

EMC CLARiiON CX500 2-Gigabit Disk Processor Enclosure (DPE2) Setup and Cabling Guide

NOTE This setup/cabling guide is intended to help qualified technical personnel install an EMC CLARiiON® CX500 2-Gigabit Disk Processor Enclosure (DPE2). It contains a subset of the detailed information in *EMC CLARiiON CX500 2-Gigabit Disk Processor Enclosure (DPE2) Hardware Reference* (available on the hardware documentation CD and the Powerlink website).

BEFORE YOU START

The *EMC Installation Roadmap for CX-Series and FC-Series Storage Systems* provides detailed checklists of installation procedures for supported CX500 environments, and lists the documents you will need to complete each task. The roadmap and other EMC CLARiiON setup and administration manuals related to the CX500 are available on <http://powerlink.emc.com>. Once you have logged in to Powerlink, select **Support > Document Library** to find the documents you need. The *Installation Roadmap* discusses many systems and configurations; we suggest that you limit yourself to the chapter that covers your operating system.

All CX500 and other relevant hardware documents are included on the CX300, CX500, and CX700 Hardware Documentation CD (P/N 053-001-155).

IMPORTANT Be sure you have completed *all* of the following site and configuration preparations *before* you attempt to set up your system.

Plan Your Configuration

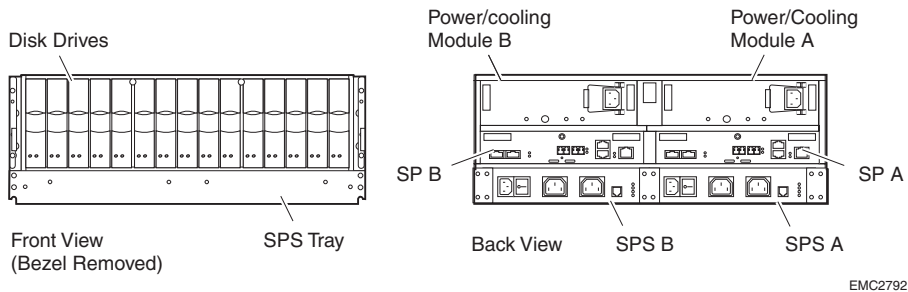
Refer to the *EMC CLARiiON CX300, CX500, and CX700 Storage Systems Configuration and Planning Guide* (available on the hardware documentation CD and the Powerlink website) to plan your installation. The guide includes background material, planning rules, and administrative worksheets. Use it to choose and understand RAID types, LUNs, file systems, and software options.

Prepare Your Environment

1. Verify that your facility has adequate network wiring to provide each CX500 storage processor with a separate connection.
2. Confirm that your facility has appropriate electrical wiring in place to accommodate your cabinet's power cables. See the *Site Preparation and Unpacking Guide for the 40U Cabinet* (available on the hardware documentation CD and the Powerlink website). To support all of the CX500 system's high-availability features, you must receive power from two discrete circuits.
3. Install host bus adapters and appropriate drivers in any host servers that will have access to the CX500 DPE2 (if necessary). See the device-specific installation manuals that shipped with the device or that are available on the vendor website.
4. Install any switches and switch software on the path between the DPE2 and the hosts that have access to it (if necessary). See the device-specific installation manuals that shipped with the device or that are available on the vendor website.

PARTS CHECKLIST FOR BASIC CONFIGURATION

- ☐ CX500 2-gigabit disk processor enclosure (DPE2) with
 - Two storage processors (SPs)
 - Two power supply/system cooling (power/cooling) modules
 - Minimum of five (5) disk drives
 - Two standby power supplies (SPS)



- ☐ Optional additional DAE2 disk enclosure(s)
- ☐ Null modem cable (1) for initialization with service laptop
- ☐ LAN 10/100BaseT crossover cable (1) for configuration with service laptop
- ☐ Ethernet LAN RJ45 cables (1 per SP) for storage-system management
- ☐ Fibre Channel optical cables (2 per SP) for host/switch connection
- ☐ 1-meter copper Fibre Channel HSSDC-HSSDC cables (2 per optional DAE2) for external disks on back-end loop
- ☐ Power cables
- ☐ One or more rails kits (if your DPE2 is not already installed in a rackmount cabinet)
- ☐ *EMC Navisphere Manager 6.X Documentation CD* (P/N 068090604)
- ☐ *EMC CX300, CX500, and CX700 Hardware Documentation CD* (P/N 053-001-155)

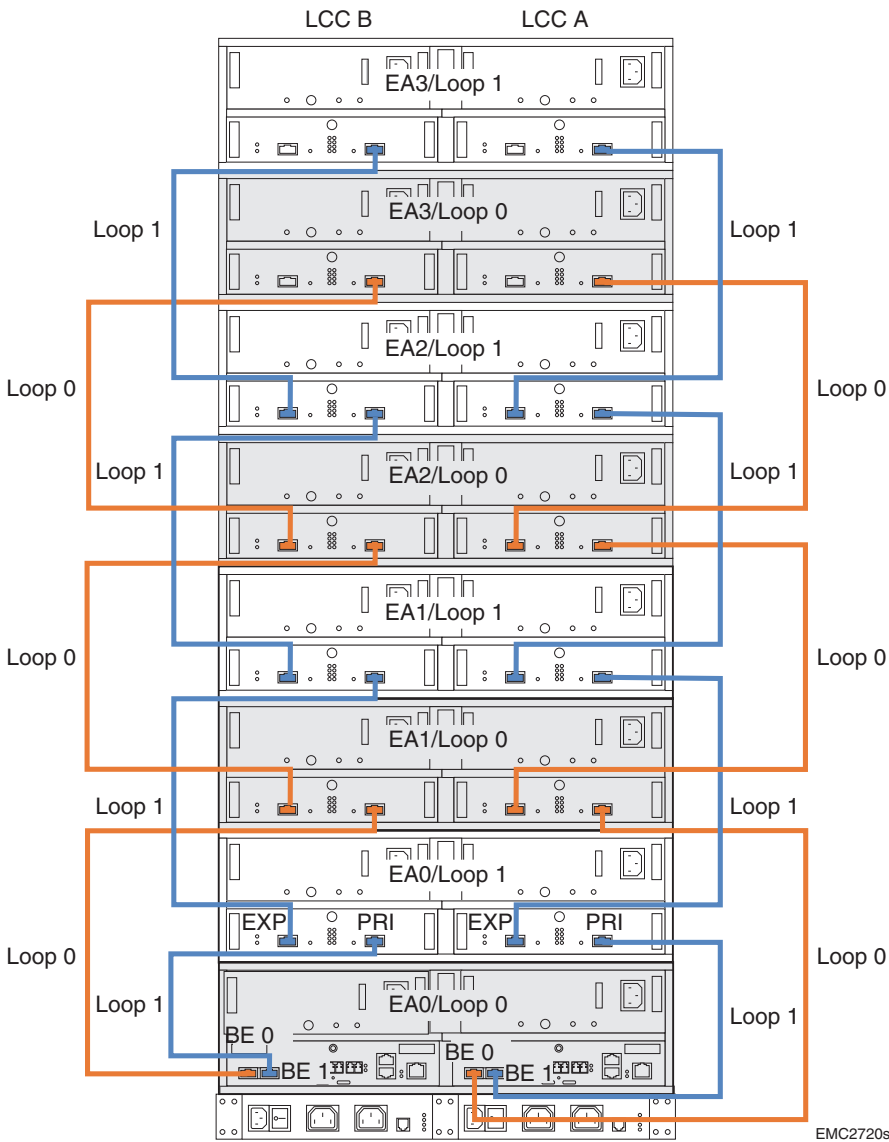
INSTALLING THE CX500 IN THE CABINET

If your CX500 enclosure and/or DAE2 are not already installed in a cabinet, refer to the *EMC Rails and Enclosures Installation Guide for 19-Inch NEMA Cabinets* for instructions on installing 3U devices.

IMPORTANT The disk modules in slots 0-4 of the DPE2 (Enclosure 0, loop 0) provide mirrored boot and recovery capability, and are preconfigured according to their slot assignment before shipment. Do not move a 0-4 module from its assigned slot to another slot. Remove it only to replace the disk.

Step 1 Verify Disk-Array (Back-End) Connections

Be sure the enclosure address settings and loop (bus) cabling for your disk enclosure(s) are correct. Note that without an additional DAE2, the DPE2 implements a single redundant Fibre Channel back-end loop (loop 0) over the CX500 midplane, and does not require back-end cabling.



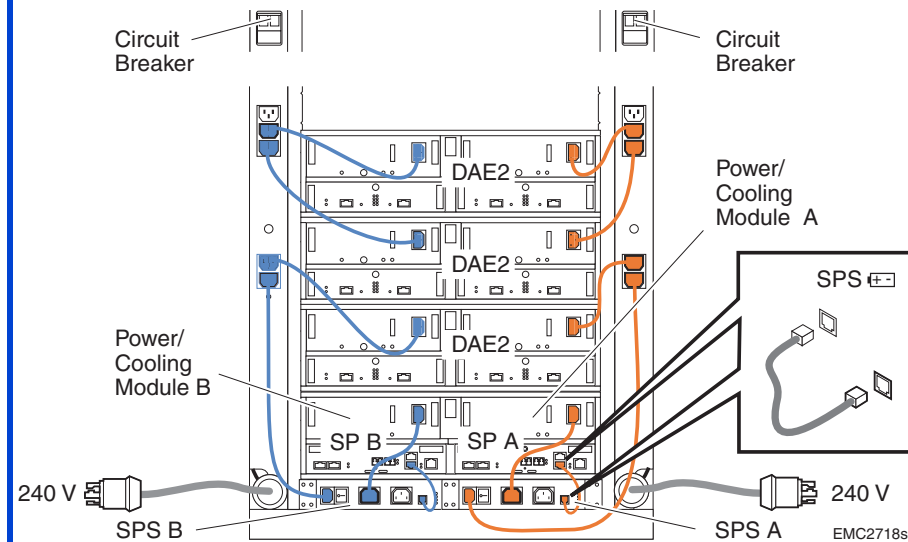
For the system to boot and operate, the DPE2 enclosure address must be EA 0. A CX500 is always assigned enclosure address 0 prior to shipment.

Connector BE 1 starts a second loop (loop 1) to additional disks in a DAE2; BE 0 continues loop 0 to a second DAE2. BE ports connect to the LCC A or LCC B primary (PRI) ports on the first DAE2 in their loop. The DAE2 expansion (EXP) ports connect to the next PRI ports in their loops.

Each enclosure in a loop requires a unique enclosure address (EA). Assign EA 0 to the first DAE2 on loop 1. A second DAE2 (the second enclosure on loop 0) has an EA of 1, a third DAE2 is EA 1 on loop 1, a fourth is EA 2/loop 0, and so on.

Step 2 Verify Power Settings and Connections

1. Confirm that any power switch on a power/cooling module is off. For high availability, make sure that A and B modules in each component are connected to different power strips.
2. Verify that each standby power supply power switch is off. Be sure that all system power connections are correct and fully seated.



- Standby power supply A connects to the SPS port on SP A; SPS B connects to SP B.
 - Power/cooling module A connects to SPS A, and power/cooling module B connects to SPS B.
 - The two SPS modules connect to separate power distribution units (PDUs) within the cabinet.
3. Plug the power cables into the power outlets in your facility. We recommend connecting each power cable to a different branch circuit. *You must connect both power cables to appropriate power sources.* Connecting only one power source will degrade the system's high availability.

Step 3 Start the CX500

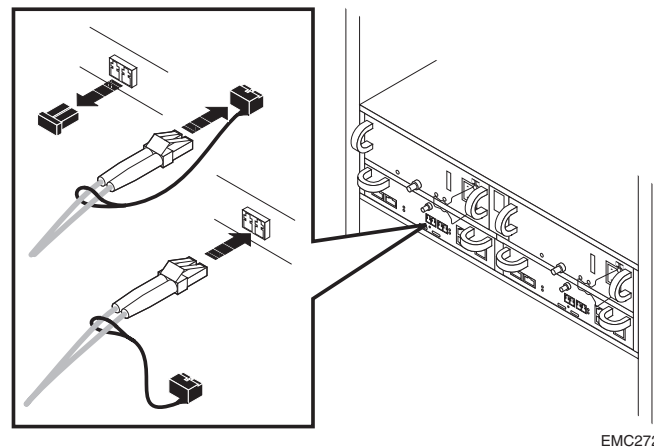
1. Turn on the power switch for each SPS.
2. Turn on the power switches for the CX500 and any DAE2 power/cooling modules.
3. If necessary, turn on the circuit breakers on each of the cabinet's power strips.

Depending on your system, the CX500 may take several minutes to complete powerup. Amber warning lights will flash during Power On Self Test (POST) and then go off.

The front Fault light and the SPS recharge lights commonly stay on for several minutes while the SPS units fully charge.

If the amber lights on the front or back of the system remain on, make sure the system is correctly cabled and then refer to the fault code explanations in the *CX500 Hardware Reference*. If you cannot determine any reasons for errors, contact your CX500 service provider.

Step 4 Make Switch or Host Connections



1. Remove the protective covers from each optical connector and cable.
2. Plug the cables into the SP front-end (FE) host ports, FE 0 and FE 1.
3. Connect the other end of the FE 0 cable as follows:
 - For a *direct attach* configuration—to the host server's host bus adapter (HBA).
 - For a *storage area network (SAN)* configuration—to a Fibre Channel switch port.
4. Connect the other end of the FE 1 cable as follows:
 - In a system *without MirrorView™ software*—to an HBA port (direct-attach configurations) or switch port (SAN configurations).
 - In a system *with MirrorView*—to a storage processor (SP) host port on the remote storage system, or a switch port.

YOUR NEXT STEP

Refer to the *EMC CLARiiON CX300, CX500, and CX700 Storage Systems Initialization Guide* to

- Initialize the system
- Load initial software and management options
- Connect the storage processor(s) to a management LAN for final system configuration

Refer to the *EMC Navisphere Manager 6.X Administrator's Guide* (on the Navisphere Manager CD and the Powerlink website) and the product-specific documentation for your system options (on Powerlink and often with the product CD) to

- Define your security settings
- Set up software options
- Complete your configuration

IF YOU NEED HELP

For questions about technical support and service, contact your service provider.

If you have an EMC service contract, contact EMC Customer Service at USA (800) 782-4362, Canada (800) 543-4782, or worldwide (508) 497-7901.

For questions about upgrades, contact your local sales office.

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