiver
3 Drive Interface Port

10 Install the new SFP transceiver into the interface port.

11 Reconnect the fiber-optic cable.

12 Look at the Host Link LEDs, the Expansion (Drive) LEDs, and the Service Action Required LEDs on any array module.

13 Based on the LED status, perform one of these actions:

- **At least one of the Host Link LEDs or Expansion (Drive) LEDs on either a ST2500 M2 array module, a ST2501 M2 drive module for each port is on, *and* the Controller Service Action Required LED or the ESM Service Action Required LED is off.** – Go to step 15.
- **Both of the Host Link LEDs or Expansion (Drive) LEDs on either a ST2500 M2 array module, a ST2501 M2 drive module for a particular port are off, *and* the Controller Service Action Required LED or the ESM Service Action Required LED is on** – Check that the SFP transceiver has been installed correctly. Reinstall the SFP transceiver if necessary. Go to step 14.

NOTE If your storage array does not have an Optimal status, click the **Recovery Guru** toolbar button in the Array Management Window to determine if any other actions are required.

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14 Did this action correct the problem?

- **Yes** – Go to step 15.
- **No** – If the problem is not resolved, contact your Customer and Technical Support representative.

15 Complete any Recovery Guru procedures, as needed.

16 Using the LEDs and the storage management software, check the status of all of the modules in the storage array.

17 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 is not resolved, contact your Customer and Technical Support representative.
- **No** – Go to step 18.

18 Remove the antistatic protection.

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

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