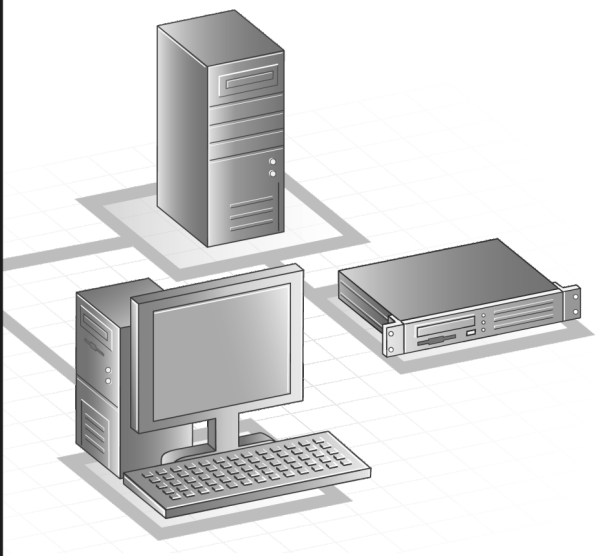
adaptec

2U Storage Enclosure Quick Install Guide

FS4100, FS4500, SC4100, and FC4100



Kit Contents

- Adaptec Storage Enclosure (FS4100, FS4500, SC4100, or FC4100)
- CD, including software, drivers, and documentation
- Two power cables

Note: Mounting rails for rack installations are sold separately. See your Adaptec reseller for purchase information.

Installation Checklist

- ❑ Read and follow the safety tips. See page 2.
- ❑ Install the enclosure in an equipment rack or tower assembly (*optional*.) See page 2.
- ❑ Install the drive carriers. See page 6.
- ❑ Set the drive slot and enclosure IDs. See page 7.
- ❑ Connect the I/O cables. See page 7.
- ❑ Connect the AC power cords to the APC modules. See page 11.
- ❑ Follow the instructions in *Next Steps* on page 11.

Safety Tips

Caution: A fully loaded enclosure is heavy. Reduce the weight of the enclosure by removing the drive carriers before installing the enclosure in the rack or tower. (You can also remove the two APCs to further reduce the weight, if required. See the *Adaptec Storage Enclosure Installation and User's Guide* on the CD for instructions.)

Caution: To prevent personal injury, have someone assist you during rack installation.

Caution: If you are installing your enclosure in a rack, prevent personal injury and equipment damage by following the rack manufacturer's safety instructions. Install your enclosure *only* in a rack that has been properly secured in an area with suitable environmental conditions.

Step 1: Installing into a Rack or Tower (optional)

Note: Mounting rails for rack installation are sold separately. To purchase a rail kit, see your Adaptec reseller.

Required tools:

- Phillips-head screwdriver
- Wrench for tightening nuts (if your rack does not have threaded holes)

If you are not installing your Storage Enclosure into a rack or tower, skip to *Step 2: Installing the Drive Carriers* on page 6.

- To install your Storage Enclosure into an rack, see page 3.
- To install your Storage Enclosure into a tower assembly, see page 5.

Installing into an Equipment Rack

Begin the installation by removing the components from the packaging and placing them on an antistatic surface until you need them.

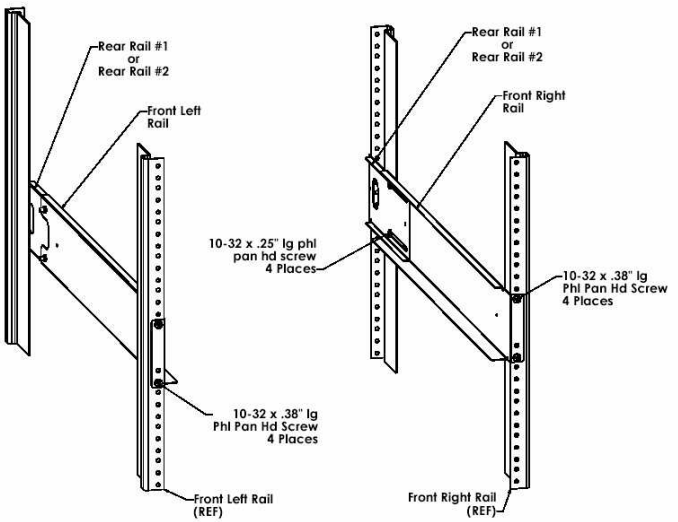
Ensure that you have all these rail kit components:

- Front rails (1 left, 1 right)
- Rear rails, two different sizes (2 left, 2 right)
- Two sizes of screws (10 large, 4 small)
- Two types of nuts (10 of each)

To install your Storage Enclosure in an equipment rack:

1 Secure the front rails to the front supports of the rack, using the supplied screws, as shown below.

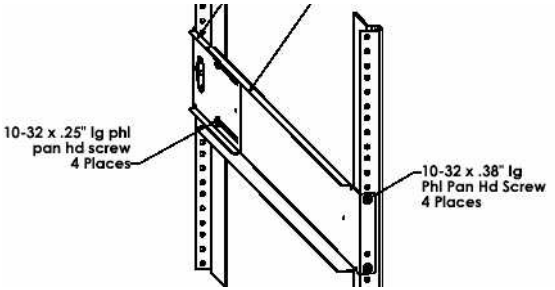
Note: Use either the speednuts or cagenuts provided if your rack does not have threaded holes.



2 Check the length between the front and rear supports of your equipment rack and determine which set of rear rails to use, the long or the short.

3 Secure the rear rails you selected to the rear supports of the equipment rack, using the supplied screws, as shown in the Figure in Step 1 on page 3.

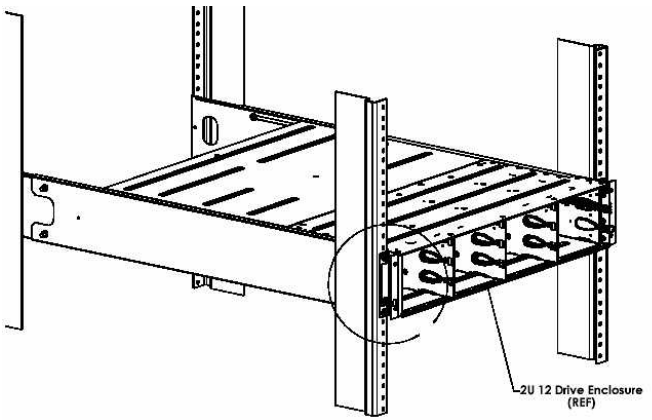
4 Secure the front rails to the rear rails, as shown below.



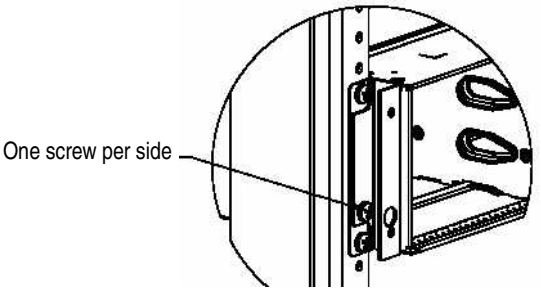
5 Tighten all the screws before continuing.

6 With assistance from a second person, lift the Storage Enclosure and slide the rear of the enclosure onto the rails. Slide the enclosure all the way back until it rests completely on the rails, as shown in the Figure below.

You can choose to have someone continue to support the enclosure until it is secured in the rack, although this extra support is not required.



7 Secure the front of the enclosure with one screw on each side, as shown in the next Figure.



The equipment rack installation is complete. Continue with *Step 2: Installing the Drive Carriers* on page 6.

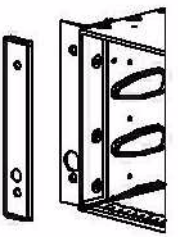
Installing into a Tower Assembly

A tower assembly is also referred to as a deskside assembly or pedestal.

Caution: *Do not* modify the tower assembly. The feet are designed to keep the tower from tipping over. Do not remove the acoustic foam inside the tower skin assembly.

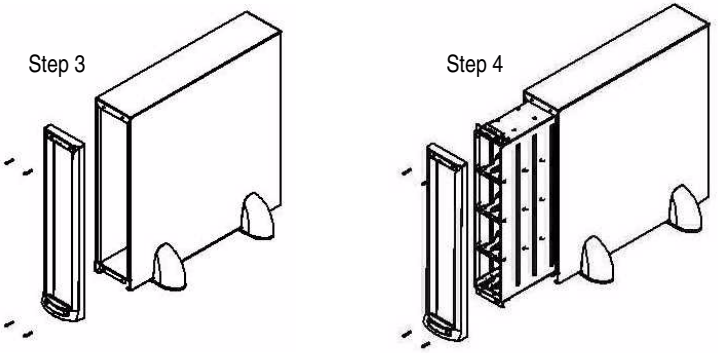
1 If the Storage Enclosure is already set up and running, shut down the enclosure and remove all cables and power cords. You can remove all the drive carriers and both APCs to reduce the weight of the enclosure, if required.

If the enclosure is in an equipment rack, remove the two screws holding it in place at the front, then slide the enclosure out of the rack. Remove both the right and left rack mount ear plastic covers (shown at right), as they are no longer needed. (They can be removed by pressing on the plastic inserts from the backside of the rack mount ear or pried off with a screwdriver).



2 Unpack the tower and inspect it for shipping damage. *Do not* install the enclosure into a damaged or bent tower assembly.

3 Remove the tower's front bezel, as shown below, saving the screws for use in Step 5.



4 Turn the enclosure 90° so that the right hand rack mount ear and LEDs are on top, then slide the Storage Enclosure into the tower skin, as shown above.

5 Replace the front bezel, using the screws removed in Step 3.

6 Install the tower labels at the top and bottom of the tower. Align the holes in the top label with the LEDs on the enclosure.

7 Replace the drive carriers and APCs, if necessary.

The tower assembly installation is complete. Continue with *Step 2: Installing the Drive Carriers*, below.

Step 2: Installing the Drive Carriers

These instructions assume that the drive carriers have already been attached to your disk drives.

Caution: Acclimate new disk drives to room temperature before you install them and power up the Storage Enclosure.

To install the drive carriers into the Storage Enclosure:

1 Hold the drive carrier with the LEDs on the left side (at the bottom for tower-mounted systems) and select an open disk drive slot.

Note: It is easiest to install the drive carriers from left to right on the Storage Enclosure.

2 With the cam lever of the drive slot fully open, slide the carrier into the slot until the lever starts to close.

3 Push the cam lever until it engages the latch on the left side of the carrier assembly and clicks into place.

4 Repeat for all drive carriers.

Note: Either a drive carrier or a carrier blank must be installed in all the slots of the enclosure to maintain proper airflow and cooling.

When all drive carriers are installed, continue with *Step 5: Connecting Power Cords to the APC Modules.*

Step 3: Setting the Drive Slot and Enclosure IDs

Each drive slot has a unique ID assigned to it. The IDs are assigned by a combination of enclosure ID and slot number.

Enclosure IDs must be assigned before the unit is powered on. You set the enclosure ID to any number on the ID switch of the ES module. The ES module is located on the rear of the Storage Enclosure, between the two APC modules.

Slot numbers are preassigned.

Note: The enclosure ID numbers available on the ID switch vary by enclosure model, and are not available on the SC4100. For detailed information about your specific Storage Enclosure, refer to the *Adaptec 2U Storage Enclosure Installation and User's Guide* on the CD.

Step 4: Connecting the I/O Cables

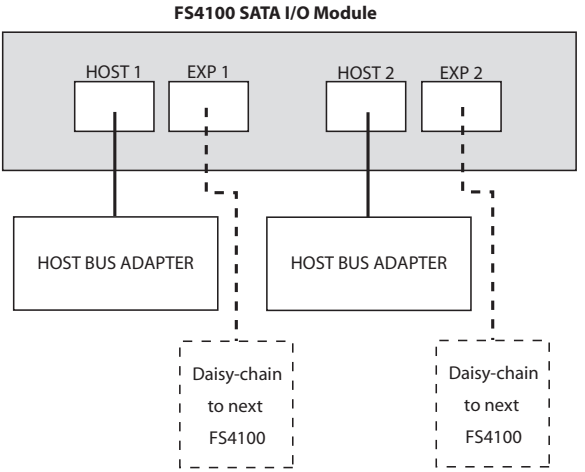
To connect the I/O cables to your Storage Enclosure, follow the instructions provided for your specific Storage Enclosure interface:

- For a SATA interface (Adaptec FS4100 or FS4500), see page 8.
- For an FC interface (Adaptec FC4100), see page 9.
- For an Ultra320 SCSI interface (Adaptec SC4100), see page 10.

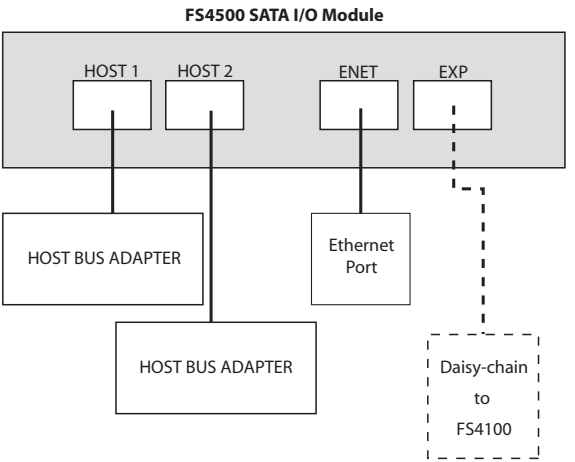
Connecting SATA Cables

The FS4100 and FS4500 Storage Enclosures have removable Small Form-factor Pluggable (SFP) connectors that support copper or optical cables. Ensure that you have the appropriate SFP installed for your cables. See the *Adaptec 2U Storage Enclosure Installation and User's Guide* on the CD for more cabling information and for daisy-chaining instructions.

JBOD Configuration (FS4100)



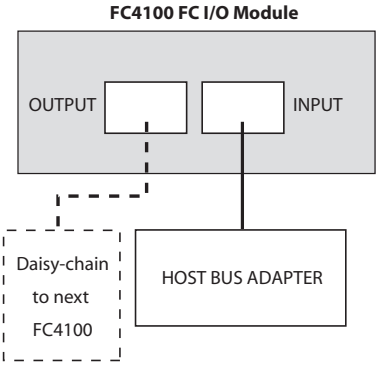
RAID Configuration (FS4500)



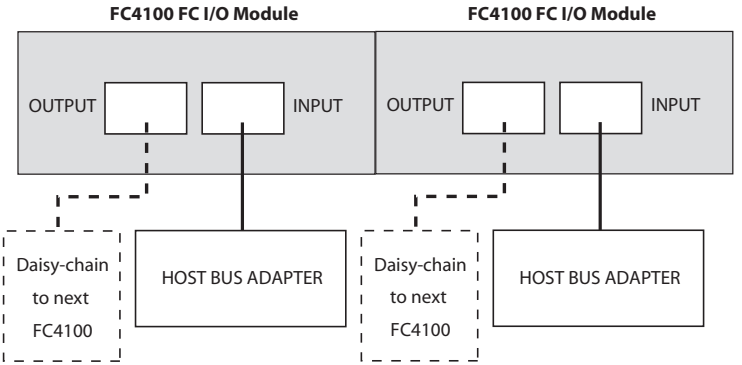
Connecting FC Cables

The FC4100 Storage Enclosure has removable Small Form-factor Pluggable (SFP) connectors that support copper or optical cables. Ensure that you have the appropriate SFP installed for your cables. See the *Adaptec 2U Storage Enclosure Installation and User's Guide* on the CD for more cabling information and for daisy-chaining instructions.

Single Loop Configuration



Dual Loop Configuration

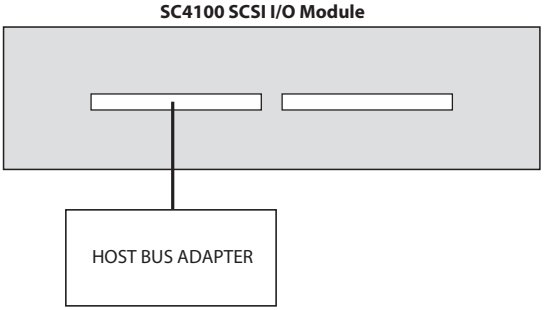


Connecting Ultra320 SCSI Cables

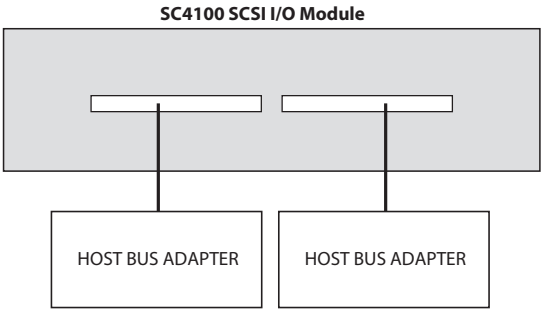
See the *Adaptec 2U Storage Enclosure Installation and User's Guide* on the CD for supported cable lengths and additional cabling information.

Caution: Use only Ultra320 certified cables. Ultra160 certified cables are not supported by the Adaptec SC4100 Storage Enclosure.

Single Bus Configuration



Dual Bus Configuration



Step 5: Connecting Power Cords to the APC Modules.

Connect one of the supplied power cords to each of the APC modules and to a grounded power outlet.

Caution: Always use a regulating uninterruptible power supply (UPS) to protect your Storage Enclosure.

Next Steps

See the *Adaptec 2U Storage Enclosure Installation and User's Guide* on the CD for instructions on how to complete these final installation and set-up tasks for your specific Storage Enclosure model:

- Powering on your system and configuring your enclosure.
- Installing the storage management software:
  - The FS4100, FC4100, and SC4100 Storage Enclosures are managed with Adaptec Storage Examiner software. (Refer to the *Adaptec Storage Examiner User's Guide* on the CD included with your kit for detailed usage instructions.)
  - The FS4500 Storage Enclosure is managed with Spheras RAIDWatch software. (Refer to the *Spheras RAIDWatch User's Guide* on the CD included with your kit for detailed usage instructions.)

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