R/EVOLUTION™
RAPID EVOLUTION

2522/2532 Installation

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Revision A
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Dot Hill assumes that the person using these instructions is qualified in the servicing and installation of storage products.

Before you begin

- Verify that the installation site meets the enclosure's requirement for:
  - Space and airflow
  - Temperature
  - Power

  For detailed information regarding installation requirements, see 2522/2532 information within the web-posted *R/Evolution 2002 Series Setup Guide* (*setup guide* hereafter).

- Considering your system configuration and weight distribution in the rack or cabinet, determine where you will install each enclosure within the rack or cabinet.

- Confirm that you have cables of appropriate type and length (described herein) to connect to hosts and to power outlets.

⚠ **CAUTION:** Two people are needed to lift and move the enclosure. Use care to avoid injury.

⚠ **CAUTION:** Electrostatic discharge can damage sensitive components. Be sure you are properly grounded before touching a static-sensitive component or assembly.

Required tools

- #2 Phillips screwdriver
- Standard screwdriver
- Antistatic protection devices

Controller/drive enclosure installation hardware

- Controller enclosure
- Controller enclosure ear caps (2 per enclosure)
- Drive enclosure(s)
- Micro-DB9 serial cable (1 per controller module)
- Ethernet cables (1 per controller; *not* included)
- Power cords (2 per enclosure)
- SAS cables (1 per expansion module)

📝 **IMPORTANT:** Before installing, see the "Installation Checklist" in the web-posted setup guide.

1. Install and secure enclosures into the rack

Use the *R/Evolution Rackmount Bracket Kit Installation* instructions provided with your rail kit when installing and securing enclosures into the rack.

Rear panel rack mounted component locator view
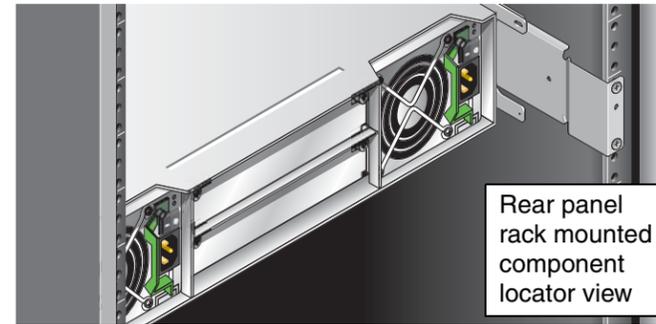
2. Install hardware options

Install any additional disk drives and options. Refer to the installation instructions provided with your option.

3. Cabling

Common cabling configurations address hosts, switches, controller modules (featuring Serial-attached SCSI (SAS) host interface protocol), and expansion modules.

Direct connection

The 2522 and 2532 each support four server connections, two per controller. Fault tolerance and performance requirements determine whether to optimize the configuration for high availability or high performance when cabling.

Connect the appropriate cable type from the host ports on each controller to the corresponding HBA on each server. Several examples follow.

One server/single path

Cable required: 1 - Serial-attached SCSI (Mini-SAS 4x)
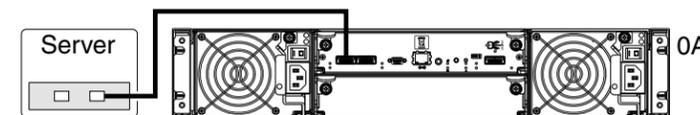
One server/dual path

Cables required: 2 - Serial-attached SCSI (Mini-SAS 4x)
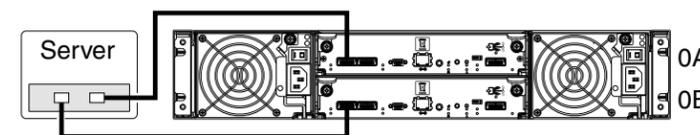
Two servers/dual path

Cables required: 4 - Serial-attached SCSI (Mini-SAS 4x)
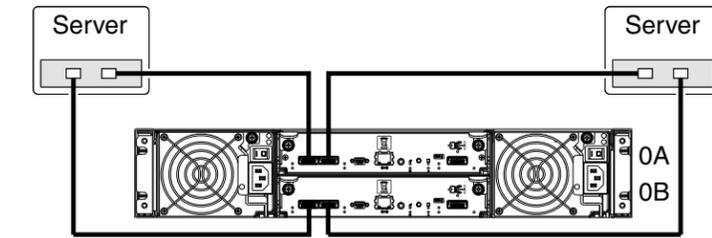

Switch connection

The 2522 and 2532 support four switch connections, two per controller. Connect SAS cables from controller host ports to switch ports, and from switch ports to hosts. See the web-posted setup guide for details.

Two servers/two switches

Cables required: 8 - Serial-attached SCSI (Mini-SAS 4x)
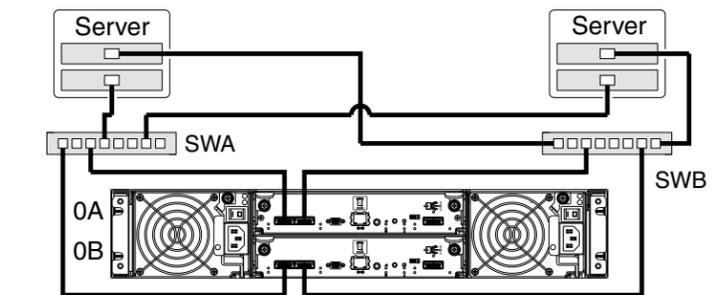
Connecting remote management hosts

The management host directly manages systems out-of-band over an Ethernet network:

1. Connect an Ethernet cable to the network port on each controller.

2. Connect the other end of each Ethernet cable to a network accessible by your management host (preferably on the same subnet).

Drive enclosure cable requirements

Follow the guidelines and cabling table below when installing SAS cables connecting controller and drive enclosures:

- Use R/Evolution or OEM-qualified SAS 4x cables with 3Gb connectors to connect a controller enclosure to drive enclosures as specified below:
  - Up to three 2122s per 2522/2532
  - Up to six 2130s per 2522
  - Up to seven 2130s per 2532

- You may need to order additional or longer cables if you are cabling a fault-tolerant configuration.

- Reverse cabling ensures the highest level of fault tolerance, enabling controllers to access remaining drive enclosures, if a drive enclosure fails.

SAS Cable Requirements

Item	2522	2532	2122	2130
2522	N/A	N/A	mini-SAS to mini-SAS	mini-SAS to SAS
2532	N/A	N/A	mini-SAS to mini-SAS	mini-SAS to SAS
2122	mini-SAS to mini-SAS	mini-SAS to mini-SAS	mini-SAS to mini-SAS	mini-SAS to SAS
2130	mini-SAS to SAS	mini-SAS to SAS	mini-SAS to SAS	SAS to SAS

Product Models:
2522 - Small form factor 24-drive controller enclosure (2.5")
2532 - Large form factor 12-drive controller enclosure (3.5")
2122 - Small form factor 24-drive enclosure (expansion)
2130 - Large form factor 12-drive enclosure (expansion)

Cable Designators:
Mini-SAS to mini-SAS denotes SFF-8088 to SFF-8088
Mini-SAS to SAS denotes SFF-8088 to 8470
SAS to SAS denotes 8470 to 8470

2522 or 2532 single-controller enclosure and one 2130 drive enclosure

Cable required: 1 per table above

Controller enclosure 0 — Controller A — 0A

Drive enclosure 1 — In — Out — 1A
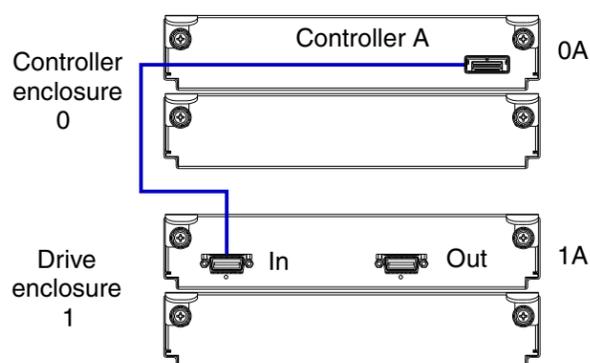
2522 or 2532 dual-controller enclosure and one 2122 drive enclosure

Cables required: 2 per table above

Controller enclosure 0 — Controller A — 0A — Controller B — 0B

Drive enclosure 1 — In — Out — 1A — In — Out — 1B
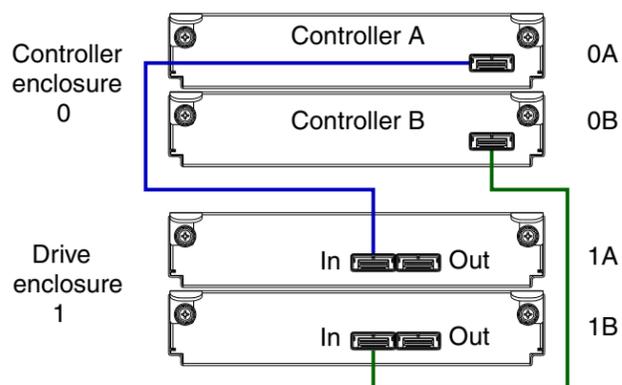
2522 or 2532 dual-controller enclosure and multiple 2130 drive enclosures

Cables required: 8 per table at left

Controller enclosure 0 — Controller A — 0A — Controller B — 0B

Drive enclosure 1 — In — Out — 1A — In — Out — 1B

Drive enclosure 2 — In — Out — 2A — In — Out — 2B

Drive enclosure 3 — In — Out — 3A — In — Out — 3B

Drive enclosure 4 — In — Out — 4A — In — Out — 4B
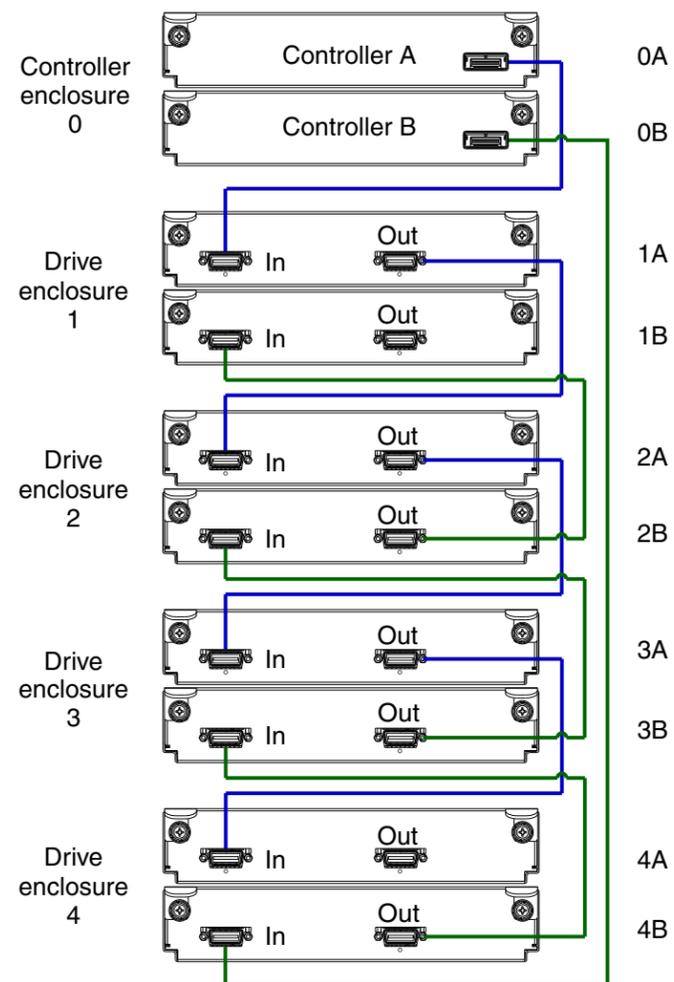
4. Power cords

IMPORTANT: See "Electrical Requirements" in the web-posted setup guide for additional information.

AC models

AC model PSU — Power switch — Power cord connect
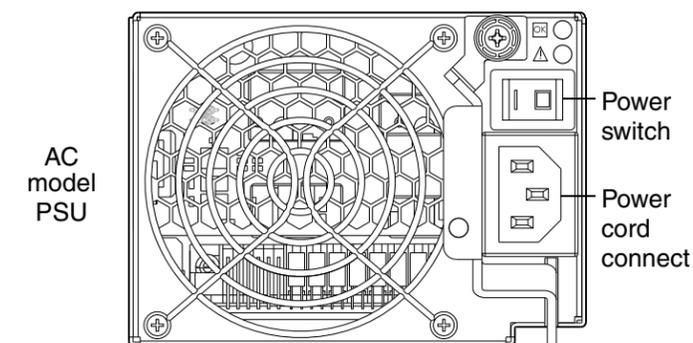
1. Turn off all power switches.

2. Using the provided AC power cords, connect each power supply module to one power source in the rack.

Power supply module — Rack power source
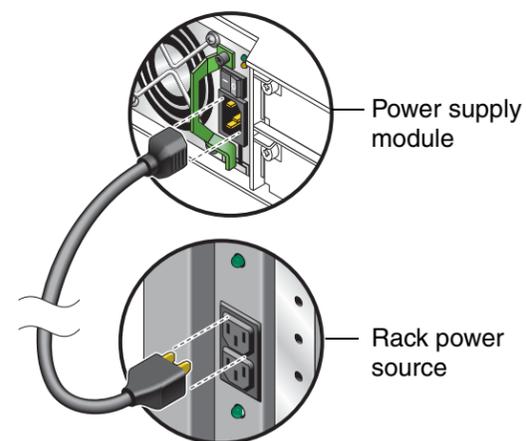
3. Connect the primary power cords from the rack to separate external power sources.

DC models

DC model PSU — Power switch — Power cable connect
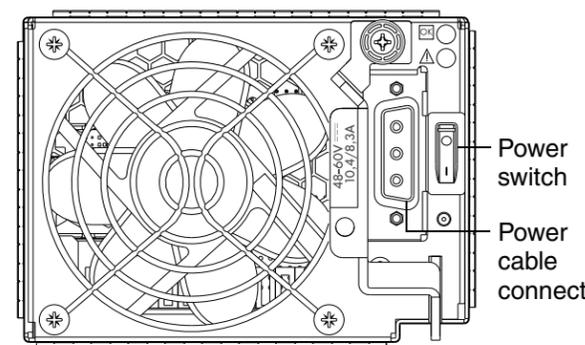
1. Before making any DC connections, shut off the main circuit breaker in the rack.

2. Turn off all enclosure power switches.

3. Connect a DC power cable to each power supply using the D-shell connector. Use the up arrow on the connector shell to ensure proper positioning.

UP ↑

4. Tighten the screws at the top and bottom of the shell, applying a torque between 1.7 N-m (15 lb-in) and 2.3 N-m (20 lb-in), to securely attach the cable to the DC power supply module.

5. To complete each required DC connection, secure the other end of each DC power cable to the target DC power source.
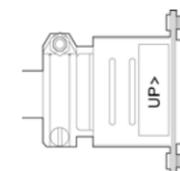
IMPORTANT: Check the DC cable labels before connecting each cable to its power source. One wire is labeled *ground*; the other two are labeled *positive* and *negative*.

6. Turn on the main circuit breaker to the rack.

5. Powering up

IMPORTANT: When powering up, make sure to power up the enclosures and servers in proper sequence.

Power up sequence:

• Drive enclosure(s) first;
• Controller enclosure(s) next;
• Switches (if applicable), followed by servers (if they are powered down for maintenance).

To power on the storage system:

1. Press the power switches on the back of each drive enclosure to the On position. Wait several minutes to ensure that all drives have had time to spin up, so that they can be recognized by the controller.

2. Press the power switches on the back of the controller enclosure to the On position.

6. Next steps

Perform the following steps to finish the installation and configure/provision the storage system:

1. Complete the hardware installation.

   For additional hardware installation information, see the web-posted setup guide.

2. Use the storage system's web-based management interface, RAIDar, to configure and provision the system.

   For information about accessing and using RAIDar, see the "Getting Started" section in the web-posted *R/Evolution 2002 Series RAIDar User Guide*. To sign in to RAIDar, use the default user name **manage** and password **!manage**.

   After signing in to RAIDar, you can use its online help as an alternative to consulting the user guide.

NOTE: For a complete list of related documentation, see the "Preface" in the web-posted setup guide.

See Dot Hill's customer resource center (CRC) web site for additional information crc.dothill.com. Select R/Evolution Products and go to R/Evolution 2002 Series.