Honeywell

Honeywell Process Solutions

Experion
SC1430-Honeywell Server
Planning, Installation, and Service Guide

EP-DPCXX6
Release Independent
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Rev G

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Honeywell

Notices and Trademarks

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About This Document

This document contains installation and service information for the Dell Power Edge SC1430 Server (PE SC1430-based Honeywell server). The instructions and service information contained herein address the server itself, and assumes that associated network communication equipment has been pre-installed by the Honeywell factory or has manuals dedicated to its installation and service. This server is not a standard Dell model and cannot be ordered independently from Dell.

Release Information

Document Name	Document ID	Release Number
SC1430-Honeywell Server, EX12-100	EP-DPCXX6	Release Independent

Revision Notes

Revision	Revision Date	Revision Notes
A	10/02/2007	Initial issue
B	10/10/2007	ECO P270163
C	12/17/2007	ECO P270261 ECO P270276
D	02/19/2008	ECO P280027
E	10/26/2010	ECO P300098
F	08/02/2011	ECO P310057
G	05/01/2012	Updated for Experion R410

References

The following list identifies all documents that may be sources of reference for material discussed in this publication.

Document Title	Doc ID
TPS Users	
TPS System Site Planning	SW02-550 or later
TPS System Implementation Guide for Windows 2003	TP08X
TPS System Planning Guide for Windows 2003	TP10X
TPS System Administration Guide for Windows 2003	TP06X
Experion PKS Users	
Experion PKS Overview	EP-DCSX32 or later
Experion PKS Software Installation and Upgrade Guide	EP-DCXX12 or later
Server and Client Planning Guide	EP-DSX132 or later
Server and Client Configuration Guide (for Experion PKS)	EP-DSXX22 or later
Experion PKS Operators Guide	EP-DSXX42 or later
FTE Users	
Fault Tolerant Ethernet Installation and Service Guide	FE05

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World Wide Web

Honeywell Process Solutions website:

www.honeywellprocess.com/support

Training Classes

Honeywell Automation College:

http://www.automationcollege.com

Symbol Definitions

The following table lists those symbols used in this document to denote certain conditions.

Symbol	Definition
	**ATTENTION:** Identifies information that requires special consideration.
	**TIP:** Identifies advice or hints for the user, often in terms of performing a task.
	**REFERENCE -EXTERNAL:** Identifies an additional source of information outside of the bookset.
	**REFERENCE - INTERNAL:** Identifies an additional source of information within the bookset.
CAUTION	Indicates a situation which, if not avoided, may result in equipment or work (data) on the system being damaged or lost, or may result in the inability to properly operate the process.
	**CAUTION**: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. **CAUTION** symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	**WARNING**: Indicates a potentially hazardous situation, which, if not avoided, could result in serious injury or death. **WARNING** symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.
	**WARNING, Risk of electrical shock**: Potential shock hazard where HAZARDOUS LIVE voltages greater than 30 Vrms, 42.4 Vpeak, or 60 VDC may be accessible.

Symbol	Definition
	**ESD HAZARD:** Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices.
	**Protective Earth (PE) terminal**: Provided for connection of the protective earth (green or green/yellow) supply system conductor.
	**Functional earth terminal**: Used for non-safety purposes such as noise immunity improvement. NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national local electrical code requirements.
	**Earth Ground**: **Functional earth connection.** NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.
	**Chassis Ground**: Identifies a connection to the chassis or frame of the equipment shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.

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1. Planning

1.1 Overview

About the PE SC1430- Honeywell server

Platforms sold by Honeywell are engineered for the process control mission of Experion and TPS systems to provide consistent, robust performance. Through an extensive qualification process, Honeywell defines specific peripheral devices, slot locations, and BIOS settings for best performance and reliability, sometimes even adding cooling fans for longer service. Honeywell platforms are then built to Honeywell specifications by the computer manufacturer.

Honeywell engineering has tested the PE SC1430-based Honeywell server with other Honeywell hardware and software and has qualified its use for specific configurations as identified in the Software Change Notice (SCN). This server is not a standard Dell model and cannot be ordered independently from Dell. The Technical Assistance Center (TAC) is trained on and fully supports Honeywell platforms. Use of any other server, including a similar Dell model, is considered a project special and its TAC support is limited according to the services policy.

This server platform provides computer-based functionality for the Experion system and the TPS system. For TPS systems and certain Experion systems configured with FTE, the server has an LCNP4M card installed, which allows connection to the TotalPlant Process Network (TPN) coax through the LCN Media Access Unit (MAU). Additionally, this server connects to the Ethernet using the onboard NIC interface or the optional FTE Ethernet through an installed dual NIC card.

Software requirements

This server runs on the following operating systems.

- Windows Server 2003 SP2 for Experion R3xx and TPS 4xx releases.
- Windows Server 2008 non HyperV media, 32-bit for Experion R400.x releases.
- Windows Server 2008R2 64-bit for Experion R410.x releases.

The server platform runs the latest version of Application Processing Platform (APP Node) or Experion Server (ESVT, ESV, ACE, EHG, or SIM). Refer to the latest SCN for software applications that have been qualified for use on the PE SC1430-based server platform.

BIOS configuration

All server platforms must have release 1.4.0 or later version of BIOS installed.

1.2 Description

Honeywell server model number

This user manual applies to the Honeywell-based server platform identified in the following table.

Model Number	Description	Part Number
MZ-PCSV10-100	PE SC1430-based Honeywell server	51153737-100

Figure 1-1 PE SC1430-based Honeywell Server

Equipment configuration

The server platform is used for TPS and Experion nodes and can be mounted in cabinet furniture or used as a tower unit.

When mounted in a cabinet, the enclosure uses the following amount of space:

- Fixed mount: 4U (7.0 inch) of rack space
- Slide mount 5U (8.75 inch) of rack space

This server is not intended to be mounted in the Icon Series console, Classic, or Z/EZ console; hence, this document does not include instructions for these types of installations.

Electronics module

The electronics assemblies for the server are based upon the Dual-Core Intel® Xeon® processors. The standard DDR2 memory for this platform is 1GB, 667 MHz (2– 512 MB DDR2 Single Ranked Fully Buffered DIMMs), optionally expandable to 2.0, 3.0, or 4.0 GB.

The peripheral electronics assemblies are based on the Peripheral Component Interconnect (PCI), PCI Extended (PCI-X) and PCI Express (PCI-E) bus and support USB 1.1/2.0.

Storage and media devices

The standard mass storage for this platform is one 80 GB, 7.2K RPM, SATA drive. This platform supplies an onboard SATA mass storage option without RAID_1 controller. A USB keyboard with touchpad and USB optical mouse are included with the platform. A Honeywell supplied monitor will need to be ordered separately.

Standard media devices in the server are the CDRW/DVD-ROM drive and 3.5 inch floppy drive.

All mass storage devices are connected via onboard SATA ports and the floppy drive and EIDE CDRW/DVD ROM combo drive are connected via the floppy disk connector and IDE connectors on the motherboard respectively.

Standard features

The following is a list of the standard features of this platform:

- Dell motherboard with Dual Core Intel Xeon 2.33GHz processors, 4 MB L2 Cache
- Single embedded Gigabit NIC (Broadcom)
- Integrated SATA controller
- Expansion slots: five total – two PCI-E slots, two PCI-X slots, and one PCI slot
- Front Ports: 2 USB 2.0
- Rear Ports: one Serial, one Parallel, one Video, five USB 2.0, and one RJ45
- Memory: 1GB DDR2 667MHz, Single Ranked FB DIMMS ECC
- Media Drive: EIDE CDRW/DVD-ROM Drive
- Hard Drive: one 80GB 7.2K RPM SATA II Hard Drive
- Removable Drive: 3.5 inch, 1.44 Mb floppy drive
- Video: integrated ATI ES1000 controller with 16 MB SDRAM
- 750W non-redundant Power Supply

Optional features

The following is a list of the additional options that may be configured in your platform:

- Dual NIC
- Single NIC
- LCNP4M
- Universal ControlNet Interface
- Memory upgrade to 2 GB, 3 GB, or 4 GB

Power Cords

The following table lists the AC power cords applicable to a tower configuration.

Part Description	Part Number
AC power cord, 110 V	Use cable supplied with server
AC power cord, 220 V	(1) 5130557-100

The following table lists the Honeywell AC power cords (factory installed) applicable to a cabinet configuration.

Part Description	Part Number
AC power cord, 120	51305490-600
AC power cord, 240	51305489-600

1.3 Finding Information for Your Platform

Honeywell documentation

The following table lists other Honeywell publications that may be useful when installing or operating the server platform.

Table 1-1 Honeywell Publications

Publication	Contains information on
RE01: *Honeywell Remoting Options*	Contains information for using a remote system with the computer platform.
ADP01: *Honeywell Peripheral Adapters*	Contains information for using the OEP/IKB adapter with computer platforms that do not have the ISA card.
FE05: *Fault Tolerant Ethernet Installation and Service Guide*	Contains information for installing and using FTE.

Dell documentation

The following table lists Dell publications and other sources of information that will be useful when installing, operating, and servicing the Honeywell server.

Table 1-2 Dell Publications

Publication	Contains information on	Available
Information Update	Last-minute updates about technical changes to your computer or advanced technical-reference material for experienced users or technicians	Packaged with the computer
Dell™ PowerEdge™ Product Information Guide	Warranty information Safety information	Packaged with the computer www.dell.com
Getting Started With Your System	Unpacking and connecting cables	Packaged with the computer
Quick Installation Guide	Installing and configuring the server and operating system	Packaged with the computer Product Documentation CD
Dell™ PowerEdge™ PE SC1430 Systems User's Guide	How to remove and replace parts Technical specifications How to configure system settings How to troubleshoot and solve problems	Product Documentation CD www.dell.com
Dell™ PowerEdge™ Operating System Driver Installation Guide	Installing system drive	Packaged with the computer www.dell.com
Dell™ PowerEdge™ PE SC1430 Systems Installation and Troubleshooting Guide	Diagnosing problems Using status indicators for troubleshooting	Product Documentation CD www.dell.com

1.4 TPN Slot Requirements

For more detailed slot configuration see Table 4-2.

TPN Node setup

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	LCNP4M
Slot 6 – PCI-X	Dual NIC/Single NIC/Free Slot

1.5 FTE Slot Requirements

FTE must be used on the dual NIC card that is installed in PCI-X slot 6. Only one on-board NIC may be used with FTE. For more detailed slot configuration see Table 4-3.

FTE Supervisory and Controlnet

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	Universal ControlNet Interface
Slot 6 – PCI-X	Dual NIC/Single NIC/Free Slot

FTE Supervisory and LCNP4M

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	LCNP4M
Slot 6 – PCI-X	Dual NIC

FTE co-joined via on-board single NIC for EHG

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	LCNP4M or CNET
Slot 6 – PCI-X	Dual NIC

1.6 General Ethernet Slot Requirements

For more detailed slot configuration see Table 4-3.

Option 1 – Single Ethernet (on-board NIC used)

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	Free Slot
Slot 6 – PCI-X	Free Slot

Option 2 – Dual Ethernet (on-board NIC used plus one single NIC)

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	Free Slot
Slot 6 – PCI-X	Single NIC

Option 3 – Triple Ethernet (on-board NIC used plus one dual NIC)

Slot Description	Option
Slot 1 – PCI-E x4	Free Slot
Slot 3 – PCI-E x16	Free Slot
Slot 4 – PCI	Free Slot
Slot 5 – PCI-X	Free Slot
Slot 6 – PCI-X	Dual NIC

1.7 Honeywell Server Options

Device options

In addition to the standard configuration, your platform may be configured with additional options based on the model number you ordered. The following table lists optional items for this server.

Model Number	Option Description
NE-NICS01-100	Dual NIC
MZ-PCEB32-100	Single NIC
TC-PCIC02-100	Universal ControlNet Interface
TP-LCNP02-100	LCNP4M
MZ-PCEM05-100	Two 512 MB matched memory DIMMS
MZ-PCEM04-100	Two 1 GB matched memory DIMMS

NE-NICSS1	Single NIC PCIe, Server
NE-NICS02	Dual Port NIC PCIe STP
NE-NICS03	Dual Port NIC, PCIe, GB , ET Chipset

If your default network configuration (Dual Embedded NIC or Intel Pro 1000 MT PCI based add on card) fails and if you are unable to find similar replacement card, then you can install Intel NE-NICS02 or NE-NICS03, cards on the slot-1.

Memory Option Configuration

System memory can be increased to a maximum of 4 GB. The memory capacity can be increased to 2 GB by ordering memory option kit, MZ-PCEM05, which contains two 512 MB matched memory DIMMs. The memory capacity can be increased to 3 GB by ordering memory option kit, MZ-PCEM04, which contains two 1 GB matched memory DIMMs and to 4 GB by ordering two memory option kits, MZ-PCEM04. Memory devices must be from the same memory supplier.

The following table shows the placement of memory devices for the memory capacity options. The table is organized so that the DIMM sockets are in the same order as they are located on the motherboard.

Table 1-3 Standard and Optional Memory Configuration

DIMM Socket	1 GB Memory (standard)	2 GB Memory	3 GB Memory	4 GB Memory
1	512 MB	512 MB	512 MB	1 GB
2	512 MB	512 MB	512 MB	1 GB
3		512 MB	1 GB	1 GB
4		512 MB	1 GB	1 GB

1.8 Other Options

Honeywell offers a cabinet mounted 8-port KVM switch/control console (model number TP-KVMCB1 for switch with PS/2 interface and model number TP-KVMCB2 for switch with USB interface) to provide a human interface (booting and maintenance activities) to cabinet mounted servers. Either option comes pre-installed from the Honeywell factory.

1.9 Specifications

Environmental specifications for a tower unit

The following tables list environmental limitations for a tower unit.

Table 1-4 Environmental Operating Specifications for a Tower Unit

Description	Tower (Not Rackable)
Temperature	10º to 35º C (50º -95º F)
Relative Humidity	8 to 85%, non-condensing

Table 1-5 Environmental Storage Specifications for a Tower Unit

Description	Tower (Not Rackable)
Temperature	-40º to 65º C (-40º to 149º F)
Relative Humidity	5 to 95%, non-condensing

Environmental specifications for a cabinet

The following table lists operating environmental limitations.

Table 1-6 Environmental Operating Specifications for a Cabinet

Description	Rack Mount
Ambient room temperature	+10 to 30 º C (50º - 86º F)
Humidity	20 to 80% RH, non-condensing
Operating vibration	0.012” P-P displ 5.0 Hz to 12.7 Hz, then 0.1g to 150 Hz; 60 min per axis, all 3 axes
Site induced shock	6g, 10 msec half-sine pulses, 1 positive, 1 negative, all 3 axes

Electronic assembly specifications

The following tables list electronic assembly specifications.

Table 1-7 Typical Operating Power Requirements

Description	Requirement
DC POWER	N/A
AC Voltage	120 (90-132) Vrms 240 (180-260) Vrms
AC RMS Current	1.5 Arms .94 Arms
AC Power	168 Watts 164 Watts

Table 1-8 Maximum Operating Power Requirements

Description	Requirement
DC POWER	N/A
AC Voltage	120 (90-132) Vrms 240 (180-260) Vrms
AC RMS Current	2.02 Arms 1.16 Arms
AC Power	239 Watts 232 Watts

Table 1-9 Electronic Assembly Weight and Dimensions

Description	Requirement
Height	447 mm (17.60 in.)
Width	170 mm (6.69 in.)
Depth	468.4 mm (18.44 in.)
Weight	18.6 Kg (41bs)

Hard disk drive specifications

The server platform has two hard disk drive bays. It uses one 80 GB, 7.2K RPM, SATA hard drive. The second hard drive bay is empty. There is no option to add additional hard drive(s). Disk drives in this platform must be the same size (GB) and speed (RPM).

Table 1-10 80 GB Hard Disk Drive Power Requirements

Description	Requirement
DC 5 volt Power (typ)	5 Watts +/- 5%
DC 12 volt Power (typ)	12 Watts +10%, -8%
Other DC POWER	22 Watts Max, 10.0 Watts idle

Table 1-11 80 GB Hard Disk Drive Weight and Dimensions

Description	Requirement
Height	25.4 mm (1 in.)
Width	101.6 mm (4 in.)
Depth	146.0 mm (5.75 in.)
Weight	0.6 kg (1.32 lbs)

Removable media specifications

The server has one dedicated 3.5 inch floppy drive. This floppy drive is to be left in place and cannot be remotely mounted. The server platform is configured with one removable media drive, a CD-RW/DVD-ROM drive. The CD-RW/DVD-ROM drive is pinned to "Master" and is connected to the IDE1 connector on the motherboard.

Table 1-12 Removable Media Power Requirements

Description	Device Requirements
	CDRW/DVD ROM
DC 5 volt Power	13.0 Watts

Mouse and Keyboard

The USB mouse is the standard cursor control device and is included with the server platform. A USB standard keyboard is also included.

When running Dell diagnostics the USB keyboard must be connected to a USB port on the back panel. To run Dell diagnostics successfully while the keyboard is connected to a front panel USB port you must download the latest diagnostics from the Dell Support Website at http://support.dell.com.

Honeywell offers a cabinet mounted 8-port KVM switch/control console (model number TP-KVMCB1 for switch with PS/2 interface and model number TP-KVMCB2 for switch

with USB interface) to a provide human interface (booting and maintenance activities) to cabinet mounted servers. Either option comes pre-installed from the Honeywell factory.

Monitor

A monitor is required for the server operating system. This platform is configured with a single screen option only and an on-board integrated ATI ES1000 video controller. A monitor does not come with this server platform; you must order a monitor separately. A laptop with terminal emulation software can also be used.

CAUTION: The video cable must support DDC. If either a monitor or video cable that does not support DDC is connected, the display generator will default to a resolution that precludes communication with the system software and stops startup. A quick check to determine if a cable is DDC compatible is to check that pins 5, 9, and 12 of the HD 15 connector are wired. The supplied cable, part number 51196742-200 is DDC compatible.

The server platform supports industrial standard video formats, typically 1280x1024, at a refresh rate of 75Hz or 1024x768 at a refresh rate of 75Hz.

1.10 Industrial Regulatory Compliance

Overview

The compliance specifications in this section apply to cabinet installations.

WARNING

Honeywell does not claim Safety Compliance or Electromagnetic Compatibility (EMC) Compliance for system equipment configurations that have not been described in this manual as standard system configurations. Any equipment configuration other than that described in this publication decertifies the Safety and EMC compliance of this product.

Electromagnetic Compatibility (EMC)

Table 1-13 EMC Specifications (Industrial Regulatory)

European Community:	
Emissions:	IEC 61326, 1997 (Industrial Locations, CISPR 11, Class A)
Immunity:	IEC 61326, 1997 (Industrial Locations)
Attention: The following formula is a proximity guideline, for use of Portable Transceivers	
	(walkie-talkies) in the frequency range of 80MHz to 1GHz: **D > 0.30*√{P}** (D must be greater than 0.30 multiplied by the square root of P) **D** = Distance from equipment, in meters. **P** = Power Output of the Portable Transceivers (walkie-talkies), in Watts. **Examples:** P = 10 Watts, D > 0.949 meters P = 5 Watts, D > 0.671 meters P = 1 Watt, D > 0.300 meters
	Note: Electrical cables, which are routed external to the equipment, must be fully shielded cables (360 degree metallic shielding), in order to comply with the above EMC standards.

Safety compliance

Table 1-14 Safety Compliance (Industrial Regulatory)

Product Safety Compliance:	
	CSA C22.2 No. 1010.1-92 (R1999) & 1010.1B-97 (R2001) Am. 2
	IEC 61010-1, 2001, 2nd edition
	Note: Within the above referenced standards is a “Normative Reference” section citing additional standards, which may apply as, suited and required for product compliance.

1.11 Light Industrial Regulatory Compliance

Overview

The compliance specifications in this section apply to installations other than cabinets.

WARNING

Honeywell does not claim Safety Compliance or Electromagnetic Compatibility (EMC) Compliance for system equipment configurations that have not been described in this manual as standard system configurations. Any equipment configuration other than that described in this publication decertifies the Safety and EMC compliance of this product.

Electromagnetic Compatibility (EMC)

Table 1-15 EMC Specifications (Light Industrial Regulatory)

European Community:	
Emissions:	IEC 61326, 1997 (Basic Requirements, CISPR11, Class A)
Immunity:	IEC 61326, 1997 (Basic Requirements)
Attention: The following formula is a proximity guideline, for use of Portable Transceivers	
	(walkie-talkies) in the frequency range of 80MHz to 1GHz: **D >** $\sqrt{}${**P**} (D must be greater than the square root of P) **D** = Distance from equipment, in meters. **P** = Power Output of the Portable Transceivers (walkie-talkies), in Watts. **Examples:** P = 10 Watts, D > 3.162 meters P = 5 Watts, D > 2.236 meters P = 1 Watt, D > 1.000 meters
	Note: Electrical cables, which are routed external to the equipment, must be fully shielded cables (360 degree metallic shielding), in order to comply with the above EMC standards.

Safety Compliance

Table 1-16 Safety Compliance (Light Industrial Regulatory)

Product Safety Compliance:	
	CSA C22.2 No. 1010.1-92 (R1999) & 1010.1B-97 (R2001) Am. 2
	IEC 61010-1, 2001, 2nd edition
	Note: Within the above referenced standards is a “Normative Reference” section citing additional standards, which may apply as, suited and required for product compliance.

2. Installation

2.1 Introduction

Overview

This section contains procedures for installing and cabling the server as a tower unit or in an 800mm deep equipment Honeywell cabinet, model number MP-C8LCB1 or 1000mm deep equipment Honeywell cabinet, model number MP-C1MCB1.

Tasks for installing the server

The following table lists the major platform installation tasks.

Table 2-1 Server Installation Tasks

	Task	For more information see . . .
✓	Be aware of all power and grounding requirements for your furniture.	Specific site requirements Section 2.2, Power and Grounding Requirements *TPN System Installation (SW20-600), Section 4, System Grounding*
✓	Install tower unit or Install the server in the cabinet.	Figure 2-1 for cable connections Section 2.4, Installing the Server in a Cabinet
✓	Start up the Server	Section 2.7, Start up the Server
✓	If you are remotely connecting the computer, connect the remote components.	*Remote Peripheral Systems Installation and Upgrade (RE01)*

Before you begin

Before performing the procedures in this section, verify the following tasks have been performed.

✓	Description
	Verify the cabinet has been properly grounded.
	Unpack the platform from the box and verify all parts are accounted for.
	Use a #2 Philips head screwdriver.
	Position the server on a secure surface near the cabinet it will be mounted in.
	Identify and verify all necessary cables for your particular configuration are available.

2.2 Power and Grounding Requirements

Grounding for server based nodes

The ground connection is made through the third wire in the AC power cord.

Grounding cabinet

The *TPN System Installation Manual, SW20-600, Section 4, "System Grounding"* contains information on grounding furniture, including the following:

- Ground Wiring Overview
- Grounding LCN Cabinets and Stations
- Cabinet Logic Ground
- Grounding LCN Cables

AC Power Warning

53895

WARNING

The power supply circuit is connected to AC power when the power cable is connected. The power control switch on the front panel only enables the power supply circuit outputs.

ATTENTION

It is strongly recommended that the power cord be connected to a clean power source with backup such as an Uninterruptible Power Source (UPS).

2.3 Back Panel Connections

Back panel connections

The following picture shows the back panel of the server and identifies the connectors for all devices.

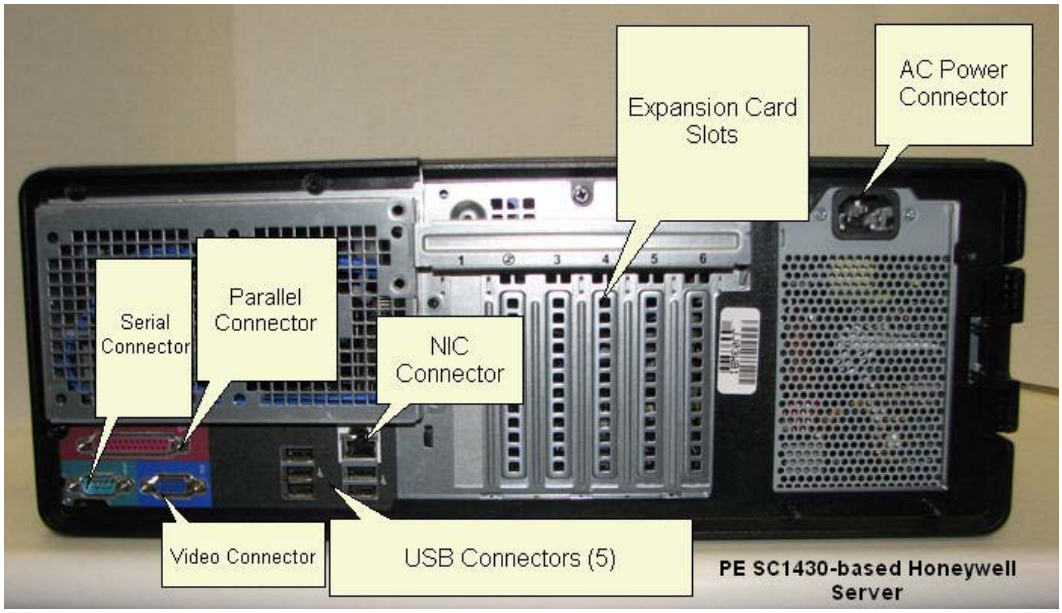


Figure 2-1 PE SC1430-based Back Panel Connections

2.4 Installing the Server in a Cabinet

Overview

The server is mounted in a cabinet in a horizontal position. This procedure assumes a new cabinet (800mm deep equipment cabinet, Honeywell model number MP-C8LCB1 or 1000mm deep equipment cabinet, Honeywell model number MP-C1MCB1) was shipped from the Honeywell factory with workstation mounting kit model numbers TP-WPCMF1 (fixed mount) and/or TP-WPCMS1 (slide mount) pre-assembled.

Mounting devices in cabinet

Servers can be mounted in a cabinet using the fixed or slide mount options. Due to safety and center-of-gravity considerations, servers must be mounted starting at the bottom of the cabinet. The maximum number of computing nodes mountable in a 1-meter deep cabinet (MP-C1MCB1) is determined by the mix of servers, workstations, human interface KVM switch/console, whether "fixed" or "slide mount" hardware is used and total power dissipation. The mounting rail height available in any cabinet is 40U (U is 1.75 inches). Due to AC power and thermal constraints the total number of computing nodes allowed to be mounted in the 800mm deep cabinet (MP-C8LCB1) must not exceed nine (9) computing nodes. The various devices mounted in the cabinet require RETMA standard cabinet openings as specified in Table 2-2. Space required for other devices not listed below can be found in the corresponding device manuals.

Table 2-2 Cabinet Mounting Requirements

Option	Rack Space Needed	Mounting Requirements
Slide mounted	5U 8.75 inches 22.2 cm	Any unused space must have a blank front panel and air duct baffle installed in the unused space to ensure proper airflow in the cabinet. Maximum number of computing nodes will be determined by total power dissipation.
Fixed mounted	4U 7.00 inches 17.8 cm	
Human interface: 8 port KVM switch; 15-inch LCD; keyboard & cursor device	1U 1.88 inches 4.78 cm	Mount in rack space 16U on telescopic slides.
MAU	None	Mounted on the air baffle duct on the left rear corner of the cabinet (when viewed from the rear door) near the vertical cable duct.

Unused cabinet spaces

ATTENTION

To ensure proper computer cooling and airflow through the cabinet, all unused rack mount locations must have a blank front panel and air duct baffle installed.

All unused rack mount locations must have blank front panels and air duct baffles installed to ensure proper cooling. These are available in four height options. The following table shows the four height options and the corresponding part and tab numbers each.

Table 2-3 Air Duct Baffle and Blank Front Panel Height Options

Height Option	Part	Part Number	Tab number
1U	Blank front panel	51201248	-100
	Air duct baffle	51303521	-100
2U	Blank front panel	51201248	-200
	Air duct baffle	51303521	-200
3U	Blank front panel	51201248	-300
	Air duct baffle	51303521	-300
4U	Blank front panel	51201248	-400
	Air duct baffle	51303521	-400

Install server in cabinet using the fixed mount option

Use the procedure below to install the server in the cabinet using fixed mount hardware.

Step	Action
1	Open the cabinet door to access the inside of the cabinet.
2	If the retaining brackets are attached, loosen the two captivated screws on each bracket and remove them. 
3	Verify that the cabinet mounting rails are clear of any installed cables.
4	Using two people, slide the server all the way into the cabinet enclosure between the mounting railings.
5	Replace the two retaining brackets and tighten the four captivated screws.
6	If necessary, go to Section 2.6 to install an air duct baffle and blank front panel. Note: Any unused rack mount space must have an air duct baffle and blank front panel installed.
7	Go to Section 2.5 to connect the AC power cord and cables to the back panel of the server.

Install server in cabinet using the slide mount option

Use the following procedure to install the server in the cabinet using the slide mount hardware.

Step	Action
1	Open the front cabinet door to access the inside of the cabinet.
2	If the retaining brackets are attached, loosen the two captivated screws on each bracket and remove them.
3	Verify that the slide mount bottom and sides are clear of any installed cables.
4	Using the mounting tray handle, pull the tray to its fully extended and locked position. 
5	Using two people, place the server on the mounting tray so the bottom surface of the front bezel is aligned with the front surface of the slide tray and slide the tray back into the console.
6	Replace the two retaining brackets and tighten the four captivated screws.
7	From the rear of the cabinet, slide the retainer bracket (L-shaped angle bracket) forward in its slot until it contacts the back surface of the server chassis. Tighten the lock nut.

Step	Action
8	If necessary, go to Section 2.6 to install an air duct baffle and blank front panel. Note: Any unused rack mount space must have an air duct baffle and blank front panel installed.
9	Continue to Section 2.5 to connect the AC power cord and cables to the back panel of the server.

2.5 Connect Cables

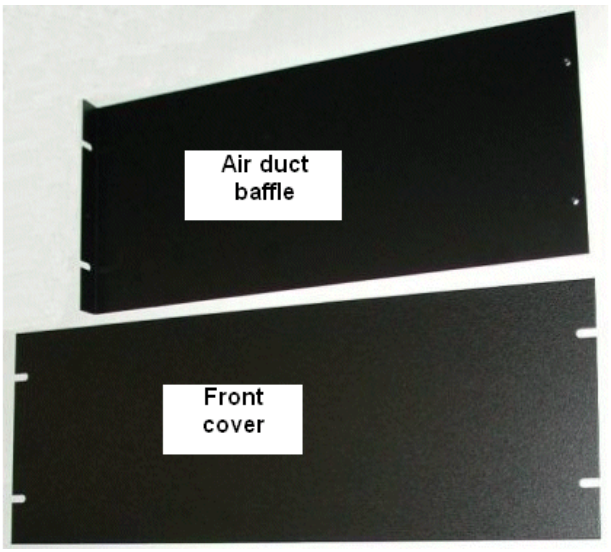
Use this procedure to connect power cord and cables to the server platform. If you are using a remoting option, refer to the installation instructions supplied with the remote. Refer to Figure 2-1 for back panel connections.

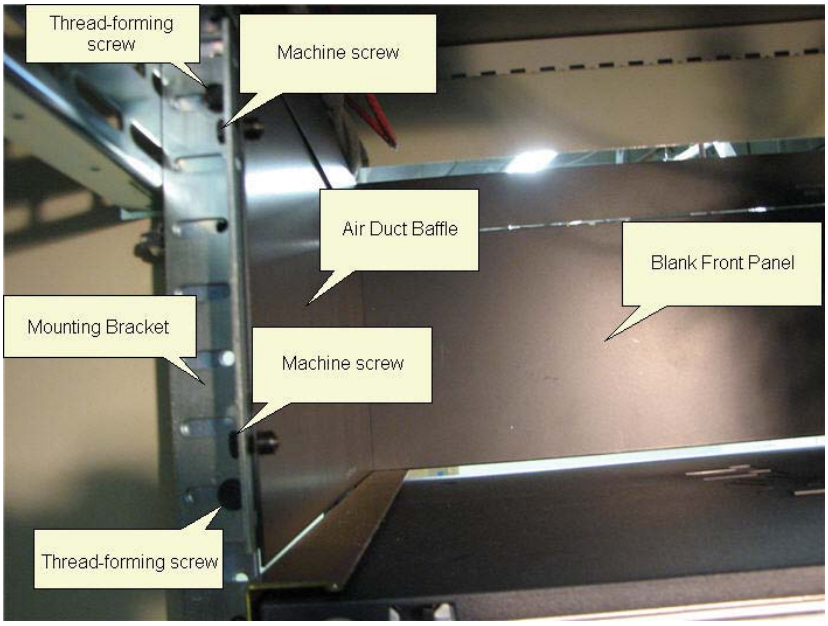
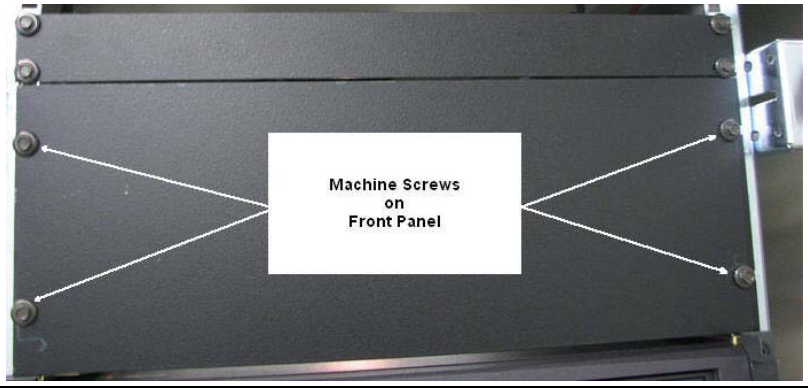
Step	Action
1	If the server is a tower unit, place the server in its proper location. Connect the Dell power cords and all cables to the back panel of the server. If the server is a rack mount, open the rear door of the cabinet to access the server and continue to the next step.
2	If you are using the 8-port KVM switch/control console for your human interface (pre-installed in the Honeywell factory), connect the KVM cable mouse and keyboard connections to the USB connectors on the rear of the server. The KVM cable may have separate USB connections for the mouse and keyboard or they may be combined into one USB connector via a USB to PS/2 adapter (included with the KVM cable).
 **3**	**WARNING**: AC power cords from all computing nodes mounted within a given cabinet must be distributed across the two power entries as equally as possible. Failure to do so may result in tripping the circuit breaker(s). Connect the video cable, network interface cable(s), and the Honeywell AC power cord that is factory installed in the cabinet configuration. For more power cord information refer to Power Cords in Section 1.2.
4	If you are not using Fault Tolerant Ethernet (FTE), connect the Ethernet cable to the on-board RJ-45 connector. If you are using FTE, connect the FTE cable to the NIC card in the expansion slot.
5	Secure any loose cables, and verify that all cables have proper strain relief.

Step	Action
6	Go to Section 2.7, Starting up your Server, to complete the installation.

2.6 Install air duct baffles and blank front panels in cabinet

Use the following procedure to install the air duct baffle and blank front panels in the cabinet. These are available in four height options, refer to Table 2-3 for height options. Installing these parts will insure that the airflow within the cabinet allows proper cooling of the computers.



Step	Action
1	Place the air duct baffle inside the cabinet with the bent tab resting along the front of the right cabinet rail. 
2	Place the blank front panel across the front of the cabinet rails and attach it to the air duct baffle and right cabinet rail using two machine screws and two external tooth washers threaded into the two clip nuts and tighten the screws. 
3	Attach the other side of the blank front panel to the left cabinet rail using two machine screws and two external tooth washers threaded into the two clip

Step	Action
	nuts and tighten the screws.
4	Attach the rear mounting bracket to the rear cabinet rail using two thread forming screws and two external tooth washers and tighten the screws.
5	Attach the air duct baffle to the rear mounting bracket using two machine screws and two external tooth washers threaded into the two self clinching nuts. Tighten the screws.

2.7 Starting up your Server

Overview

The following table lists those tasks that must be performed prior to operating your server platform. This section contains procedures for each of these tasks.

Note: Cabinet mounted servers that do not have a KVM switch/console require the connection of the USB mouse and keyboard (supplied with the server) for server startup.

✓	Task
	Turn on power and check status.
	Check LCNP4M status.

Turn on power and check status

Step	Action
1	Press the power button on the front panel.
2	Wait for the power light to become solid green.
3	If the power light does not become solid green, refer to the *"Advanced Troubleshooting" section of the Dell Precision™ PE SC1430 System User's Guide.*

Check LCNP4M status

If this is a TPS node with the LCNP4M board installed, verify that the LCNP4M passed self test.

Step	Action
1	From the **Start** menu, go to Programs>Honeywell TPS, select **LCNP4M Status**.
2	Verify that the LCNP4M status indicates **Passed Self Test** and the circle is green.

Step	Action
3	Verify that **TPN Address** appears in the **LEDs** field of the LCNP Status display once Board 0 has been configured for the node's TPN address. You will need to reset the LCNP after configuration.

REFERENCE

Refer to the LCNP Status section in the *LCNP Status User's Guide* for more information.

3. Operation

3.1 Overview

Front view of server

The following figure shows the front view of the server.

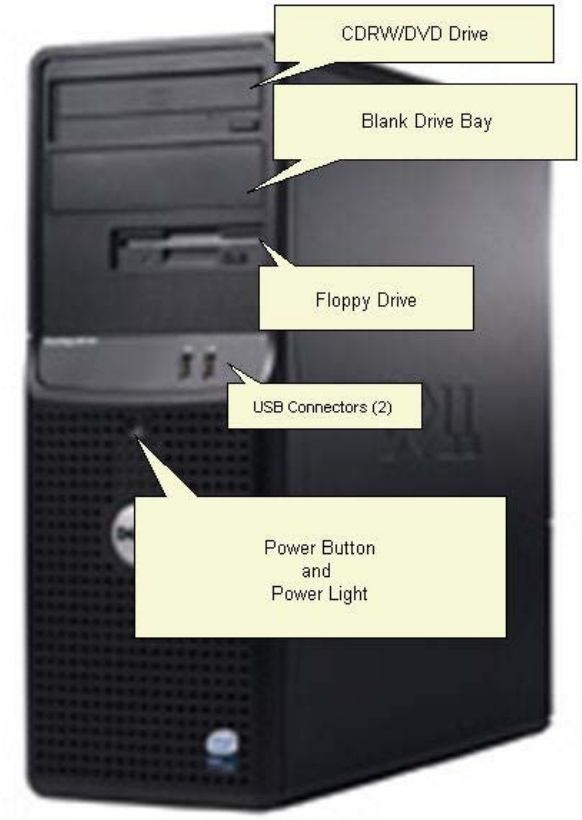


Figure 3-1 Front View of PE SC1430-based Server

Additional references

The following table lists the Dell publications that contain operation and servicing information.

Table 3-1 Dell Publications for Operation and Servicing

Publication	Contains information on	Available
Information Update	Last-minute updates about technical changes to your computer or advanced technical-reference material for experienced users or technicians	Packaged with the computer
Dell™ PowerEdge™ Product Information Guide	Warranty information Safety information	Packaged with the computer www.dell.com
Dell™ PowerEdge™ PE SC1430 Systems User's Guide	How to remove and replace parts Technical specifications How to configure system settings How to troubleshoot and solve problems	Product Documentation CD www.dell.com
Windows Installation Instructions and Important Information	Initialization of the Windows operating system 2003	Packaged with the computer www.dell.com

3.2 Network Connections

Overview

Each server platform must be connected to an LCN network and/or an ETHERNET network. The standard default for the on-board NIC in the BIOS is disabled. For general Ethernet and some FTE configurations the BIOS must be enabled, refer to Section 4.5 to verify BIOS settings.

Ethernet network

One ETHERNET 10/100/1000 embedded Base T connections are standard on the server platform. TPS/Experion FTE systems will only use the installed PCI-X Dual NIC. If you are using FTE, you must install the FTE cables according to the specific instructions in the *FTE Installation and Service Guide*.

LCN network

The connection to the LCN is made through a Local Control Network Processor (LCNP4M) card. This card is a Honeywell card that allows the TPS Operator Station to emulate Universal Stations. This card provides the communication path for the server to other LCN modules. The LCNP4M consists of an LCNP4M card, a MAU cable, and the LCN MAU (Media Access Unit). The LCNP4M card is a three quarter length PCI card that consumes PCI-X slot 5. The LCNP4M, MAU, and MAU cable are required to connect to the LCN Network.

The LCN node address should be set to the address the customer requires. If the LCN address is not known, the node address should be set to zero (0). Setting the address to zero (0) allows the node to be connected to the LCN without the risk of an address conflict with some other node. This is consistent with the current LCN standard procedure.

The server platform uses a digital system clock. When the server platform is added to an existing system that contains node running analog clocks, that system must have at least two (2) KxLCN boards for analog/digital conversion.

Note: LCNP4M card cannot be replaced with an LCNP4 card. The LCNP4M (model number TP-LCNP02-100) is required.

LCN cables

Tower Unit

The two cables and T-connectors (and terminators, if applicable) must be located underneath (the future location) of the unit, with an additional loop, 1 meter in length (with a T-connector), to be routed into the rear of the platform where the connection is made to the LCN MAU. The cable between the LCNP4M board and the LCN MAU is 2 meters in length.

Cabinet Mounted Server

The two LCN cables and with T-connectors (and terminators, if applicable) are routed vertically inside the left rear corner of the cabinet (when viewed from the rear door) near the vertical cable duct where the connection is made to the LCN MAU. The cable between the LCNP4M board and the LCN MAU is 2 meters in length.

Refer to *LCN System Installation, Subsection 3.6* for the rules and techniques of installing an LCN cable system.

LCN connections

The LCN Cable A and Cable B connections are made through a single cable from the LCNP4M board to the LCN Media Access Unit (MAU) contained in a metal housing.

MAU connection

Connect the MAU to both Cable A and Cable B coax T-connector as shown below (tower unit MAU shown, cabinet mounted MAU similar).

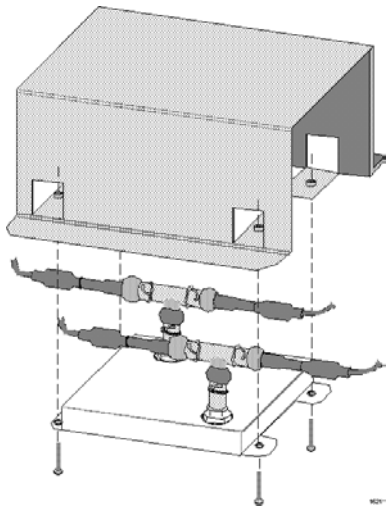


Figure 3-2 LCN MAU to LCN Cable T-Connections

ControlNet Network

A ControlNet network is a single coaxial trunk cable broken up into segments interconnected by links. Node connections to the network are created through a tap and drop cable. Repeaters are used to link segments together and for changes in media from coax to fiber optic. All points on the network must either have an interface card or a terminator. Terminators are comprised of termination resistors, which are used to mark the beginning and end of a trunk segment and TDLs (Tap dummy load) which terminate a drop cable when no node is present. The model number for the Universal ControlNet Interface is TC-PCIC02-100.

4. Servicing

4.1 Servicing the PE SC1430-based Server

Before you begin servicing

Attention

Perform a complete system shutdown before you begin any of the procedures in this section.

CAUTION

Before you begin any of the procedures in this section, follow the safety instructions in the *Dell System Information Guide*.

CAUTION

To avoid electrical shock, always unplug your computer from the electrical outlet before opening the cover.

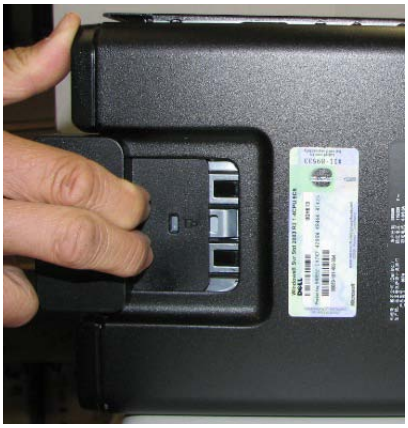
Attention

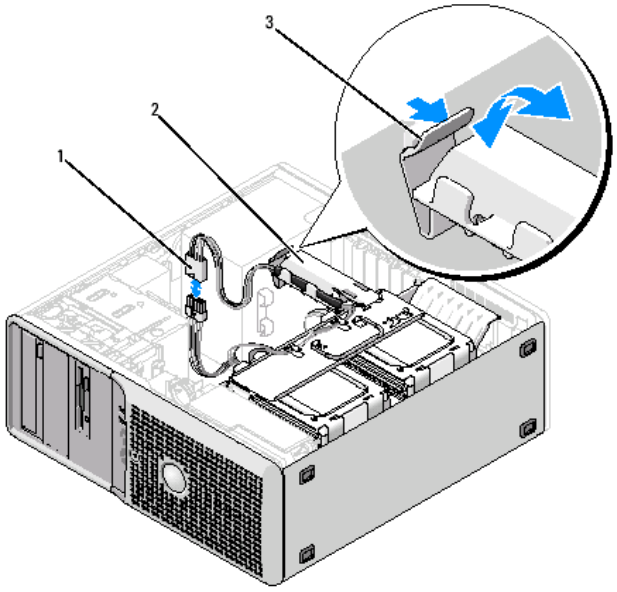
Be careful when opening the computer cover to ensure that you do not accidentally disconnect cables from the system board.

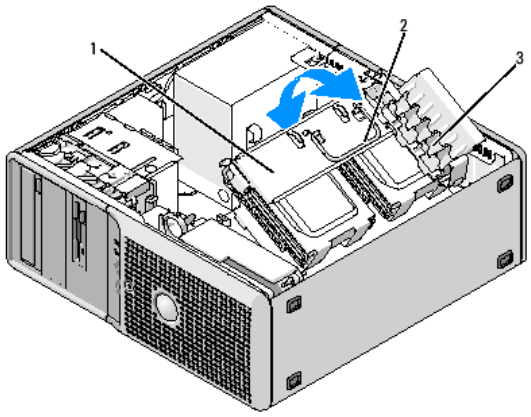
Accessing the electronics

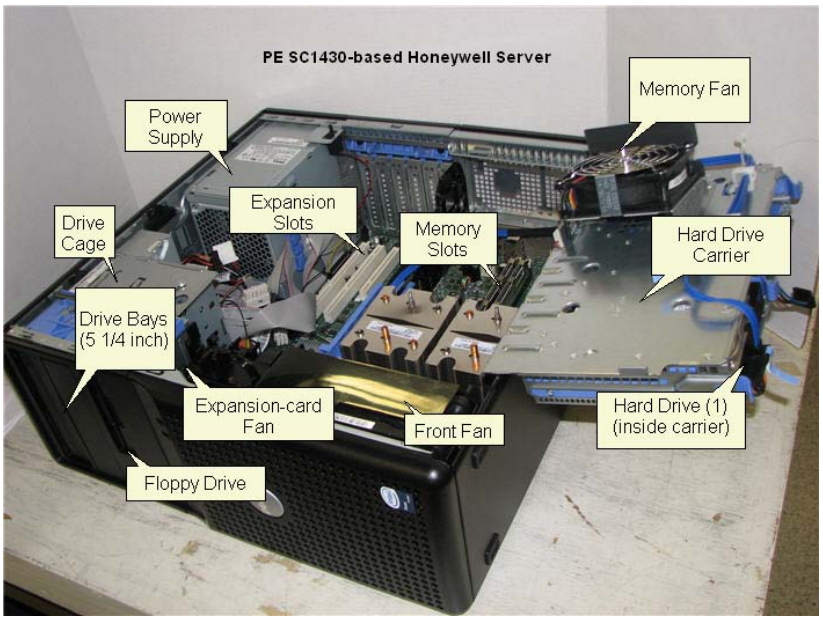
To simplify servicing the server enclosure, see also *"Removing and Installing Parts" in the Dell™ PowerEdge™ SC1430 Systems Installation and Troubleshooting Guide.*

Step	Action
1	Perform a complete system shutdown.
2	Disconnect power cord and cables from the bank panel of the server.

Step	Action
	Attention: Because of the weight (41 lbs, 18.6 Kg) and length of the server two people should perform this procedure.
3	Remove the server from the cabinet and lay the system on its side (horizontal) on a secure surface. If using the server as a tower unit, lay the system on its side (horizontal) on a secure surface.
4	Locate the release cover tab on top of the system.
5	Slide the release cover tab toward the rear of the system to release the cover. 

Step	Action
6	Lift the edge of the cover up. 
7	Grasp the cover on both sides, and lift the cover off. Set the cover aside, away from the system.
8	Press the release latch on the P3 power cable connector beside the power supply and pull the connectors apart.  1 P3 power connector 2 card retention mechanism 3 release tab

Step	Action
9	Press the card retention mechanism release tab and rotate the card retention mechanism so that it rests against the rotatable hard drive carrier.
10	Grasp the handle on the hard drive carrier and rotate the carrier out of the chassis. Rotate the carrier approximately 180 degrees from its original position. Do not force it any further.  1 rotatable hard-drive carrier 2 handle 3 card-retention mechanism

Step	Action
11	Service the hardware components as required: • For servicing the LCNP4M board, see Section 4.2. • For servicing the hard drive and power supply, see Section 4.3. • For servicing other Honeywell installed options, see Section 4.4. • For other components, see the *Dell™ PowerEdge™ SC1430 Systems Installation and Troubleshooting Guide*. 

4.2 Servicing the LCNP4M Card

LCNP4M card description

The LCNP4M card has 16 MB of on-board memory.

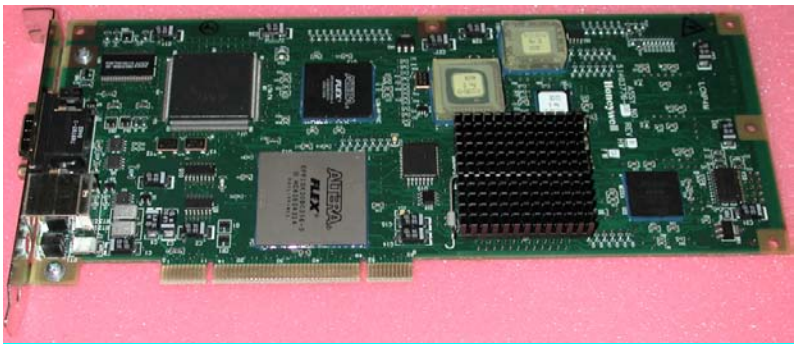


Figure 4-1 LCNP4M Card

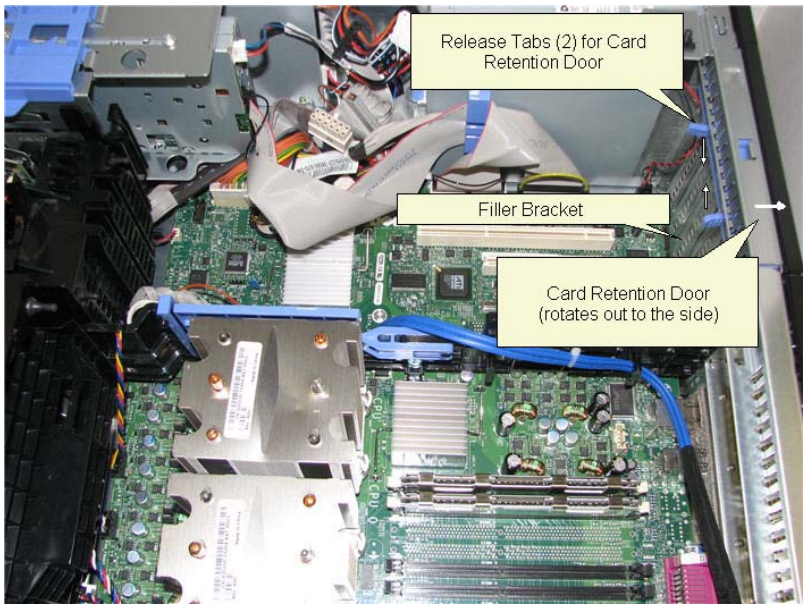
Replace the LCNP4M card

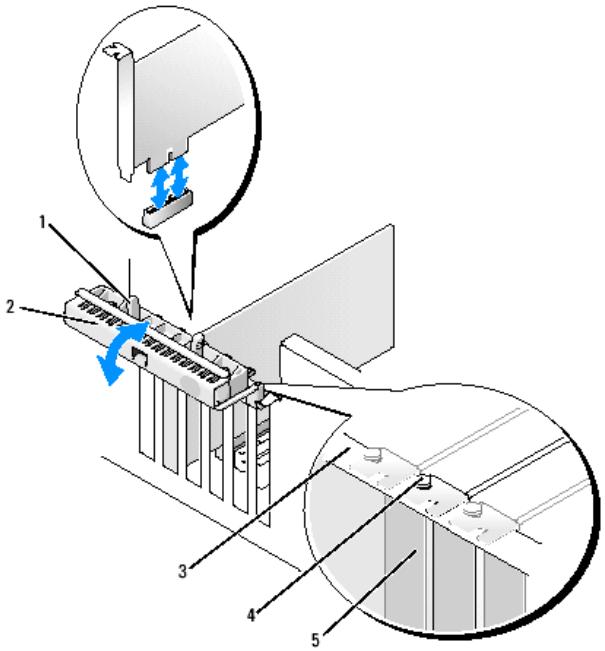
The LCNP4M card is located in the PCI-X slot 5. Use the following procedure to replace the LCNP4M card. See also *"Removing an Expansion Card" and "Installing an Expansion Card" in the Dell™ PowerEdge™ SC1430 Systems Installation and Troubleshooting Guide.*

ESD HAZARD

The LCNP4M board is an electrostatically sensitive device. Use a grounding strap and grounded work surfaces and equipment when handling this component. Store and transport parts only in electrostatically safe containers.

Step	Action
1	Perform all procedures in Section 4.1 to access the LCNP4M card including: • Shutting down system • Disconnecting power cord and cables from the server • Accessing the electronics.

Step	Action
2	Disconnect the LCN MAU cable from the LCNP4M card.
3	To access the expansion slots, push the two release tabs towards each other on the card retention door and rotate the door open. 
4	While wearing a grounded ESD wrist strap, gently slide the LCNP4M card toward the front of the system, and lift the LCNP4M card up and out of the PCI-X slot 5.

Step	Action
5	Insert the new LCNP4M card firmly into in the PCI-X slot 5 until the card is fully seated and all cards and filler brackets are flush with the alignment bar.  1 release tab 2 card retention door 3 alignment bar 4 alignment guide 5 filler bracket
6	Close the card retention door.
7	Install the screw that secures the card retention door to the expansion slot cage. (The top of the screw may be on the underside of the bracket.)
8	Reconnect the LCN MAU cable to the LCNP4M card. Note: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the system cover from closing properly or cause damage to the equipment.
9	Rotate the hard drive carrier back into the chassis.
10	Rotate the card retention mechanism back into its originally position and push the tab down until it clicks into place.

Step	Action
11	Reconnect the P3 power cable connector beside the power supply.
12	Replace the cover.
13	Replace the server in the cabinet. If using the server as a tower unit, return it to its proper location.
14	Reconnect the power cord and cables to the back panel of the server.
15	Reconnect the LCN MAU cable.
16	Press the Power On/Off button to turn the power back on.
17	Restart the Operating System.

4.3 Servicing the Hard Disk Drive and Power Supply

Overview

The server from Honeywell is configured with a non-RAID configuration with one 80 GB SATA, 3.5 inch hard drive. The configuration also contains a non-redundant power supply.

References

The following table lists the specific Dell publications and relevant sections for troubleshooting and servicing the hard disk drives and power supplies.

Table 4-1 Dell Publications for Hard Disk Drives and Power Supplies

Publication	Contains this type of information
Dell™ PowerEdge™ SC1430 Systems Installation and Troubleshooting Guide	System Overview Basic Troubleshooting Indicators, Codes, and Messages Removing and Installing Parts Jumpers and Connectors Using the System Setup Program Indicators, Codes, and Messages Finding Software Solutions Running the System Diagnostics Troubleshooting Your System Installing System Options Installing Drives Getting Help Jumpers, Switches, and Connectors I/O Ports and Connectors Abbreviations and Acronyms

4.4 Servicing Honeywell Options

Overview

CAUTION

Be careful not to damage the EMI gasket fingers when removing/installing boards.

ESD HAZARD

Use a grounding strap and grounded work surfaces and equipment when handling any electrostatically sensitive components such as the video cards, NIC adapter cards, and SCSI controller cards. Store and transport parts only in electrostatically safe containers.

Slot requirements for TPN Node Setup

The following table identifies the specific slots for the Honeywell options for a TPN node configuration.

Table 4-2 Slot Requirements for TPN Node Configuration

PCI slot 4	PCI-X slot 5	PCI-X slot 6
Free Slot	LCNP4M	Dual NIC

Slot requirements for General Ethernet and FTE Node Setup

The following table identifies the specific slots for each of the Honeywell options for general Ethernet and FTE node configurations.

Table 4-3 Slot Requirements for General Ethernet and FTE Node Configurations

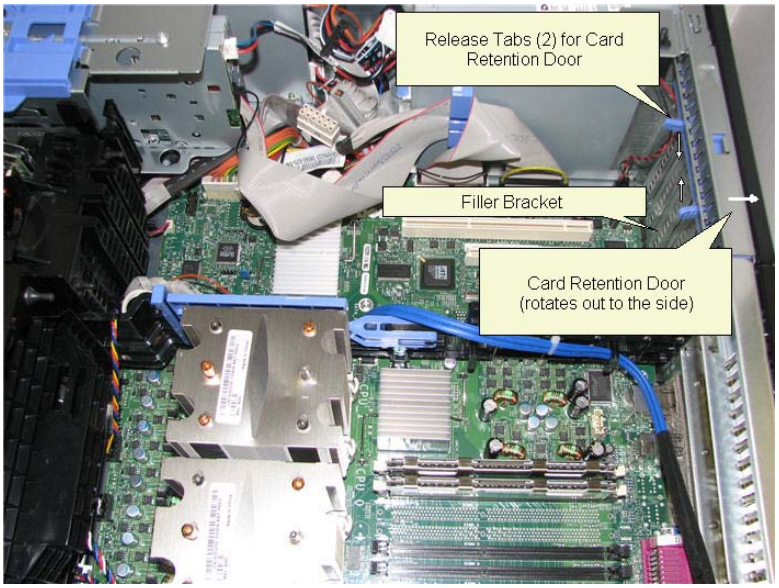
Configuration	PCI-X slot 6	PCI-X slot 5	PCI slot 4	PCI-E slot 3	PCI-E slot 1
1 NIC, standard Ethernet via on-board NIC	Free Slot	Free Slot	Free Slot	Free Slot	Free Slot
2 NICs, FTE Supervisory via on-board NIC with ControlNet	Dual NIC	ControlNet	Free Slot	Free Slot	Free Slot
2 NICs, FTE Supervisory co-joined via on-board NIC with LCNP4M	Dual NIC	LCNP4M	Free Slot	Free Slot	Free Slot
2 NICs, FTE co-joined via on-board NIC	Dual NIC	Free Slot	Free Slot	Free Slot	Free Slot
3 NICs, FTE co-joined via on-board NIC for EHG	Dual NIC	Free Slot	Free Slot	Free Slot	Free Slot
3 NICs, Standard Ethernet via on-board NIC	Dual NIC	Free Slot	Free Slot	Free Slot	Free Slot

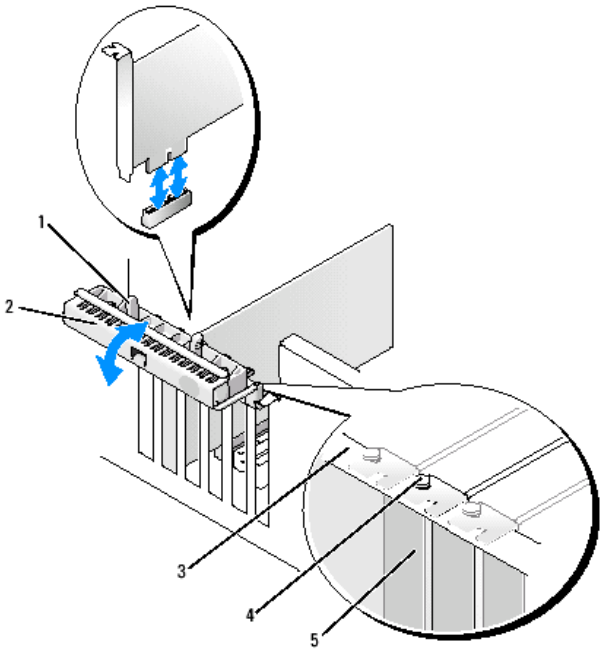
Replace cards in expansion slots

Use the following procedure to replace the expansion cards in the PCI slots. See also *"Removing an Expansion Card" and "Installing an Expansion Card" in the Dell™ PowerEdge™* PE SC1430 *Systems Installation and Troubleshooting Guide.*

ESD HAZARD

Expansion card are electrostatically sensitive device. Use a grounding strap and grounded work surfaces and equipment when handling these components. Store and transport parts only in electrostatically safe containers.

Step	Action
1	Perform all procedures in Section 4.1 to access the expansion card slots including: • Shutting down system • Disconnecting power cord and cables from the sever • Accessing the electronics.
2	Disconnect cable(s) from the expansion card.
3	To access the expansion slots, push the two release tabs towards each other on the card retention door and rotate the door open. 
4	While wearing a grounded ESD wrist strap, gently slide the expansion card toward the front of the system, and lift the expansion card up and out of the expansion card slot.

Step	Action
5	If you are replacing a card, place the expansion card firmly into the expansion slot connector until the card is fully seated and all cards and filler brackets are flush with the alignment bar. If you are removing an expansion card permanently, install a metal filler bracket over the empty expansion slot opening. If you are installing a new expansion card, remove the metal filler bracket. Place the new expansion card firmly into the expansion slot connector until the card is fully seated and all cards and filler brackets are flush with the alignment bar. Note: Keep this bracket in case you need to remove the expansion card later. Filler brackets must be installed over empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.  1 release tab 2 card retention door 3 alignment bar 4 alignment guide 5 filler bracket
6	Close the card retention door.

Step	Action
7	Install the screw that secures the card retention door to the expansion slot cage. (The top of the screw may be on the underside of the bracket.)
8	Connect the expansion card cable to the expansion card. Note: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the system cover from closing properly or cause damage to the equipment.
9	Rotate the hard-drive carrier back into the system.
10	Rotate the card retention mechanism back into its original position and push the tab down until it clicks into place.
11	Reconnect the P3 power cable connector beside the power supply.
12	Replace the cover.
13	Replace the server in the cabinet. If using the server as a tower unit, return it to its proper location.
14	Reconnect the power cords and cables to the back panel of the server.
15	Press the Power On/Off button on the platform to turn the power back on.
16	Restart the Operating System.

Add additional memory

Memory can be increased to a maximum of 4 GB. The memory capacity can be increased to 2 GB by ordering memory option kit, MZ-PCEM05, which contains two 512 MB matched memory DIMMs. The memory capacity can be increased to 3 GB by ordering memory option kit, MZ-PCEM04, which contains two 1 GB matched memory DIMMs and to 4 GB by ordering two memory option kits, MZ-PCEM04. Memory devices must be from the same memory supplier.

The following table shows the placement of memory devices for the memory capacity options. The table is organized so that the DIMM sockets are in the same order as they are located on the motherboard.

Table 4-4 Memory Upgrade Configuration

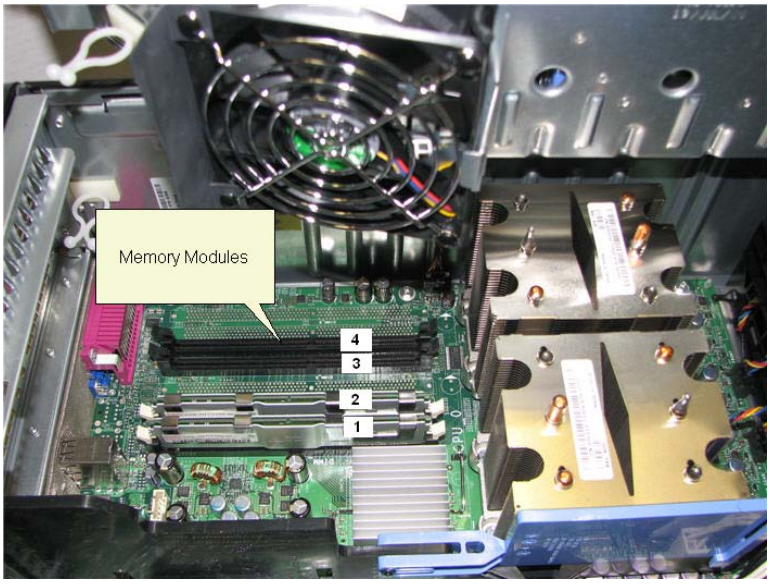
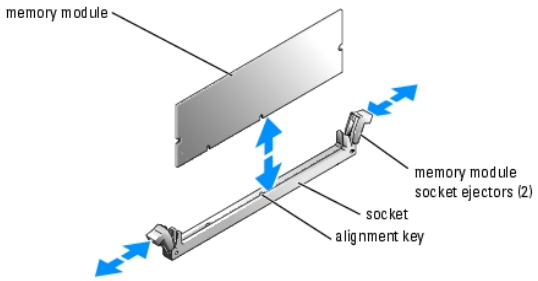
DIMM Socket	1 GB Memory (standard)	2 GB Memory	3 GB Memory	4 GB Memory
1	512 MB	512 MB	512 MB	1 GB
2	512 MB	512 MB	512 MB	1 GB
3		512 MB	1 GB	1 GB
4		512 MB	1 GB	1 GB

Use the following procedure to install the memory upgrade. See also "*Dell™ PowerEdge™ PE SC1430 Systems User's Guide*".

ESD HAZARD

Memory is electrostatically sensitive. Use a grounding strap and grounded work surfaces and equipment when handling these components. Store and transport parts only in electrostatically safe containers.

Step	Action
1	Perform all procedures in Section 4.1 to access the motherboard including: • Shutting down system • Disconnecting power cord and cables from the server • Accessing the electronics.

Step	Action
	CAUTION The DIMMs are hot to the touch for some time after the system has been powered down. Allow time for the DIMMs to cool before handling them. Handle the DIMMs by the edges and avoid touching DIMM components.
2	The DIMM sockets are now exposed. Refer to Table 4-4 for DIMM socket configuration. Standard configuration shown below. 
3	While wearing a grounded ESD wrist strap, press the ejectors on the memory module socket down and out to allow the memory module to be inserted into the socket. 

Step	Action
4	Align the memory module's connector with the alignment key on the memory module socket, and insert the memory module in the socket. Note: The memory module socket has an alignment key that allows you to install the memory module in the socket in only one way.
5	Press down on the memory module with your thumbs while pulling up on the ejectors with your index fingers to lock the memory module into the socket. When the memory module is properly seated in the socket, the ejectors on the memory module socket align with the ejectors on the other sockets that have memory modules installed.
6	Rotate the hard-drive carrier back into the system.
7	Rotate the card retention mechanism back into its original position and push the tab down until it clicks into place.
8	Reconnect the P3 power cable connector beside the power supply.
9	Replace the cover.
10	Replace the server in the cabinet. If using the server as a tower unit, return it to its proper location.
11	Reconnect the power cord and cables to the back panel of the server.
12	Press the Power On/Off button on the platform to turn the power back on.
13	Restart the Operating System.

4.5 Verifying Correct BIOS Settings

Purpose

All Honeywell systems must have the Honeywell recommended BIOS version. Honeywell configures specific BIOS settings in the factory for each of the server platform configurations. BIOS settings for the server are listed in Table 4-6 so that you may verify the correct settings. The table below list specific embedded NIC BIOS settings for general Ethernet and FTE configuration.

Table 4-5 Embedded GB NIC 1 BIOS Settings

Configuration	BIOS setting
FTE only	Disabled
FTE with EHG	Enabled without PXE
No FTE, but 1 Ethernet port	Enabled without PXE
No FTE, but 2 Ethernet ports	Enabled without PXE
No FTE, but 3 Ethernet ports	Enabled without PXE

Accessing BIOS

Use this procedure to access the BIOS and view the settings. **DO NOT** attempt to do this procedure unless you are familiar with BIOS.

Step	Action
1	Turn on the computer power. Press <F2> at startup to enter the BIOS setup utility.
2	Check to see that the BIOS version is 1.4.0.

BIOS settings

This table lists the BIOS settings configured in the factory for the server platform. Your configuration may vary.

Table 4-6 PE SC1430-based Server BIOS Settings

	Item	Value
System Time		(As appropriate)
System Date		(As Appropriate)
Memory Information		
	System Memory Size	1.0 GB or greater
	System Memory Type	DDR2 FB-DIMM
	System Memory Speed	667 MHz or greater
	Video Memory	16 MB
	System Memory Testing	Enabled
CPU Information		
	64-bit	Yes
	Core Speed	2.33 GHz or greater
	Bus Speed	1333 MHz or greater
	Virtualization Technology	Disabled
	Adjacent Cache Line Prefetch	Enabled
	Hardware Prefetcher	Enabled
	Demand_Based Power Management	Disabled
	Processor / ID • Intel® Xeon® CPU 5140 • Level 2 Cache • Number of Cores	6F6 or equivalent 2.33 GHZ or greater 4 MB or greater 2
IDE Primary Drive 0		CD-ROM Reader

	Item	Value
IDE Primary Drive 1		Off
SATA Port 0		Hard Drive
SATA Port 1		Off
SATA Port 2		Off
SATA Port 3		Off
Boot Sequence		
	a) IDE CD-ROM Device b) Diskette drive A: c) Hard drive C:	Enabled Enabled Enabled
Hard-Disk Failover		**OFF**
Boot Sequence Retry		**Disabled**
Integrated Devices		
	Embedded SATA	ATA Mode
	Optional Hard Disk Drive Fan	Not Installed
	IDE CD-ROM Controller	Auto
	Diskette Controller	Auto
	User Accessible USB Ports	All Ports ON
	Embedded GB NIC 1 MAC Address	Default: Disabled For your configuration see Table 4-5. Xxxxxxxxxxx
	Serial Port 1	Auto
	Parallel Port	387h
	Parallel Port Mode	PS2
PCI IRQ Assignment		

	Item	Value
	Embedded Video	IRQ 3
	Embedded SATA	IRQ 5
	Embedded USB UHCI Controller 1	IRQ 11
	Embedded USB UHCI Controller 2	IRQ 10
	Embedded USB UHCI Controller 3	IRQ 11
	Embedded USB UHCI Controller 4	IRQ 10
	Embedded USB EHCI Controller	IRQ 11
System Security		
	System Password	Not Enabled
	Setup Password	Not Enabled
	Password Status	Unlocked
	AC Power Recovery	Off
	Chassis Intrusion	Disabled
System Event Log		
	Display System Event Log	<Enter>
	Clear System Event Log	No
Keyboard NumLock		On
Report Keyboard Errors		Report

Exiting the BIOS setup utility

Step	Action
1	Press <Esc> key.
2	Select “Save Changes and Exit” option and then press **Enter.**
3	The system reboots.

4.6 Spare Parts Lists

Spare parts

The following table lists the optimal replaceable units (ORUs) for the server.

Table 4-7 Spare Parts for PE SC1430-based Server

Description	Part No.
1 GB memory expansion Ram (2-512 MB)	51153737-901
2 GB memory expansion Ram (2-1 GB DIMMs)	51153737-902
Processor (4 MB L2)	51153737-907
3.5 inch Floppy Drive	51153737-905
CDRW/DVD ROM	51153737-904
80 GB 3.5 inch, 7.2K RPM SATA Hard Drive	51153731-910
Mouse (USB)	51153731-901
Keyboard (USB)	51153731-902

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