


Controller







Before you begin:

- Review the [Preparation Procedures](#) and [Hot Plug Considerations](#) sections.
- Verify controller failure.

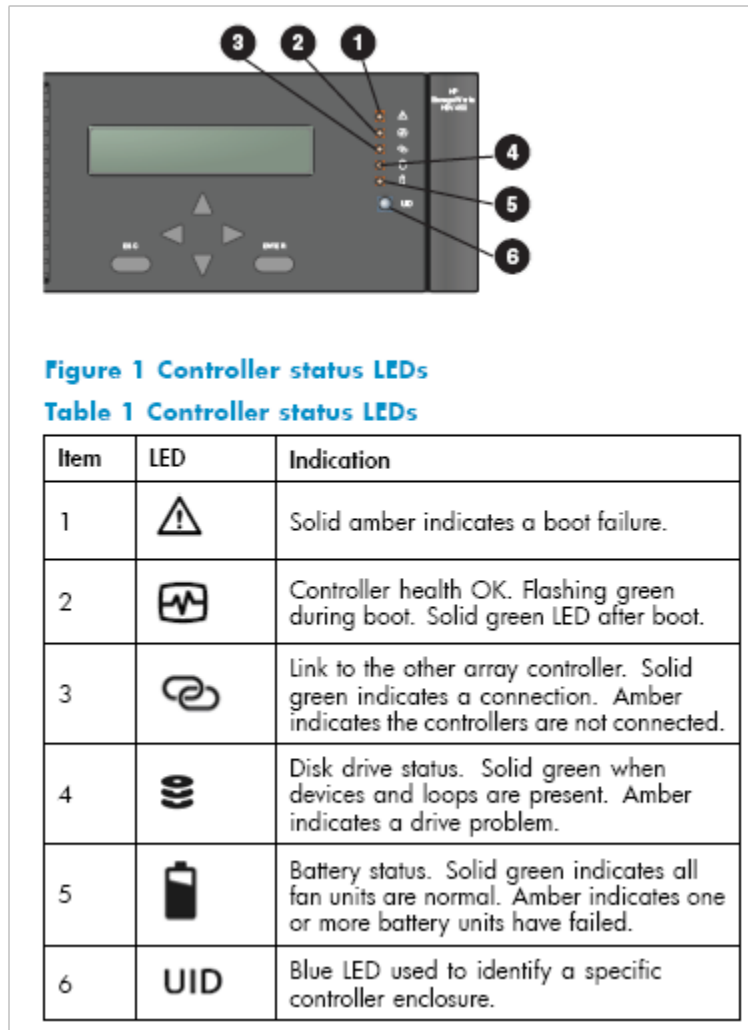
Verifying controller failure

Use the following methods to verify controller failure:

- Analyze any failure messages received. WEBES messages give a recommended action.
- Check the controller status using HP Command View EVA:
 1. In the navigation pane, select **Storage system > Hardware > Controller Enclosure > Controller A or B**.
 2. The status is displayed in the Operational State field. An operational state of  (Failed) would indicate a fault that may require a replacement.

Controller Properties				
Save changes	Locate	Shut down	Code load	?
General	Host Ports	Device Ports	Enclosure	
Identification		Condition/State		
Name:	Controller A	Operational State:		Failed
World Wide Node Name:	5000-1FE1-0027-1470	Cache State:		Good
UUID:	5005-08b4-000b-4809-0000-0000-0000-0000	Memory		
Firmware		Control cache:	3072 MB	
Version:	09520000	Read cache:	2171 MB	
Build:	CR14A0dexp-09520000	Write cache:	832 MB	
Replaceable Unit		Mirror cache:	832 MB	
Model number:	HSV450	Total cache:	6907 MB	
Assembly serial number:	PAFURB19SW0013	Cache Mirroring		
Comments		Mirror Path 1:		Good
		Mirror Path 2:		Good
		Mirror Port 1 State:		Good
		Mirror Port 2 State:		Good

3. To help identify the correct controller, click Locate > Locate ON. This causes the blue UID indicator to light at the front and rear of the controller enclosure.
- Check the controller enclosure status LEDs as shown in Figure 1 and Table 1.



Note: Be sure to put on your electrostatic discharge wrist strap to avoid damaging any circuitry.

Controller removal

1. Perform a shutdown of the controller to be replaced.

You can halt I/O to the controller enclosure being replaced by using HP Command View EVA and doing the following:

- In the navigation pane, select the array. The Initialized Storage System Properties window opens.
- Click the Shut down tab. The Shutdown Options window opens.
- In the Controller Shutdown section, select the controller to power down, and click Power down.

2. Disconnect the Fibre Channel, serial (RJ45), small form-factor pluggable (SFP) modules, and power cables from the rear of the controller enclosure.

Important! Ensure cables are marked to facilitate reconnecting later.

3. Remove the front bezel by grasping the bezel at each end and pulling it off the enclosure.
4. Remove the operator control panel (OCP) by squeezing the OCP latch tabs and swinging the panel out until fully open. Grasp the OCP by its metal frame and pull it out of the enclosure.

Caution: Handle the OCP by its metal frame only. This ensures that the electronic components are not damaged by static discharge.

5. Remove the cache batteries by moving the battery mounting latch to the right and grasping the pull handle. Position one hand under the battery, and pull the battery out of the enclosure.

Note: Some controller enclosure models have a cache battery located behind the removed OCP.

6. Remove each controller blower by moving the blower latch to the right, positioning one hand under the blower, and pulling the blower out of the enclosure.
7. Remove the power supplies from the rear of the controller enclosure by moving the power supply latch to the left and grasping the handle. Position one hand under the power supply, and pull the power supply out of the enclosure.
8. Remove the memory card by loosening the two thumbscrews that secure the rear access panel to the enclosure, removing the access panel, and pulling the memory card out of its holder.

Important! Retain this card for use in the replacement enclosure. The memory card contains the controller operating firmware. It is important that the removed memory card be used in the replacement enclosure.

9. Loosen the thumbscrews that secure the controller enclosure to the cabinet.
10. Remove the controller enclosure from the cabinet.

Controller replacement

1. A blank label is provided on the replacement controller enclosure above the OCP. Record the product number and serial number from the controller being replaced onto the replacement controller label to ensure the continuation of service entitlement.
2. Lift and attach the replacement enclosure onto the cabinet rails, and secure the enclosure to the cabinet by tightening the front thumbscrews on each side.
3. Remove the rear memory card access panel, and insert the memory card that was previously removed from the controller enclosure being replaced. Reattach the access panel.
4. Slide the two power supplies into the back of the controller enclosure until they are fully seated.
5. Slide the two blowers into the front enclosure slots until their mounting latches engage.
6. Slide each cache battery into the front of the enclosure until fully seated and the mounting latches engage.
7. Slide the OCP into the front of the enclosure and close the front OCP display so that the latch engages on the enclosure.
8. Snap the front bezel onto the front of the enclosure.
9. Attach all power, serial, small form-factor pluggable (SFP) modules, and Fibre Channel cabling to the installed controller enclosure.
10. Power up the installed controller enclosure by pressing the power button on the rear power UID bezel.
11. Verify through Command View EVA that the replacement controller is in operation and has joined the storage system. Contact support if you require assistance.