



EMC
2-Gigabit Disk Enclosure (DAE2)

SETUP GUIDE

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About This Guide

This guide outlines the steps you must follow and the information you will need to get one or more 2-Gigabit Disk Array Enclosures (DAE2s) up and running. It assumes you are configuring the 3U enclosure as a disk array for a storage processing device (such as an EMC SPE with storage processors). Refer to this guide as you perform the following tasks:

- Set DAE2 Enclosure Address(es)
- Set Up Fibre Channel Loops
- Connect the DAE2 to a Storage Processing Device
- Connect DAE2 Power Cords
- Start DAE2s

IMPORTANT The section called **Your Next Step**, that starts on page 10 of this guide, lists and describes additional resources you might need to solve typical installation and operating problems.

For information on JBOD (Just a Bunch of Disks) or other non-array configurations, please contact your sales representative

This guide refers to various documents that provide detailed descriptions of each step. The most current versions of DAE2 documentation are available on the EMC Powerlink website, <http://powerlink.emc.com>. Once logged in to Powerlink, select **Services**, then **Document Library, CLARiiON, CLARiiON Fibre Channel Storage (FC)** and then **CLARiiON FC Hardware, CLARiiON FC Core Software, or CLARiiON FC Software** for lists and .pdf versions of relevant manuals, notes, and articles.

Parts Checklist for Basic Configuration

Before you start, be sure you have the necessary materials available. Most required parts were provided with your system, but some are shipped with particular components (and configurations) and others are shipped separately.

- One or more DAE2 disk enclosures
- EMC-approved disk drives

For a list of supported RAID disks, refer to the *EMC Storage Systems CX-Series Disk and Software Matrix* (P/N 014003111), available on the Powerlink website.

- If your DAE2 is not already installed in a rackmount cabinet
 - One or more rails kits, and the
 - EMC Storage Systems 40U Cabinet Configuration Guide* (P/N 014003082)
- Fibre Channel copper cable for connecting the DAE2 to a storage processor device (1 per connection)
- Copper cables for connecting multiple DAE2s to each other (2 per DAE2)
- EMC 2-Gigabit Disk Enclosure (DAE2) Hardware Reference* (P/N 014003048)
- If you will use EMC Control Center™ Navisphere® to manage the DAE2 with an EMC CX-Series storage system
 - EMC Fibre Channel Storage System CX-Series Configuration and Planning Guide* (P/N 014003113)
 - EMC ControlCenter Navisphere Manager Revision 6.X Administrator's Guide* (P/N 069001161)

Before You Start

IMPORTANT Be sure you have completed *all* of the following site and configuration preparations *before* you attempt to set up your DAE2s.

1. Confirm that electrical wiring to accommodate your cabinet's power cables is in place at your facility.

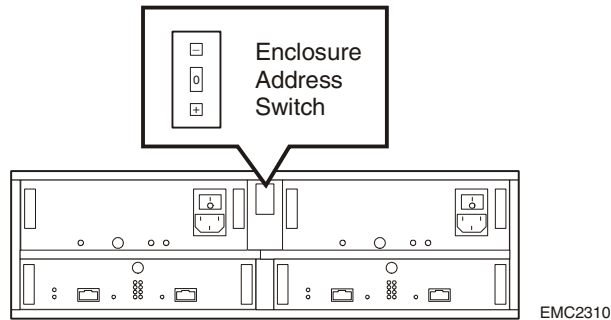
The standard 40U EMC cabinet includes two 240-volt ac power cables. To support all of the DAE2 high-availability features, you must connect each power outlet to a different circuit.

2. If you are connecting the DAE2 to a storage device such as a CX-Series storage processor enclosure (SPE), make sure the device is installed in the cabinet and set up. Refer to the Setup Guide or Hardware Reference for the device.
3. If you will use EMC ControlCenter Navisphere Manager to monitor DAE2 status, make sure that Navisphere Manager version 6.1 or higher is set up. Refer to the *EMC ControlCenter Navisphere Manager Revision 6.X Administrator's Guide* and the appropriate Release Notes as necessary.
4. If your DAE2 is not already installed in a cabinet, do so now. The *EMC Storage Systems 40U Cabinet Configuration Guide* describes how to install a 3U device like the DAE2 in EMC's standard cabinet.

You can add DAE2 enclosures to running storage systems without powering down the existing system.

Step 1

Set DAE2 Enclosure Address(es)



Set the enclosure address on each DAE2 *in a given loop* to a unique number. We strongly suggest that you number enclosures consecutively. Refer also to the illustrations on page 5 and page 6.

Step 2

Set Up Fibre Channel Loops

Connect multiple DAE2s in loops.

NOTE A Fibre Channel loop is sometimes called a *bus*.

Cable the expansion connector (EXP) of one DAE2 to the primary connector (PRI) of the next DAE2 you want on the loop.

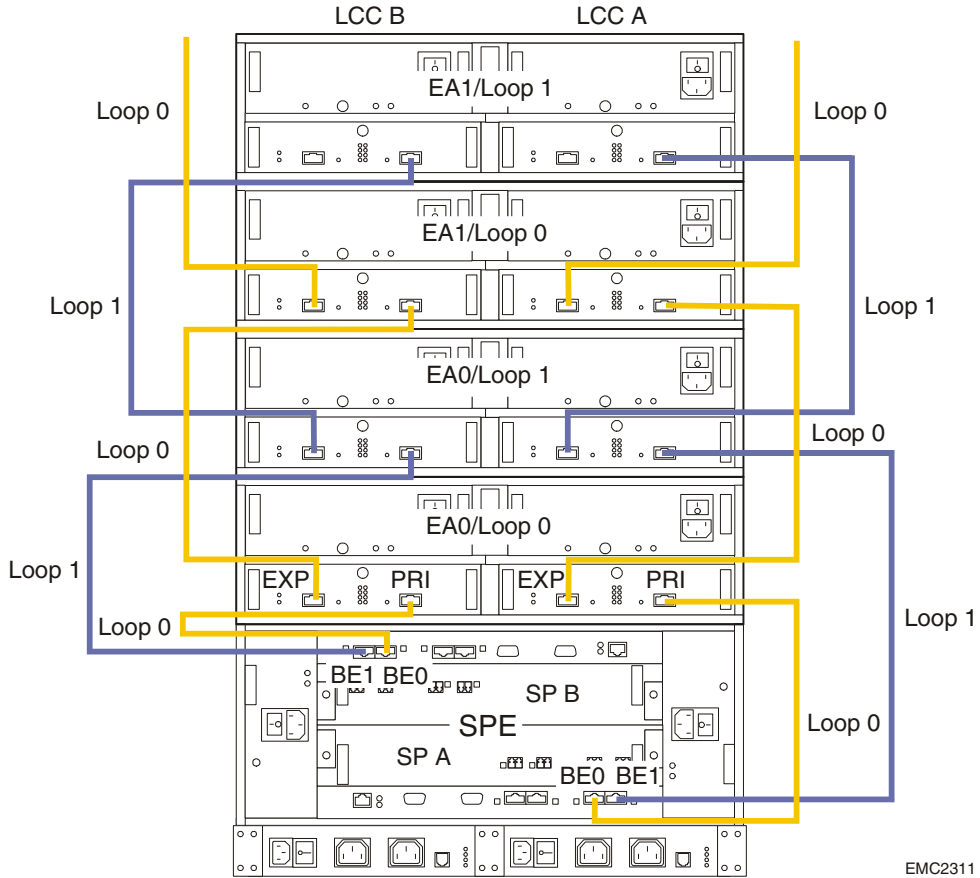
The primary connector of the first DAE2 in the loop is reserved for the storage device.

Refer to the illustrations on page 5 and page 6.

Step 2

Set Up Fibre Channel Loops (continued)

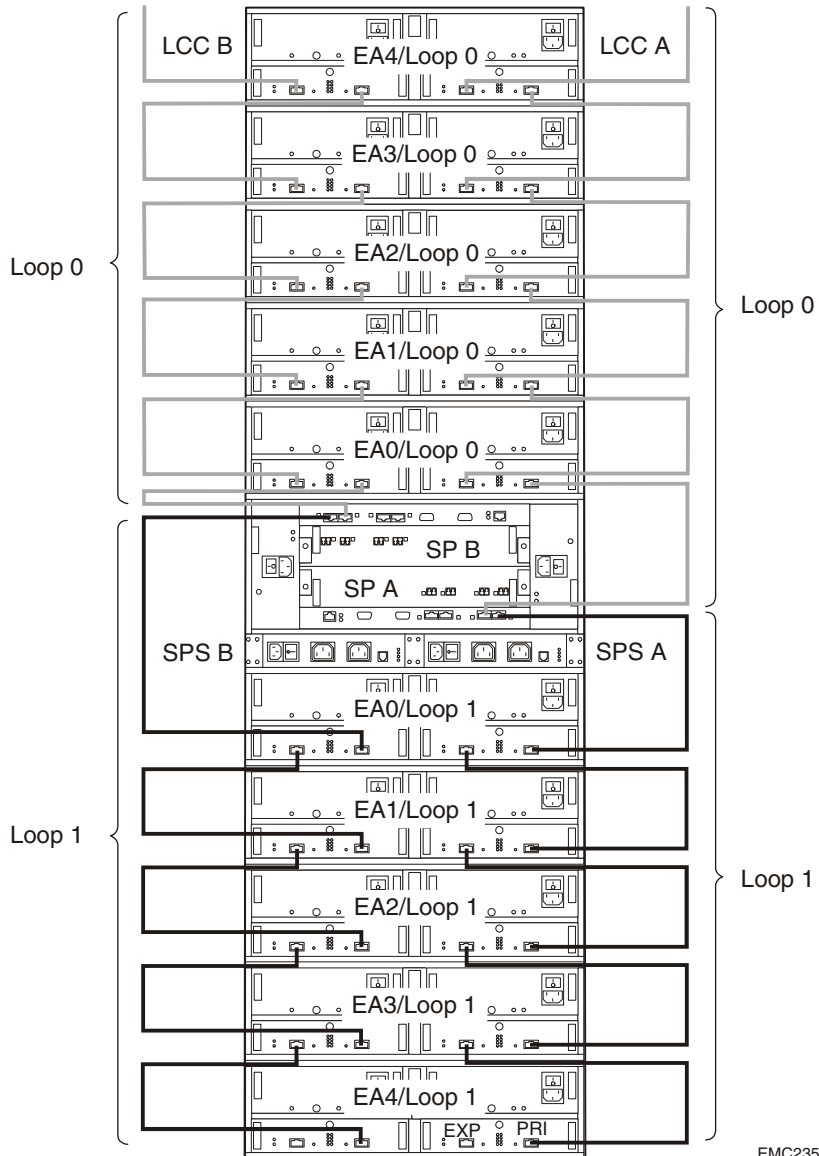
The example configuration below shows two redundant DAE2 loops connected to a Storage Processor Enclosure (SPE).



Step 2

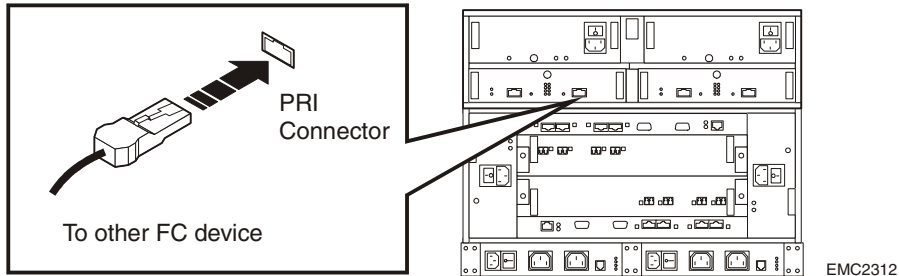
Set Up Fibre Channel Loops (continued)

The illustration below shows an example storage-system configuration with two redundant DAE2 loops segregated above and below the SPE.



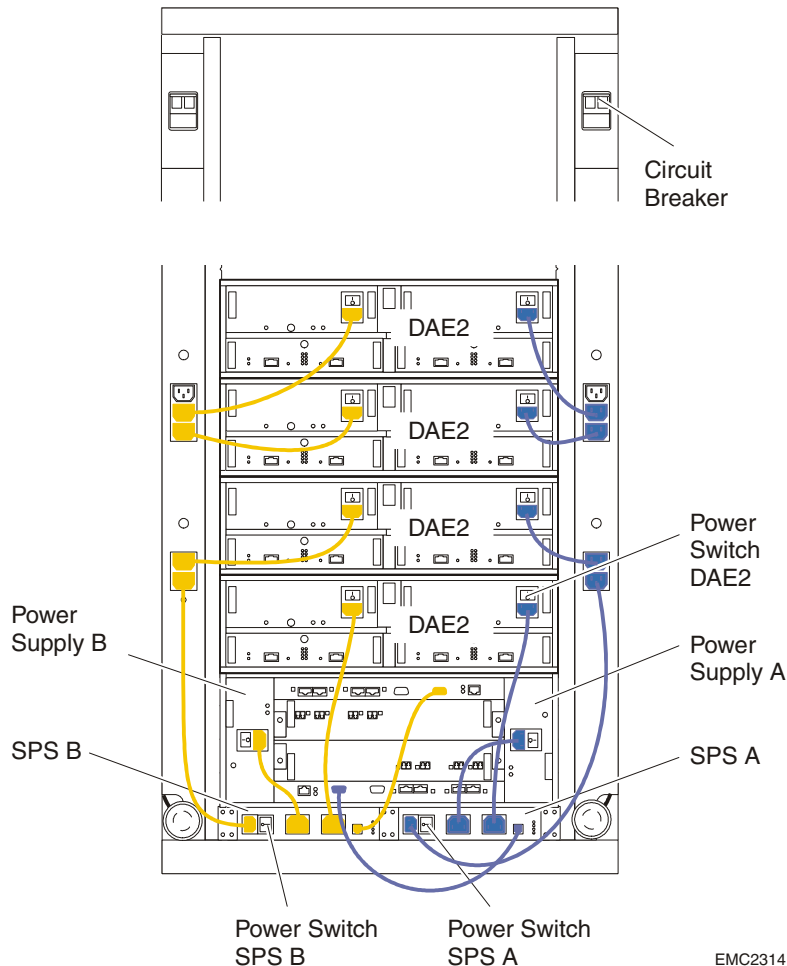
Step 3

Connect the DAE2 to a Storage Processing Device



1. If you are connecting the first DAE2 in a loop to a storage processing device
 - a. Plug one end of a copper cable into the primary (PRI) High Speed Serial Data Connector (HSSDC) connector on each Link Control Card (LCC) in the DAE2.
 - b. Plug the other end of the cables into the appropriate connector on the storage device. Refer to the Setup Guide or the Hardware Reference for the device.

Step 4 Connect DAE2 Power Cords



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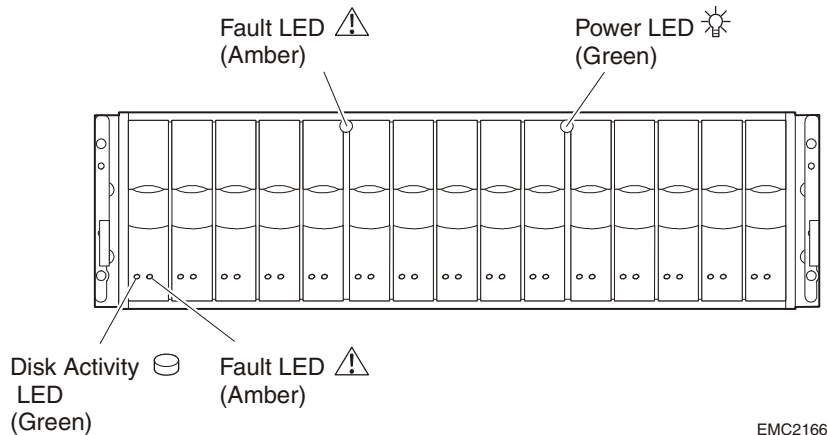
1. Connect one end of an ac power cable to the power connector on each DAE2 power supply.
2. Connect the other end of each ac power cable to the nearest power outlet in the cabinet. For high availability, connect the power supplies to opposing side power strips so they do not share a single circuit.

The highly available configuration example shown above supports write caching. It has two power strips and an SPE, and the first DAE2 is connected to a secondary power supply (SPS).

Step 5 Start DAE2s

1. Turn on the power for each DAE2 power supply.
2. If the cabinet power is not already on, be sure the other devices in the system are correctly installed and ready for powerup, then
 - a. Plug the two 240-volt ac power cables into the power outlets in your facility. We recommend connecting each power cable to a different branch circuit. *Both power cables must be connected to the appropriate power supply.* Connecting only one power source will degrade the DAE2's performance.
 - b. Turn on the circuit breakers on each of the cabinet's side power strips.

The green power lights on the front of the DAE2 chassis and on each disk drive indicate that power is on; an amber chassis light indicates a fault.



If an amber light on the front of a DAE2 is lit, make sure the DAE2 is correctly cabled, the enclosure addresses are correct, and the disks are completely seated. Then refer to the fault code explanations in Chapter 3 of the *DAE2 Hardware Reference*. If you cannot determine any reasons for errors, contact your DAE2 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.)

Your Next Step

Once your DAE2 is up and running, you can integrate the DAE2 into your existing storage system, or initialize a new system. Refer to the *EMC ControlCenter Navisphere Manager Version 6.X Administrator's Guide* or the appropriate checklist in the *EMC Installation Roadmap*.

EMC CLARiiON® setup and administration manuals are available on <http://powerlink.emc.com>. Once logged in to Powerlink, select **Services > Document Library > CLARiiON > CLARiiON Fibre Channel Storage (FC)**. For hardware and configuration manuals, select **CLARiiON FC Hardware** or **CLARiiON FC Core Software**, and for software manuals select **CLARiiON FC Software**.

These resources are available in case you encounter problems while setting up or using the DAE2.

For questions about	Use this resource	Find it here
<ul style="list-style-type: none">• Storage-system configurations• Configuration planning	<i>EMC Fibre Channel Storage System CX-Series Configuration and Planning Guide</i>	Accessories box and Powerlink: CLARiiON FC Hardware
<ul style="list-style-type: none">• Hardware component installation or maintenance	<i>EMC 2-Gigabit Disk Enclosure (DAE2) Hardware Reference Storage Processor Hardware Reference(s) as appropriate.</i>	Documentation CD and Powerlink: CLARiiON FC Hardware
<ul style="list-style-type: none">• Managing the storage system	<i>EMC ControlCenter Navisphere Manager Revision 6.X Administrator's Guide</i> and release notes	Documentation CD and Powerlink: CLARiiON FC Software
<ul style="list-style-type: none">• Last minute changes to documentation	Appropriate Release Notes for your operating system, application(s), and hardware environment	Powerlink: CLARiiON FC Software and CLARiiON FC Core Software

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.

