Bull ESCALA PL 240T & PL 240R

Installation Guide

ORDER REFERENCE
86 A1 54EG 01

Bull ESCALA PL 240T & PL 240R

Installation Guide

Hardware

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BULL CEDOC
357 AVENUE PATTON
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Safety Notices

A *danger* notice indicates the presence of a hazard that has the potential of causing death or serious personal injury. Danger notices appear on the following pages:

- iv
- 1-5

A *caution* notice indicates the presence of a hazard that has the potential of causing moderate or minor personal injury. Caution notices appear on the following pages:

- iv
- 1-5
- 1-12
- 1-24
- 3-1

Note: For a translation of these notices, see *System Unit Safety Information*, order number 86 X1 11WD.

Rack Safety Instructions

- Do not install this unit in a rack where the internal rack ambient temperatures will exceed 35 degrees C.
- Do not install this unit in a rack where the air flow is compromised. Any side, front or back of the unit used for air flow through the unit must not be in direct contact with the rack.
- Care should be taken to ensure that a hazardous condition is not created due to uneven mechanical loading when installing this unit in a rack. If the rack has a stabilizer it must be firmly attached before installing or removing this unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to the rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement for the supply circuit.
- An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Electrical Safety

Observe the following safety instructions any time you are connecting or disconnecting devices attached to the workstation.

DANGER!
An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.

When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communications lines.

Caution:
This product is equipped with a three–wire power cable and plug for the user's safety. Use this power cable with a properly grounded electrical outlet to avoid electrical shock.

DANGER!
To prevent electrical shock hazard, disconnect all power cables from the electrical outlet before relocating the system.

Laser Safety Information

Caution:
This product may contain a CD–ROM, DVD–ROM, or laser module on a PCI card, which are class 1 laser products.

Laser Compliance

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with the IEC 825 (first edition 1984) as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

Caution:
All laser modules are designed so that there is never any human access to laser radiation above a class 1 level during normal operation, user maintenance, or prescribed service conditions. Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. Only trained service personnel should perform the inspection or repair of optical fiber cable assemblies and receptacles.

Data Integrity and Verification

These computer systems contain mechanisms designed to reduce the possibility of undetected data corruption or loss. This risk, however, cannot be eliminated. Users who experience unplanned outages, system failures, power fluctuations or outages, or component failures must verify the accuracy of operations performed and data saved or transmitted by the system at or near the time of the outage or failure. In addition, users must establish procedures to ensure that there is independent data verification before relying on such data in sensitive or critical operations. Users should periodically check our support websites for updated information and fixes applicable to the system and related software.

About This Book

This book provides information about the ESCALA PL 240R and ESCALA PL 240T, specifically how to set up and cable the system, install and remove options, use the system diagnostics to verify the system operation, and record your system configuration. The Model PL 240T is a deskside system, and the Model PL 240R is a rack–mounted system.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Highlighting

The following highlighting conventions are used in this book:

Bold	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Also identifies graphical objects such as buttons, labels, and icons that the user selects.
Italics	Identifies parameters whose actual names or values are to be supplied by the user.
`Monospace`	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information you should actually type.

References to AIX Operating System

This document may contain references to the AIX operating system. If you are using another operating system, consult the appropriate documentation for that operating system.

This document may describe hardware features and functions. While the hardware supports them, the realization of these features and functions depends upon support from the operating system. AIX provides this support. If you are using another operating system, consult the appropriate documentation for that operating system regarding support for those features and functions.

Related Publications

The following publications provide additional information about your system unit:

- The *ESCALA PL 240R and ESCALA PL 240T User's Guide*, order number 86 A1 55EG, contains information to help users use the system, use the service aids, and solve minor problems.
- The *ESCALA PL 240R and ESCALA PL 240T Service Guide*, order number 86 A1 56EG, contains reference information, maintenance analysis procedures (MAPs), error codes, removal and replacement procedures, and a parts catalog.

- The *ESCALA PL 240R and ESCALA PL 240T Parts Guide*, order number 86 A1 13EM, contains information about identifying problems that are related to parts, removing and replacing those parts, installing optional parts (features), and verifying that parts are installed and operating correctly.
- The *Diagnostic Information for Multiple Bus Systems*, order number 86 A1 26HX, contains diagnostic information, service request numbers (SRNs), and failing function codes (FFCs).
- The *Adapters Information for Micro Channel Architecture Systems for Multiple Bus Systems*, order number 86 A1 27HX, contains information about adapters, devices, and cables for your system. This manual is intended to supplement the service information found in the *Diagnostic Information for Multiple Bus Systems*.
- The *Site Preparation Guide for Rack Systems* order number 86 A1 30PX, contains information to help you plan your installation.
- The *System Unit Safety Information*, order number 86 A1 11wd, contains translations of safety information used throughout this book.
- The *T00 and T42 Installation and Service Guide*, order number 86 A1 94KX, contains information regarding the Model T00 and T42 Rack, in which this server may be installed.

Table of Contents

Chapter 1. Setting Up the System

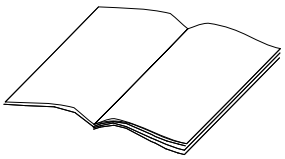
To set up your system, follow the procedures in this chapter.

Note: This procedure explains how to attach the mounting hardware to the rack enclosure. If your PL 240R was preinstalled in the rack, perform the rack–installation procedures as described in the *T00 and T042 Installation and Service Guide*, order number 86 A1 94KX, then return here and begin with Step 10. Are All of the Internal Options Installed? on page 1-15.

Step 1. Check Your Inventory

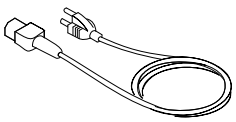
ESCALA PL 240R and ESCALA PL 240T

- Books, CD–ROM and Other Media

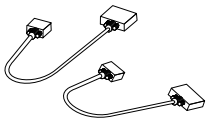


- “About Your Machine” Document

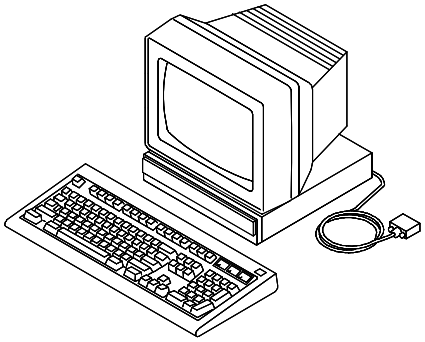
- Power Cables (1 standard, 2 optional)



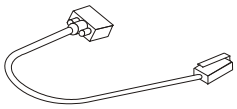
- 9–Pin to 25–Pin Serial Converters (2) (optional)



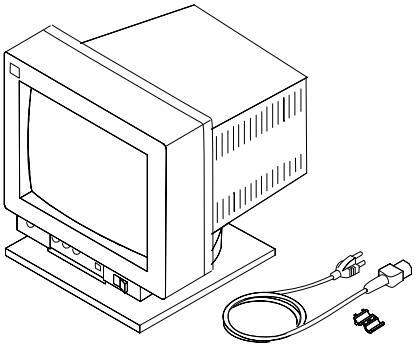
- ASCII Terminal (optional)



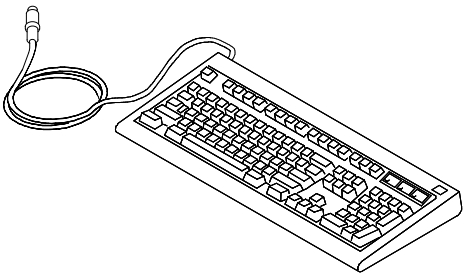
- RJ–45 to 9–Pin Converter Cable (1)



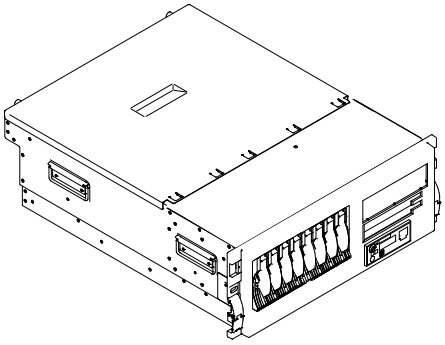
- Display, Cable (optional), and Cable Toroid (optional)



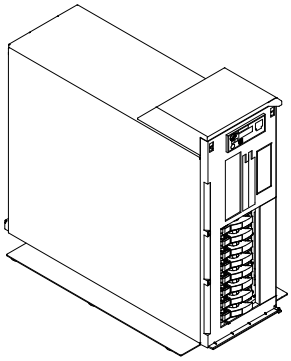
- Keyboard (optional), Wrist/Palm rest (optional)



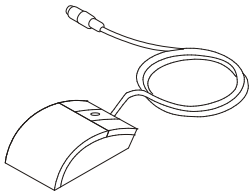
- ESCALA PL 240R



- PL 240T

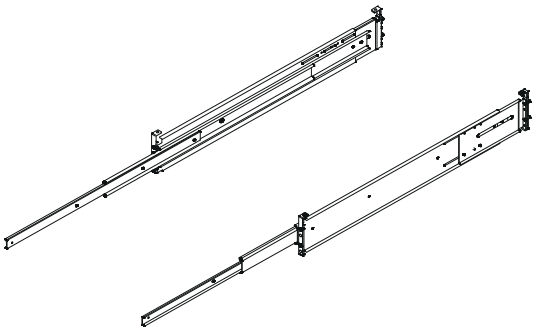


- Mouse (optional)



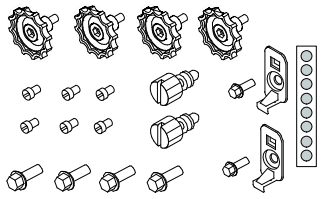
Model ESCALA PL 240R (Rack Mount) Only

- Rack–Mounting Template
- 2 Slide Rail Assemblies

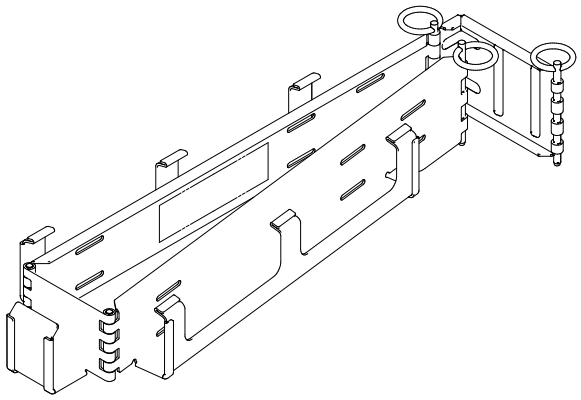


- Rack–Mounting Kit contains:
  - 4 blue–wheel–shaped knobs
  - 6 system to rail screws
  - 4 rail to rack screws
  - 2 latch–mounting brackets
  - 2 latch–mouting bracket rack screws
  - 2 system–retaining thumbscrews

– 1 strip of self–adhesive placement dots



- Cable Management Arm



Step 2. Need Help?

If you encounter difficulties while setting up your system, contact your sales representative for assistance.

Step 3. Read the Safety Notices

Before continuing, read the following safety information. Do not plug any cables into the system, adapters, or electrical outlets until you have reviewed this information. Make sure none of the power cords are connected before continuing to the next step.

In the system you are about to set up:

- The ac power–interface connector is considered the main power disconnect device.
- This system has redundant power supply capabilities. Meaning your system has the capability of running two power supplies simultaneously. When instructed to disconnect the power source, ensure that all power cables have been unplugged.

DANGER!
An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.

When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communications lines.

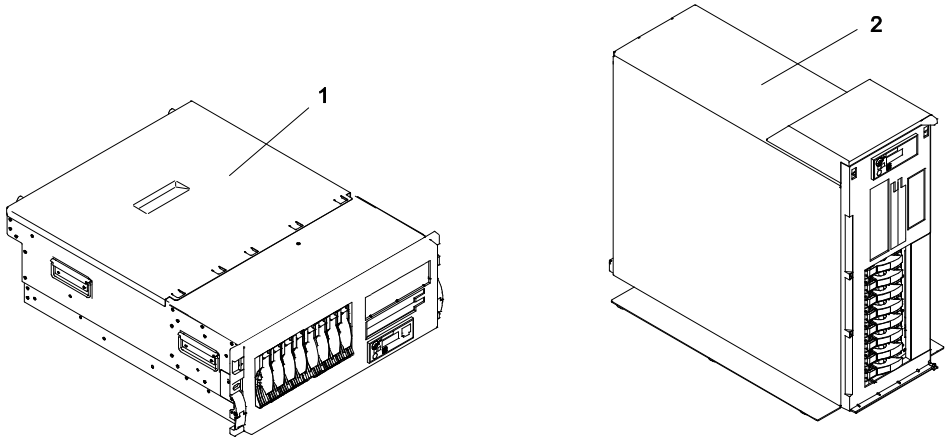
Caution:
This product is equipped with a three–wire power cable and plug for the user's safety. Use this power cable with a properly grounded electrical outlet to avoid electrical shock.

DANGER!
To prevent electrical shock hazard, disconnect all power cables from the electrical outlet before relocating the system.

Step 4. Check the Power Source

This system can be equipped with two power supplies. When two power supplies are installed, the power source to the system should be provided on two separate power circuits. If the power is supplied this way, when there is an interruption on one circuit, the system will keep running on the other circuit.

Step 5. Are You Installing an ESCALA PL 240R (Rack Mount) or an ESCALA PL 240T (Deskside)



1 ESCALA PL 240R

2 ESCALA PL 240T

If you are installing a Model PL 240R, continue with this step. If you are installing a Model ESCALA PL 240T (deskside), go to Step 10. Are All of the Internal Options Installed? on page 1-15.

When installing the ESCALA PL 240R, you will need the following items:

- Rack–Mounting Template
- 2 Slide Rail Assemblies
- Cable–Management Arm
- Rack–Mounting Kit Envelope
- Screwdriver or Nutdriver

Step 6. Read the Rack Safety Instructions

Before continuing, make sure you review the following instructions for mounting the system drawer into the rack. If the system drawer was shipped already mounted in a rack, go to Step 10. Are All of the Internal Options Installed? on page 1-15.

Rack Safety Instructions

- Do not install this system in a rack where the ambient temperatures will exceed 35 degrees C.
- Do not install this system in a rack where the airflow is compromised. Any side, front or back of the system used for airflow through the system must not be in indirect contact with the rack.
- Ensure that a hazardous condition is not created due to uneven mechanical loading when installing this system in a rack. If the rack has a stabilizer, it must be firmly attached before installing or removing this system.
- Your system drawer is set up to run ac electrical current and you are running between 100–127 volts. The system requires 6 amperes of current. If you are running between 200–240 volts your system needs 3 amperes of current. Consideration should be given to the connection of the equipment to the supply circuit such that the overloading of circuits does not compromise the supply wiring or overcurrent protection.
- An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Step 7. Attach the Mounting Hardware to the Rack Enclosure

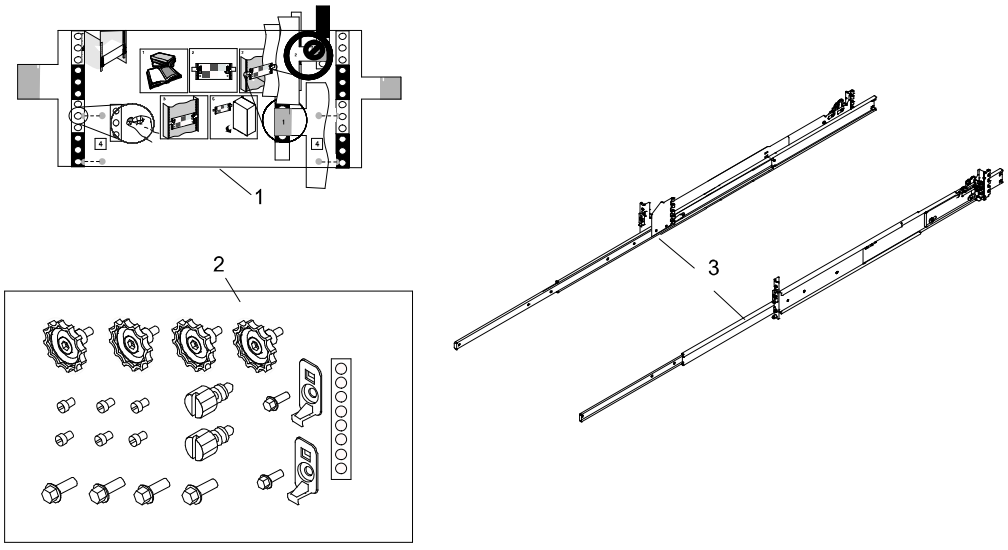
Before performing this procedure, read through each step and study the illustrations.

Attention: Mounting the rails is a complex procedure. To install the rack rails correctly, you must read, and then perform each procedure step in the order given. Failure to perform each step in the order given may cause rail failure.

To install the rack–mounting hardware into the rack, do the following:

1. Locate the rack–mounting hardware kit, rack–mounting template, and the system rails that were shipped with your system.

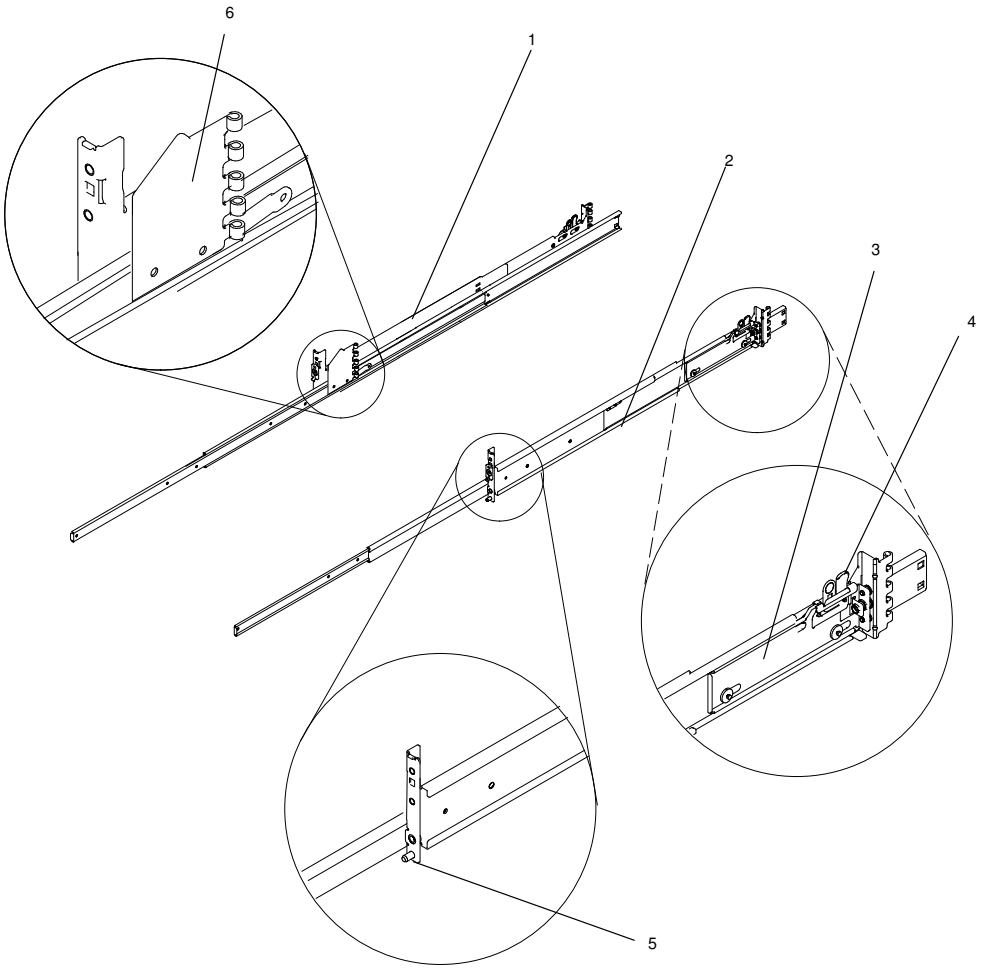
   The system rails are front–to–back and left–to–right side dependent when you are standing in the front of and facing the rack. The rails can be identified by the two large latch assemblies on the rear of each rail. See the following illustration to orient yourself to the left and right rail assemblies.



1 Rack–Mounting Template

2 Rack–Mounting Hardware Kit

3 System Rail Assemblies



1 Left rail assembly

2 Right rail assembly

3 Rail–mounting latch assembly, rear

4 Rail–mounting latch release tab, rear

5 Rail–mounting hardware, front right

6 Cable–management arm flange

2. Remove the front and rear rack doors if necessary. For T00 and T042 racks, refer to *T00 and T42 Installation and Service Guide*, order number 86 A1 94KX, for information about removing the rack doors.
3. Locate the rack–mounting template. If you do not have a rack–mounting template, go to substep 6.
4. Using the rack–mounting template, determine where in the rack to place the system. Make note of the Electronics Industries Association (EIA) location number.

   Note: The rack–mounting template has printed illustrations located on the front of the template. Each illustration is designed to aid in identifying the EIA location holes used when planning to populate your rack. *Do not* use the rack–mounting template without reading and understanding the following substeps. Each step must be completed in its entirety.
5. Note the following when using the rack–mounting template:
   - Each black or white unit on the template is equal to 1 EIA unit.
   - Each EIA unit consists of three holes.

– The EIA units illustrated on the template must be aligned with the EIA units located on the rack.

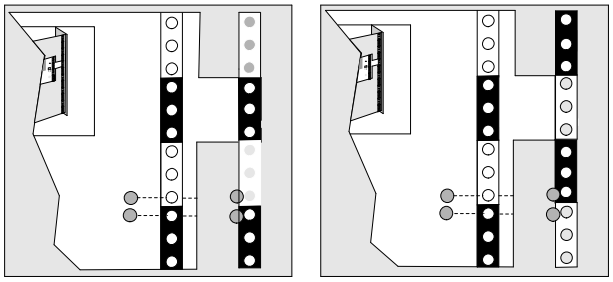
– It is not necessary to align like–colored EIA units. For example, a black EIA unit illustrated on the rack–mounting template does not have to be aligned with a black EIA unit located on the rack. A black EIA unit on the rack–mounting template can be aligned with a white EIA unit located on the rack. See the following illustration.

To use the rack–mounting template, do the following:

a. Remove the protective coating from each adhesive strip located on the back of the rack–mounting template. Lightly press the template into position on the rack. Ensure that both the left and right sides are at the corresponding EIA locations.

   Note: The tabs on each side of the template show a notch to indicate the proper spacing between the front flanges.

b. Locate the four dots, two printed on each side of the template. Place a self–adhesive dot directly across from the template's printed dots on or near the rack's EIA numbering strip. You will be using these dots to aid in correctly positioning the rail–alignment pins located on the front of each rail. See the illustration below.



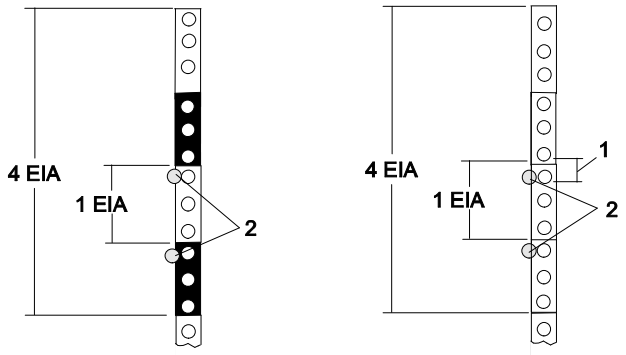
c. Remove the rack–mounting template from the front of the rack. The front of your rack should now contain four self–adhesive dots.

d. Mount the rack–mounting template to the rack's rear EIA flange. Place the rack–mounting template at the same EIA–numbered location that was used on the front of the rack.

e. Wrap a self–adhesive dot directly across from the template's printed dots. Ensure that a portion of the self–adhesive dot wraps around the rack's flange so that it can be seen from the front of the rack.

f. Remove the rack–mounting template from the rear of the rack. The rear of your rack should now contain four self–adhesive dots that have been partially wrapped around the rack's rear flanges.

The following illustration shows one EIA unit and four EIA units. Depending on the rack manufacturer, the EIA units may be separated either by color or by a line. Note the holes along the rail are not evenly spaced. If your rack has no color or line separation between EIA units, assume that each EIA unit begins where the hole spacing is closest together.



1 EIA Unit Hole Spacing **2** Self–Adhesive Dot Placement

6. If you do not have a rack–mounting template, do the following:
   a. Determine where in the rack to place the system. The system you are about to install measures 4 EIA units high. Make note of the EIA location number.

      Note: An EIA unit on your rack consists of a grouping of three holes. See the previous illustration.

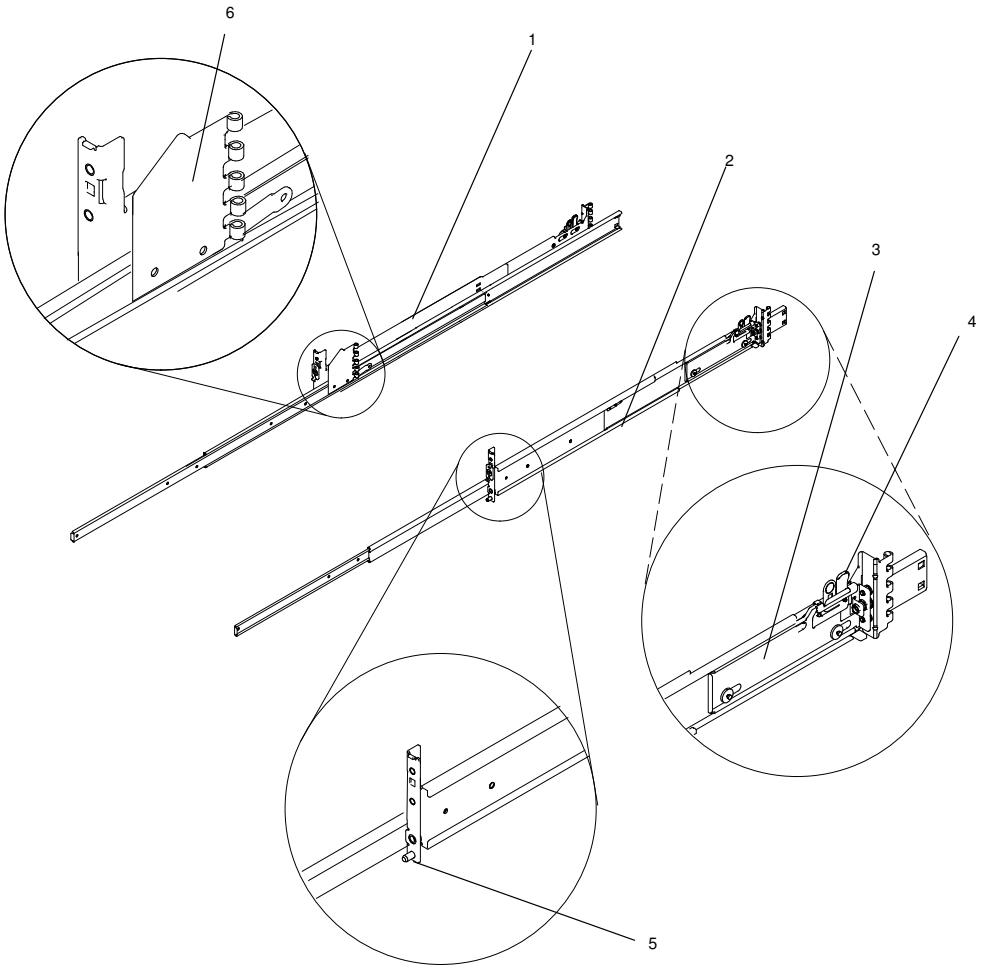
   b. Facing the front of the rack and working from the right side, place a supplied self–adhesive dot next to the top hole of the bottom EIA unit.

      Note: The self–adhesive dots are used to aid in identifying locations on the rack. If you no longer have any of the dots, use some other form of marking tool to aid you in identifying hole locations (for example, tape, a marker, or pencil).

   c. Place another self–adhesive dot next to the top hole of the above EIA unit.

      Note: If you are counting the holes, begin with the hole identified by the first dot and count up four holes. Place the second dot next to the fourth hole.

   d. Repeat substeps 6a through 6d for the corresponding holes located on the left side of the rack.
7. Before installing the system rail assemblies into your rack, you must first preset the rails to allow correct assembly with the rack and system. Do the following:
   a. Unpack the system rail assemblies.
   b. Fully extend each rail assembly.
   c. Lock the rear latch assemblies to the open position using the latch release tab.



1 Left rail assembly

2 Right rail assembly

3 Rail–mounting latch assembly, rear

4 Rail–mounting latch assembly release tab, rear

5 Rail–mounting hardware, front right

6 Cable–management arm flange

8. Position yourself at the front of the rack.
9. Facing the rack, insert the rail's rear–alignment pins into the rack's rear flange holes identified by the self–adhesive placement dots previously installed.
10. Press the release tab. This action will cause the rear latch assembly to close on the flange. Ensure that the pins have passed through the proper holes in the rear flange to verify proper alignment.
11. Insert the rail's front–alignment pin into the rack front flange hole identified by the self–adhesive placement dot previously installed. Ensure that the EIA location is the same from front to back and the rails are level from front to rear.
12. Loosely thread one of the rail–retaining screws into the rail's front screw hole. The screw hole is located one position above the front–alignment pin.
13. Position yourself at the rear of the rack. Loosely thread one of the rail–retaining screws into the rail's rear screw hole. The screw hole is located between the two rear alignment pins. Return to the front of the rack.

14. Attach the drawer latch bracket by doing the following:
    a. Locate a drawer latch bracket and its screw.
    b. Align the square peg on the back of the bracket with the square hole in the front rail assembly.
    c. Place the hole in the bracket over the screw hole and loosely thread the screw into place. The screw hole is located one position above the front rail–retaining screw.
15. Before continuing to the next step, be sure to read and understand the following caution notices:

    Attention: Mounting the rails is a complex procedure. To install the rack rails correctly, you must read, and then perform each procedure step in the order given. Failure to perform each step in the order given may cause rail failure.

    Caution:
    The stabilizer must be firmly attached to the bottom rear of the rack to prevent the rack from turning over when the drawers are pulled out of the rack. Do not pull out or install any drawer or feature if the stabilizer is not attached to the rack.

    Caution:
    This unit weighs between 32 kg (70.5 pounds) and 55 kg (121.2 pounds). Three persons are required to safely move it. Using less than three persons to move it can result in injury.

Step 8. Install the ESCALA PL 240R onto a System Rail Assembly

To install the ESCALA PL 240R onto a system rail assembly (type 2), do the following:

1. Attach the four blue wheel–shaped knobs at the points indicated in the following illustration:

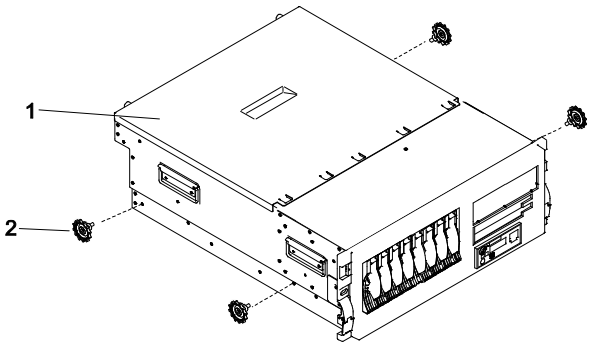
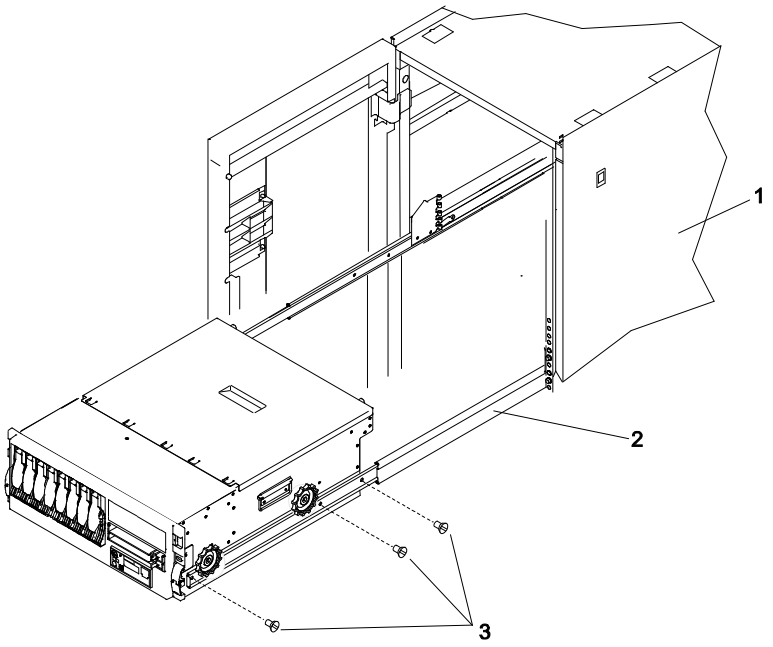


Table 1.

1	ESCALA PL 240R
2	Blue Wheel–Shaped Knob (4)

2. Using three persons, grasp the handles located on each side of the system drawer, and lift the system drawer onto the extended rails. Align the three screw holes in the inner rails with the screw holes in the sides of the system drawer.
3. Using the six system to rail retaining screws, three on each side, mount the inner rails to each side of the system drawer. Tighten each of the screws with a screwdriver or similar tool.



1 Rack Enclosure

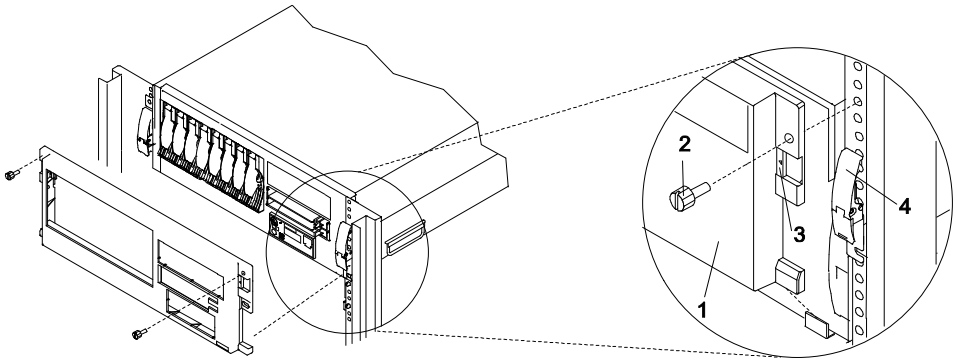
2 System Rail Assembly

3 System to Rail Screws

4. Simultaneously depress the safety latches, located on each system rail assembly, and push the system into the rack.
5. Slide the system drawer in and out of the rack two or three times. This action aligns the system drawer to the rails. The system drawer should glide on the rails.
6. Push the system drawer back into the rack. Using a screwdriver or similar tool, tighten the two rear retaining screws that secure the slide rails to the rack's rear flange.
7. Slide the system drawer about halfway out of the rack.
8. Using a screwdriver or similar tool, tighten the front four retaining screws that secure the slide rails to the rack's front flange.

   Note: After the system rails are installed, do not extend them past their safety latches. The safety release latches stop the rails from overextending and separating. This action prevents the system drawer from being accidentally pulled out too far and dropped.

   Attention: If any binding is detected, loosen the six rail–retaining screws (front and rear), and repeat substeps 4 through 7.
9. For additional stability needed when transporting the rack, fasten the system drawer to the rack enclosure by inserting the two system–retaining thumbscrews through the bezel and chassis bracket, and screwing them into the rack flange.



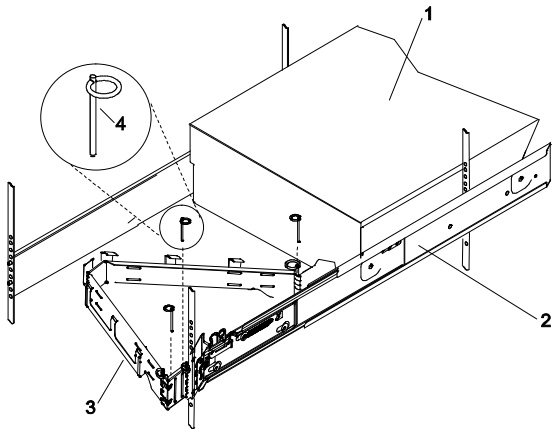
1 ESCALA PL 240R Front Bezel

2 System–Retaining Thumbscrews for System Drawer Transport

Step 9. Install the Cable–Management Arm

To install the ESCALA PL 240R cable–management arm, do the following:

1. From the rear of the rack unit, locate the cable–management arm flange located on the fixed rear portion of the left system rail assembly.
2. Pin the cable–management arm to the flange as shown in the following illustration.
3. Pin the other end of the cable–management arm to the flange attached to the sliding portion of the left system rail assembly.



1 ESCALA PL 240R

2 System Rail Assembly

3 Cable Management Arm

4 Cable Management Arm Pin

Note: To avoid any binding of the cable–management arm, ensure that the cable–management arm is level.

Step 10. Are All of the Internal Options Installed?

These instructions are for systems that have internal options (such as adapters, disk drives, or memory upgrades) already installed.

If you have internal options that are not installed, install them now. Refer to Installing Options in the ESCALA PL 240R and ESCALA PL 240T on page 3-1, and then return here.

Step 11. Position the System and Display

If you are setting up a ESCALA PL 240R, continue on to Step 12. Check Your Display or Console Type on page 1-15.

If you are setting up a ESCALA PL 240T, position the system and display (optional) at or near their installed location.

Observe the following guidelines when you are positioning the system:

- The system weighs between 34 kg (75 pounds) and 41 kg (90 pounds). Do not try to lift the system by yourself.
- Displays and ASCII terminals can weigh as much as 35 kg (77 pounds). Use caution when lifting or moving the display or ASCII terminal.
- Leave enough space around the system to safely and easily complete the setup procedures.
- Observe standard ergonomic guidelines while arranging your system so that you can work comfortably and safely. .
- Be sure to maintain at least 51 mm (2 inches) of space on the sides of the system and 152 mm (6 inches) at the rear of the system to allow the system to cool properly. The front of the system requires a minimum of 76 mm (3 inches) of space. Blocking the air vents can cause overheating, which might result in a malfunction or permanent damage to the system.
- Place the system in a location where it can safely and easily reach any necessary power outlets and network connections.
- Place the display or ASCII terminal in a stable and sturdy location.

Step 12. Check Your Display or Console Type

Notes:

1. If you are using an ASCII terminal with a keyboard as the console for this system, and do not have a graphics display to connect, refer to Step 17. Connect the Serial Devices, Parallel Devices, and ASCII Terminal on page 1-19.
2. If you are using a graphics display with a keyboard and mouse, continue with Step 14. Attach the Display Cable Toroid on page 1-17.
3. If you are connecting to a Hardware Management Console (HMC), continue on to Step 13. Are You Connecting to a Hardware Management Console (HMC)? on page 1-16.

If you ordered a graphics display with your system, the graphics adapter has been set to use the highest display resolution and refresh rate available for that display. If you want to:

- Attach another display to your system

  OR

- Change the default display resolution or refresh rate

after completing the installation steps, refer to the *Customer Installable Options Library* CD–ROM for the documentation for your graphics adapter.

As shown in Step 14. Attach the Display Cable Toroid on page 1-17, connect the graphics display cable to the back of the display and to the graphics adapter connector. Consult the ”About Your Machine” document for the locations of installed adapters.

For more information about your display, refer to the documentation included with the display.

Step 13. Are You Connecting to a Hardware Management Console (HMC)?

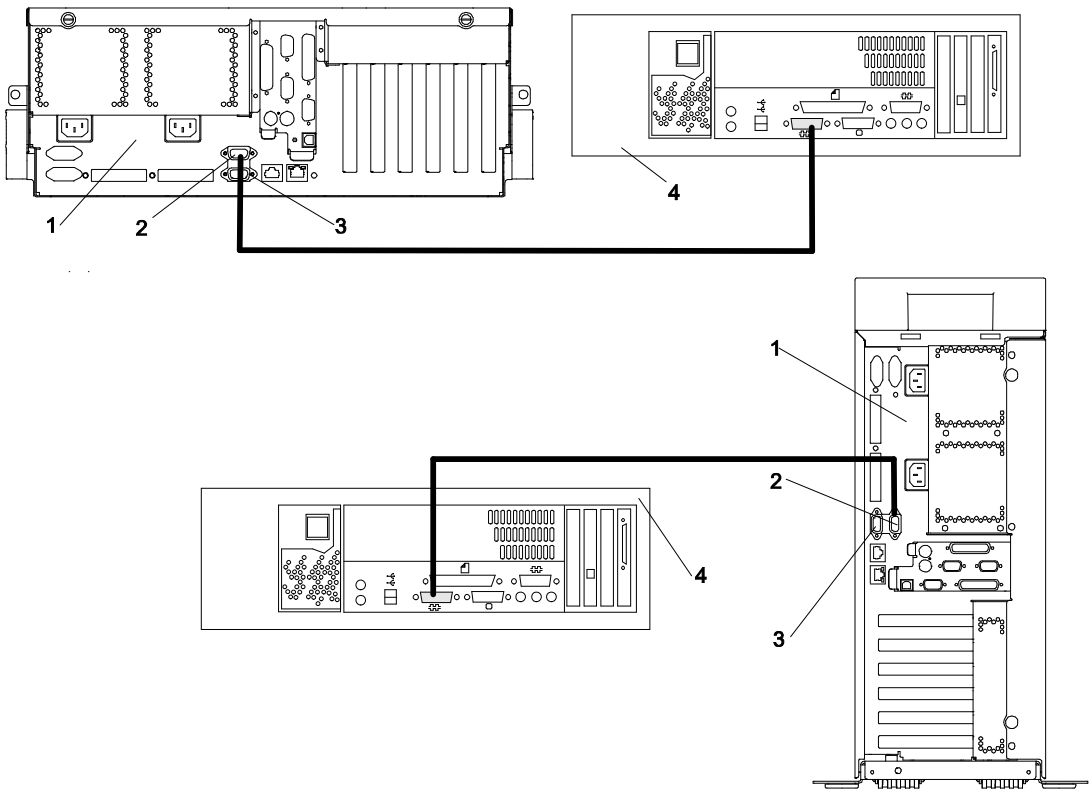
If your HMC is already installed, continue with this step. If your HMC has not been previously installed, refer to Installing the Hardware Management Console (HMC) on page 3-2. After completing the HMC installation procedure, return here and complete this step. If you are not installing an HMC, go to Step 15. Connect the Graphics Display on page 1-18.

Notes:

1. Before doing this step, read and understand Step 3. Read the Safety Notices on page 1-4.
2. This system drawer is equipped with two HMC connectors located on the back of the system. The connectors are labeled HMC1 and HMC2.

To connect your HMC to the ESCALA PL 240R or ESCALA PL 240T, connect the HMC serial cable to the HMC1 connector. If this is the second HMC being connected to the ESCALA PL 240R or ESCALA PL 240T, connect the HMC serial cable to the HMC2 connector.

After connecting the HMC, go to Step 17. Connect the Serial Devices, Parallel Devices, and ASCII Terminal on page 1-19.



1 ESCALA PL 240R or ESCALA PL 240T

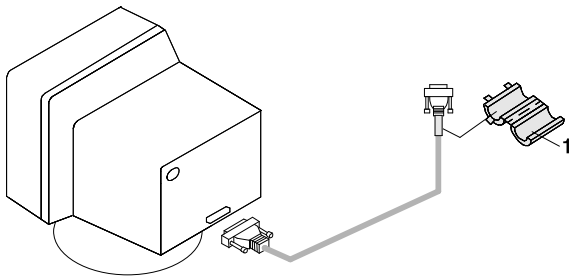
2 HMC1 Connector

3 HMC2 Connector

4 Hardware Management Console (HMC)

Step 14. Attach the Display Cable Toroid

If the cable for your display does not include a toroid, locate the toroid shipped with your system and follow the installation instructions included with the toroid.



1 Display Cable Toroid

Step 15. Connect the Graphics Display

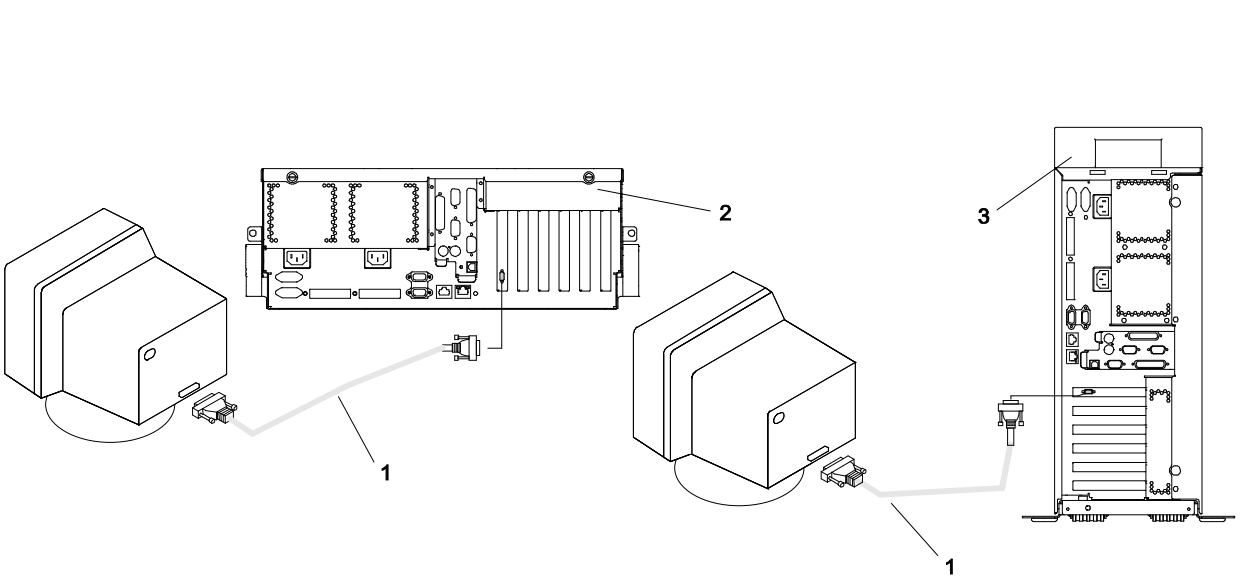
Note: If you are using an ASCII terminal as the console for this system, and do not have a graphics display to connect, continue with Step 17. Connect the Serial Devices, Parallel Devices, and ASCII Terminal on page 1-19.

As shown in Step 14. Attach the Display Cable Toroid on page 1-17, connect the graphics display cable to the back of the display and to the graphics adapter connector. For the locations of installed adapters, consult the ”About Your Machine” document.

For more information about your display, refer to the documentation included with the display.

Notes:

1. A PCI 2D graphics adapter can be installed in any of the six PCI slots.
2. Some displays require an additional cable.



1 Display Cable

2 Model ESCALA PL 240R

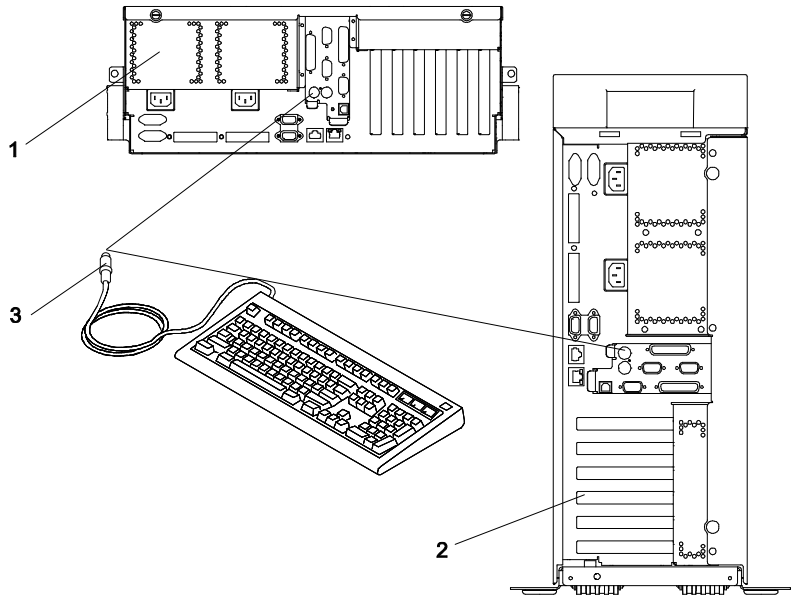
3 Model ESCALA PL 240T

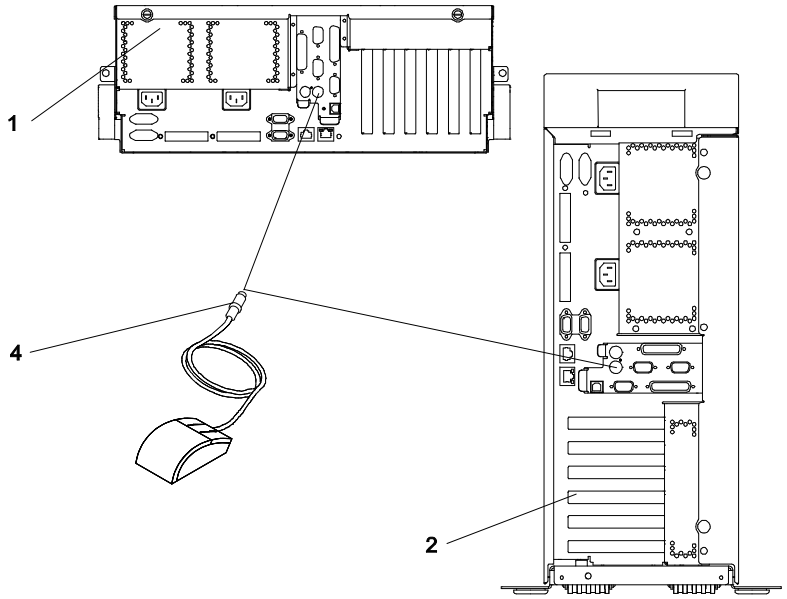
Step 16. Connect the Keyboard and Mouse (When Using a Graphics Display)

Note: Before doing this step, read and understand Step 3. Read the Safety Notices on page 1-4.

If a wrist/palm rest was included with your keyboard and you want to attach it, refer to the keyboard documentation for installation instructions.

As shown in the following illustration, connect the keyboard and mouse to the connectors on the rear of the system.





1 Model ESCALA PL 240R

2 Model ESCALA PL 240T

3 Keyboard Connector

4 Mouse Connector

Step 17. Connect the Serial Devices, Parallel Devices, and ASCII Terminal

Notes:

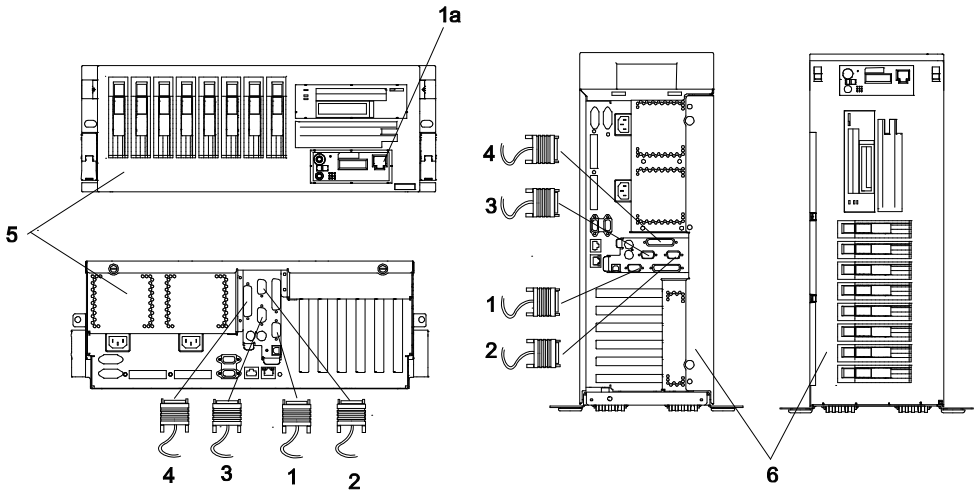
1. Before doing this step, read and understand Step 3. Read the Safety Notices on page 1-4.
2. This system drawer is equipped with serial port 1 located in the front (FS1) and rear (S1) of the system.
3. Use an RJ–45 to 9–pin converter cable to connect to the front serial port FS1.
4. When using FS1, the rear serial port 1 is deactivated.

5. Use a 9–pin to 25–pin serial converter cable when connecting to the rear serial port 1. The 9–pin to 25–pin serial converters are a customer–purchased option.
6. If you have a remote ASCII terminal, connect it through an external modem to serial connector S1, and connect a local ASCII terminal to serial connector S2 or serial connector S3.

If you have a local ASCII terminal or a single serial device, connect it to serial connector S1.

You can connect additional serial devices to the two remaining serial ports (S2 and S3) that are located at the rear of the system.

If you have a parallel device (such as a printer), connect it to the parallel connector.



1 Serial Port 1 Connector

1a Serial Port 1 Front Connector (RJ–48)

2 Serial Port 2 Connector

3 Serial Port 3 Connector

4 Parallel Connector

5 Model ESCALA PL 240R

6 Model ESCALA PL 240T

The current usage for the serial port connectors is as follows:

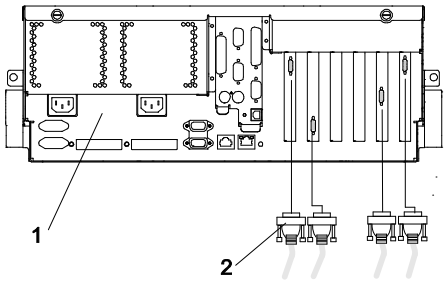
Serial Port Number	Location	Examples of Applicable Usage
Serial Port 1 (S1 Front)	Operator Panel	Service Agent, PDA system management applications (for example: handheld devices, laptop systems), Service Processor menus, ASCII Terminal for AIX Console, and Modems
Serial Port 1 (S1 Rear)	Rear of the System	Service Processor menus, Service Agent, PDA system management applications (interface cable required), ASCII Terminal for AIX Console, and Modems
Serial Port 2 (S2)	Rear of the System	Service Processor menus, HACMP, ASCII Terminal for AIX Console, and Modems
Serial Port 3 (S3)	Rear of the System	HACMP, UPS (uninterruptible power supply), ASCII Terminal for AIX Console, and Modems

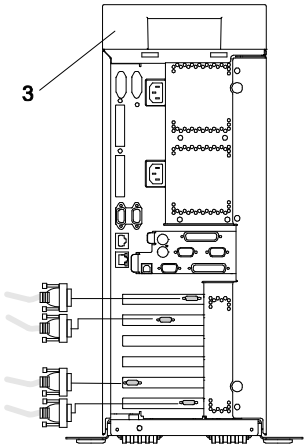
Note: Serial port S1 is never used to run HACMP or to attach a UPS. If you are configuring your system to run HACMP with a UPS attached, you must connect the HACMP cable to serial port S2 and the UPS cable to serial port S3. *Do not* run a UPS connected to serial port S2. If you decide to disconnect HACMP, you *must* reset the service processor using the pinhole reset switch before running another application. The service processor pinhole reset switch is located on the operator panel.

Step 18. Connect the Adapter Cables

Note: Before doing this step, read and understand Step 3. Read the Safety Notices on page 1-4.

If you are using any optional adapters (such as token ring or 8–port EIA–232), connect the cables to the appropriate adapter connectors in the PCI slots of your machine. For the locations of installed adapters, consult the ”About Your Machine” document.





1 Model PL 240R

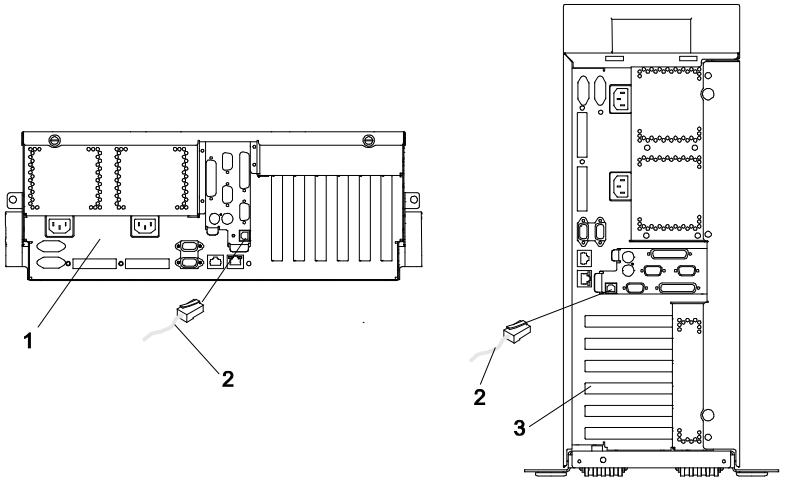
2 Adapter Connector

3 Model PL 240T

Step 19. Are You Using the Rack Indicator Feature?

The rack indicator feature signals when a drawer installed in a rack has a failure. If you are unsure whether you are using the rack indicator feature, ask your system administrator. If you are not using the rack indicator feature, continue to Step 20. Are You Using an Ethernet Connection? on page 1-22.

Connect the rack indicator cable as shown in the following illustration.



1 Model ESCALA PL 240R

2 Rack Indiactor Cable

3 Model PL 240T

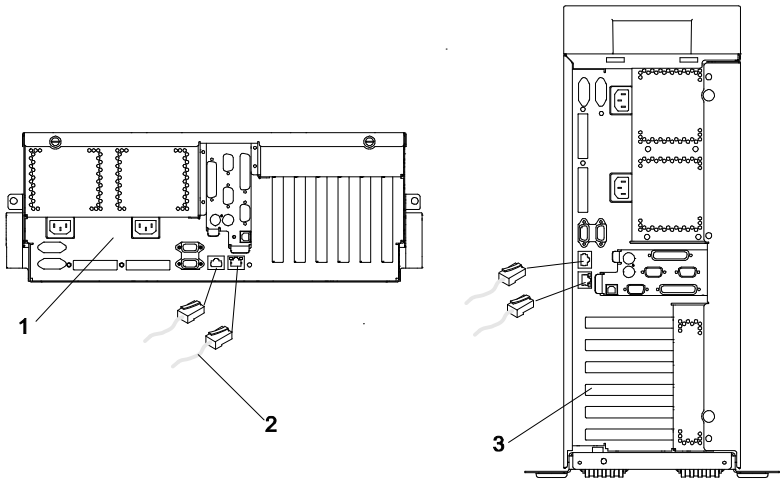
Step 20. Are You Using an Ethernet Connection?

If you are unsure whether you are using an Ethernet connection, ask your system administrator. If you are not using Ethernet or you have already connected your Ethernet to an adapter, continue to Step 22. Connect the Power Cables to the System on page 1-24.

To connect the Ethernet cable, do the following:

Note: The twisted–pair connector is compatible with the IEEE 802.3 Ethernet network 10/100/1000 Base T link.

1. Connect the twisted–pair cable to one of two RJ–45 connectors located on the rear of the system drawer. For RJ–45 connector locations, see the following illustration.
2. The twisted–pair Ethernet cable is now installed. Continue with Step 22. Connect the Power Cables to the System on page 1-24.



1 Model ESCALA PL 240R

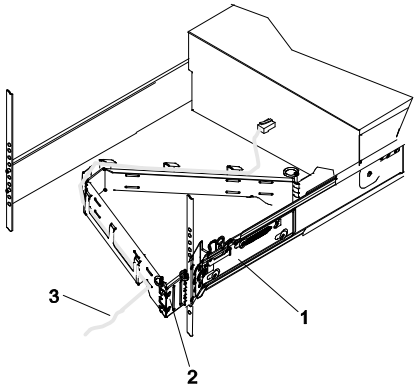
2 Ethernet Cable

3 Model ESCALA PL 240T

Step 21. Route Cables Through the ESCALA PL 240R Cable–Management Arm

To attach the external cables to the cable–management arm, route the cables through the hooks along the cable arm.

1. Route the cables through the hooks along the cable arm, as shown int the following illustration:



1 System Rail

2 Cable Management Arm

3 Cable

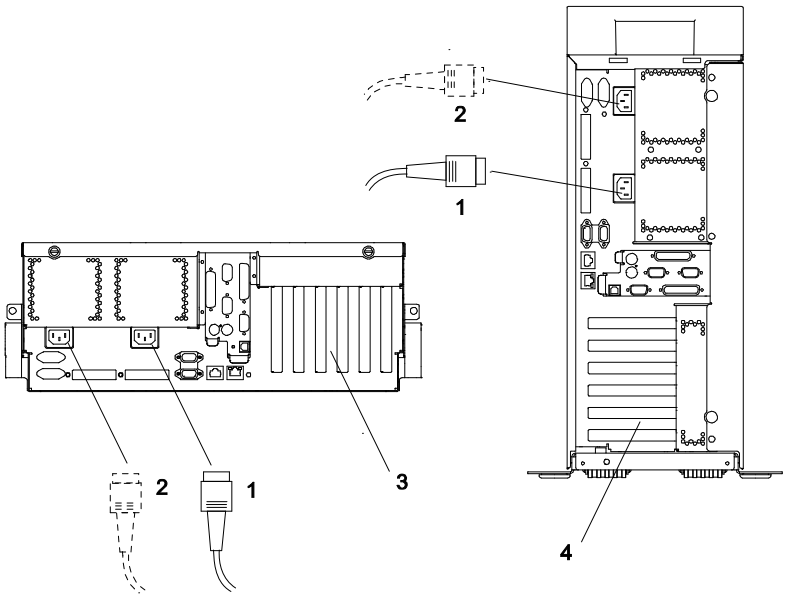
2. After attaching the cables to the cable–management arm, go to the front of the rack and move the system drawer in and out. Observe cable and cable–management arm movement to verify that the cable is not binding.

Step 22. Connect the Power Cables to the System

Plug the power cables into the system, display, and attached devices.

Notes:

1. The system could be equipped with two power supplies. Each power supply needs its own power cable.
2. If your system is equipped with one power supply, connect the power cable to the power receptacle. A second power receptacle is present when a second (redundant) power supply has been added to the system drawer. See the following illustration.



1 Primary Power Supply Cable

2 Redundant Power Supply Cable

3 Model PL 240R

4 Model PL 240T

Caution:
This product is equipped with a three–wire power cable and plug for the user's safety. Use this power cable with a properly grounded electrical outlet to avoid electrical shock.

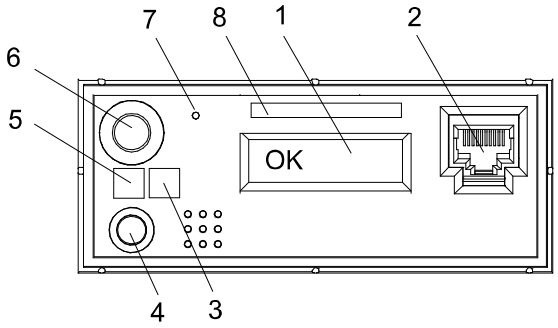
Step 23. Connect the Power Cables to Electrical Outlets

Connect the power source to the system.

After 10 to 20 seconds, the system should come up to standby mode. The two indicators of standby mode are:

- The power LED is slowly blinking.
- `OK` is visible in the operator panel display.

The following illustration shows the operator panel in standby mode with the `OK` displayed in the operator panel.



1 Operator Panel Display

2 Front Serial Connector (FS1 Model ESCALA PL 240R only)

3 Attention LED

4 System Reset Button

5 Power LED

6 Power–On Button

7 Service Processor Reset Switch (Pinhole)

8 Serial Number Label

If your system does not stop in standby mode, check all cables for good connection. If you cannot find a problem, call your support center for assistance.

Step 24. Your System Hardware is Now Set Up

Arrange your system and attached devices so that you can use them comfortably.

If an operating system has been preinstalled in your system, see the documentation provided with your operating system.

If you plan to install the operating system now, see the installation instructions provided with your operating system.

Installation of the operating system can be handled in one of the following ways:

- Preinstalled at the manufacturing facility.
- Installed from a CD (if a CD–ROM drive is installed). On the PL 240R and ESCALA PL 240T, the CD–ROM drive is a customer–installable option.
- If you are installing the AIX operating system, AIX can be installed from a Network Installation Management (NIM) server. For information about installing AIX from a NIM server, see the *AIX 5L Installation Guide and Reference*, order number 86 A2 07EG. For other software installation, refer to the documentation provided with the software.

Step 25. Start Your ESCALA PL 240R or ESCALA PL 240T

Starting the System without an HMC Attached

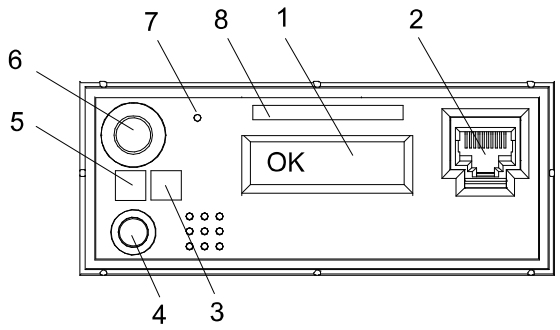
To power on the system, do the following:

1. On a ESCALA PL 240R, open the front rack door.

   On a ESCALA PL 240T, open the bezel door.

2. Before you press the power–on button on your operator panel, observe the following:
   - The power LED is slowly blinking.

– An `OK` prompt is visible in the operator panel display.



1 Operator Panel Display
2 Front Serial Connector (FS1)
3 Attention LED
4 System Reset Button
5 Power LED
6 Power–On Button
7 Service Processor Reset Switch (Pinhole)
8 Serial Number Label

3. Press the power–on button on the operator panel.

   After you press the power–on button located on the operator panel, observe the following:

   a. The power LED begins to blink visibly faster.

   b. The system cooling fans are activated and can be heard accelerating to operating speed.

      Note: There is approximately a 30–second transition period between the time the power–on button is pressed and the power LED remains on solid (no longer blinking).

   c. The power LED stays on solid. Progress indicators, also referred to as *checkpoints*, are visible on the operator panel display.

   If you just completed installing the system, run system verification. Refer to Step 27. Run System Verification on page 1-27. If not, go to Step 26. Access the System Documentation on page 1-27

Starting the System with an HMC Attached

After the required cables are installed and the power cables are connected, the HMC user interface provides a power–on function to turn on the power to the system. The power button on the operator panel can be pushed to initialize the system but the preferred method is to use the HMC if booting logical partitions. Progress indicators, also referred to as *checkpoints*, are visible on the operator panel display as the system power is turned on. The power LED on the base system stops blinking and stays on, indicating the system power is on.

The base system and I/O subsystems are powered on through the system power control network (SPCN). When power is applied, the power LEDs on the base system go from blinking to continuous, and the power LEDs on the I/O subsystem(s) come on and stay on. This indicates that power levels are satisfactory in the subsystems.

Step 26. Access the System Documentation

If you are installing this system and another person is the system administrator, deliver this book to the system administrator when the installation is complete. Ensure that the system administrator reads the following information and is aware of the options to access the documentation for the new system.

Operating System Documentation

Step 27. Run System Verification

1. If your system displays the login prompt and you want to test your hardware, go to Verifying the Hardware Operation on page 2-1.
2. If the login prompt does not display, recheck your installation procedures and try starting your system again.
3. If your system fails, refer to Appendix D, Identifying a Problem Device on page D-1.
4. If your system continues to fail, call your service representative.

Chapter 2. Verifying the Hardware Operation

The system verification procedure checks the system for correct hardware operation. If you have a problem with your system, use this procedure to test the system hardware to help you determine if you have a hardware problem. Run the system verification procedure as described in the following steps.

Considerations Before Running This Procedure

These verification procedures use either online AIX diagnostics or standalone AIX diagnostics. Either the online AIX diagnostics or the standalone AIX diagnostics must be available to perform this procedure. Read the following before using this procedure:

- If this system unit is directly attached to another system unit or attached to a network, be sure communications with the other systems are stopped.
- This procedure requires use of all of the system resources. No other activity can be running on the system while you are performing this procedure.
- This procedure requires an hardware management console (HMC), a display attached to a graphics adapter, or an ASCII terminal attached to the S1 or S2 port.

  Note: If you use a virtual terminal on the HMC and you are asked to define the terminal type, the virtual terminal is considered a VT320.

Does the system have online AIX diagnostics preinstalled?

YES If there is an HMC attached to the system, go to Using the HMC to Load the Online AIX Diagnostics in Service Mode on page 2-4.

If an HMC is not attached to the system, go to Loading the Online AIX Diagnostics on a System without an HMC Attached on page 2-5.

NO If there is an HMC attached to the system, go to Using the HMC to Load the Standalone Diagnostics from CD–ROM on page 2-5.

If an HMC is not attached to the system, go to Loading the Standalone Diagnostics on a System without an HMC Attached on page 2-6.

Power Procedures

Refer to these power procedures during the system verification tests. Do not perform any power procedures until the verification procedures instruct you to do so.

You can power on the ESCALA PL 240R and ESCALA PL 240T by using the HMC or by using the power–on button on the processor subsystem operator panel. If an HMC is connected to the system, the HMC power–on method is the preferred method. Choose the appropriate power–on method for your system and perform the procedures to power on (start) your system.

HMC Power–On Method

To power on the managed system using the HMC, you must be a member of one of the following roles:

- System Administrator
- Advanced Operator

- Operator
- Service Representative

To power on the managed system, do the following:

1. In the Navigation area, click the **Partition Management** icon.
2. In the Contents area, select the managed system.
3. In the menu, click **Selected**.
4. Select **Power On**.

   Because the system is not partitioned, you must power on the system using the **Full System Partition** selections on the screen. The Partition Standby and System Profile options are not valid for use with your ESCALA PL 240R or ESCALA PL 240T:

   – Partition Standby (Not applicable)

   – Full System Partition

   – System Profile (Not applicable)

Partition Standby

The Partition Standby option is not applicable to the ESCALA PL 240R or ESCALA PL 240T.

Full System Partition

If you are trying to power on the system from an HMC, the full system partition power–on option must be selected.

The physical operator panel on your managed system displays progress codes when you boot the system to this mode.

Power On Options

After selecting the full system partition, select either **Power on Diagnostic Default Boot** if standalone AIX diagnostics are being booted from CD–ROM or **Power on Diagnostic Stored Boot List** if online AIX diagnostics are being booted from the boot disk drive.

Power On Diagnostic Stored Boot List

This profile causes the system to perform a service mode boot using the service mode boot list saved on the managed system. If the system boots AIX from the disk drive and AIX diagnostics are loaded on the disk drive, AIX boots to the diagnostics menu.

Using this profile to boot the system is the preferred way to run AIX online diagnostics.

Power On Diagnostic Default Boot List

This profile is similar to Power On Diagnostic Stored Boot List Profile, except the system boots using the default boot list that is stored in the system firmware.

To learn more about these power–on options, see the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Configuring the Network Using the HMC

To complete the installation, you can perform the following configuration tasks:

- Configuring Inventory Scout Services
- Configuring Service Agent
- Collecting Vital Product Data (VPD)
- Transmitting VPD

For more information about these services, see the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Operator Panel Power–On Method

Perform the following steps to power–on the system unit using the power button on the operator panel.

1. Open the rack door. Look for `OK` in the operator panel display, which indicates that the system is in standby.
2. Press the power–on button on the operator panel.

The power LED on the operator panel starts blinking at a fast rate. 9xxx checkpoints appear in the operator panel display.

When the power–on sequence is complete, the following events have occurred:

- The power LED on the system operator panel stops blinking and stays on.
- The power LEDs on the I/O subsystem come on and stay on.

Stopping the System

This section discusses the various ways to stop the system.

Attention: Using the power–on button on the operator panel or commands at the HMC to power off the system can cause unpredictable results in the data files. The next initial program load (IPL) will also take longer to complete if all applications are not stopped beforehand.

Stopping the System without a Hardware Management Console (HMC) Attached

Attention: When shutting down your system, shut down all applications first and then shut down the operating system. The system power turns off and the system goes into standby mode when the operating system is shut down. If you are shutting down your system due to an error or to make a repair, write down the information displayed on the operator panel before turning off the system power. Before removing power from the system, ensure that the shutdown process is complete. Failure to do so can result in the loss of data. Some option–installation procedures do not require the system to be stopped for installation. The option–installation procedures in this chapter will direct you here if stopping the system is required.

1. Log in to the system as root user.
2. Stop all applications that are running on the system.
3. At the command line, type one of the following commands:
   - If your system is running AIX, type `shutdown`
   - If your system is running Linux, type `shutdown now -h`
4. After you shut down the operating system, set the power switches of any attached devices to Off.

Stopping the System with an HMC Attached and AIX Installed

The HMC user interface provides a power–off function to turn off the power to the system.

AIX provides hot–swap procedures for adapters and devices that support hot–swap removal and installation. Individual power components and fans can be serviced with the power on for power systems equipped with redundant power and cooling. Before servicing the system, check removal, replacement, and installation procedures.

If the system is running AIX, typing the **shutdown** command causes the system to shut down and power off. Check with the system administrator before using this command. If you cannot use this method, you can power off the system by pressing the power–on button on the operator panel or typing the appropriate command at the HMC.

Stopping the System with an HMC Attached and Linux Installed

The HMC user interface provides a power–off function to turn off the power to the system.

Linux does not provide hot–swap procedures for adapter and device removal and installation. The system power must be turned off to service an adapter or device. Individual power components and fans may be serviced with power on for power systems equipped with redundant power and cooling. Before servicing this system, check removal and installation procedures.

If the system is operating under Linux, typing the **shutdown now –h** command causes the system to shut down and power off. Check with the system administrator before using this command. If you cannot use this method, you can power off the system by pressing the power–on button on the operator panel or typing the appropriate command at the HMC.

Using the HMC to Load the Online AIX Diagnostics in Service Mode

To run the online diagnostics in service mode from the boot hard disk, do the following:

1. Select **Server and Partition**.
2. Select **Partition Management**.

   For more information about full system partitions, refer to the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.
3. From the HMC, select **Server Management**.
4. In the Contents area, select the icon that represents the ESCALA PL 240R or ESCALA PL 240T. Right–click on the mouse, and select **Open Terminal Window**.
5. From the Service Processor menu on the VTERM, select Option 2 **System Power Control**.
6. Select option 6. Verify that the state changes to `currently disabled`. Disabling fast system boot automatically enables slow boot.
7. Select Option 98 to exit the system power control menu.
8. Use the HMC to power on the managed system in full system partition mode by selecting the managed system in the Contents area.
9. Highlight the desired system by right–clicking on or selecting the system in the Contents area. On the menu, choose **Selected**.
10. Select **Power On**.
11. Select the **Power on Diagnostics Stored Boot List** option.
12. Ensure that the media subsystem contains no media devices.
13. Enter any passwords, if requested.

    Note: If you are unable to load the diagnostics to the point when the `DIAGNOSTIC OPERATING INSTRUCTIONS` display, go to Using the HMC to Load the Standalone Diagnostics from CD–ROM on page 2-5 .

Go to Running System Verification on page 2-8.

Using the HMC to Load the Standalone Diagnostics from CD–ROM

To run the standalone diagnostics in service mode from CD–ROM, use the following steps:

1. Stop all programs, including the operating system (get help if needed).
2. Remove all tapes, diskettes, and CD–ROMs.
3. Power off the ESCALA PL 240R and ESCALA PL 240T (refer to the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF, for more information).
4. In your desktop area, right–click on the mouse, and select **Open Terminal Window**.
5. From the service processor menu on the VTERM, select option 2, **System Power Control Menu**.
6. Select option 6. Verify that the state changes to `currently disabled`. Disabling fast system boot automatically enables slow boot.
7. Select option 98 to exit the system power control menu.
8. Use the HMC to power on the managed server in full system partition mode. Select **Power on Diagnostic Default Boot List**.
9. Insert the CD–ROM into the CD–ROM drive in the media bay in the ESCALA PL 240R and ESCALA PL 240T (*not* into the HMC CD–ROM drive).

Go to Running System Verification on page 2-8.

Note: If you are unable to load standalone diagnostics, call your support center for assistance.

Loading the Online AIX Diagnostics on a System without an HMC Attached

To run the online diagnostics in service mode from the boot hard disk, do the following:

1. Stop all programs including the operating system (get help if needed).
2. Remove all tapes, diskettes, and CD–ROM discs.
3. Turn off the system unit power.
4. Turn on the system unit power.
5. After the **keyboard** POST indicator displays on the firmware console and before the last POST indicator (**speaker**) displays, press the numeric 6 key on either the directly attached keyboard or the ASCII terminal to indicate that a service mode boot should be initiated using the customized service mode boot list.
6. Enter any requested password.

   Note: If you are unable to load the diagnostics to the point when the `DIAGNOSTIC OPERATING INSTRUCTIONS` display, call your support center for assistance.

Loading the Standalone Diagnostics on a System without an HMC Attached

To run the standalone diagnostics in service mode from the boot hard disk, do the following:

Note: Online diagnostics are not available when the operating system is Linux.

1. Stop all programs including the operating system (get help if needed).
2. Remove all tapes, diskettes, and CD–ROM discs.
3. Turn off the system unit power.
4. Turn on the system unit power and immediately insert the diagnostic CD–ROM into the CD–ROM drive.
5. After the **keyboard** POST indicator displays on the firmware console and before the last POST indicator (**speaker**) displays, press the numeric 5 key on either the directly attached keyboard or the ASCII terminal to indicate that a service mode boot should be initiated using the default service mode boot list.
6. Enter any requested password.

   Note: If you are unable to load the diagnostics to the point when the `DIAGNOSTIC OPERATING INSTRUCTIONS` display, call your support center for assistance.

Running Standalone Diagnostics from a Network Installation Management (NIM) Server with an HMC Attached to the System

A client system connected to a network with a Network Installation Management (NIM) server can boot standalone diagnostics from the NIM server if the client–specific settings on both the NIM server and client are correct.

Notes:

1. All operations to configure the NIM server require root user authority.
2. If you replace the network adapter in the client, the network–adapter hardware–address settings for the client must be updated on the NIM server.
3. The **Cstate** for each standalone diagnostics client on the NIM server should be kept in the *diagnostic boot has been enabled* state.
4. On the client system, the NIM server network adapter should be put in the bootlist after the boot disk drive. This allows the system to boot in standalone diagnostics from the NIM server if there is a problem booting from the disk drive. For information about setting the bootlist, see the **Multiboot** section under ”SMS” in the client system’s service guide.

NIM Server Configuration

Refer to the ”Advanced NIM Configuration Tasks” chapter of the *AIX 5L Installation Guide and Reference*, order number 86 A2 07EG, for information on doing the following:

- Registering a client on the NIM server
- Enabling a client to run diagnostics from the NIM server

To verify that the client system is registered on the NIM server and the diagnostic boot is enabled, run the **lsnim –a Cstate –Z** *ClientName* command from the command line on the NIM server. Refer to the following table for system responses.

Note: The *ClientName* is the name of the system on which you want to run standalone diagnostics.

System Response	Client Status
`#name:Cstate: ClientName:diagnostic boot has been enabled:`	The client system is registered on the NIM server and enabled to run diagnostics from the NIM server.

`#name:Cstate: ClientName:ready for a NIM operation:`
or
`#name:Cstate: ClientName:BOS installation has been enabled:`
	The client is registered on the NIM server but not enabled to run diagnostics from the NIM server.
	Note:
	If the client system is registered on the NIM server but Cstate has not been set, no data will be returned.

`0042-053 lsnim: there is no NIM object named "ClientName"`	The client is not registered on the NIM server.

Client Configuration and Booting Standalone Diagnostics from the NIM Server

To run standalone diagnostics on a client from the NIM server, do the following:

1. Remove any removable media (tape or CD–ROM disc).
2. Stop all programs including the operating system (get help if needed).
3. If you are running standalone diagnostics in a full system partition, verify with the system administrator and system users that the system unit can shut down. Stop all programs, including the operating system. Refer to the operating system documentation for **shutdown** command information.

   In a partitioned system, make the CD–ROM drive available to the partition used to run standalone diagnostics (for more information, see the *Hardware Management Console Installation and Operations Guide*). Verify with the system administrator and system users using that partition that all applications on that partition must be stopped, and that the partition will be rebooted. Stop all programs on that partition, including the operating system.
4. If you are in a full system partition, power on the system unit to run standalone diagnostics. In a partitioned system, reboot the partition to run standalone diagnostics.
5. When the keyboard indicator is displayed (the word **keyboard**), press the number 1 key on the keyboard to display the SMS menu.
6. Enter any requested passwords.
7. Select **Setup Remote IPL (Initial Program Load)**.
8. Enter the client address, server address, gateway address (if applicable), and subnet mask. Exit to the Network Parameters screen.
9. If the NIM server is set up to allow pinging from the client system, use the **ping** utility in the RIPL utility to verify that the client system can ping the NIM server. Under the **ping** utility, choose the network adapter that provides the attachment to the NIM server to do the ping operation. If the ping returns with an `OK` prompt, the client is prepared to boot from the NIM server. If ping returns with a `FAILED` prompt, the client cannot proceed with the NIM boot.

   If the ping fails, contact your service representative.

To do a one–time boot of the network adapter attached to the NIM server network, do the following:

1. Exit to the SMS Main screen.
2. Select **Select Boot Options**.
3. Select **Install or Boot a Device**.

4. On the Select Device Type screen, select **Network**.
5. Set the network parameters for the adapter from which you want to boot.
6. Exit completely from SMS. The system starts loading packets while doing a **bootp** from the network.

Follow the instructions on the screen to select the system console.

- If `Diagnostics Operating Instructions Version x.x.x` displays, standalone diagnostics have loaded successfully.
- If the operating system login prompt displays, standalone diagnostics did not load. Check the following items:
  - The network parameters on the client may be incorrect.
  - Cstate on the NIM server may be incorrect.
  - Network problems might be preventing you from connecting to the NIM server.

Verify the settings and the status of the network. If you continue to have problems, contact your service representative.

Running System Verification

When the Diagnostic Operating Instructions display, do the following to run system verification:

1. Press Enter.
2. If the terminal type is requested, you must use the **Initialize Terminal** option on the Function Selection menu to initialize the operating system before you can continue with the diagnostics.

   Note: If you use a virtual terminal on the HMC and you are asked to define the terminal type, the virtual terminal is considered a VT320.
3. Select the **System Verification** option on the Diagnostic Mode Selection menu.
4. To run a general checkout of all installed resources, select the **All Resource** option on the Diagnostic Selection menu. Follow the instructions on the screen to complete the checkout procedure.

   To check one particular resource, select that resource on the Diagnostic Selection menu.

The checkout program ends with either of the following results:

- The Testing Complete screen displays a message stating `No trouble was found`.
- The A Problem Was Detected On (Time Stamp) menu displays, with either a service request number (SRN) or an error code. Make a note of any codes displayed on the display or operator panel.

To perform additional system verification, go to Performing Additional System Verification on page 2-9. To exit diagnostics, go to Stopping the Diagnostics on page 2-9.

Performing Additional System Verification

To perform additional system verification, do the following:

1. Press Enter to return to the Diagnostic Selection menu.
2. To check other resources, select the resource. When you have checked all of the resources you need to check, go to Stopping the Diagnostics on page 2-9.

Stopping the Diagnostics

To stop the diagnostics, do the following:

1. To exit the diagnostics, press the F3 key (from a defined terminal) or press 99 (from an undefined terminal).
2. If you changed any attributes on your terminal to run the diagnostics, change the settings back to normal.
3. This completes the system verification.

If the server passed all the diagnostic tests, the verification process is complete and your server is ready to use.

If you received an error code, record the code and other information that is displayed with the error code, and go to Appendix D, Identifying a Problem Device on page D-1.

Verify that the Latest HMC Software is Installed

Use the following instructions to verify the software level of the HMC that is managing the system you just installed.

1. Determine the level of the HMC software running on the HMC. If you don't know the level of your HMC's software, refer to the section entitled "Updating the HMC Software" in the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.
2. Go to the following Web site for the latest HMC corrective service software: http://techsupport.services.ibm.com/server/hmc/corrsrv.html. If the level of software on your HMC is not at the same level as the version on the Web, download and update the HMC software to the latest level. Instructions for updating the HMC software can be found in the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Chapter 3. Installing Options in the ESCALA PL 240R and ESCALA PL 240T

This chapter provides procedures for installing options, such as the Hardware Management Console (HMC), in both the ESCALA PL 240R rack–mounted system unit and the ESCALA PL 240T deskside system unit. For information about how to remove, replace, or install system parts, see *ESCALA PL 240R and ESCALA PL 240T Parts Guide*, order number 86 A1 13EM.

Notes:

1. Installing options in the ESCALA PL 240T can be performed with the system in either the vertical or horizontal position. Installing options in the ESCALA PL 240R is performed with the system in the rack and placed into the service position. The service position for the ESCALA PL 240R is described in *ESCALA PL 240R and ESCALA PL 240T Parts Guide*.
2. Before performing any of the installation procedures in this chapter, read the following notices.

For the system unit in which you are about to install an option:

- The ac power interface connector is considered the main power disconnect device.
- This system unit has redundant power supply capabilities, meaning that it has the ability to have two power supplies running simultaneously in the same system unit. When instructed to disconnect the power source, ensure that all power cables have been unplugged.

  DANGER!
  An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

  Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.

  When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

  Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

  During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communications lines.

  Caution:
  This product is equipped with a three–wire power cable and plug for the user's safety. Use this power cable with a properly grounded electrical outlet to avoid electrical shock.

  Caution:
  This unit has more than one power supply cord. To reduce the risk of electrical shock, disconnect two power supply cords before servicing.

Handling Static–Sensitive Devices

Attention: Electronic boards, diskette drives, and disk drives are sensitive to static electricity discharge. These devices are wrapped in antistatic bags to prevent this damage.

Take the following precautions:

- If you have an antistatic wrist strap available, use it while handling the device.
- Do not remove the device from the antistatic bag until you are ready to install the device in the system.
- With the device still in its antistatic bag, touch it to a metal frame of the system.
- Grasp cards and boards by the edges. Hold drives by the frame. Avoid touching the solder joints or pins.
- If you need to lay the device down while it is out of the antistatic bag, lay it on the antistatic bag. Before picking it up again, touch the antistatic bag and the metal frame of the system at the same time.
- Handle the devices carefully to prevent permanent damage.

Installing the Hardware Management Console (HMC)

This section provides information and instructions on how to set up and connect a Hardware Management Console (HMC) to your system. For more information about the HMC, see the *Hardware Management Console Installation and Operations Guide*.

Position the HMC and Monitor

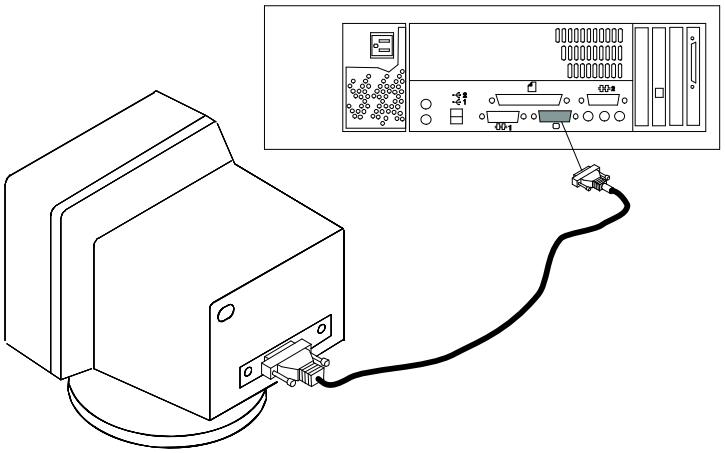
Position the HMC and monitor at or near their desired location.

- The HMC weighs between 34 kg (75 pounds) and 41 kg (90 pounds). Do not try to lift the HMC by yourself.
- Monitors can weigh as much as 35 kg (77 pounds). Use caution when lifting or moving the monitor.
- Leave enough space around the HMC to safely and easily complete the setup procedures.
- Observe standard ergonomic guidelines while arranging your system unit so that you can work comfortably and safely. For more information on arranging your workstation, contact your system supplier.
- Be sure to maintain at least 51 mm (2 inches) of space on the sides of the system unit and 152 mm (6 inches) at the rear of the system unit to allow the system unit to cool properly. The front of the system requires a minimum of 76 mm (3 inches) of space. Blocking the air vents can cause overheating, which might result in a malfunction or permanent damage to the system unit.
- Put the HMC in a location where all necessary power outlets and network connections can safely be reached.
- Put the display in a stable and sturdy location.

Connect the Cables

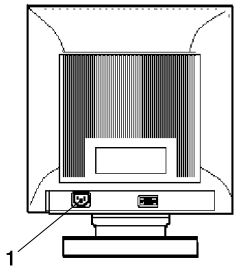
Use the following steps to connect the cables to your HMC. Look for the small icons on the rear of your HMC that show where to attach the keyboard, mouse, and display cables.

1. Attach the monitor cable to the monitor connector and tighten the screws.



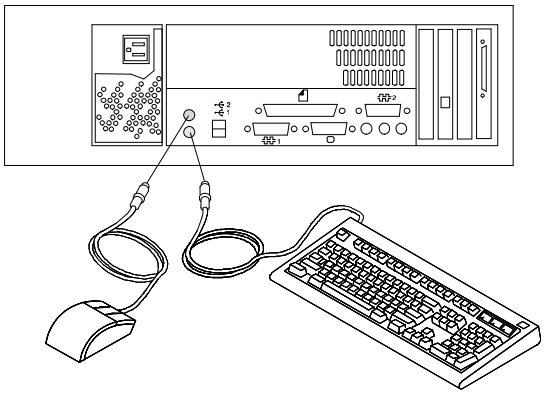
2. If a label for the monitor was provided with your system, attach the label to the lower–right corner of the monitor.
3. Attach the power cable to the power cable receptacle on the monitor. If the HMC has a voltage switch, ensure that it is in the correct position for the supply voltage.

   Attention: *Do not* plug the power cables into an electrical outlet at this time.

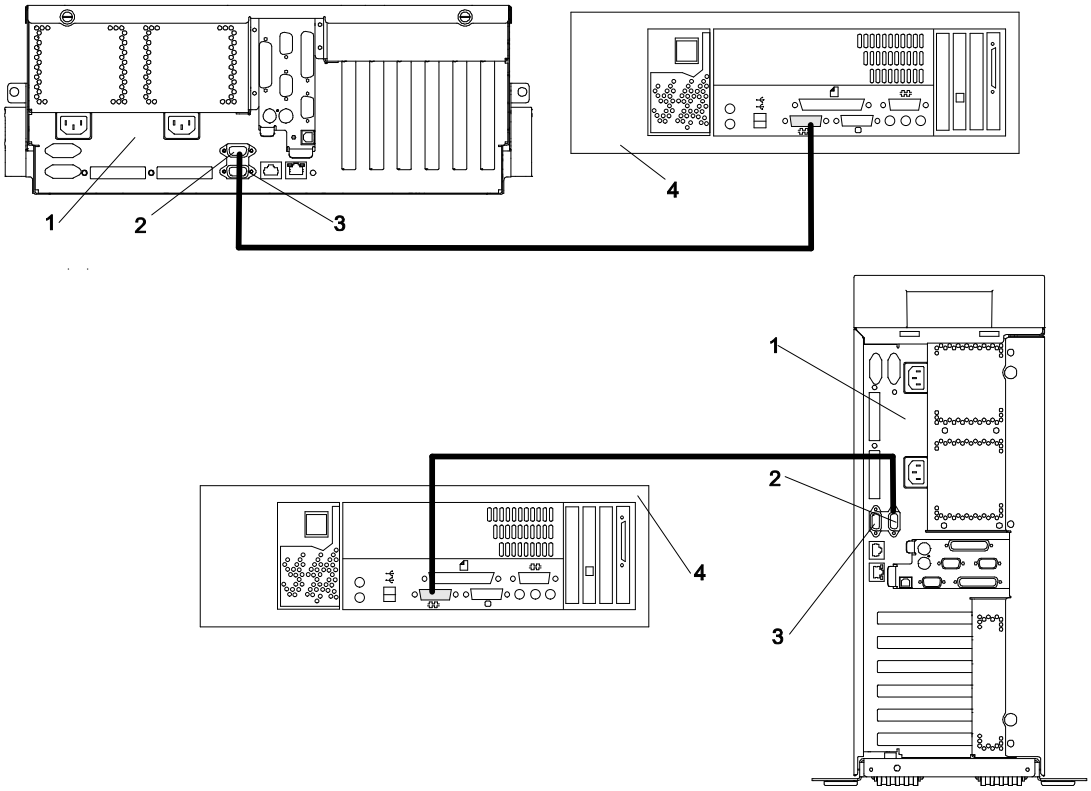


1 Power Cable Receptacle

4. Connect the mouse and keyboard to their connectors, as shown in the following illustration.



5. Connect the HMC serial cable into the HMC1 connector, located on the rear of your system unit. For two HMCs, connect the redundant HMC serial cable into the HMC2 connector, located on the rear of your system unit. The following illustration shows the location of the serial ports on the back of the HMC, as well as HMC1 and HMC2 connectors located on rear of your system unit.



1 ESCALA PL 240R or ESCALA PL 240T

2 HMC1 Connector

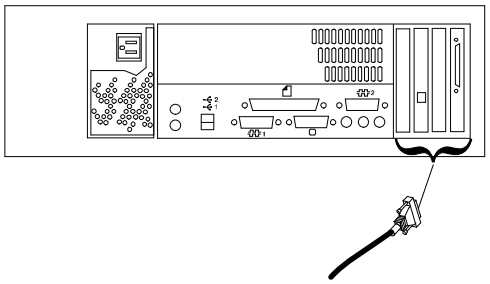
3 HMC2 Connector

4 Hardware Management Console (HMC)

To order the correct–length serial cables to connect the ESCALA PL 240R or ESCALA PL 240T to the HMC, call your service representative.

Connect the 8–Port Adapter Cables

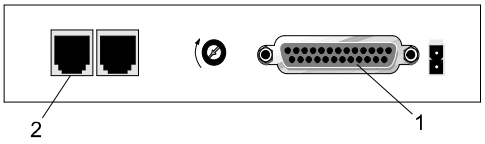
If you are using any optional 8–port adapters, connect the cables to the appropriate connectors in slots 1 through 4.



Connect the External Modem

To connect the external HMC modem, do the following:

1. Connect the modem cable to the external HMC modem (1).
2. Connect the other end of the modem cable to serial port 2.
3. Connect the phone cable line port of the external modem (2).
4. Connect the other end of the phone cable to the analog jack on your wall.



1 Serial Port

2 Phone Cable Port

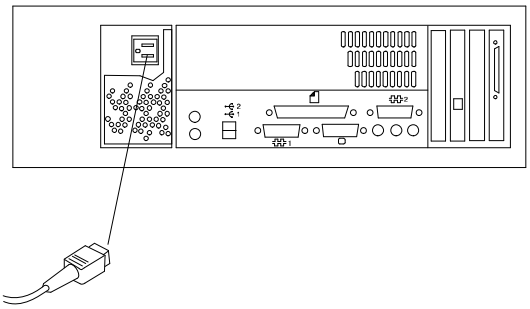
Check the Microswitch Setting on the Modem

Check the microswitch settings on the modem. The settings should be set as follows:

Switch	Position	Function
1	Up	Force DTR
2	Up	Flow Control &E4
3	Down	Result Codes Enabled
4	Up	Modem Emulation Disabled
5	*Down	Auto Answer Enabled
6	Up	Maximum Throughput Enabled
7	Up	RTS Normal Functions
8	Down	Enable Command Mode
9	Down	Remote Digital Loopback Test Enabled
10	Up	Dial–Up Line Enabled
11	Down	AT Responses Enabled (Extended Responses Disabled)
12	*Down	Asynchronous Operation
13	UP	28.8KB Line Speed
14	Up	
15	Up	CD and DSR Normal Functions
16	Up	2–Wire Leased Line Enabled
Note:* Only switches 5 and 12 are changed from the factory default settings.		

Plug in the HMC Power Cable

1. Plug in the power cable, as shown in the following illustration.



2. Plug the power cables for the monitor, HMC, and modem into electrical outlets.

Configure the Network

To configure the network, do the following:

1. Log in to the HMC using the user ID hscroot and password abc123.

   Note: User IDs and passwords are case–sensitive. Enter the user ID and password exactly as shown.

2. Select the **System Configuration** Application in the Navigation area.
3. Select **Customize Network Settings** in the Contents area.
4. Type the appropriate network information in the **IP Address**, **Name Services**, and **Routing** tabs on the Network Configuration window.
5. Click **OK**.

For more information about configuring the network, refer to the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Configure Inventory Scout Services

Inventory Scout Services is an AIX tool that surveys managed systems for hardware and software information.

To set up Inventory Scout Services for each managed system, you must be a member of one of the following roles:

- System Administrator
- Advanced Operator
- Service Representative

For more information about roles, refer to the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Notes:

1. The partition password requested in the following procedure is the password for Inventory Scout (invscout) User ID on the AIX images.
2. The Inventory Scout listening port is set by starting the **invscout** daemon on the AIX images. This port will default to 808.
3. If a system has been powered on using the Full System Partition power–on option, you must configure the Full System Partition to use Inventory Scout Services.

To set up Inventory Scout Services for each managed system and partition, do the following:

1. In the Navigation area, double–click the **Inventory Scout Services** icon.
2. In the Contents area, select **Inventory Scout Profile Configuration.**

3. From the list, select a managed system.
4. Click **Next**.
5. From the list, select the partition you want to configure.
6. Click **Next**.
7. The next window identifies the selected partition. Type the following:
   - Partition password
   - Inventory Scout listening port
   - IP address of the AIX partition

If you have completed configuration of all partitions, click **Finish**.

OR

To continue to configure additional partitions until all are configured, click **Back**.

Collect Vital Product Data Information

Use this task to collect the Vital Product Data (VPD) for the specified managed system into a file.

To collect the managed system's VPD, you must be a member of one of the following roles:

- System Administrator
- Advanced Operator
- Service Representative

To collect the managed systems VPD, do the following:

1. In the Navigation area, double–click the **Inventory Scout Services** icon.
2. In the Contents area, select **Collect VPD Information**.
3. From the list, select the name of the managed system for which you want to collect the Vital Product Data.
4. Click **Next**.
5. The wizard requests confirmation about the managed system, and then prompts you to insert a blank, DOS–formatted diskette into the HMC diskette drive.
6. Click **Finish**. This file is then copied to the diskette in the specified drive.

To conduct a microcode survey, see the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Configure Service Agent

Note: You must configure the network before you configure Service Agent. To start Service Agent, click the **Service Agent** icon on the HMC virtual terminal window.

If you are configuring Service Agent for the first time, select **Start Service Agent Processes** to start the Service Agent processes. Select **Service Agent UI**. You are prompted to type specific information or parameters pertinent to Service Agent.

To configure Service Agent, do the following:

1. Read and accept the License Agreement.
2. At the initial password prompt, type:

   ```
   password
   ```

   This is the default password.

   Note: User IDs and passwords are case–sensitive. Enter the user ID and password exactly as shown.

3. Type the information as follows:

   Customer Contact Name
   The person that we can reach when an error is reported to us by the Service Agent.

   Customer Phone Number
   The phone number associated with the person whose name is placed in the **Customer Contact Name** field.

   Customer Email
   The e–mail address of the person whose name is placed in the **Customer Contact Name** field.

   Queue Country/Region
   The country or region in which the HMC is located. Click the drop–down list to expand the country or region choices. Type the first letter of the desired country or region to move to the first occurrence of a country or region whose first letter matches your choice.

   Gateway Type The machine type of the processor subsystem.

   Gateway Serial Number
   The serial number of the processor subsystem that you designate to be the machine to send Service Agent information to us.

   Gateway Model Number
   The model number of the processor subsystem that you designate to be the machine to send Service Agent information to us.

4. Click **Continue**. The Service Agent interface displays.
5. Click **Network**. Fill in the appropriate information.

   Note: Some of the fields are prefilled with information taken from the Service Agent initial configuration panel.

6. Click **OK**.
7. Expand the contents of the Gateway category by clicking the key next to your Gateway machine.
8. Select **Dialer**.
9. Select **Location**. Select the location phone number closest to your physical location. Several of the fields are then completed by Service Agent based on the location phone number you selected.
10. Select **Modem**. Select the modem that you will use for Service Agent communications. After your selection, several of the remaining fields are filled in by Service Agent.
11. Click **OK** to save the Dialer configuration.
12. Expand the contents of the Administration category by clicking the key to its left.
13. Select **Register**.
14. Select your Gateway machine by clicking it.
15. Select **Register**. The ”Would you like to IGN now” window displays.
16. Click **Yes**. The Service Agent is now attempting to connect to the Service Agent server, using the modem you have selected.

17. Select **CallLog**. Check the details pane to view the status of the just–attempted call. To determine the success or failure of the connection attempt, examine the Description column.

For more information about Service Agent, see the *Hardware Management Console Installation and Operations Guide*, order number 86 A1 83EF.

Appendix A. Communications Statements

Model ESCALA PL 240R Communications Statements

The following statements apply to the Model ESCALA PL 240R. The statement for other products intended for use with this product appears in their accompanying documentation.

Federal Communications Commission (FCC) Statement

Note: 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.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Neither the provider nor the manufacturer is responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

European Union (EU) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. The manufacturer cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non–recommended modification of the product, including the fitting of option cards supplied by third parties. Consult with your dealer or sales representative for details on your specific hardware.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Attention: 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 Electrotechnical Commission (IEC) Statement

This product has been designed and built to comply with IEC 60950.

United Kingdom Telecommunications Safety Requirements

This equipment is manufactured to the International Safety Standard EN60950 and as such is approved in the UK under the General Approval Number NS/G/1234/J/100003 for indirect connection to the public telecommunication network.

The network adapter interfaces housed within this equipment are approved separately, each one having its own independent approval number. These interface adapters, supplied by the manufacturer, do not use or contain excessive voltages. An excessive voltage is one which exceeds 70.7 V peak ac or 120 V dc. They interface with this equipment using Safe Extra Low Voltages only. In order to maintain the separate (independent) approval of the manufacturer's adapters, it is essential that other optional cards, not supplied by the manufacturer, do not use main voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by the manufacturer.

Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

Canadian Department of Communications Compliance Statement

This Class A digital apparatus meets the requirements of the Canadian Interference–Causing Equipment Regulations.

VCCI Statement

この装置は、クラスA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－Ａ

The following is a summary of the VCCI Japanese statement in the box above.

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Electromagnetic Interference (EMI) Statement – Taiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

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

Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit Dem deutschen EMVG vom 9.Nov.92 das EG–Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

Hinweis

Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

Model ESCALA PL 240T Communications Statements

The following statements apply to the Model ESCALA PL 240T. The statement for other products intended for use with this product appears in their accompanying documentation.

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from authorized dealers. Neither the provider nor the manufacturer are responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

- International Business Machines Corporation
- New Orchard Road
- Armonk, New York 10504
- Telephone: (919) 543–2193

European Union (EU) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. The manufacturer cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non–recommended modification of the product, including the fitting of option cards supplied by third parties. Consult with your dealer or sales representative for details on your specific hardware.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

International Electrotechnical Commission (IEC) Statement

This product has been designed and built to comply with IEC Standard 950.

United Kingdom Telecommunications Safety Requirements

This equipment is manufactured to the International Safety Standard EN60950 and as such is approved in the UK under the General Approval Number NS/G/1234/J/100003 for indirect connection to the public telecommunication network.

The network adapter interfaces housed within this equipment are approved separately, each one having its own independent approval number. These interface adapters, supplied by the manufacturer, do not use or contain excessive voltages. An excessive voltage is one which exceeds 70.7 V peak ac or 120 V dc. They interface with this equipment using Safe Extra Low Voltages only. In order to maintain the separate (independent) approval of the manufacturer's adapters, it is essential that other optional cards, not supplied by the manufacturer, do not use main voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by the manufacturer.

Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe B est conform à la norme NMB–003 du Canada.

Canadian Department of Communications Compliance Statement

This Class B digital apparatus complies with Canadian ICES–003.

VCCI Statement

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

The following is a summary of the VCCI Japanese statement in the box above.

This product is a Class B Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). This product is aimed to be used in a domestic environment. When used near a radio or TV receiver, it may becaome the cause of radio interference. Read the instructions for correct handling.

Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG–Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.

Appendix B. Environmental Notices

Product Recycling and Disposal

Components of the system unit, such as structural parts and circuit boards, can be recycled where recycling facilities exist. Companies are available to disassemble, reutilize, recycle, or dispose of electronic products. Contact your account representative for more information. This system unit contains parts such as circuit boards, cables, electromagnetic compatibility gaskets and connectors which may contain lead and copper/beryllium alloys that require special handling and disposal at end of life. Before this unit is disposed, these materials must be removed and recycled or discarded according to applicable regulations. This book contains specific information on each battery type where applicable.

This product may contain a sealed lead acid, nickel cadmium, nickel metal hydride, lithium, or lithium ion battery. Consult your user manual or service manual for specific battery information. The battery must be recycled or disposed of properly. Recycling facilities may not be available in your area. For information on disposal of batteries, contact your local waste disposal facility.

Acoustical Noise Emissions

The equivalent continuous A–weighted sound pressure level at workstations (emission sound pressure level at the 1–meter bystander positions) does not exceed 70 dB(A).

Declared Acoustical Noise Emissions

Product Configuration	Declared A–Weighted Sound Power Level, *LWAd* (B)	
	Operating	Idling
PL 240T (Deskside)	6.0	5.9
PL 240R (Rack Drawer)	6.1	6.0

Notes:

1. ^{LWAd} is the declared (upper limit) sound power level for a random sample of machines (1B = 10sB).

2. ^{LpAm} is the mean value of the A–weighted sound pressure level at the 1–meter bystander positions for a random sample of machines.

3. All measurements made in conformance with ISO 7779 and declared in conformance with ISO 9296.

Appendix C. PCI Adapter Placement Reference

This system is designed for customers to install adapters. Use this guide to determine if there are specific slot requirements for adapters that you may be installing.

Some adapters must be placed in specific system unit slots to function correctly at optimum performance. Use the information in the following sections of this chapter to determine where to install adapters in your system unit.

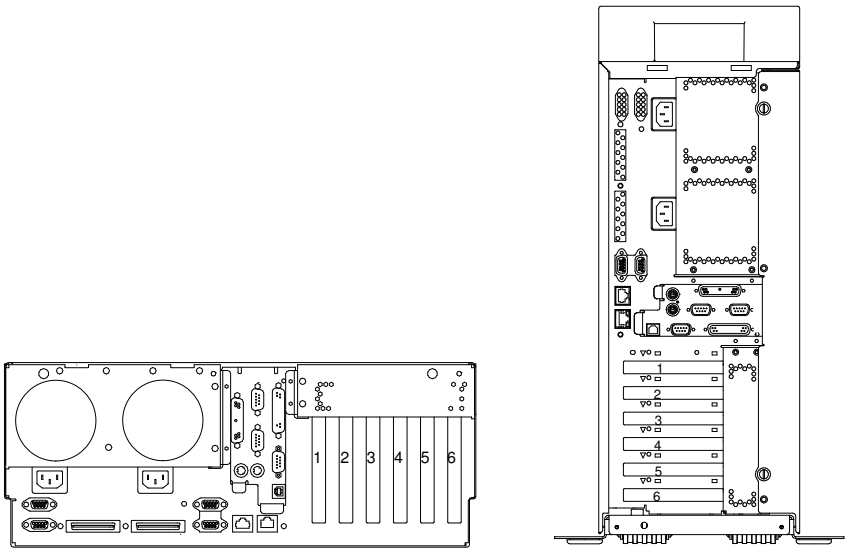
Logical Partition (LPAR) Considerations

Place redundant devices in separate I/O drawers for best availability performance. Place non–redundant devices in the same I/O drawer. If you place non–redundant devices in one drawer, the system is less exposed to other–drawer failures.

Some devices do not have enhanced error handling (EEH) capabilities built in to their device drivers. If these devices fail, the PCI Host Bridge (PHB) in which they are placed will be affected. If the I/O subsystem encounters a severe error, all slots in the PHB are also affected. To clear this condition, you may reboot the system. In addition, it is also possible to remove the failed PCI slots on an affected PHB from the partition profile or profiles that include these PCI slots, and reboot the partition or partitions that terminated at the time of the error.

To avoid PHB errors related to non–EEH adapters, it is strongly recommended that if a non–EEH adapter is used, then all slots on that PHB should be assigned to a single LPAR. Refer to the tables in this chapter for additional information about LPAR (logical partitioning) considerations.

PL 240T and PL 240R Adapter Placement Guide



Model PL 240T Model PL 240R

System Unit Rear View with Numbered Slots

Table 1. Slot Location Reference

Slot	PHB	Planar	Loc. Code	Slot Characteristics
1	1	1	Ux.y–P1–I1	64–bit 3.3V, 133 MHz
2	1	1	Ux.y–P1–I2	32–bit 3.3V, 66 MHz
3	1	1	Ux.y–P1–I3	32–bit 3.3V, 66 MHz
4	1	1	Ux.y–P1–I4	64–bit 3.3V, 133 MHz
5	1	1	Ux.y–P1–I5	64–bit 3.3V, 133 MHz
6	1	1	Ux.y–P1–I6	64–bit 3.3V, 133 MHz

Note: In Table 1, Ux.y represents the Hardware Management Console (HMC) location code where *x* is the rack location and *y* is the drawer position.

Use the following table to identify specific slot location options for the following adapters in your ESCALA PL 240 system.

Table 2. Slot Location Options

Pri	Adapter Type	Label	FC	MI	PCI Slot Location[1] (E) Expansion	Max per system	EEH	Hot plug
1	Dual channel Ultra320 SCSI adapter	5712	5712	MSCG054–0000	4,5,6	3	Y	Y
1	PCI 4 Channel Ultra3 SCSI RAID	4–X	2498	MSCG050–0000	4,5,6	3	Y	Y
1	PCI 2 Channel Ultra3 SCSI RAID	4–Y	6203	MSCG051–0000	4,5,6	3	Y	Y
2	Dual channel Ultra320 SCSI RAID	5703	5703	MSCG053–0000	4,5,6	3	Y	Y
2	Ethernet 1000 Base–SX Ethernet 10 /100/1000 Base–TX	5700 5701	5700 5701	DCCG163–0000 DCCG164–0000	1,4,5,6	4	Y	Y
2	Ethernet 2 port 10/100/1000 Base–TX Ethernet 2 port 1000 Base–SX	5706 5707	5706 5707	DCCG168–0000 DCCG169–0000	1,4,5,6	4	Y	Y
2	PCI 64 Bits Fibre Channel 2 Gb/s	5704	6239	DCCG172–0000	1,4,5,6	4	Y	Y
3	PCI Universal Differencial Ultra SCSI	4–U	6204	MSCG049–0000	1,4,2,3,5,6	6	Y	Y
4	Power GXT135P	1–X	2849	GTFG051–0000	1,4,2,3,5,6	4	Y	N
5	10/100 Mbps 4 Ports Ethernet PCI	A–E	4961	DCCG162–0000	4,5,6	3	Y	Y
6	10/100 Mbps Ethernet PCI	A–F	4962	DCCG161–0000	1,4,2,3,5,6	6	Y	Y
7	High Speed Token Ring PCI	B5–R	4959	DCCG135–0000	1 ,4,2,3,5,6	6	Y	Y
8	8 Port Asyn. EIA–232E/RS–422A PCI	3–B	2943	DCCG160–0000	1,4,2,3,5,6	6	Y	Y
9	X25 2 port Multiprotocol com.	B2–L	2962	DCCG140–0000	1,4,2,3,5,6	6	Y	N

Note:

1) IO Configuration

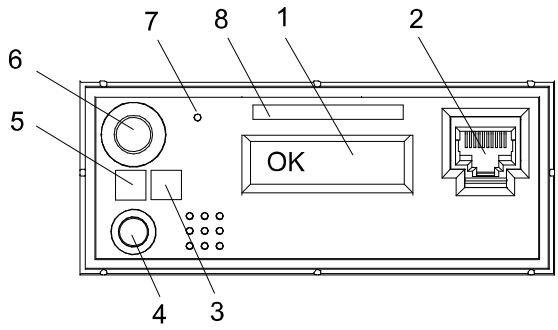
- Base IO/drawer 6 basic slots:
  - 4 slots PCI–X 64 bits 133 MHz (1,4,5,6)
  - 2 slots PCI–X 32 bits 66 MHz (2,3)

Appendix D. Identifying a Problem Device

The attention and FRU LEDs assist in identifying failing components in your system. This appendix discusses the purpose of LEDs, and how to use LEDs in identifying problem devices, reporting problems, and repair actions.

Operator Panel Display

When a failing component is detected in your system, the amber attention LED is turned on solid (not blinking).



1 Operator Panel Display
2 Front Serial Connector (FS1)
3 Attention LED
4 System Reset Button
5 Power LED
6 Power–On Button
7 Service Processor Reset Switch (Pinhole)
8 Serial Number Label

Component LEDs

In addition to the display, individual LEDs are located on or near the failing components. The LEDs are either on the component itself or on the carrier of the component (memory card, fan, memory module, CPU).

The LEDs are amber, except for the power LED, which are green. For the power supplies, the two green LEDs (AC Power Good and DC Power good) along with the amber Identify/Fault LED indicate the power supply status. Normally both green LEDs will be on solid, indicating Power Good. If the DC Power or Identify/Fault LED is blinking, that indicates a power supply problem.

Amber LEDs indicate a fault or identify condition. If your system or one of the components on your system has an amber LED turned on or blinking, identify the problem and take the appropriate action to restore the system to normal.

Activating a Device LED

A problem device might generate an error code; however, an error does not automatically cause the component identify LED to light. To light the identify LED of a problem device, do the following:

1. Obtain the location code for the device. The location code is shown as part of the error code. If AIX is your operating system, the location code is also listed in the AIX error log.
2. Log in to the system as the root user.
3. At the command prompt, type:

```
/usr/lpp/diagnostics/bin/usysident [-s {normal | identify}] [-l
location code  ]
```

4. The LED for the problem device will blink.

   Note: Device LEDs are located at various locations on the system. To view the LED, it might be necessary to remove the service access cover.

Reporting the Problem

After you have determined which component is failing, report the problem as follows.

1. Record the following information before calling for service:
   - Machine type and model
   - System serial number
   - Any error codes that appear in the operator panel display or console
   - Any LEDs lit on the operator panel
2. Call for service. If you are replacing the failing component, go to Repair Action on page D-2 for instructions.

Repair Action

1. Replace the failing component with the new component. For instructions, refer to Installing Options in the ESCALA PL 240R and ESCALA PL 240T on page 3-1.
2. Log in as root user.
3. At the command line, type `diag`.
4. Select **Task Selection**.
5. Select **Log Repair Action**.
6. Select the device that was repaired. (If the device is not listed, select **sysplanar0**).
7. Press F10 to exit diagnostics.

If the attention LED remains on after you have completed the repair action and reset the LEDs, call for service.

Appendix E. System Records

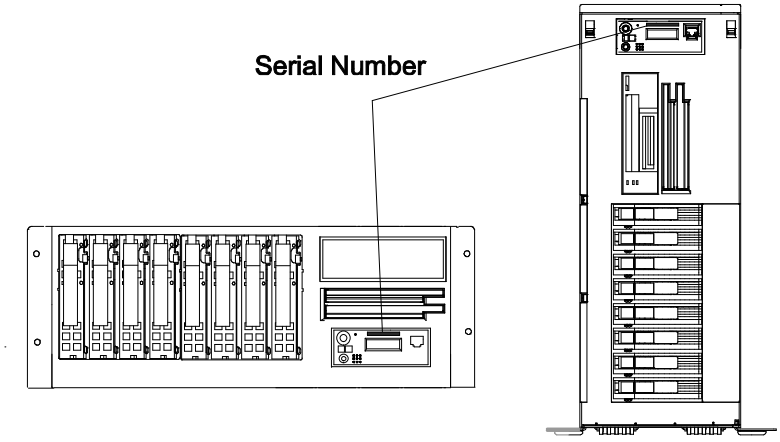
Use this appendix to keep a record of the system's identification information.

Identification Numbers

Record and retain the following information:

Product Name	PL 240R and PL 240T
Serial Number	
Key Serial Number	

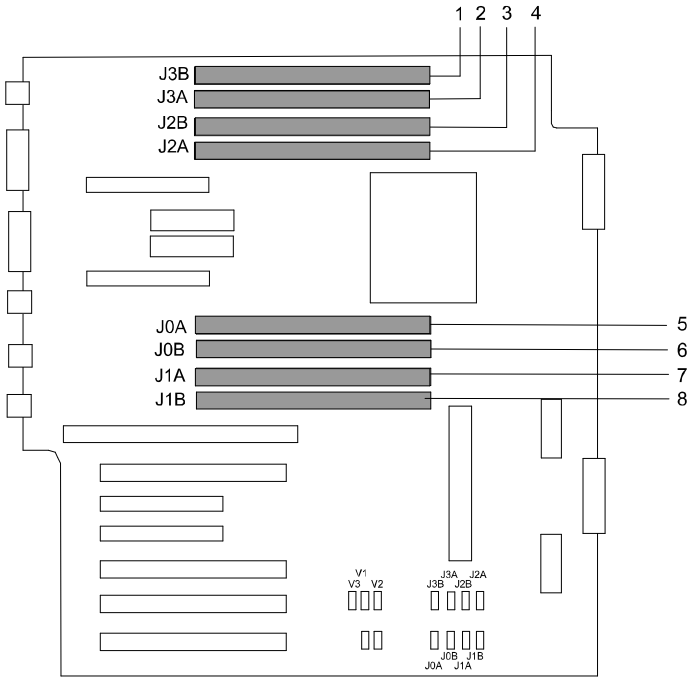
The system unit's serial numbers are located on the front of the machine, as shown in the following illustration:



Device Records

Use the following tables to keep a record of the options installed in or attached to your system. This information can be helpful when you install additional options in your system or if your system needs service.

Memory Card



1 Memory DIMM 1
J3B(U0.1–P1–M1)

2 Memory DIMM 2
J3A(U0.1–P1–M2)

3 Memory DIMM 3
J2B(U0.1–P1–M3)

4 Memory DIMM 4
J2A(U0.1–P1–M4)

5 Memory DIMM 5
J0A(U0.1–P1–M5)

6 Memory DIMM 6
J0B(U0.1–P1–M6)

7 Memory DIMM 7
J1A(U0.1–P1–M7)

8 Memory DIMM 8
J1B(U0.1–P1–M8)

Options

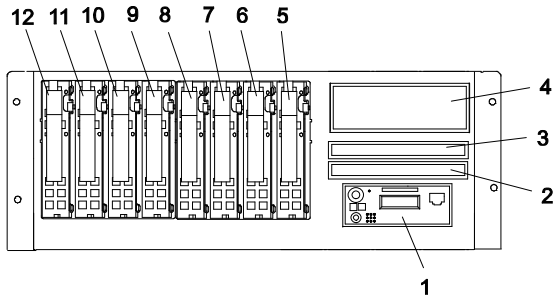
Location	Option Description
Mouse Connector	**IBM Mouse** Other:_____
Keyboard Connector	**Space Saving Enhanced** Other:_____
Expansion Slot 6	_____
Expansion Slot 5	_____
Expansion Slot 4	_____
Expansion Slot 3	_____
Expansion Slot 2	_____
Expansion Slot 1	_____
Parallel Port	_____
Serial Port 1	_____
Serial Port 2	_____
Serial Port 3	_____
Ethernet 1	_____
Ethernet 2	_____
	_____

SCSI IDs and Bay Locations

The following illustrations show the SCSI bay locations for the ESCALA PL 240R and ESCALA PL 240T.

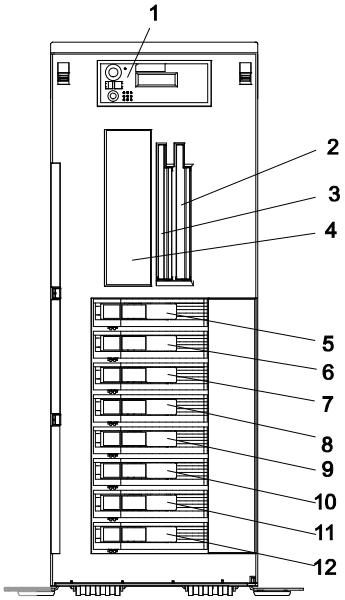
Note: One disk drive backplane is included in the ESCALA PL 240R and ESCALA PL 240T; a second backplane can be added. In the following illustration, the systems are shown fully populated with two backplanes and eight disk drives.

ESCALA PL 240R



Index	Drive Name	SCSI ID	
1	Operator Panel		
2	Diskette Drive or IDE Optical Drive	(U0.1–P1–X1/Q6–A1, for optical drive)	
3	IDE CD–ROM (Default) or IDE DVD–ROM (Optional)	IDE (Non–SCSI) (U0.1–P1–X1/Q6–A0)	
4	Tape Drive (Optional)	SCSI ID 0	
	SCSI DVD–RAM (Optional)	SCSI ID 1	
5	Disk Drive 1	SCSI Bus 0	SCSI ID 3
6	Disk Drive 2		SCSI ID 4
7	Disk Drive 3		SCSI ID 5
8	Disk Drive 4		SCSI ID 8
9	Disk Drive 5	SCSI Bus 1	SCSI ID 3
10	Disk Drive 6		SCSI ID 4
11	Disk Drive 7		SCSI ID 5
12	Disk Drive 8		SCSI ID 6

ESCALA PL 240T



Index	Drive Name	SCSI ID	
1	Operator Panel		
2	Diskette Drive or IDE Optical Drive	(U0.1–P1–X1/Q6–A1, for optical drive)	
3	IDE CD–ROM (Default) or IDE DVD–ROM (Optional)	IDE (Non–SCSI) (U0.1–P1–X1/Q6–A0)	
4	Tape Drive (Optional)	SCSI ID 0	
	SCSI DVD–RAM (Optional)	SCSI ID 1	
5	Disk Drive 1	SCSI Bus 0	SCSI ID 3
6	Disk Drive 2		SCSI ID 4
7	Disk Drive 3		SCSI ID 5
8	Disk Drive 4		SCSI ID 8
9	Disk Drive 5	SCSI Bus 1	SCSI ID 3
10	Disk Drive 6		SCSI ID 4
11	Disk Drive 7		SCSI ID 5
12	Disk Drive 8		SCSI ID 6

Notes:

1. The SCSI bus IDs are the recommended values and indicate how the IDs are set when the system is shipped from the factory. Field installations might not comply with these recommendations.
2. Media bay location D02 is designed to house one of the following optional devices:
   - IDE Optical Drive
   - Diskette Drive

   Any SCSI device used in media bay location D04 must be connected to a PCI SCSI adapter.

Appendix F. Firmware Updates

This section provides information and instructions for updating the system firmware. You may need to perform these steps if you are installing an option or if your support representative has instructed you to update your firmware.

If you cannot download from the Web, do the following:

- If the system cannot be powered on, but the service processor menus are available, see Updating System Firmware from the Service Processor Menus on page F-2.
- If the service processor programming has been corrupted, the service processor will automatically enter recovery mode when power is applied to the system.

General Information on System Firmware Updates

All the system firmware types that can be reprogrammed are updated at the same time. They are:

- System power control network programming
- Service processor programming
- IPL programming
- Run–time abstraction services

Retain and store the latest firmware diskettes each time the firmware gets updated in the event that the firmware becomes corrupted and must be reloaded.

Determining the Level of Firmware on the System

The firmware level is denoted by vFyymmdd, where:

- v = version number
- F = the p615's firmware designation
- yy = year
- mm = month
- dd = day

of the release.

If the system is running AIX, the firmware level can be determined by either of the following methods:

- On the AIX command line, by typing:

  ```
  lscfg -vp|grep -p Platform
  ```

  A line that begins with `ROM level (alterable)..` displays the firmware level that is currently on the system.

- Looking at the top of the service processor main menu.

If the system is running Linux, the platform firmware level can be determined by the following methods:

- On the Linux command line, type:

  ```
  lscfg -vp | grep 1F
  ```

  A line similar to the following displays the firmware level that is currently on the system:

  ```
  Alterable ROM Level 1F030504
  ```

- Looking at the top of the service processor main menu.

Updating System Firmware from the Service Processor Menus

This procedure requires a diskette drive to be installed in the system. This procedure also requires a set of firmware update diskettes in backup format.

The service processor menus are available while the system is powered off. As a privileged user, from the service processor main menu, select **Service Processor Setup**, then select **Reprogram Flash EPROM Menu**. The update process requests update diskettes as needed.

Updating System Firmware from a NIM Server

Refer to Running Standalone Diagnostics from a Network Installation Management (NIM) Server with an HMC Attached to the System on page 2-6.

Index

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V

Vos remarques sur ce document / Technical publication remark form

Titre / Title : Bull ESCALA PL 240T & PL 240R Installation Guide

Nº Reférence / Reference Nº : 86 A1 54EG 01

Daté / Dated : October 2003

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