

# **HP SureStore E Carrier-Grade Disk System SC10 Addendum**

**Edition 1**

**HP 9000 Networking**

Customer Order Number: Z7536-90902



**Manufacturing Part Number: Z7536-96002**

**E0800**

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## **Printing History**

The Printing History below identifies the edition of this manual and any updates that are included. Periodically, update packages are distributed which contain replacement pages to be merged into the manual, including an updated copy of this printing history page. Also, the update may contain write-in instructions.

Each reprinting of this manual will incorporate all past updates; however, no new information will be added. Thus, the reprinted copy will be identical in content to prior printings of the same edition with its user-inserted update information. New editions of this manual will contain new information, as well as all updates.

First Edition

August 2000

## **Electrostatic Discharge (ESD) Precautions**

When handling any electronic component or assembly, you must observe the following antistatic precautions to prevent damage. An ESD kit (HP P/N A3024-80004) is available (or supplied with Memory additions). This kit contains one wrist strap, one conductive sheet, and one anti-static foam pad.

- Always wear a grounded wrist strap when working around the system, and when handling printed circuit boards.
- Treat all assemblies, components, and interface connections as static-sensitive.
- Avoid working in carpeted areas and keep body movement to a minimum while removing or installing boards to minimize buildup of static charge.



## 1. Product Description

Introduction . . . . .	10
General Description . . . . .	11
Other Required Documentation . . . . .	11
Hardware/Software Requirement . . . . .	12

## 2. Installation (HP-Qualified Personnel Only)

Introduction . . . . .	14
Preparation. . . . .	16
Electrical Requirements . . . . .	16
Software Requirements . . . . .	17
Connect To DC Power . . . . .	18
Safety Grounding . . . . .	19
DC Power Cable . . . . .	20
Connecting DC Power to High-Availability Systems . . . . .	21
Connecting DC Power Cables. . . . .	22
Completing Installation . . . . .	23

## 3. Configuration

Notice . . . . .	26
------------------	----

## 4. Troubleshooting

Notice . . . . .	28
------------------	----

## 5. Removal and Replacement

Introduction . . . . .	30
Removing and Replacing the Power Supply. . . . .	31
Required Tools. . . . .	31
Replacing the Power Supply. . . . .	32

---

# Contents

## 6. Reference

Introduction .....	36
Product Models and Required Accessory Products .....	37
Replaceable Parts .....	38
Specifications .....	39
Dimensions .....	39
Weight .....	39
DC Power Output .....	40
Heat Output .....	40
Environment .....	40
Acoustics .....	41
Safety Certification .....	41
EMC Compliance .....	42
Regulatory Statements .....	43
FCC Statement (USA Only) .....	43
IEC Statement (Worldwide) .....	43
International .....	44
VCCI Statement (Japan Only) .....	44
Spécification ATI Classe A (France seulement) .....	44
Product Noise Declaration (Germany Only) .....	45
EMC Regulatory .....	45
EMC Certification .....	45
EMC Labels .....	46
Safety .....	46
NEBS 3 Compliance .....	46
Declaration of Conformity .....	47
Product Web Site .....	48
Related Documents .....	49



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# **1** **Product Description**

## **Introduction**

This chapter contains the following information:

- General Description
- Other Required Documentation
- Hardware/Software Requirement

## General Description

Hewlett-Packard's SureStore E Carrier-Grade Disk System SC10 (referred to in this guide as the disk system) is a high-availability NEBS 3 certified Ultra2 SCSI storage product. Dual SCSI ports on dual bus controllers provide LVD connections to the host. Ten slots accept high-speed, high-capacity LVD/SE SCSI disks connected to a SE backplane. Data throughput is 40 Mbytes/sec. Eleven disk systems fill a 2-meter System/E rack.

Modular and redundant components are easy to upgrade and maintain. Disks, fans, power supplies, and bus control cards (BCCs) are replaceable parts that plug into individual slots in the front and back of the disk system. Redundant fans, power supplies, and BCCs can be removed and replaced without interrupting storage operations. Disks also can be replaced with the system on and with only the affected disks taken off-line. Hewlett-Packard technical support is optional for these procedures.

Special electronics and HP-UX software enable remote monitoring and diagnostics. Sensors on the BCCs monitor the disk system environment, including temperature, voltage, fan speed, and component status. Hewlett-Packard's Event Monitoring System (EMS) reports any changes in environmental status to user-defined locations, including email accounts and a system console. Standard HP-UX diagnostic utilities also report environmental data for enhanced troubleshooting.

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## Other Required Documentation

For detailed information regarding Features, Components, Hardware/Software Requirements, Topologies, and Definitions, refer to the *HP SureStore E Disk System SC10 User and Service Guide*

## **Hardware/Software Requirement**

- The disk system is supported on HP-UX 11.0 operating system or greater with IPR 9906 or greater.
- The disk system is supported on the Hewlett-Packard L-Class carrier-grade Server:
- The following Ultra2 PCI LVD SCSI adapters (HBAs) must be installed in the host:
  - A5149A, Single ported

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**2****Installation (HP-Qualified  
Personnel Only)**

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## Introduction

The following steps are required to install the disk system. This chapter describes the differences between the installation for the HP SureStore E Carrier-Grade Disk System SC10 and the standard HP SureStore E Disk System SC10. The HP SureStore E Carrier-Grade Disk System is a DC powered NEBS 3 compliant system.

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### IMPORTANT

For NEBS compliance, the product must be installed in a NEBS certified rack and should have a 1U gap above & below the unit. 2 x 1U filler panels are shipped with the enclosure to allow for this spacing in the rack.

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For installation of the disk system, you will also need to refer to the *HP SureStore E Disk System SC10 User and Service Guide*, as well as this addendum. The following task list identifies where to find the installation instruction for each step of the installation process.

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#### Preparation

See “Preparation” on page 16.

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#### Step 1: Required Tools

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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#### Step 2: Unpack the Product

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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#### Step 3: Installing the Disk System

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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#### Step 4: Prepare Rack Front

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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#### Step 5: Install the Disk System

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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**Step 6: Install BCCs**

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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**Step 7: Set DIP Switches**

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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**Step 8: Connect SCSI and Power Cables**

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**NOTE**

See the *HP SureStore E Disk System SC10 User and Service Guide*. Disregard the information on connecting to AC power. This does not apply to this product. See “Connect To DC Power”.

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**Step 9: Connect To DC Power**

See “Connect To DC Power” on page 18.

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**Step 10: Install Disks**

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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**Step 11: Turn on the Disk System**

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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**Step 12: Verify Devices on the Host**

See the *HP SureStore E Disk System SC10 User and Service Guide*.

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## Preparation

Before installing the disk system, make sure:

1. Electrical wiring and breakers meet power needs.
2. The required support software is installed on the host.

## Electrical Requirements

All electrical wiring to the service point (plug) must be sized to carry the following inrush and steady state currents:

**Table 2-1**

### Maximum Operating Current

<b>Input Voltage and Current rating</b>	-40Vdc to – 72Vdc volts, 19 Amperes
<b>Maximum DC Power Drawn by One Disk System</b>	450 Watts

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**CAUTION**



Adding disk systems to circuits rapidly increases current requirements. Always make sure that the total current drawn does not exceed circuit capacity.

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**CAUTION**



The disk system must be fused to a 19 Ampere Fuse between the DC power source and the DC power input cable to the DC power supply in the disk system.



## Software Requirements

Refer to the *HP SureStore E Disk System SC10 User and Service Guide*.

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**NOTE**

For the latest software information, consult the internal web site  
<http://essd/boi.hp.com/products/JBOD/A5272A>.

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## Connect To DC Power

The HP SureStore E Carrier-Grade Disk System SC10 contains a NEBS-compatible direct current (DC) power supply, rather than the alternating current (AC) power supply furnished with the HP SureStore E Disk System SC10.

This DC power supply directly replaces the standard AC supply for the purpose of operating this storage device from a central office negative 48 volt or negative 60 volt power source.

The power supply also provides alarm outputs in the form of relay contact closures to indicate a power supply failure.

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### WARNING



- 1.) The power supply cable is used as the main disconnect device for this equipment.**
- 2.) Make sure that all central office safety precautions are carefully observed when connecting the power supply to the DC power source.**
- 3.) This product is to be installed only in Restricted Access Areas (dedicated equipment rooms, equipment closets or the like) in accordance with Articles 110-16 to 110-18 of National Electrical Code, ANSI/NFFA 70.**
- 4.) Installation should be performed only by qualified service personnel.**

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### CAUTION



This product is for DC operation only. Do not install an AC power module or connect to an AC power source.

## Safety Grounding

The HP SureStore E Carrier-Grade Disk System SC10 must be connected to the central ground in the central office using a minimum 6 AWG (16mm<sup>2</sup>) wire with a suitable Listed/Certified terminal such as Thomas and Betts part number 256-30695-1225. A grounding lug and 2 screws are included in the telecom accessory kit (part number Z7536-60004) provided with the disk system.

Connect the grounding lug to the two grounding PEM nuts inside the bottom of the chassis, underneath the right-hand power supply, for connecting to earth ground.

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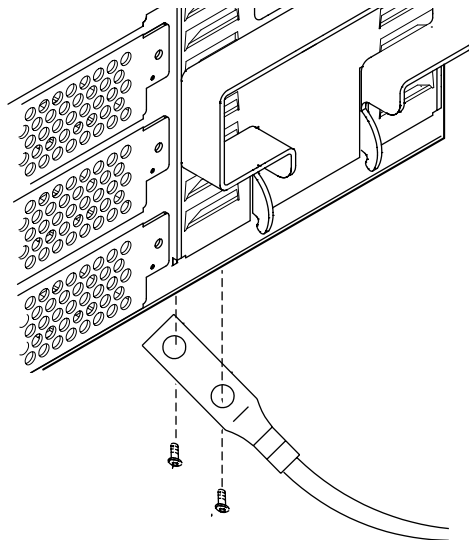
**WARNING**

**This equipment must be connected to earth ground to assure continued safe operation, to prevent damage from electrostatic discharge, and to assure compliance with electromagnetic compatibility requirements.**

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**Figure 2-1**

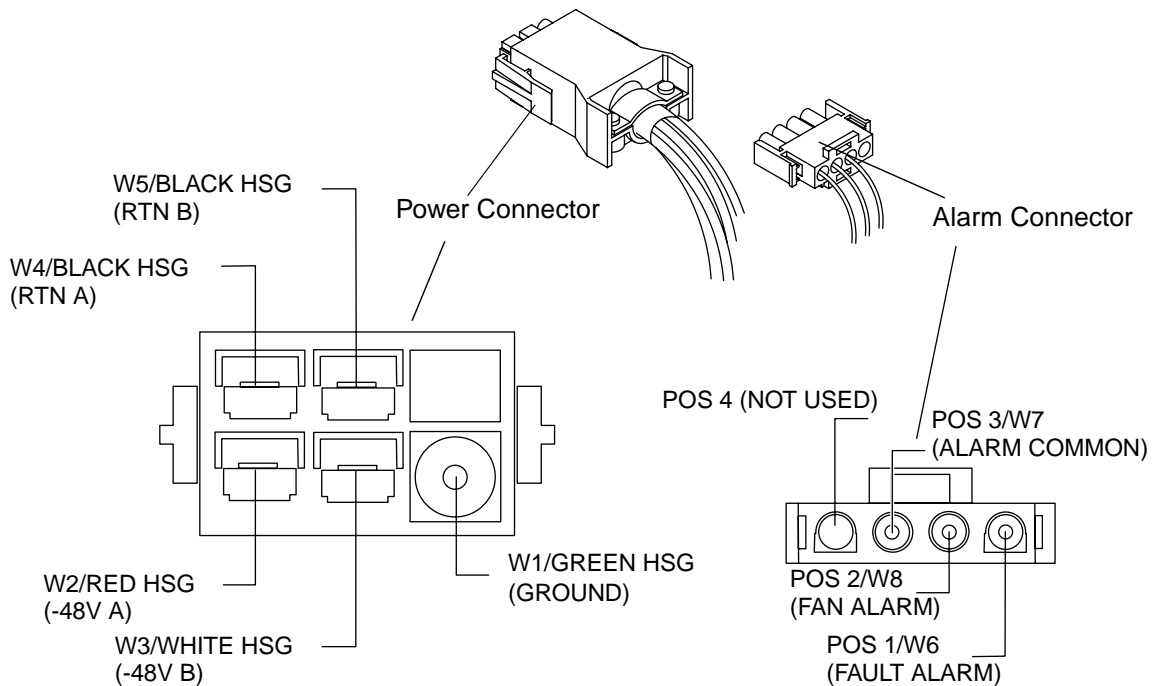
### Attaching the Grounding Lug



## DC Power Cable

The DC Power Cable (Part Number 5065-0096) is a 10 ft. cable consisting of two parts, a power cable and alarm cable tied together with cable ties. Strain relief is provided by the clip-on cable connectors. One end of the cable has connectors for connecting to the disk server power supply, the other end is terminated in pigtails with the jacket sleeving scored for removal. Figure 2-2 shows the power cable and connectors. Table 2-2 and Table 2-3 on page 21 lists the pinouts on the connectors and wiring information.

**Figure 2-2 DC Power Cable**



**Table 2-2 Power Connector Pinouts**

Connector Pinout	Description	AWG / mm <sup>2</sup>	Color
W1	Ground	10 / 5.26	Green
W2	-48 VDC (A)	10 / 5.26	Red
W3	-48 VDC (B)	10 / 5.26	White
W4	RTN A	10 / 5.26	Black
W5	RTN B	10 / 5.26	Black

**Table 2-3 Alarm Connector Pinouts**

Connector Pinout	Description	AWG / mm <sup>2</sup>	Color
POS 1/W6	Fault Alarm	20 / 0.556	Blue
POS 2/W8	Fan Alarm	20 / 0.556	White
POS 3/W7	Alarm Common	20 / 0.556	Black
POS 4	Not Used		

## Connecting DC Power to High-Availability Systems

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### NOTE

For complete power redundancy in high-availability systems, connect each power supply to separate power sources. Connect the -48V (A) and Return (RTN A) leads to one power source and the -48V (B) and Return (RTN B) leads to a different power source. This will protect the system from power failure in event one power source fails.

When connecting more than one power supply to two independent power sources, connect the “A” leads of each power supply to one power source and the “B” leads of each power supply to another power source.

Connecting all power supplies to the same power source will protect the system if one power supply fails, but not from a failure in the power source. If you are connecting the power supplies to a single power supply, connect both the A and B leads on each power supply cable.

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## Connecting DC Power Cables

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### NOTE

The DC power cable should be connected to two independent power sources. Refer to the connector diagram in Figure 2-2 on page 20 for proper power connections.

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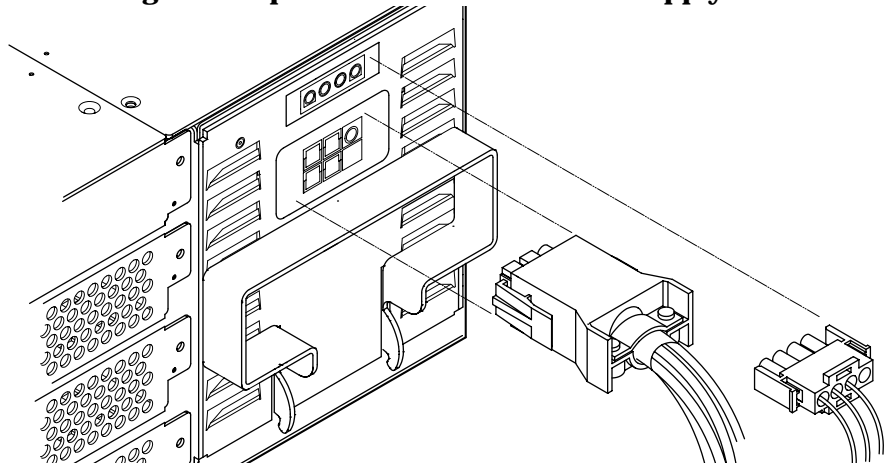
### CAUTION



Verify polarity of the connections before connecting the power cable to the DC power supplies in the disk system. Incorrect power connections will damage the power supplies.

1. Connect the pigtail leads on the end of the cable to the appropriate connectors on your DC power source.
2. Connect the power connector and alarm connector to the DC power supply in the disk system.

**Figure 2-3** Connecting the DC power cable to the Power Supply



## **Completing Installation**

Complete the installation of the disk system as described in the *HP SureStore E Disk System SC10 User and Service Guide*. The remaining steps include:

- Installing Disks
- Turning on the Disk System
- Verifying Devices on the Host

Installation (HP-Qualified Personnel Only)  
**Connect To DC Power**





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# **3 Configuration**

## Notice

For configuration information, See the *HP SureStore E Disk System SC10 User and Service Guide*.

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### NOTE

The firmware will identify the disk system as **A5272A**.

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# **4 Troubleshooting**

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## Notice

For troubleshooting information, See the *HP SureStore E Disk System SC10 User and Service Guide*.

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### NOTE

When using Support Tools Manager (STM) on the HP-UX host to display status and descriptive information about the disk system and its components, the software will recognize the disk system as **A5272A**.

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# **5** **Removal and Replacement**

## Introduction

This chapter describes how to remove and replace the DC power supplies.

For detailed information regarding removal and replacement of *Disk Modules, Bus Control Card (BCC), Fan, Disk System, Door, Top Cover, and Backplane/Mezzanine*, refer to the *HP SureStore E Disk System SC10 User and Service Guide*.

---

**CAUTION**



Do not remove hot-pluggable components until you have the replacement parts and are ready to install them. An empty slot will cause uneven cooling and eventual overheating and affect long term system reliability.

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**CAUTION**



Do not move the disk system with disks installed and power on. Even a minimal drop of the disk system can damage spinning disks.

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## Removing and Replacing the Power Supply

Replace a power supply as soon as possible when troubleshooting indicates a power supply failure (see “Isolating Causes” in chapter 4 of *HP SureStore E Disk System SC10 User and Service Guide*). When a power supply fails, the remaining power supply provides proper voltage to the disk system. However, if the remaining power supply fails before the first power supply is replaced, the disk system will turn off.

You do not need to turn off the disk system to replace a power supply.

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### CAUTION



Disconnect DC power from the power supply **BEFORE** installing or removing the supply. Otherwise, damage to the power supply or disk system can result.

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### CAUTION



Do not remove a power supply from an operating product until you have the replacement and are ready to install it. An empty slot will cause uneven cooling and eventual overheating and affect long term system reliability.

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### WARNING



**Power supply may be hot to touch.**

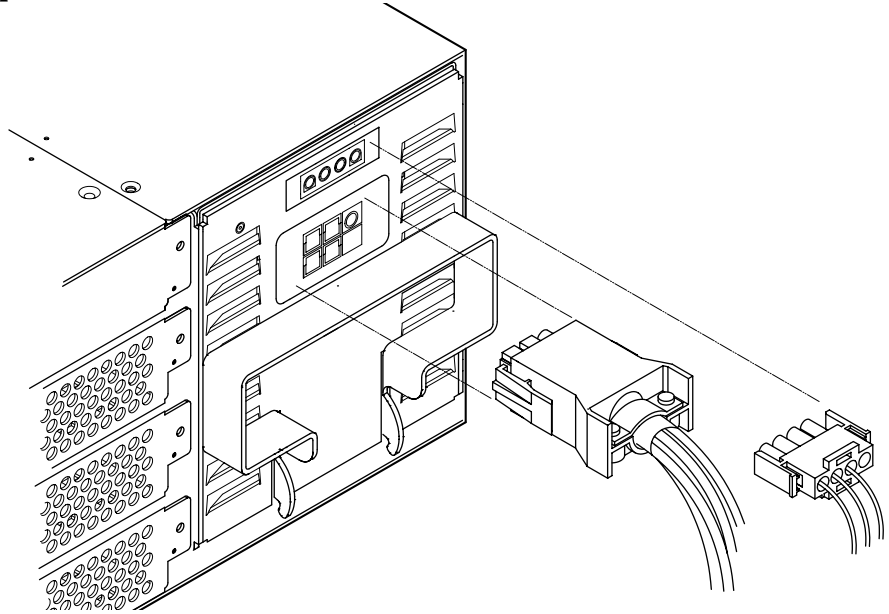
### Required Tools

- Torx T15 or flat-blade screwdriver

## Replacing the Power Supply

1. Disconnect the power and alarm cable connectors from the power supply.

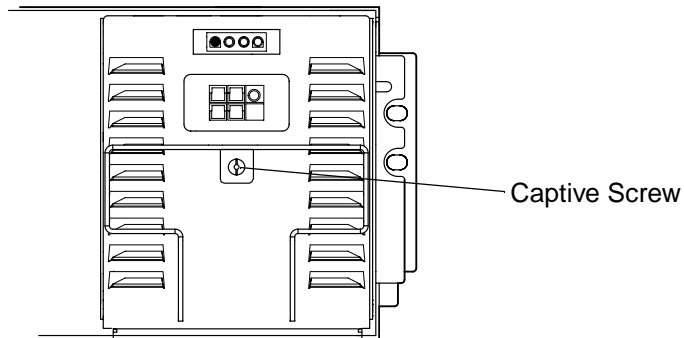
**Figure 5-1** power and alarm cable connectors





2. Loosen the screw from the power supply handle.

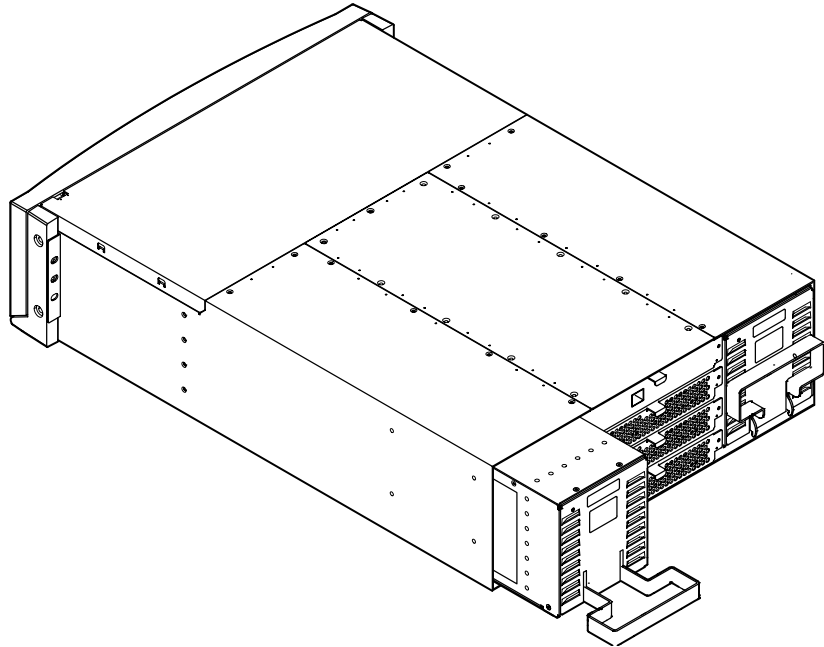
**Figure 5-2**      **Captive Screw on Power Supply Handle**



3. Pull the handle down to disengage the power supply from the backplane.
4. Pull the power supply out of the chassis. Support the far end of the supply with your free hand as it clears the chassis.

Replace the power supply immediately if the product is in use (see next step).

**Figure 5-3 Power Supply Removal and Replacement**



5. With the handle down, slide the replacement power supply into the empty slot. The power supply begins to engage the backplane with 3/8 inch (8mm) still exposed.
6. Rotate the handle up to draw the power supply the last 3/8 inch into the chassis and firmly seat the power supply on the backplane. The power supply should be flush with the edge of the chassis.
7. Tighten the screw in the power supply handle.
8. Plug the power and alarm connectors into the power supply. See Figure 5-1 on page 32

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**NOTE**

Make sure the cable connector clamps are locked in place for proper strain relief.

9. Monitor the power supply LED. It should turn green. If the LED is dark or stays amber, see the Troubleshooting chapter in the *HP SureStore E Disk System SC10 User and Service Guide*.

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# **6 Reference**

## **Introduction**

This chapter contains the following information.

- Product Models and Options
- Replaceable Parts
- Specifications
- Regulatory Statements
- Declaration of Conformity
- Related Documents

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## Product Models and Required Accessory Products

One model of the disk system is available:

- Z7536A field-racked (by HP-qualified service engineers)

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### NOTE

The minimum configuration requires four (4) disk drives and one bus control card

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Order the following parts to expand or reconfigure your original purchase:

Table 6-1

### Accessory Products

<b>Order No.</b>	<b>Description</b>
A5276A	9-Gbyte 10K rpm LVD disk drive
A5282A	18-Gbyte 10K rpm LVD disk drive
A5273A	Bus Control Card
A5306A	2-meter VHDCI Ultra SCSI cable
A5307A	5-meter VHDCI Ultra SCSI cable
A5308A	10-meter VHDCI Ultra SCSI cable
A5250A	Rail kit for HP C2785A, C2786A, C2787A, A1896A, and A1897A
A5251A	Rail kit for HP Rack Systems/E

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## Replaceable Parts

Table 6-2 lists the unique replacement and exchange parts for the HP SureStore E Carrier-Grade Disk System SC10. See the *HP SureStore E Disk System SC10 User and Service Guide* for a complete list of common replacement and exchange parts for the disk systems.

**Table 6-2** Replacement and Exchange Part Numbers

<b>Part Description.</b>	<b>Replacement Part Order No.</b>	<b>Exchange Part Order No.</b>
DC Power Supply	Z7536-67001	Z7536-69001
DC Power/Alarm Cable	5065-0096	
Manual Addendum	Z7536-90902	

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## Specifications

### Dimensions

The maximum dimensions of the disk system with the door and power supply handles closed are as follows:

- Height: 15.0 cm (5.91 in.)
- Width: 48.0 cm (18.90 in.)
- Depth: 69.1 cm (27.20 in.)

### Weight

A fully loaded disk system weighs approximately 49.5 kg (109 pounds). Component weights are shown in Table 6-3.

Table 6-3

Product Weights

Component	Weight of Each kg ( lbs.)	Quantity	Subtotal kg (lbs.)
Disk Drive (HH)	1.3 (2.8)	10	12.7 (28)
Fan	1.5 (3.3)	2	3.1 (7)
Power Supply	4.7 (10.3)	2	9.5 (21)
BCC	2.1 (4.5)	2	4.1 (9)
Midplane-Mezzanine	2.7 (6)	1	2.7 (6)
Door	0.9 (2)	1	0.9 (2)
Chassis	15.9 (35)	1	15.9 (35)
		Approx. Total	49.5 (109)

## DC Power Output

- Disk: +5 V and +12 V from power supply
- BCC: +5 V and +3.3 V from power supply
- Fan: +12 V from power supply

## Heat Output

- 2200 BTU/hr.

## Environment

The following environmental specifications were type-tested under controlled conditions. Hewlett-Packard maintains an active program of auditing production products to make sure these specifications remain true when products are retested under the same conditions. However, the limits of these specifications do not represent the optimum for long, trouble-free operation and specifically are not recommended for maximum satisfaction. The recommended conditions are stated when appropriate.

Operating temperature:	5° to 40° C (50° F to 104° F)
Recommended:	20° C to 25.5° C (68° F to 78° F)
Maximum gradient:	20° C per hour (36° F per hour)
Relative humidity:	20% to 80% noncondensing, max. wetbulb at 26° C
Recommended:	30% to 50% noncondensing
Altitude:	3000 m (10,000 ft)

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### NOTE

For continuous, trouble-free operation, the disk system should NOT be operated at its maximum environmental limits for extended periods of time. Operating within the recommended operating range, a less stressful operating environment, ensures maximum reliability.

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The environmental limits in a nonoperating state (shipping and storage) are wider:

Temperature:	-40° C to 70° C (-40° F to 158° F)
Maximum gradient:	24° C per hour (43.2° F per hour)
Relative humidity:	15% to 90% noncondensing
Altitude:	4600 m (15,000 ft)

### **Acoustics**

- Sound power: 6.8 Bels
- Sound pressure at operator's position: 58.8 dB(A)

### **Safety Certification**

UL listed, UL 1950:1995 – 3rd Edition

CSA certified, C22.2 No. 950:1989

TUV certified with GS mark, EN 60950:1992 + A1:1993, A2:1993, A3:1995, A4:1997, A11

CE mark (See “Declaration of Conformity” on page 47)

## **EMC Compliance**

Australia: AS/NZS 3548, Class A

Canada: ICES-003, Class A

China: CB9254-88

European Union: EN55022 Class A, EN50082-1

Japan: VCCI Class A

Taiwan: CNS 13438, Class A

US: 47 CFR Parts 2 & 15, Class A+

## **Regulatory Statements**

### **FCC Statement (USA Only)**

The Federal Communications Commission (in 47 CFR 15.105) has specified that the following notice be brought to the attention of the users of this product.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. The end user of this product should be aware that any changes or modifications made to this equipment without the approval of Hewlett-Packard could result in the product not meeting the Class A limits, in which case the FCC could void the user's authority to operate the equipment.

### **IEC Statement (Worldwide)**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

## International

### VCCI Statement (Japan Only)

#### 注意

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づく第一種情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI Class1 manual statement

### Spécification ATI Classe A (France seulement)

DECLARATION D'INSTALLATION ET DE MISE EN EXPLOITATION d'un matériel de traitement de l'information (ATI), classé A en fonction des niveaux de perturbations radioélectriques émis, définis dans la norme européenne EN 55022 concernant la Compatibilité Electromagnétique.

Cher Client,

Conformément à la Réglementation Française en vigueur l'installation ou le transfert d'installation, et l'exploitation de cet appareil de classe A, doivent faire l'objet d'une déclaration (en deux exemplaires) simultanément auprès des services suivants:

Comité de Coordination des Télécommunications 20, avenue de Ségur -  
75700 PARIS

Préfecture du département du lieu d'exploitation

Le formulaire à utiliser est disponible auprès des préfetures.

La déclaration doit être faite dans les 30 jours suivant la mise en exploitation.

Le non respect de cette obligation peut être sanctionné par les peines

prévues au code des Postes et Télécommunications et celles indiquées dans la loi du 31 mai 1993 susvisée.

Arrêté du 27 Mars 1993, publié au J.O. du 28 Mars - ATI

### **Product Noise Declaration (Germany Only)**

#### **Acoustic Noise Emissions**

LpA: 58 dB

At bystander position per ISO 7779.

All data are the results from type tests of the product configuration having the highest acoustic emissions: 8 disk drives.

All other configurations have lower emission levels.

Refer to the environmental specification section of the manual for details.

#### **Geräuschemission**

LpA: 58 dB

Am fiktiven Arbeitsplatz nach DIN 45635 T. 19.

Die Daten sind die Ergebnisse von Typprüfungen an Gerätekonfigurationen mit den höchsten Geräuschemissionen: 8 Plattenlaufwerke.

Alle andere Konfigurationen haben geringere Geräuschpegel.

Für weitere Angaben siehe unter Umgebungsbedingungen.

### **EMC Regulatory**

#### **EMC Certification**

prEN 55024-2

prEN 55024-3

prEN 55024-4

For USA, FCC Class A, part 15

For Europe, CISPR-22 Level A

### **EMC Labels**

CE Mark  
FCC Statement  
Canadian EMC Statement  
Japanese VCCI Statement

### **Safety**

#### **Safety Certification**

UL 1950, 2nd Edition  
CSA 22.2 No. 950-93  
IEC 950, 1991 +A1, A2, A3, A4  
EMOKO-TUE (74) DK203  
TUV EN60950 1992, A1, A2, A3, A4, A11  
SS-EN 60950 & EMKO-TSE (74-SEC)203.93  
SSIFS 1980:2 or SS-EN 60825  
EN 60950 1992, A1, A2, A3, A4, A11

#### **Safety Labels**

- UL Mark listed
- UL Mark recognized for component
- CSA Mark
- TUV/GS Mark

#### **NEBS 3 Compliance**

This product is NEBS 3 compliant.

## Declaration of Conformity

### DECLARATION OF CONFORMITY according to ISO/TEC Guide 22 and EN 45104

Manufacturer's Name: Hewlett-Packard Company  
Manufacturer's Address: 8000 Foothills Blvd.  
Roseville, CA 95747  
USA

declares that the product:

Product Name: SureStore E Disk System SC10  
Model Numbers: Z7536A  
Product Options: All

conforms to the following Product Specifications:

Safety: IEC950:1991+ A1,A2,A3,A4 / EN 60950:1992+  
A1,A2,A3,A4,A11  
GB 4943-1995


EMC: CISPR 22:1997/EN 55022:1988 - Class A<sup>1</sup>  
GB 9254-1988  
CISPR 24:1997 / EN 55024:1998  
IEC 61000 - 4- 2: 1995, EN 61000 -4- 3 1995  
IEC 61000 - 4- 3: 1995, EN 61000 -4- 3 1996  
IEC 61000 - 4- 4: 1995, EN 61000 -4- 3 1995  
IEC 61000 - 4- 6: 1996, EN 61000 -4- 3 1996  
IEC 61000 - 4- 8: 1993, EN 61000 -4- 3 1993

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and carries the CE marking accordingly.

1) The Product was tested in a typical configuration with HP 9000 Class A Server Product A5182A - Model A180.

Roseville, August 2, 2000

  
Frank D. Dembski Jr., Quality Manager

European Contact: Your local Hewlett-Packard Sales/Service Office or Hewlett-Packard GmbH,  
Department HQ-TRE, Herrenberger Straße 130, D-71034 Böblingen, Germany  
(FAX: + 49-7031-143143)

Reference

Product Web Site

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## Product Web Site

This guide is available in Adobe® Acrobat® format on the HP Customer Care web site for enterprise storage (<http://www.hp.com/essd/>). The complete URL is [http://www.hp.com/essd/hass/A5272A\\_documentation.htm](http://www.hp.com/essd/hass/A5272A_documentation.htm)



## Related Documents

The following manuals explain how to use the system software interfaces to the SureStore E Disk System SC10:

- *EMS Hardware Monitors User's Guide*, available at <http://www.docs.hp.com/hpux/systems/>
- *Online Diagnostics (for HP 9000): Support Tools Manager Overview*, available at <http://www.docs.hp.com/hpux/systems/>
- *HP-UX System Administration Tasks Manual*, HP Order No. B2355-90079

Reference  
Related Documents