

Compaq StorageWorks

Replacing an External Cache Battery (ECB)

Open Card Completely Before Beginning Installation Procedures

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Replacing an External Cache Battery (ECB)
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About This Card

This document contains instructions for replacing an ECB in a Compaq *StorageWorks*™ Model 2100 or Model 2200 Controller Enclosure.

General Information

To preserve write-back cache data in the event of a power failure, each cache module must be connected to an ECB. ECB locations are shown in Figure 1. Locations A1 and A2 support cache module A; locations B1 and B2 support cache module B.

NOTE: No more than two ECBs are supported within the enclosure at any time—one for each array controller and cache set. Blanks must be installed in the remaining vacant ECB bays for controlling air flow.

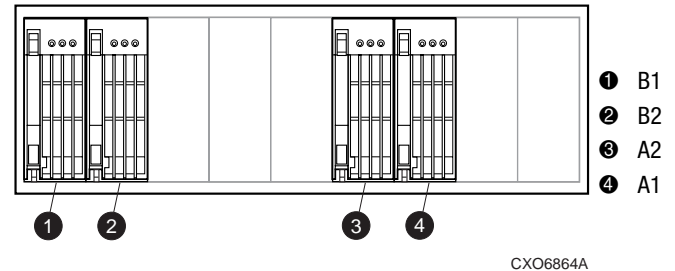


Figure 1: ECB locations and numbering scheme

ECB replacement procedures within an operating enclosure are array controller and array controller software (ACS) version-specific.

For array controller configurations with field replacement utility (FRUTIL) support, follow pluggable procedures; otherwise, follow hot-pluggable procedures. Pluggable procedures use FRUTIL to update the ECB battery expiration date and deep discharge history.

Hot-pluggable procedures only replace the ECB, using a vacant bay opening (A or B) that correlates with the defective ECB. This method *does not* update ECB battery history data. This procedure only installs the replacement ECB and then removes the defective ECB.

Replacing an ECB Procedure

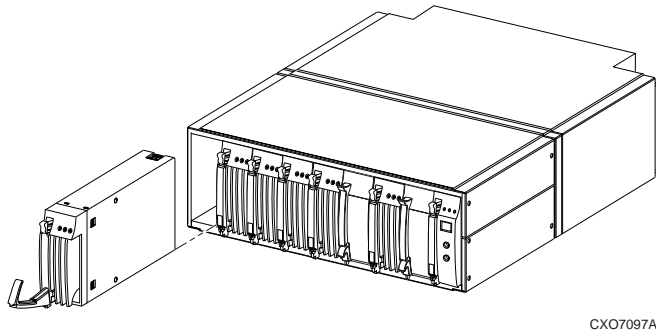
Use the following steps to replace an ECB through a pluggable or hot-pluggable procedure:

1. Using Figure 1, determine the specific bay to install the ECB.

NOTE: Make sure this bay supports the same cache module (A or B) as the ECB being removed.

2. Refer to array controller documentation for ECB FRUTIL support. If FRUTIL procedures are available, replace the ECB using array controller documentation.
Otherwise, go to step 3 for hot-pluggable procedure.
3. Press the release tab and pivot the lever downward on the replacement ECB.
4. Remove the blank panel from the appropriate vacant bay (A or B).

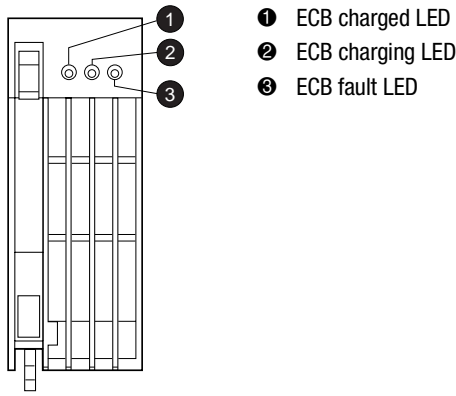
- Align and insert the replacement ECB into the vacant bay until the lever engages the enclosure (see Figure 2).



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Figure 2: Inserting the ECB with the enclosure

- Lift the lever upward until the lever locks.
- If enclosure power is applied, verify that the light emitting diode (LED) displays a **Charge Test** state (see Figure 3 for LED locations and Table 1 for display state).



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Figure 3: ECB LED names and locations

- Following ECB initialization, verify that the LEDs display either a **Charging** or **Charged** state (see Figure 3 for LED locations and Table 1 for display state).
 - Press the release tab on the old ECB and pivot the lever downward.
 - Remove the old ECB from the enclosure.
 - Install the blank panel in the vacant ECB bay.
- This completes the hardware installation.

Updated ECB LED Definitions

The following table replaces Table 6–1 “ECB Status LED Displays” in the *Compaq StorageWorks Model 2100 and 2200 Ultra SCSI Controller Enclosure User Guide*.

IMPORTANT: Make sure to identify the existence of this updated table in the user guide.

Table 1: ECB Status LED Displays

LED Display	ECB State Definition
○ ○ ●	<p>Startup: Checking temperature and voltage. If this state persists for more than 10 seconds, then a temperature fault exists.</p> <p>Backup: When power is removed, a low duty cycle FLASH indicates normal operation.</p>
○ ● ●	Charging: The ECB is charging the battery.
● ○ ○	Charged: The ECB battery is charged.
○ ● ●	<p>Charge Test: The ECB is ascertaining whether or not the battery is capable of holding a charge.</p>
○ ● ●	<p>Temperature Fault Indications:</p> <ul style="list-style-type: none"> When this indication displays, the ECB battery charging is suspended until the temperature fault has been corrected. When this indication displays, the ECB battery is still capable of backup.
● ○ ●	
● ○ ●	ECB Fault: Indicates the ECB has faulted.
○ ○ ●	Battery Fault: The ECB determined the battery voltage is incorrect or the battery is missing.
○	LED Legend:
○	OFF
●	FLASHING
●	ON