Drive Module

Site Preparation Guide

DF1153-E1, First Edition



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This document describes models E3300, FC-1 10x, FC-1 14x, E2400 10x, and E2400 14x of LSI Logic Corporation's drive modules and command modules and will remain the official reference source for all revisions/releases of this product until rescinded by an update.

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Drive Module Site Preparation Guide

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About This Book

This book provides technical specifications and information you will need to prepare a site before installing the following hardware:

- E3300 Drive Module containing up to ten drives and one low-voltage-differential- tosingle-ended environmental services monitor (LVD-SE ESM),
- E3300 Drive Module containing up to ten drives and one LVD-LVD ESM
- FC-1 10x Drive Module containing up to ten drives and one or two Fibre-Channel-to-Fibre-Channel (FC-FC) ESMs
- E2400 10x Command Module containing up to ten drives and one or two 2772 controllers
- FC-1 14x Drive Module containing up to fourteen drives and one or two FC-FC ESMs
- E2400 14x Command Module containing up to fourteen drives and one or two 2772 controllers

Intended Readers

This book is intended for end users, system operators, system administrators, and service technicians who are responsible for preparing and installing hardware. Readers should understand the following technologies:

- Redundant array of independent disk (RAID)
- Small computer systems interface (SCSI)
- Fibre Channel

Content and Organization

Site preparation information covered in this book includes:

- Area requirements drive module and E2400 command module weight, dimensions, and airflow to help you determine installation, service, and operating floor space requirements
- Environmental requirements temperature, humidity, and altitude ranges to help you determine heating and air conditioning requirements
- **Power requirements** drive module E2400 command module voltages and power requirements to help you prepare the site wiring
- Interface requirements interface cable types and lengths to help you determine which cables to order

Terminology Used in This Book

The following table contains a list of terminology and definitions that are unique to the products supported in this documentations set. For additional information on terminology and concepts, see *Understanding SANtricity* Storage Manager Concepts Guide for Version 7.10.

..... About This Book

Table 1 Unique Terminology and Concepts

Term	Definition	Usage Examples
canister	Portable, removable container for components. Also known as <i>CRU</i> .	controller canister
command module	Compact unit that contains one or two controllers, power supplies, and fans. Note: The E2400 command module also contains disk drives. Also known as controller module or controller tray.	command module
drive module	Compact unit that contains disk drives, power supplies, one or two ESMs, and fans. Also known as drive tray or expansion drive module.	drive module
ESM	Environmental Services Monitor. Interface board that provides interface connections between the drive modules and the SCSI bus, and environmental information about the drive module to the host. Also known as ESM CRU, ECC, or environmental card.	ESM canister
GBIC	Gigabit interface converter. A device used in Fibre Channel networks to convert copper fibre signals to fiber optic and vice versa.	copper GBIC minihub copper GBIC module optical GBIC minihub optical GBIC module
light	Lights that glow or blink to indicate either a normal operating status or hardware error. <i>Also known as LEDs.</i>	indicator light Power light Fault light

Documentation Set

The *Drive Module Site Preparation Guide* is part of a documentation set that provides planning, installation, operation, and servicing information for SANtricity™ Storage Manager software, command modules (E3300, E4400), drive modules (E3300, FC-1 10x, FC-1 14x) and command modules (E2400 10x, E2400 14x). The documentation set includes:

General Documentation

- Roadmap.pdf file contains descriptions of and hyperlinks to the Adobe® Portable
 Document Format (PDF) files that are stored on the software compact disk (CD). PDFs
 are electronic versions of this document set.
- Product Release Notes for SANtricity[™] Storage Manager contains important information about the CD contents, known restrictions and workarounds, and last minute updates to the product documentation. This guide is shipped in printed form only.

Hardware Documentation

- *Command Module Site Preparation Guide* contains site requirements and other technical information for preparing the building for a command module installation.
- Command Module and Drive Module Installation Guide contains step-by-step instructions for installing deskside and rackmount command modules, drive modules, and E2400 command modules, including switch setting information and cabling routing examples.
- Command Module User Guide contains model specifications and step-by-step instructions for operating, upgrading, maintaining, and servicing the command module and its components.
- Drive Module User Guide contains model specifications and step-by-step instructions for operating, upgrading, maintaining, and servicing the drive module, E2400 command modules, and their components.

Software Documentation

- Storage System Planning Guide contains technical information and planning worksheets to help you prepare for software installation.
- $SANtricity^{TM}$ Storage Manager Installation Guide for Version 7.10 contains step-by-step instructions for installing and upgrading the storage management software.
- Understanding SANtricity[™] Storage Manager Concepts Guide for Version 7.10 contains explanations of the storage management software terminology, concepts and features.

Preparatory Tasks

Before starting the installation process, you should complete the following tasks:

- Make sure that the installation site meets all area, environmental, and power requirements discussed in this book.
- Order all necessary equipment and kits, including:
 - Hosts and host adapters
 - Interface cables
 - Mounting hardware and blank panel kits (for rackmount installations only)
- Install all applicable hosts, host adapters, and command modules.
- If you are preparing a rackmount installation, move the rackmount cabinet to its final location and install all optional equipment (support rails, panels, command modules, etc.). Route all power and auxiliary cables in the cabinet.
- Attach the interface cables to the appropriate command modules and route them to the area in which you intend to install the drive modules.

Tools and Equipment You May Need

To complete the installation procedure, you need the following items:

- Two power cords (shipped with unit)
- Screwdrivers and wrenches (various sizes)
- Antistatic protection (such as a grounded wrist strap)
- Interface cables, terminators, and tie wraps
- Mounting hardware (for rackmount installations only)
- Table or cart (optional)
- Storage management software (to configure the disk array)

Area Requirements

The floor space at the installation site must provide:

- Enough stability to support the weight of the drive module or E2400 command module, and associated equipment (see "Weights" on this page)
- Sufficient space to install, operate, and service the drive module or E2400 command module (see "Dimensions" on page 12 and "Airflow" on page 16)

Weights

The drive module's or E2400 command module's total weight depends on the number of components installed in the chassis. Refer to the following weight tables for information on each model:

- E3300 drive module see Table 2 on page 7
- FC-1 10x drive module see Table 3 on page 8
- E2400 10x command module see Table 4 on page 9
- FC-1 14x drive module see Table 5 on page 10
- E2400 14x command module see Table 6 on page 11

Table 2 E3300 Drive Module Weight Table

Unit	Maximum ¹ Unit Weight	Empty ² Unit Weight	Shipping ³ Weight
Drive Module , deskside, Low Profile (LP) 18 GB or 36 GB drives	46.4 kg (102.1 lb)	25.95 kg (57.04 lb)	59.0 kg (130.1 lb)
Drive Module, deskside, Half Height (HH) 36 GB or 73 GB drives	49.66 kg (109.5 lb)	25.91 kg (57.04 lb)	62.4 kg (137.5 lb)
Drive Module , rackmount, LP 18 GB and 36 GB drives	34.6 kg (76.2 lb)	10.18 kg (23.74 lb)	47.3 kg (104.3 lb)
Drive Module, rackmount, HH 36 GB or 73 GB drives	37.9 kg (83.6 lb)	14.15 kg (31.14 lb)	50.7 kg (111.7 lb)
LP Drive, 18 GB or 36 GB	1.06 kg (2.34 lb)		
HH Drive, 36 GB or 73 GB	1.4 kg (3.08 lb)		
ESM	2.77 kg (6.1 lb)	Not Applicable	
Power Supply	2.3 kg (5.0 lb)		
Fan	1.0 kg (2.3 lb)		

¹ Maximum weight equals a drive module with all canisters installed (fully loaded).

² Empty weight equals a drive module chassis with all canisters removed.

 $^{^3}$ Shipping weight equals the maximum weight of the drive module, plus all shipping materials.

Table 3 FC-1 10x Drive Module Weight Table

Unit	Maximum Unit Weight ¹	Empty Unit Weight ²	Shipping Weight ³
Drive Module , deskside, LP 18 GB or 36 GB drives	44.5 kg (98.0 lb)	23.6 kg (52.0 lb)	59.0 kg (130.0 lb)
Drive Module, deskside, HH 36 GB or 73 GB drives	47.8 kg (105.0 lb)	23.6 kg (52.0 lb)	62.4 kg (137.0 lb)
Drive Module , rackmount, LP 18 GB and 36 GB drives	38.3 kg (84.4 lb)	12.7 kg (28.0 lb)	43.5 kg (96.0 lb)
Drive Module, rackmount, HH 36 GB or 73 GB drives	41.7 kg (92.0 lb)	12.7 kg (28.0 lb)	47.0 kg (103.6 lb)
LP Drive, 18 GB or 36 GB	1.06 kg (2.34 lb)		•
HH Drive, 36 GB or 73 GB	1.4 kg (3.08 lb)		
ESM	1.7 kg (3.8 lb)		
Power Supply	2.3 kg (5.0 lb)		
Fan	1.0 kg (2.3 lb)		

¹ Maximum weight equals a drive module with all canisters installed (fully loaded).

² Empty weight equals a drive module chassis with all canisters removed.

³ Shipping weight equals the maximum weight of the drive module, plus all shipping material.

Table 4 E2400 10x Command Module Weight Table

Unit	Maximum Unit Weight ¹	Empty Unit Weight ²	Shipping Weight ³
Command Module, deskside, LP 18 GB or 36 GB drives	45.0 kg (99.2 lb)	23.6 kg (52.0 lb)	59.0 kg(130.1 lb)
Command Module, deskside, HH 36 GB or 73 GB drives	48.6 kg (107.2 lb)	23.6 kg (52.0 lb)	62.6 kg (138.1 lb)
Command Module, rackmount, LP 18 GB and 36 GB drives	38.9 kg (86.4 lb)	17.8 kg(39.2 lb)	44.1 kg (98.0 lb)
Command Module, rackmount, HH 36 GB or 73 GB drives	42.3 kg (94.0 lb)	17.8 kg (39.2 lb)	47.5 kg (105.6 lb)
LP Drive, 18 GB or 36 GB	1.06 kg (2.34 lb)		
HH Drive, 36 GB or 73 GB	1.4 kg (3.08 lb)		
Controller	2.2 kg (4.8 lb)		
Power Supply	2.3 kg (5.0 lb)		
Fan	1.0 kg (2.3 lb)]	

¹ Maximum weight equals a command module with all canisters installed (fully loaded).

² Empty weight equals a command module chassis with all canisters removed.

³ Shipping weight equals the maximum weight of the command module, plus all shipping materials.

Table 5 FC-1 14x Drive Module Weight Table

Unit	Maximum Unit Weight ¹	Drive-Ready Unit Weight ²	Shipping Weight ³
Drive Module , rackmount, LP 18 GB and 36 GB drives	40.02 kg (87.12 lb)		46.94 kg (103.92 lb)
		30.5 kg (66.4 lb)	37.44 kg (83.2 lb)
LP Drive, 18 GB or 36 GB	1.0 kg (2.2 lb)		
LP Drive, Blank Canisters	0.32 kg (0.72 lb)		
ESM	1.67 kg (3.7 lb)		
Power Supply	2.49 kg (5.5 lb)		
Fan	1.0 kg (2.2 lb)		

¹ Maximum weight equals a drive module with all canisters installed (fully loaded).

 $^{^2\,\,}$ Drive-ready weight equals a drive module chassis with blank (empty) drive canisters and all remaining canisters installed.

Shipping weight equals the maximum or drive-ready weight of the drive module, plus all shipping material.

Table 6 E2400 14x Command Module Weight Table

Unit	Maximum Unit Weight ¹	Empty Unit Weight ²	Shipping Weight ³
Command Module, deskside, LP 18 GB or 36 GB drives	45.0 kg (99.2 lb)	23.6 kg (52.0 lb)	59.0 kg(130.1 lb)
Command Module, rackmount, LP 18 GB and 36 GB drives	40.95 kg (90.5 lb)	15.11 kg (33.54 lb)	47.25 kg (105.0 lb)
LP Drive, 18 GB or 36 GB	1.06 kg (2.34 lb)		
Controller	2.2 kg (4.8 lb)		
Power Supply	2.3 kg (5.0 lb)		
Fan	1.0 kg (2.3 lb)		

¹ Maximum weight equals a command module with all canisters installed (fully loaded).

² Empty weight equals a command module chassis with all canisters removed.

³ Shipping weight equals the maximum weight of the command module, plus all shipping materials.

Dimensions

Refer to one of the following figures for dimensional measurements of each model of the drive module, E2400 command module, and shipping cartons:

- E3300 drive module see Figure 1 on page 13
- FC-1 10x drive module see Figure 2 on page 14
- E2400 10x command module see Figure 2 on page 14
- E2400 14x command module see Figure 3 on page 15
- FC-1 14x drive module see Figure 3 on page 15
- Shipping cartons see Table 7 on page 15

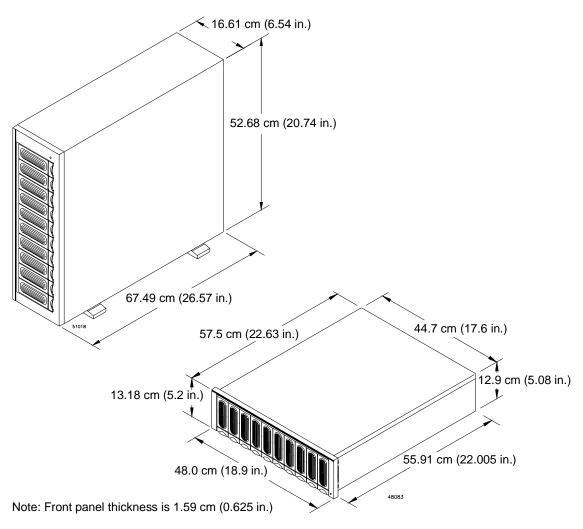


Figure 1 E3300 Drive Module Dimensions

16.6 cm (6.5 in.)

52.7 cm (20.7 in.)

56.0 cm (22.0 in.)

44.7 cm (17.6 in.)

12.9 cm (5.08 in.)

Figure 2 FC-1 10x Drive Module and E2400 10x Command Module Dimensions

1.59 cm (0.625 in.)

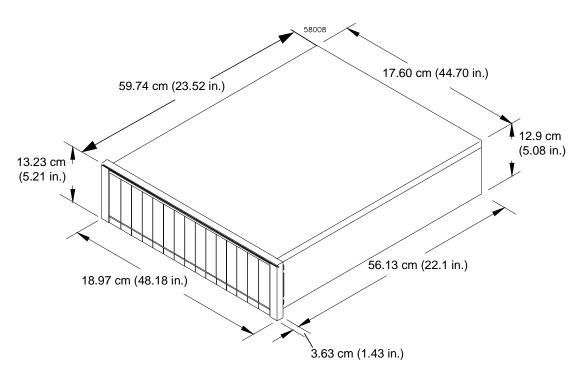


Figure 3 FC-1 14x Drive Module and E2400 14x Command Module Dimensions

Table 7 Shipping Carton Dimensions

Unit	Carton Height	Carton Width	Carton Depth
E3300 Deskside and Rackmount	38.1 cm (15.0 in.)	61.4 (24.0 in.)	83.2 cm (32.7 in.)
FC-1 10x Deskside and Rackmount	38.1 cm (15.0 in.)	61.4 (24.0 in.)	83.2 cm (32.7 in.)
E2400 10x Deskside and Rackmount	38.1 cm (15.0 in.)	61.4 (24.0 in.)	83.2 cm (32.7 in.)
FC-1 14x Rackmount	44.45 cm (17.5 in.)	62.23 (24.5 in.)	74.93 cm (29.5 in.)
E2400 14x Rackmount	44.45 cm (17.5 in.)	62.23 (24.5 in.)	74.93 cm (29.5 in.)

Airflow

Figure 4 shows the airflow direction through a drive module or E2400 command module. Allow at least 2 feet of clearance in front of and behind the drive module for proper ventilation.

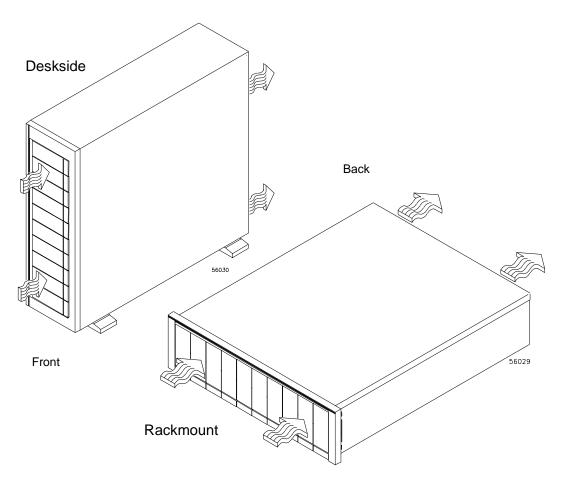


Figure 4 Drive Module or E2400 Command Module Airflow

Environmental Requirements

Table 8 Drive Module and E2400 Command Module Environmental Requirements

Element	Unit of Measure	E3300 and FC-1 10x Requirement	FC-1 14x and E2400 14x Requirement
	Optimum	22° C (72° F)	22° C (72° F)
	Operating Range	10° C to 40° C (50° F to 104° F)	10° C to 40° C (50° F to 104° F)
Temperature	Storage Range	-10° C to 50° C (14° F to 120° F)	-10° C to 50° C (14° F to 120° F)
	Transit Range	-40° C to 60° (-40° F to 140° F)	-40° C to 60° C (-40° F to 140° F)
Temperature	Operating Range	10° C (18° F) per hour	10° C (18° F) per hour
Change	Storage Range	15° C (27° F) per hour	15° C (27° F) per hour
(Max. Allowed)	Transit Range	20° C (36° F) per hour	20° C (36° F) per hour
	Operating Range	20% to 80%	20% to 80%
	Storage Range	10% to 90%	10% to 90%
Relative Humidity (No Condensation)	Transit Range	5% to 95%	5% to 95%
(110 condensation)	Max. Dew Point	26° C (79° F)	26° C (79° F)
	Max. Gradient	10% per hour	10% per hour
Sound	Sound Power	6.0 bels	6.0 bels
Sound	Sound Pressure	60 dBA	60 dBA
	Operating Range	30.5 m (100 ft.) below sea level 3000 m (9840 ft.) above sea level	
Altitude ¹	Storage Range	30.5 m (100 ft.) below sea level 3000 m (9840 ft.) above sea level	
	Transit Range	30.5 m (100 ft.) below sea level 12,000 m (40,000 ft.) above sea level	

 $^{^1}$ If you plan to operate the drive module or E2400 command module at altitudes between 1000 m (3280 ft.) and 3000 m (9850 ft.), lower the environmental temperature 1.7 $^{\circ}$ C (3.3 $^{\circ}$ F) for every 1000 m (3280 ft.) above sea level.

Table 9 Drive Module and E2400 Command Module Heat Dissipation

Unit	Heat Dissipation LP 18 GB and 36 GB Drives	Heat Dissipation HH 36 GB and 73 GB Drives
E3300	673.0 Btu/hr (0.199 kVA or 197.0 W)	826.0 Btu/hr (0.244 kVA or 241.0 W)
FC-1 10x	1036.0 Btu/hr (0.31 kVA or 303.0 W)	1070.0 Btu/hr (0.33 kVA or 313.0 W)
E2400 10x	1187.0 Btu/hr (0.35 kVA or 347.0 W)	1221.0 Btu/hr (0.37 kVA or 357.0 W)

Site Wiring Requirements

Review the following information when preparing the drive module or E2400 command module installation site.

- Earth ground The unit must be properly grounded, including an earth ground conductor on the AC power source.
- Circuit overloading Make sure the power circuits and associated circuit breakers in the cabinet and building provide sufficient power and overload protection. To prevent possible damage to the unit, isolate its power source from large switching loads (such as air conditioning motors).
- **Power interruptions** The drive module or E2400 command module will withstand the following applied voltage interruptions:
 - Input transient: 50% of nominal voltage
 - Duration: one half cycle
 - Minimum frequency: once every 10 seconds
- Power failures Once power is restored after a complete power failure, the unit automatically performs a power-up recovery sequence without operator intervention.

Site Wiring and Voltages

The drive modules and E2400 command module use wide-ranging, redundant power supplies that automatically match voltages to the AC power source. They are a 120/220 VAC, 50/60 Hz units that meet standard voltage requirements for both domestic (USA) and international (outside USA) operation. They use standard industrial wiring with a line-to-neutral or line-to-line power connections (Table 10).

Table 10 Drive Module and E2400 Command Module Site Wiring Voltages

land Dames	50 Hz		60 HZ			
Input Power	Nominal	Minimum	Maximum	Nominal	Minimum	Maximum
	100	90	107	100	90	107
	127	114	136	120	104	127
Single-Phase Line-to-Neutral	220	198	235			
	230	207	246			
	240	216	264			
	200	180	214	200	180	214
Single-Phase, Line-to-Line				208	180	220
				240	208	264

Drive Module Power Requirements

E3300 Drive Module

The AC power source must provide the correct voltage, current, and frequency specified on the manufacturer's nameplate. Internal AC power units for rackmount cabinets must be able to handle the power requirements for this unit (Table 11).

Item Unit of Measure Requirement Circuit Breaker 3.0 A (slow-blow fuse per power supply) **USA** International Nominal Voltage 90 to 136 VAC 198 to 257 VAC Frequency 50/60 Hz 50/60 Hz Drive Module AC Power 2.9 A1 **Idle Current** $1.3 A^{1}$ 3.2 A¹ **Maximum Operating Current** 1.5 A¹ **Maximum Surge Current** 4.5 A1 $2.1 A^{1}$

Table 11 E3300 Power Requirements

Power Connections

The drive module uses two AC power cords (one for each power supply). In order to meet power requirements and maintain power redundancy, you must connect the drive module to either 90-136 VAC or 198-257 VAC, 15 A circuits as described below.

- Redundant power, 90-136 V Connect as follows:
 - If three or less drive modules are connected to a command module, use two 90-136 V, 15 A circuits. Connect one power supply from each drive module to one circuit and the other power supplies to the second circuit.
 - If more than three drive modules are connected to a command module, use four 90-136 V, 15 A circuits. Connect one half of the drive modules to two circuits and the remaining drive modules to the other two circuits. Make sure that each drive module connects to two different circuits (one per power supply).
- Redundant power, 198-257 V Use two 198 V-257 V, 15 A circuits. Connect one power supply from each drive module to one circuit and the other power supply to the second circuit.

Power Cord Routing

Some rackmount cabinets have two AC distribution boxes. Each AC distribution box has its own power cord. Because of limited space inside the cabinet, it may be easier to connect and route power cords before installing the support rails and command module. You may connect power to a command module in a rackmount cabinet in three ways:

- Redundant power to cabinet and drive module Connect the AC boxes in the cabinet to two, independent, external power sources. Connect one power cord from each drive module to each AC box in the cabinet.
- Redundant power to cabinet; non-redundant to drive module Connect the AC boxes
 in the cabinet to two, independent, external power sources. Connect both power cords
 from the drive module to one AC box in the rackmount cabinet.
- Non-redundant power to cabinet and drive module Connect both AC boxes in the
 cabinet to a single power source. Connect both power cords from the drive module to
 one or both AC boxes in the rackmount cabinet.

FC-1 10x Drive Module and E2400 10x Command Module

The AC power source must provide the correct voltage, current, and frequency specified on the manufacturer's nameplate. Internal AC power units for rackmount cabinets must be able to handle the power requirements for these units (Table 12).

Table 12 FC-1 10x and E2400 10x Power Requirements

Item	Unit of Measure	R	equirement
Circuit Breaker	3.0 A (slow-blow fuse per power supply)		
		USA	International
	Nominal Voltage	90 to 136 VAC	198 to 264 VAC
Drive Module and	Frequency	50/60 Hz	50/60 Hz
Command Module AC Power	Idle Current	3.39 A	1.45 A
	Maximum Operating Current	3.53 A	1.50 A
	Maximum Surge Current (10-drive spin up)	5.19 A	2.10 A

Power Cord Routing

The drive module and command module use two AC power cords (one for each power supply). You must have an independent AC power source for each power supply in the drive module and command module in order to maintain redundancy. This applies to both deskside and rackmount models.

Some rackmount cabinets have two AC distribution boxes. Each AC distribution box has its own power cord. To ensure redundancy, connect the AC boxes in the cabinet to two independent power sources. Then, connect one power cord from each drive module or command module to each AC box in the cabinet (Figure 5). Because of limited space inside the cabinet, it may be easier to connect and route power cords before installing the support rails and drive module (or command module).

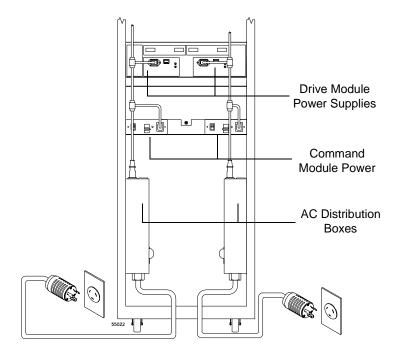


Figure 5 Redundant AC Power Connections to Rackmount Controller and Drive Modules

FC-1 14x Drive Module and E2400 14x Command Module

The AC power source must provide the correct voltage, current, and frequency specified on the manufacturer's nameplate. Internal AC power units for rackmount cabinets must be able to handle the power requirements for these units (Table 13).

Table 13 FC-1 14x and E2400 14x Power Requirements

ltem	Unit of Measure	R	equirement
Circuit Breaker	3.0 A (slow-b	low fuse per power	supply)
Drive Module and Command Module AC Power		USA	International
	Nominal Voltage	90 to 136 VAC	198 to 264 VAC
	Frequency	50/60 Hz	50/60 Hz

Power Cord Routing

The drive module and command module use two AC power cords (one for each power supply). You must have an independent AC power source for each power supply in the drive module and command module in order to maintain redundancy. This applies to both deskside and rackmount models.

Some rackmount cabinets have two AC distribution boxes. Each AC distribution box has its own power cord. To ensure redundancy, connect the AC boxes in the cabinet to two independent power sources. Then, connect one power cord from each drive module or command module to each AC box in the cabinet (Figure 5). Because of limited space inside the cabinet, it may be easier to connect and route power cords before installing the support rails and drive module (or command module).

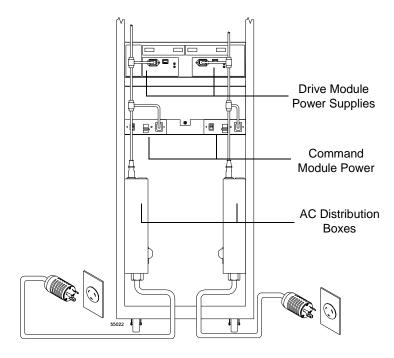


Figure 6 Redundant AC Power Connections to Rackmount Controller and Drive Modules

Drive Module Cable Requirements

E3300 Interface Cables

The E3300 drive module has two SCSI connectors. To connect the drive module to a SYM1000E command module, you must use 68-pin, VHDCI (very high density cable interface) LVD, Ultra SCSI-2 cables.

The maximum length for any SCSI, 68-pin HD cable is 25 m (82 ft.) or 12 m (39 ft.) for VHDCI cable. The total length includes both internal and external cabling. The SCSI cabling inside this drive module is approximately 0.1 m (4 in.) for the host bus. Table 14 lists the SCSI cables that you can use on this drive module.

Table 14 SCSI Drive Interface Cables

	Order Information		
Cable Description	Part Number	Length	
	006-1086595	1.0 meter	
LVD, Ultra SCSI-2 cable with 68-pin, VHDCI connector	006-1086596	1.5 meter	
	006-1086597	3.0 meter	
	006-1086598	8 meter	

SCSI Terminators

If you are installing the drive module as the last device on a SCSI bus, you must install a 16-bit terminator on the OUT connector. Every drive module shipped from the factory includes 16-bit terminators.

FC-1 10x, E2400 10x, FC-1 14x, and E2400 14x Interface Cables

The drive modules and command modules support Fibre Channel connections to the command modules. They have four gigabit interface converter (GBIC) connectors, two on each ESM or controller. The connectors may be fiber optic or copper. The type of connector depends on what type of drive interface you ordered and what type of cable you are using to attach the drive module or command module to the command module.

If you ordered optical GBIC connectors, you will need fiber optic cable. If you ordered copper GBIC connectors, you will need copper wire cable. Table 15 lists the types and lengths of cable available from your local dealer.

Table 15 Fibre Channel Host and Drive Interface Cables

Descriptions				Order Information	
Cable	Data Size	Transfer Speed	Range	Part Number	Length
				006-1086672	2 meter
Fiber optic, multi-mode, 50 micrometer, shortwave laser	100 MB/sec	1062.5 Mbaud kilometer 006-	006-1086416	3 meter	
	100 MD/sec		kilometer	006-1086673	5 meter
			006-1086417	10 meter	
				006-1086682	2 meter
Copper wire, shielded,	100 MB/sec	1062.5 Mbaud	Up to 30	006-1086672 3 meter	3 meter
twisted pair, electrical signal	100 MD/Sec	1002.5 Mibaud	006-1086673 006-1086682 006-1086682	5 meter	
				006-1086473	10 meter

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