

# Hardware Information

Backplanes and cards

ESCALA POWER5



REFERENCE  
86 A1 29EW 00



# ESCALA POWER5

## Hardware Information

### Backplanes and cards

#### **Hardware**

July 2006

BULL CEDOC

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B.P.20845

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# Table of Contents

<b>Backplanes and cards</b> .....	<b>1</b>
Printable PDF.....	1
Saving PDF files.....	1
Install the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card.....	2
Prepare the system.....	2
Install the RAID enablement card.....	3
Remove the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card.....	4
Prepare the system.....	4
Remove the RAID enablement card.....	5
Replace the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card.....	6
Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane.....	7
Prepare the system.....	7
Remove the system backplane.....	8
Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane.....	9
Replace the system backplane.....	10
Complete the procedure.....	11
<b>Related procedures</b> .....	<b>13</b>
Before you begin.....	13
Start or stop the system or logical partition.....	15
Start the system or logical partition.....	16
Stop the system or logical partition.....	18
Install a feature using the Hardware Management Console.....	19
Remove a part using the Hardware Management Console.....	20
Replace a part using the Hardware Management Console.....	21
Place the rack-mounted system or expansion unit in the service position or operating position.....	22
Place the rack-mounted system or expansion unit in the service position.....	22
Place the rack-mounted system or expansion unit in the operating position.....	25
Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position.....	26
Place the rack-mounted model ESCALA PL 245T/R in the service position.....	27
Place the rack-mounted model ESCALA PL 245T/R in the operating position.....	29
Front cover.....	30
Front cover for models 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit.....	31
Front cover for the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+.....	34
Remove and replace model ESCALA PL 245T/R covers and doors.....	36
Remove and replace the model ESCALA PL 245T/R front cover.....	36
Remove and replace the model ESCALA PL 245T/R acoustic-feature back cover.....	37
Remove and replace the model ESCALA PL 245T/R side cover.....	38
Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door.....	40
Remove the door from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,.....	40
Install or replace the door on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,.....	42
Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, service access cover.....	44
Remove the service access cover from the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,.....	44
Install the service access cover on the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,.....	47
Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels.....	49
Verify the installed part.....	50
Verify an installed feature or replaced part on an AIX system or logical partition.....	51
Verify the installed part on a Linux system or logical partition (run AIX diagnostics).....	53
Verify the presence of an installed part using Hardware Management Console (HMC).....	55
Verify the presence of an installed part using the Advanced System Management Interface (ASMI).....	56

# Table of Contents

## Related procedures

Identify a failing part.....	56
Identify a failing part on a model ESCALA PL 245T/R.....	56
Identify a failing part on an AIX system or logical partition.....	58
Identify a failing part on a Linux system or logical partition.....	59
Identify a failing part using the Advanced System Management Interface.....	62
SMP processor cable connections.....	62
Disconnect the SMP processor cable from a system unit.....	63
Reconnect the SMP processor cable to a system unit.....	64

## Backplanes and cards

This topic describes how to replace or install backplanes and cards.

Replacing this feature is a customer task for the models listed at the bottom of this section. You can perform this task yourself, or contact a service provider to perform the task for you. You might be charged a fee by the service provider for this service.

If your model number is not listed at the bottom of this section, contact a service provider to perform this task.

To complete these procedures, you may also need to perform removal and replacement tasks from these topics:

- [Control panel](#)
- [Fans](#)
- [Media device](#)
- [Voltage regulator](#)

If you are planning to use this information in printed form, be sure to print all of the information that you need. You can find all of the information, in both HTML or PDF format, in the [Installing features and parts](#) topic.

- **[Printable PDF](#)**  
Use this to view and print a PDF of this information.
  - **[Install the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card](#)**
  - **[Remove the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card](#)**
  - **[Replace the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card](#)**
  - **[Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane](#)**
  - **[Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane](#)**
- 

## Printable PDF

Use this to view and print a PDF of this information.

To view or download the PDF version of this document, select [System backplane](#) (about 7 MB).

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3. Navigate to the directory in which you want to save the PDF.
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Parent topic: [Backplanes and cards](#)

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## Install the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card

The following procedures describe how to install a RAID enablement card in the following models:

- 112/85
- ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+ models
- ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+ models
- 7/20

Parent topic: [Backplanes and cards](#)

### Prepare the system

1. Perform prerequisite tasks as described in [Before you begin](#).
2. Stop the system. For instructions, see [Stop the system or logical partition](#).
3. Disconnect the power source from the system by unplugging the system.

**Note:** This system might be equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been completely disconnected.

(L003)



or



4. Remove the front cover. For instructions, see [Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit](#).

#### Attention:

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

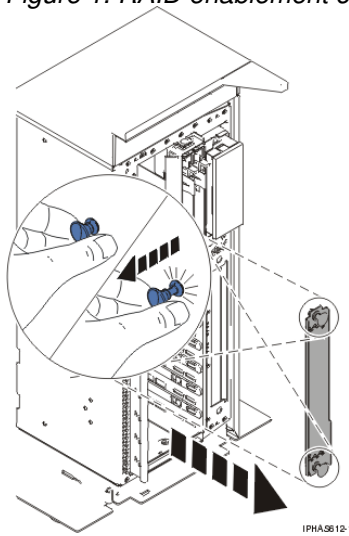


- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

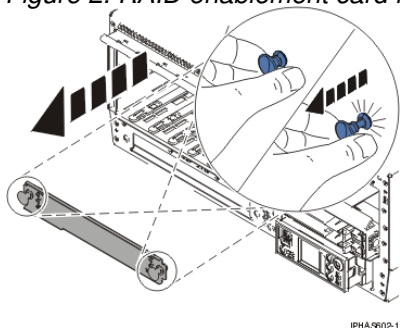
## Install the RAID enablement card

1. Pull out on the locking knobs of the RAID enablement card filler until you feel them unlock.
2. Remove the RAID enablement card filler from the system, as shown in [Figure 1](#) or [Figure 2](#).

*Figure 1. RAID enablement card filler in a stand-alone system unit*



*Figure 2. RAID enablement card filler in a rack-mounted system unit*



3. Pull out on the locking knobs on the RAID enablement card to ensure that they are in the unlocked position.
4. Align the RAID enablement card with the slot in the system.
5. Slide the RAID enablement card fully into the system.
6. Press in on the locking knobs until you feel them lock into place, as shown in [Figure 3](#) or [Figure 4](#).

*Figure 3. Stand-alone system unit RAID enablement card replacement*

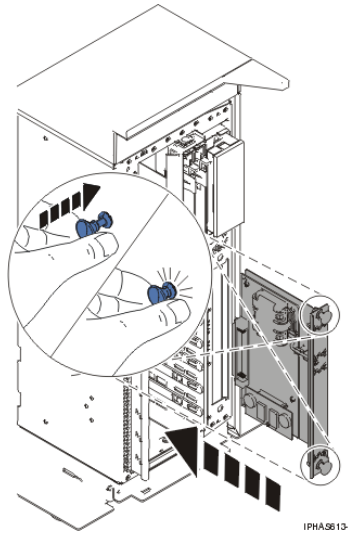
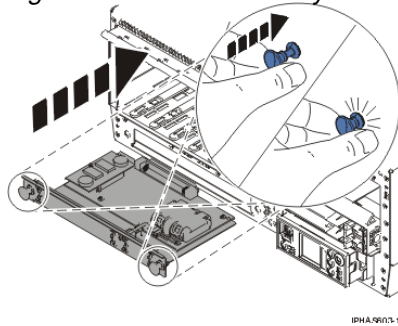


Figure 4. Rack-mounted system unit RAID enablement card replacement



7. Replace the front cover. For instructions, see [Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.](#)
8. Start the system. For instructions, see [Start the system or logical partition.](#)
9. Verify that the new resource is functional. For instructions, see [Verify the installed part.](#)

## Remove the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card

The following procedures describe how to remove a RAID enablement card from the following models:

- 112/85
- ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+ models
- ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+ models
- 7/20

Parent topic: [Backplanes and cards](#)

### Prepare the system

1. Perform prerequisite tasks as described in [Before you begin.](#)
2. Identify the RAID enablement card that you need to remove. For instructions, see [Identify a failing part.](#)
3. Stop the system. For instructions, see [Stop the system or logical partition.](#)
4. Disconnect the power source from the system by unplugging the system.

**Note:** This system might be equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been completely disconnected.

**(L003)**



or



5. Remove the front cover. For instructions, see [Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.](#)

**Attention:**

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

**Remove the RAID enablement card**

1. Locate the RAID enablement card. The RAID enablement card is located below the disk drives.
2. Pull out on the locking knobs of the RAID enablement card until you feel them unlock.
3. Slide the RAID enablement card out of the system, as shown in [Figure 1](#) or [Figure 2](#).

*Figure 1. RAID enablement card removal from a stand-alone system unit*

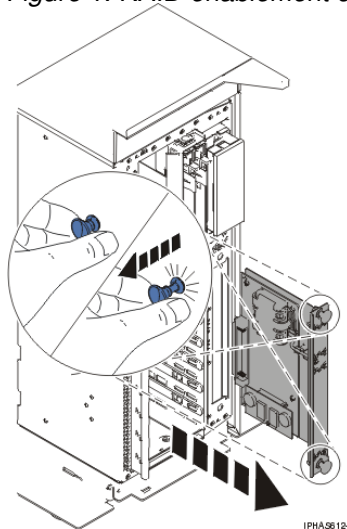
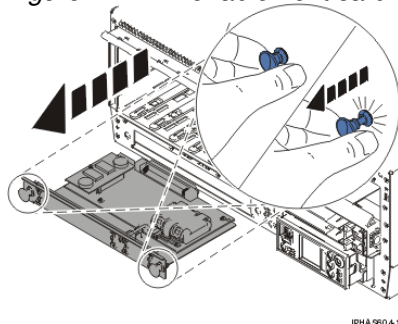


Figure 2. RAID enablement card removal from a rack-mounted system unit



4. Replace the RAID enablement card. For instructions, see [Replace the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card](#).

## Replace the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card

The following procedure describes how to replace a RAID enablement card in the following models:

- 112/85
- ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+ models
- ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+ models
- 7/20

You must have already completed the procedure [Remove the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, RAID enablement card](#).

1. Pull out on the locking knobs on the replacement RAID enablement card to ensure that they are in the unlocked position.

### Attention:

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

2. Align the RAID enablement card with the slot in the system.
3. Slide the RAID enablement card fully into the system.
4. Press in on the locking knobs until you feel them lock into place, as shown in [Figure 1](#) or [Figure 2](#).

Figure 1. RAID enablement card replacement in a stand-alone system unit

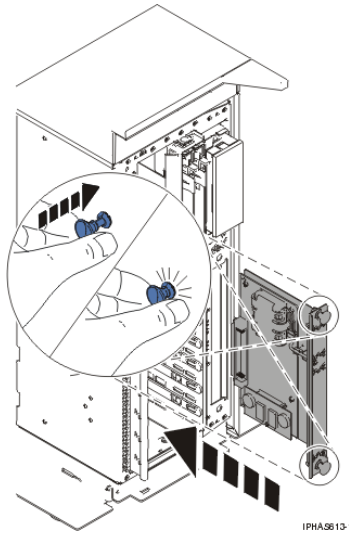
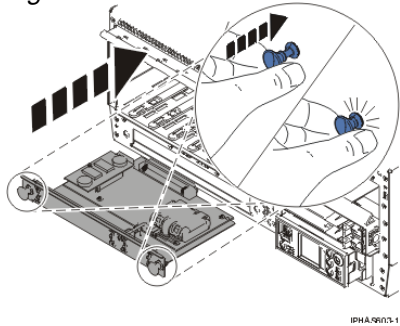


Figure 2. RAID enablement card replacement in a rack-mounted system unit



5. Reinstall the front cover. For instructions, see [Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.](#)
6. Start the system. For instructions, see [Start the system or logical partition.](#)
7. If you replaced the RAID enablement card as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. For instructions, see [Verify the installed part.](#)

Parent topic: [Backplanes and cards](#)

## Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane

Parent topic: [Backplanes and cards](#)

### Prepare the system

1. Perform prerequisite tasks as described in [Before you begin.](#)
2. Identify the system backplane assembly that you need to remove. For instructions, see [Identify a failing part.](#)
3. Stop the system. For instructions, see [Stop the system or logical partition.](#)
4. Disconnect the power source from the system by unplugging the system.

**Note:** This system is equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been completely disconnected.

(L003)



or



5. Remove the front cover. For instructions, see [Remove the front cover from the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#).

**Attention:**

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
  - ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
  - ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.
6. Remove the SMP cable, if present, from the front of the processor. For instructions, see [Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ SMP processor cable](#).
  7. Remove the control panel. For instructions, see [Model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ control panel](#).
  8. Remove the voltage regulator modules. Record the location of each voltage regulator module being removed. For instructions, see [Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ voltage regulator card assembly](#).

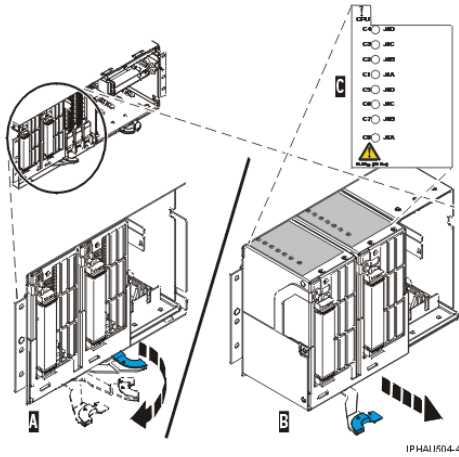
## Remove the system backplane

1. Locate the blue handle, which is below the processor assembly.

**Attention:** The system backplane assembly is of substantial weight and should not be pulled out using the blue lever. Grasp the system backplane assembly firmly with both hands when it is free of the system.

2. As shown in the following figure, push the blue lever A to the left and out from the system to unlock the system backplane assembly, and then pull the system backplane assembly out of the system using both hands B.

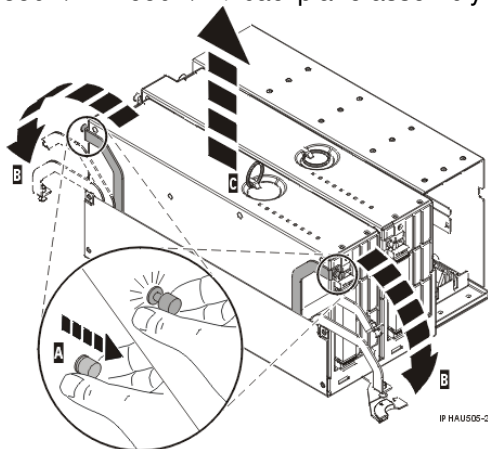
*Figure 1. Slide the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane assembly out of the system unit*



3. If you are removing the system backplane as a part of another procedure, return to that procedure. If you are removing the system backplane because it is damaged or failing to operate correctly, continue to the next step.
4. As shown in the following figure, pull out on the locking knobs A until you feel them unlock. Push the locking arms B down and out to unlock the processor assembly, and then lift it out of the system backplane assembly C. Remove all processor assemblies (or fillers) from the system backplane assembly.

**Tip:** Record the location of each processor assembly being removed for use during reinstallation.

*Figure 2. Remove the processor assembly from model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ backplane assembly*



5. Place the processor assembly on a surface that is safe from electrostatic discharge.
6. Replace the system backplane. For instructions, see [Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane](#).

## Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane

You must have already completed the procedure [Remove the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane](#).

**Parent topic:** [Backplanes and cards](#)

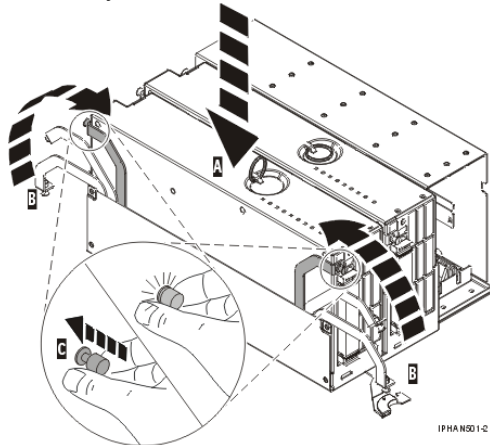
## Replace the system backplane

1. As shown in [Figure 1](#), place the system processor assembly into the system backplane assembly A using the location information that you recorded during the removal procedure. Lock the system processor assembly into place with the locking arms B. Press in on the locking knobs C until you feel them lock into place. Replace all processor assemblies that were removed earlier.

### Attention:

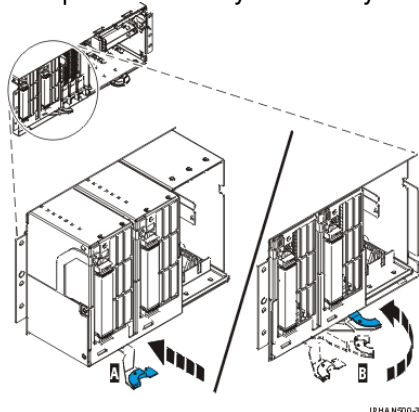
- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

*Figure 1. Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ backplane assembly*



2. Align the system backplane assembly with the slot in the system.
3. Slide the system backplane assembly into the system A, as shown in [Figure 2](#).
4. Push the blue lever B to the right and in toward the system to lock the system backplane assembly.

*Figure 2. Slide the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system backplane assembly into the system unit*





## Complete the procedure

1. Reinstall the voltage regulator modules. For instructions, see [Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ voltage regulator card assembly](#).
  2. Reinstall the control panel. For instructions, see [Model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ control panel](#).
  3. Reinstall the SMP processor cable, if it was removed. For instructions, see [Replace the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ SMP processor cable](#).
  4. Reinstall the front cover. For instructions, see [Install the front cover on the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#).
  5. [Start the system or logical partition](#).
  6. If you replaced the system backplane as part of another procedure, return to that procedure now. If you replaced it because it was not operational, verify that the new resource is functional. For instructions, see [Verify the installed part](#).
-



## Related procedures

View and print information related to the replacement or installation of backplanes and cards.

- **Before you begin**  
Understand prerequisites for installing, removing, or replacing features and parts.
  - **Start or stop the system or logical partition**  
Learn how to start or stop a system or logical partition.
  - **Install a feature using the Hardware Management Console**
  - **Remove a part using the Hardware Management Console**
  - **Replace a part using the Hardware Management Console**
  - **Place the rack-mounted system or expansion unit in the service position or operating position**
  - **Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position**
  - **Front cover**  
The following procedures describe how to remove and install the front cover of the system or expansion unit.
  - **Remove and replace model ESCALA PL 245T/R covers and doors**  
Learn how to remove and replace covers and doors.
  - **Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door**  
Learn how to remove and replace the front door of the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, .
  - **Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover**  
This topic describes how to remove and install the service access cover for the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .
  - **Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels**
  - **Verify the installed part**
  - **Identify a failing part**  
The following procedures describe how to locate and identify a failing part on your system or expansion unit.
  - **SMP processor cable connections**
- 

## Before you begin

Understand prerequisites for installing, removing, or replacing features and parts.

## **DANGER**When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration

procedures.

- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

## **DANGER** Observe the following precautions when working on or around your IT rack system:

- Heavy equipment personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.



- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- 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.

## CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

(R001)

Before you begin a replacement or installation procedure, perform these tasks:

1. If you are installing a new feature, ensure that you have the software required to support the new feature and determine if there are any existing PTF prerequisites.
2. If you are performing an installation or replacement procedure that might put your data at risk, ensure, wherever possible, that you have a current backup of your system or logical partition (including operating systems, licensed programs, and data).

For information on backing up your system or logical partition, select from the following:

- ◆ [AIX backup](#)
  - ◆ [Linux backup](#)
3. Review the installation or replacement procedure for the feature or part.
  4. Note the significance of color on your system.

Blue or terra-cotta on a part of the hardware indicates a touch point where you can grip the hardware to remove it from or install it in the system, open or close a latch, and so on. Terra-cotta might also indicate that the part can be removed and replaced with the system or logical partition power on.

5. Ensure that you have access to a medium, flat-blade screwdriver.
6. If parts are incorrect, missing, or visibly damaged, do the following:
  - ◆ If you are replacing a part, contact your service provider or next level of support.
  - ◆ If you are installing a feature, contact one of the following:
    - ◇ Your service provider or next level of support.
7. If you encounter difficulties during the installation, contact your service provider, or your next level of support.
8. If you are installing new hardware in a logical partition, you need to understand and plan for the implications of partitioning your system. For information, see [Partitioning the server](#), and then return to these instructions.

**Parent topic:** [Related procedures](#)

## Related tasks

[Start or stop the system or logical partition](#)

[Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

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## Start or stop the system or logical partition

Learn how to start or stop a system or logical partition.

- [Start the system or logical partition](#)  
Use these instructions to start a system or logical partition.
- [Stop the system or logical partition](#)  
Learn how to stop a system or logical partition.

**Parent topic:** [Related procedures](#)

## Related tasks

[Start or stop the system or logical partition](#)

## Before you begin

Install a feature using the Hardware Management Console Remove a part using the Hardware Management Console Replace a part using the Hardware Management Console Place the rack-mounted system or expansion unit in the service position or operating position Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position Front cover Remove and replace model ESCALA PL 245T/R covers and doors Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels Verify the installed part Identify a failing part SMP processor cable connections

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## Start the system or logical partition

Use these instructions to start a system or logical partition.

- [Start a system that is not managed by a Hardware Management Console](#)
- [Start the system or logical partition using the Hardware Management Console](#)

**Parent topic:** [Start or stop the system or logical partition](#)

### Related tasks

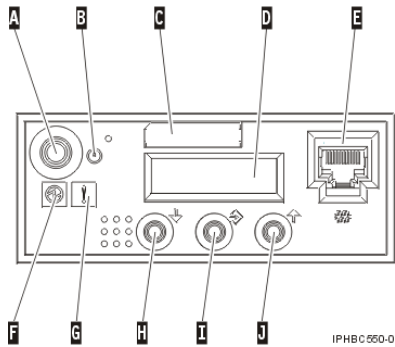
[Stop the system or logical partition](#)

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## Start a system that is not managed by a Hardware Management Console

To start a system that is not managed by a Hardware Management Console (HMC), follow these steps:

1. On a rack-mounted system unit, open the front rack door, if necessary. On a stand-alone system unit, open the front door.
2. Before you press the power button on the control panel, ensure that power is connected to the system unit as follows:
  - ◆ All system power cables are connected to a power source.
  - ◆ The power-on light F, as shown in the following figure, is slowly blinking.
  - ◆ The top of the display D, as shown in the following figure, contains 01  $\nabla$ =F.



**Tip:** The system attention light G, as shown in the previous figure, does not appear on the control panel on the model ESCALA PL 850R/PL 1650R/R+.

3. Press the power button A, as shown in the following figure, on the control panel.

**Note:** On the 7/10 or model ESCALA PL 250R-L, the power button is on the operations panel.

4. Observe the following after pressing the power button:
- ◆ The power-on light begins to blink visibly faster.
  - ◆ The system cooling fans are activated after approximately 30 seconds and begin to accelerate to operating speed.
  - ◆ Progress indicators, also referred to as checkpoints, appear on the control panel display while the system is being started. The power-on light on the control panel stops blinking and remains on, indicating that system power is on.

**Tip:** If pressing the power button does not start the system, use the following instructions to start the system using the Advanced System Management Interface (ASMI).

- Set up access to the ASMI. For instructions, see [Accessing the ASMI](#).
- Start the system using the ASMI. For instructions, see [Powering the system on and off](#).

**Parent topic:** [Start the system or logical partition](#)

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## Start the system or logical partition using the Hardware Management Console

After the required cables are installed and the power cables are connected to a power source, you can use the Hardware Management Console (HMC) user interface to start the system or logical partition.

For instructions on working with the HMC, see [Managing the Hardware Management Console](#). For instructions on starting a logical partition, see [Activating a partition profile](#). For instructions on starting the system, see [Powering on the managed system](#).

Progress indicators, also referred to as checkpoints, appear on the control panel display while the system is being started. The power-on light on the control panel stops blinking and remains on, indicating that system power is on.

**Parent topic:** [Start the system or logical partition](#)

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## Stop the system or logical partition

Learn how to stop a system or logical partition.

**Attention:** Using either the power-on button on the control panel or entering commands at the Hardware Management Console (HMC) to stop the system can cause unpredictable results in the data files. Also, the next time you start the system, it might take longer if all applications are not ended before stopping the system.

To stop the system or logical partition, select the appropriate procedure:

- [Stop the system that is not managed by a Hardware Management Console](#)
- [Stop the system or logical partition using the Hardware Management Console](#)

**Parent topic:** [Start or stop the system or logical partition](#)

### Related tasks

[Start the system or logical partition](#)

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## Stop the system that is not managed by a Hardware Management Console

The following procedure describes how to stop a system that is not managed by a Hardware Management Console (HMC).

### Prepare to stop the system

Before you stop the system, do the following:

1. Ensure that all jobs are completed and end all applications.
2. Ensure that the operating system is stopped. Failure to do so can result in the loss of data.
3. Write down the information displayed on the control panel if you are stopping your system due to an error or to make a repair. For more information, see [Collecting reference codes and system information](#).

### Stop the system



To stop a system, follow these steps:

1. Log in to the system as a user with the authority to run the `shutdown` or `pwrdownsys` (Power Down System) command.
2. At the command line, enter one of the following commands:
  - ◆ If your system is running AIX, type `shutdown`.
  - ◆ If your system is running Linux, type `shutdown -h now`.

The command stops the operating system. The system power turns off, the power-on light begins to slowly blink, and the system goes into a standby state.
3. Set the power switches of any devices connected to the system to off.
4. Unplug any power cables that are attached to the unit from electrical outlets. Ensure that you unplug power cables from peripheral devices, such as printers and expansion units.

**Important:** The system might be equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been completely disconnected.

(L003)



or



Parent topic: [Stop the system or logical partition](#)

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## Stop the system or logical partition using the Hardware Management Console

You can use the Hardware Management Console (HMC) user interface to stop the system or a logical partition. For instructions on stopping the system, see [Powering off the managed system](#).

Parent topic: [Stop the system or logical partition](#)

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## Install a feature using the Hardware Management Console

To use the Hardware Management Console user interface to install a feature in a system or expansion unit that is managed by a Hardware Management Console (HMC), follow these steps:

1. In the navigation area, expand **Management Environment**.
2. Expand the managed system into which you are installing a feature.

3. Expand **Service Applications**.
4. Select **Service Focal Point**.
5. In the contents area, select **Install/Add/Remove Hardware**.
6. In the **Install/Add/Remove Hardware** window, highlight system or unit into which you are installing a feature.
7. Click **Selected**.
8. From the Selected menu, select **Add FRU**.
9. In the **Enclosure type** field, select the system or expansion unit into which you are installing a feature.
10. In the FRU types for selected enclosure, select the feature you are installing.
11. Click **Next**.
12. Follow the instructions to install the feature.

**Note:** The HMC might open the ESCALA Power5 Hardware Information instructions for installing the feature. If so, follow these instructions to install the feature.

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

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## Remove a part using the Hardware Management Console

To use the Hardware Management Console user interface to remove a part in a system or expansion unit that is managed by a Hardware Management Console (HMC), follow these steps:

1. In the navigation area, expand the **Management Environment**.
2. Expand the managed system in which you are replacing a part.
3. Expand **Service Applications**.
4. Select **Service Focal Point**.
5. In the contents area, select **Install/Add/Remove Hardware**.
6. In the **Install/Add/Remove Hardware** window, click System Processor.
7. From the Selected menu, select **Remove FRU**.
8. In the **Installed enclosure types** field, select the system or expansion unit from which you are removing a part.
9. In the Available FRU types for selected enclosure, select the part you are removing.
10. Click **Next**.
11. Follow the instructions to remove the part.

**Note:** The HMC might open the ESCALA Power5 Hardware Information instructions for removing the part. If so, follow these instructions to remove the part.

**Parent topic:** [Related procedures](#)

## Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

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## Replace a part using the Hardware Management Console

To use the Hardware Management Console user interface to replace a part in a system or expansion unit that is managed by a Hardware Management Console (HMC), follow these steps:

1. In the navigation area, expand the **Management Environment**.
2. Expand the managed system in which you are replacing a part.
3. Expand **Service Applications**.
4. Select **Service Focal Point**.
5. In the contents area, select **Repair Serviceable Event**.
6. Select the system and click **OK**.
7. In the window, click the problem number for the part you want to replace.
8. Follow the instructions to replace the part.

**Note:** The HMC might open the ESCALA Power5 Hardware Information instructions for replacing the part. If so, follow these instructions to replace the part.

**Parent topic:** [Related procedures](#)

## Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service](#)

position or operating position Front cover Remove and replace model ESCALA PL 245T/R covers and doors Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels Verify the installed part Identify a failing part SMP processor cable connections

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## Place the rack-mounted system or expansion unit in the service position or operating position

Learn how to place a rack-mounted system or expansion unit into the service position or the operating position.

- **Place the rack-mounted system or expansion unit in the service position**  
By placing the rack-mounted system or expansion unit in the service position, you can access the inside of the unit.
- **Place the rack-mounted system or expansion unit in the operating position**  
By placing the rack-mounted system or expansion unit in the operating position, you make the unit available for use.

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

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## Place the rack-mounted system or expansion unit in the service position

By placing the rack-mounted system or expansion unit in the service position, you can access the inside of the unit.

**Note:** Some of the figures in these procedures might not look exactly like the system or expansion unit that you have. However, the steps to perform the task are the same.

**DANGER** When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.
  - To Disconnect:
    1. Turn off everything (unless instructed otherwise).
    2. Remove the power cords from the outlets.
    3. Remove the signal cables from the connectors.
    4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

**DANGER** Observe the following precautions when working on or around your IT rack system:

- Heavy equipment personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.



- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- 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.

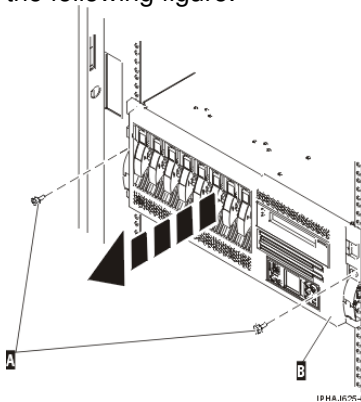
## CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

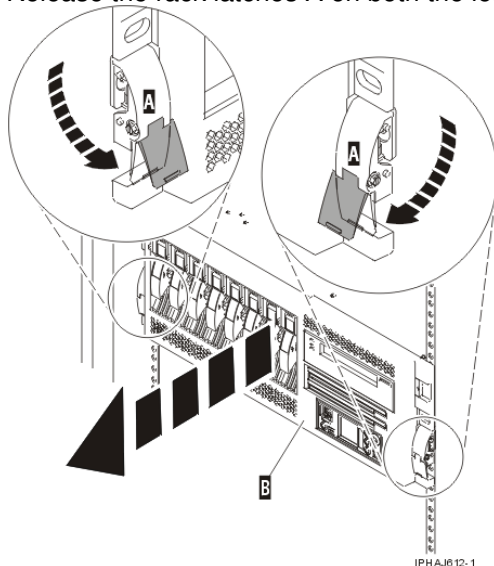
(R001)

To place the rack-mounted system or expansion unit into the service position, follow these steps:

1. If necessary, open the front rack door.
2. Remove the two thumbscrews A that secure the system or expansion unit B to the rack as shown in the following figure.



3. Release the rack latches A on both the left and right sides as shown in the following figure.



4. Review the following note, and then slowly pull the system or expansion unit out from the rack until the rails are fully extended and locked.

**Note:**

- ◆ If the procedure you are performing requires you to unplug cables from the back of the system or expansion unit, do so before you pull the unit out from the rack.
- ◆ Ensure that the cables at the rear of the system or expansion unit do not catch or bind as you pull the unit out from the rack.
- ◆ Ensure the rails are fully extended. When the rails are fully extended, the rail safety latches lock into place. This action prevents the system or expansion unit from being pulled out too far.

**Parent topic:** [Place the rack-mounted system or expansion unit in the service position or operating position](#)

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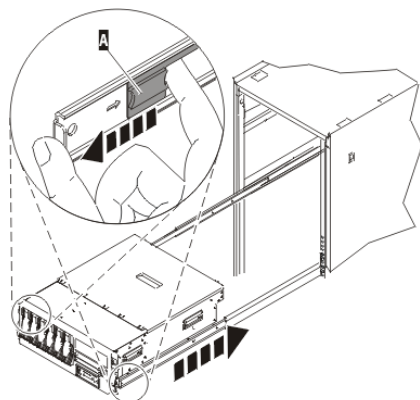
## Place the rack-mounted system or expansion unit in the operating position

By placing the rack-mounted system or expansion unit in the operating position, you make the unit available for use.

**Tip:** Some of the figures in these procedures might not look exactly like the system or expansion unit that you have. However, the steps to perform the task are the same.

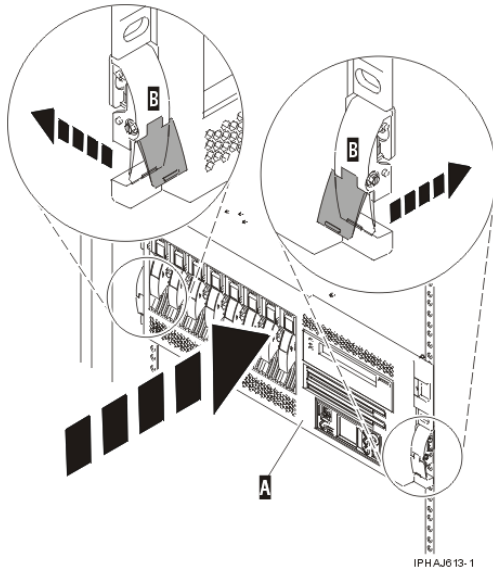
To place the rack-mounted system or expansion unit into the operating position, follow these steps:

1. Simultaneously release the blue rail safety latches A, located near the front of each rail, and push the system or expansion unit into the rack as shown in the following figure.

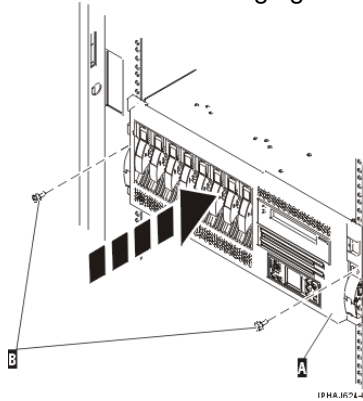


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- a. Both rack latches B should lock into position as shown in the following figure.



2. Replace and tighten the two thumbscrews B that secure the system or expansion unit A to the rack as shown in the following figure.



3. Close the front rack door.

**Parent topic:** [Place the rack-mounted system or expansion unit in the service position or operating position](#)

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## Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position

Learn how to place a rack-mounted model ESCALA PL 245T/R into the service position or the operating position.

- **[Place the rack-mounted model ESCALA PL 245T/R in the service position](#)**  
By placing the rack-mounted system unit in the service position, you can access the inside of the unit.
- **[Place the rack-mounted model ESCALA PL 245T/R in the operating position](#)**  
By placing the rack-mounted system unit in the operating position, you make the unit available for use.

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)



Start or stop the system or logical partition  
 Install a feature using the Hardware Management Console  
 Remove a part using the Hardware Management Console  
 Replace a part using the Hardware Management Console  
 Place the rack-mounted system or expansion unit in the service position or operating position  
 Front cover  
 Remove and replace model ESCALA PL 245T/R covers and doors  
 Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door  
 Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover  
 Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels  
 Verify the installed part  
 Identify a failing part  
 SMP processor cable connections

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## Place the rack-mounted model ESCALA PL 245T/R in the service position

By placing the rack-mounted system unit in the service position, you can access the inside of the unit.

**Tip:** Some of the figures in these procedures might not look exactly like the system unit that you have. However, the steps to perform the task are the same.

To place the rack-mounted system unit into the service position, follow these steps.

### **DANGER**When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.
  - To Disconnect:
    1. Turn off everything (unless instructed otherwise).
    2. Remove the power cords from the outlets.
    3. Remove the signal cables from the connectors.
    4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.

4. Attach the power cords to the outlets.

5. Turn on the devices.

(D005)

## **DANGER** Observe the following precautions when working on or around your IT rack system:

- Heavy equipment personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.



- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- 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.

## CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

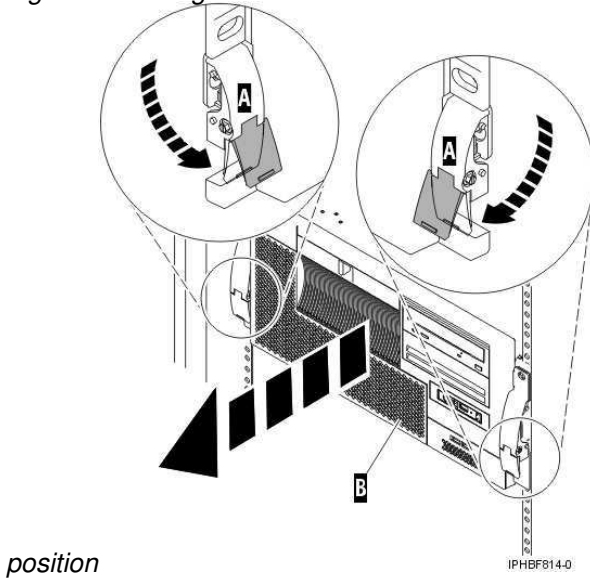
(R001)

1. If necessary, open the front rack door.
2. Release the rack latches A on both the left and right sides as shown in the following figure.
3. Review the following note, and then slowly pull the system unit B out from the rack until the rails are fully extended and locked.

### Note:

- ◆ If the procedure you are performing requires you to unplug cables from the back of the system unit, do so before you pull the unit out from the rack.
- ◆ Ensure that the cables at the rear of the system unit do not catch or bind as you pull the unit out from the rack.
- ◆ Ensure the rails are fully extended. When the rails are fully extended, the rail safety latches lock into place. This action prevents the system unit from being pulled out too far.

Figure 1. Placing the model ESCALA PL 245T/R in the service



**Parent topic:** [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#)

## Place the rack-mounted model ESCALA PL 245T/R in the operating position

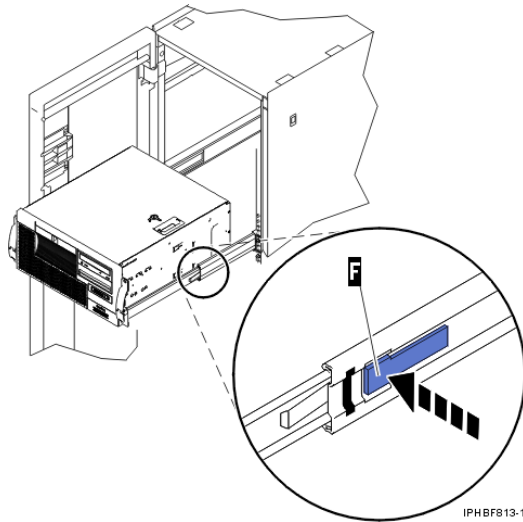
By placing the rack-mounted system unit in the operating position, you make the unit available for use.

**Note:** Some of the figures in these procedures might not look exactly like the system unit that you have. However, the steps to perform the task are the same.

To place the rack-mounted system unit into the operating position, follow these steps:

1. Simultaneously release the blue rail safety latches F located near the front of each rail, and push the system or expansion unit into the rack as shown in the following figure.

**Note:** Ensure that the cables at the rear of the unit do not catch or bind as you push the unit back into the rack.



- a. Both rack latches should lock into position.
2. Replace and tighten the two thumbscrews that secure the system unit to the rack.
3. Close the front rack door.

**Parent topic:** [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#)

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## Front cover

The following procedures describe how to remove and install the front cover of the system or expansion unit.

- **Front cover for models ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit**  
The following procedures describe how to remove and install the front cover of the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, , or the 05/95 expansion unit.
- **Front cover for the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+**  
The following procedures describe how to remove and install the front cover for rack-mounted ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system units.

**Parent topic:** [Related procedures](#)

## Related tasks

### Before you begin

[Start or stop the system or logical partition](#)
[Install a feature using the Hardware Management Console](#)
[Remove a part using the Hardware Management Console](#)
[Replace a part using the Hardware Management Console](#)
[Place the rack-mounted system or expansion unit in the service position or operating position](#)
[Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#)
[Remove and replace model ESCALA PL 245T/R covers and doors](#)
[Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#)
[Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#)
[Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#)
[Verify the installed part](#)
[Identify a failing part](#)
[SMP processor cable connections](#)

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## Front cover for models 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit

The following procedures describe how to remove and install the front cover of the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, , or the 05/95 expansion unit.

- **Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit**  
The following procedures describe how to remove the front cover of the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.
- **Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit**  
The following procedures describe how to install the front cover for the rack-mounted and stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.

Parent topic: [Front cover](#)

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## Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit

The following procedures describe how to remove the front cover of the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.

- **Remove the front cover from the rack-mounted model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit**
- **Remove the front cover from the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,**

Parent topic: [Front cover for models ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit](#)

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## Remove the front cover from the rack-mounted model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit

To remove the rack-mounted system or expansion unit front cover, follow these steps:

1. Open the front rack door.
2. Remove the two thumbscrews A that secure the system or expansion unit B to the rack as shown in the following figure.
3. Push both cover-release latches C in the direction of the arrows to release the cover from the system or expansion unit.
4. Pull the cover out and away from the system or expansion unit.

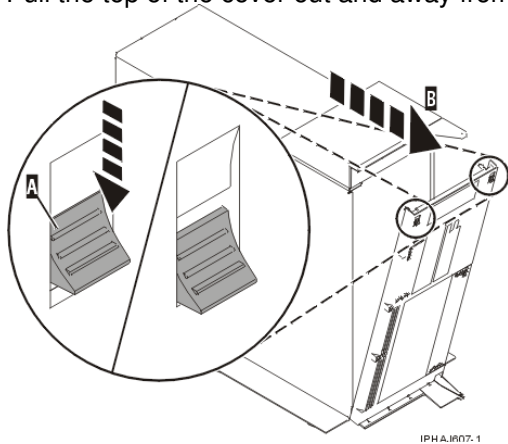
**Parent topic:** [Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit](#)

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## Remove the front cover from the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

To remove the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, front cover, follow these steps:

1. [Remove the door from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, .](#)
2. Press down on the two cover-release levers.
3. Pull the top of the cover out and away from the system as shown in the following figure.



4. Gently pull the cover up and off the base, releasing the lower cover-locking tabs.

**Parent topic:** [Remove the front cover from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit](#)

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## Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit

The following procedures describe how to install the front cover for the rack-mounted and stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit.

- [Install the front cover on the rack-mounted model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, , or the 05/95 expansion unit](#)
- [Install the front cover on the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

**Parent topic:** [Front cover for models ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, and the 05/95 expansion unit](#)

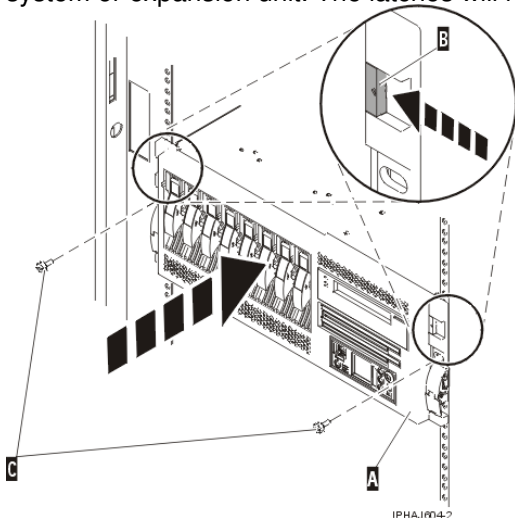
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## Install the front cover on the rack-mounted model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+

## or PL 850T/R-L+, , or the 05/95 expansion unit

To install the front cover on a rack-mounted model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95, follow these steps:

1. Position the cover on the front of the system or expansion unit so that the two thumbscrews C align with the screw holes on the front of the system or expansion unit A, as shown in the following figure.
2. Push the cover-release latches B in the direction of the arrows to attach the cover to the front of the system or expansion unit. The latches will hold the cover in place.



3. Tighten the thumbscrews.
4. Close the front rack door.

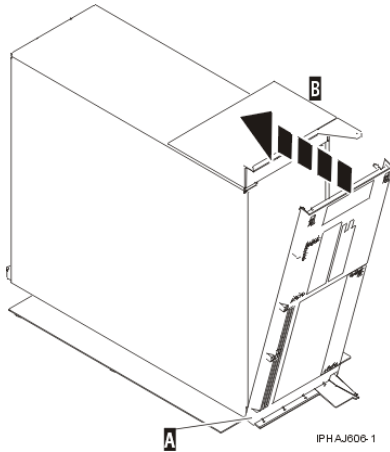
**Parent topic:** [Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit](#)

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## Install the front cover on the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

To install the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, front cover, follow these steps:

1. Place the two lower cover-locking tabs into the retaining slots located on the base of the system unit as shown in the following figure.



2. Rotate the cover up toward the top of the system, ensuring that the aligning pins are aligned with their matching slots located on the system.
3. Gently push the cover in until the two cover-release levers are seated in their respective slots.
4. [Install or replace the door on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, .](#)

**Parent topic:** [Install the front cover on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, or the 05/95 expansion unit](#)

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## Front cover for the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+

The following procedures describe how to remove and install the front cover for rack-mounted ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+ system units.

- [Remove the front cover from the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#)
- [Install the front cover on the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#)

**Parent topic:** [Front cover](#)

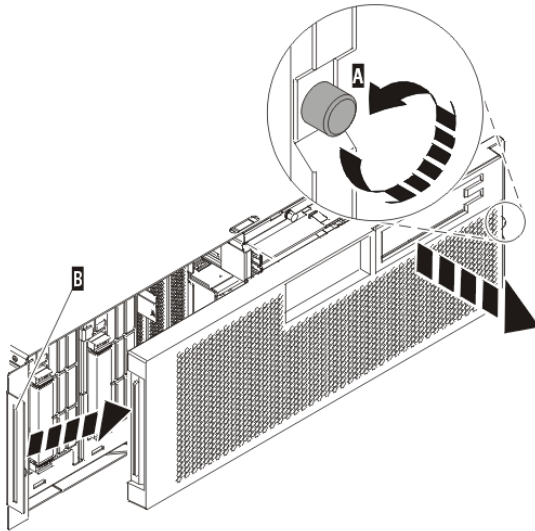
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## Remove the front cover from the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+

To remove the front cover from the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+, follow these steps:

1. If necessary, open the front rack door.
2. Loosen the thumbscrew on the right side of the cover as shown in the following figure.





IPH A1901.1

3. Slide the cover to the right and remove it from the system unit.

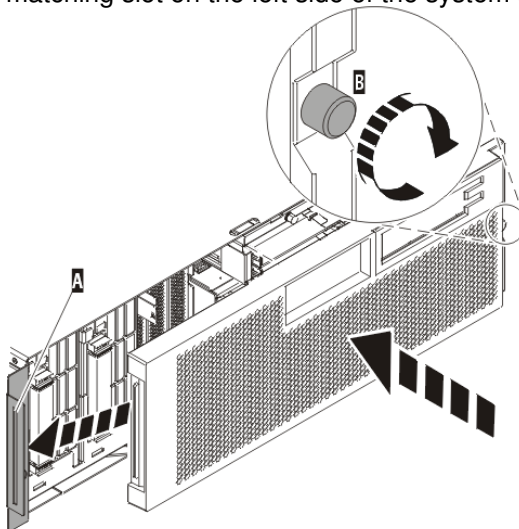
**Parent topic:** [Front cover for the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#)

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## Install the front cover on the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+

To install the front cover on the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+, follow these steps:

1. Position the cover on the front of the system unit so that the tab on the left side of the cover is in the matching slot on the left side of the system unit as shown in the following figure.



IPH A1900.1

2. Tighten the thumbscrew on the right side of the cover.
3. Close the front rack door.

**Parent topic:** [Front cover for the model ESCALA PL 1650R-L+ or ESCALA PL 850R/PL 1650R/R+](#)

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## Remove and replace model ESCALA PL 245T/R covers and doors

Learn how to remove and replace covers and doors.

- [Remove and replace the model ESCALA PL 245T/R front cover](#)
- [Remove and replace the model ESCALA PL 245T/R acoustic-feature back cover](#)  
The model ESCALA PL 245T/R has a removable back cover only if you have ordered the acoustic covers feature.
- [Remove and replace the model ESCALA PL 245T/R side cover](#)

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

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## Remove and replace the model ESCALA PL 245T/R front cover

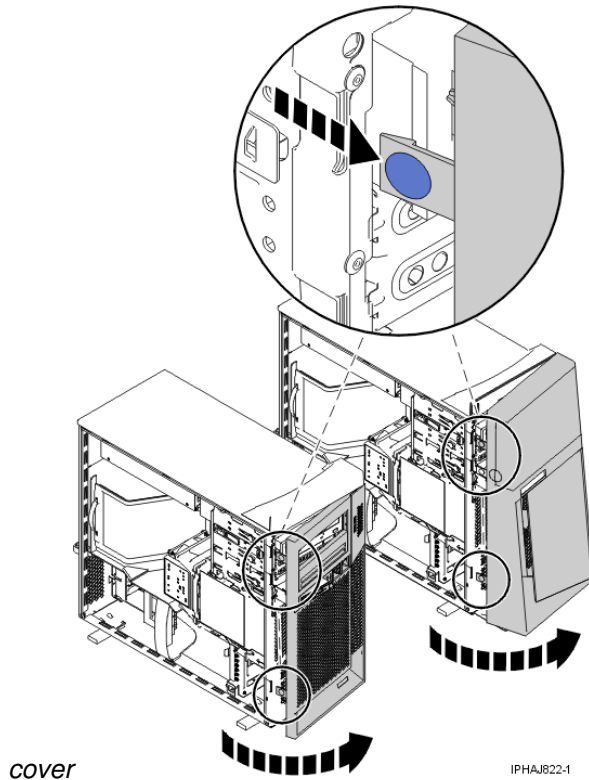
To remove the front cover from the model ESCALA PL 245T/R, follow these steps:

1. Remove the side cover. See, [Remove and replace the model ESCALA PL 245T/R side cover](#)
2. Lift each of the tabs on the front cover until it is released from the system unit, as shown in the following figure.

**Tip:** On the open face cover there are two tabs to release. On the acoustic feature front cover there are three tabs to release.

3. Pull the cover open until it can be removed from the system unit.

*Figure 1. Removing the model ESCALA PL 245T/R front*



Parent topic: [Remove and replace model ESCALA PL 245T/R covers and doors](#)

## Remove and replace the model ESCALA PL 245T/R acoustic-feature back cover

The model ESCALA PL 245T/R has a removable back cover only if you have ordered the acoustic covers feature.

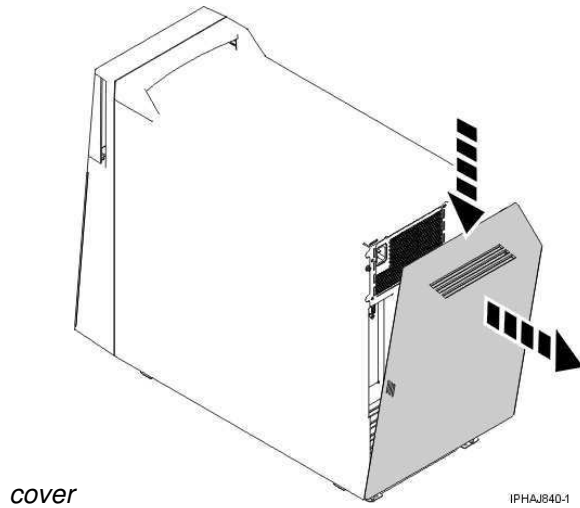
To remove the back cover from the model ESCALA PL 245T/R, follow these steps:

1. Press down on the center tab of the cover until you unseat it from the back of the system unit, as shown in the following figure.

**Remember:** Use care not to dislodge any of the cables or cords attached to the system unit during this procedure.

2. Lift the top of the cover until the pins on the bottom clear the holes and the cover can be removed.

*Figure 1. Removing the model ESCALA PL 245T/R back*

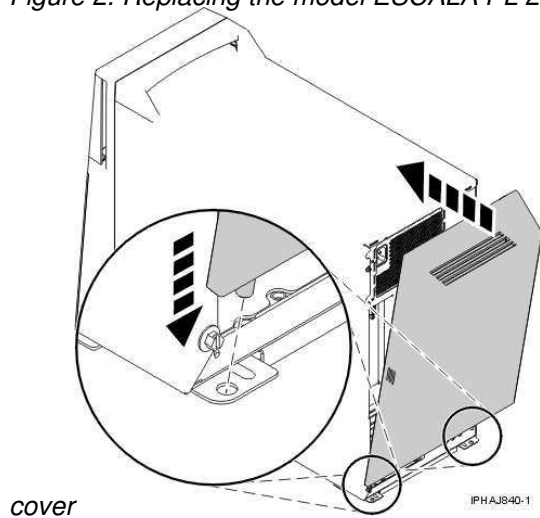


To replace the back cover from the model ESCALA PL 245T/R, follow these steps:

1. Attach all cables and cords.
2. Place the pins on the bottom of the cover into the slot at the bottom of the system unit, as shown in the following figure.
3. Rotate the cover until it snaps into place on the back of the system unit.

**Remember:** Use care not to dislodge any of the cables or cords attached to the system unit during this procedure.

Figure 2. Replacing the model ESCALA PL 245T/R back



**Parent topic:** [Remove and replace model ESCALA PL 245T/R covers and doors](#)

## Remove and replace the model ESCALA PL 245T/R side cover

To remove the side cover from the model ESCALA PL 245T/R, follow these steps:

1. Unlock the security lock A if it is locked, as shown in the following figure.
2. Press down on the latch B to open the cover and pull it away from the system unit.
3. Lift the panel out of the ledge on the bottom of the system unit.

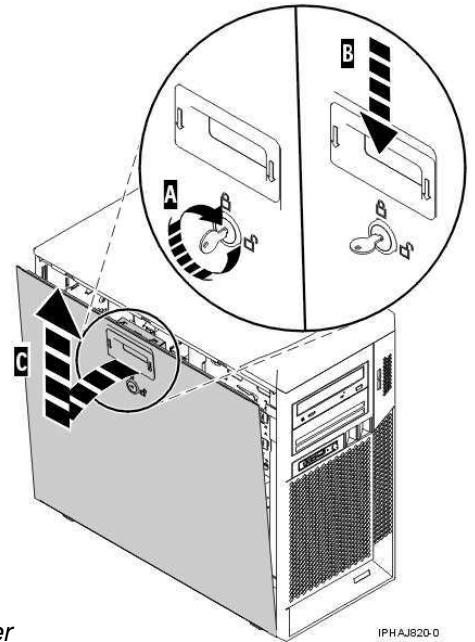


Figure 1. Removing the model ESCALA PL 245T/R side cover

Parent topic: [Remove and replace model ESCALA PL 245T/R covers and doors](#)

### Replace the side cover in a model ESCALA PL 245T/R

To replace the side cover on the model ESCALA PL 245T/R, follow these steps:

1. Insert the bottom lip of the cover into the ledge on the bottom of the system unit.
2. Rotate the panel up A until the latch snaps into place B, as shown in the following figure.

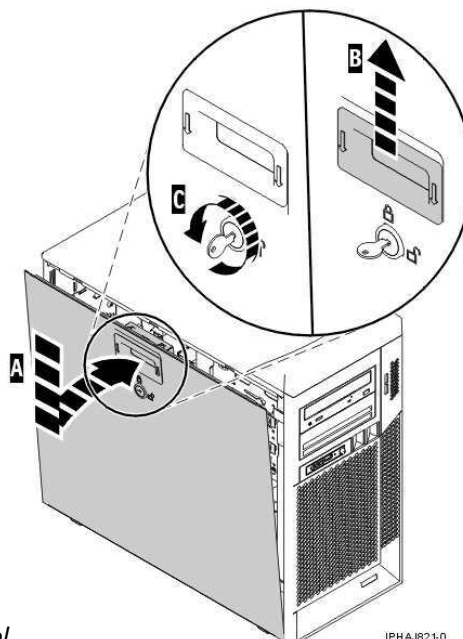


Figure 2. Replacing the service panel  
3. Lock the security lock C if needed.

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## Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door

Learn how to remove and replace the front door of the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, .

- [Remove the door from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)
- [Install or replace the door on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

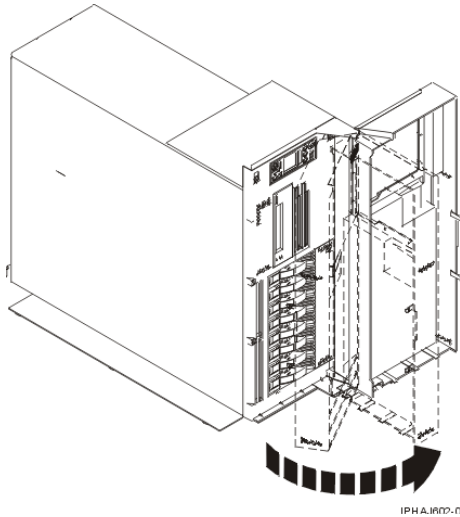
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## Remove the door from the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

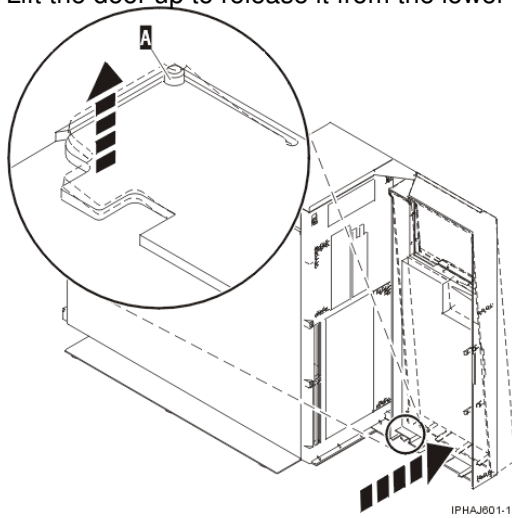
To remove the door from the model 112/85 or ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+ see, [Remove the door from the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+.](#)

To remove the ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door, do the following:

1. Open the front door by grasping the door handle and pulling the door out and away from the system unit as shown in the following figure.



2. To remove the door, press down on the top back edge of the door.
3. Gently swivel the top back edge of the door forward and out past the top of the system unit.
4. Lift the door up to release it from the lower retaining post.



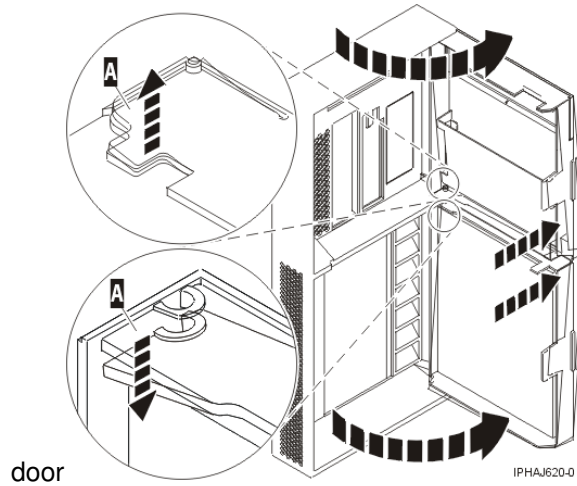
**Parent topic:** [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#)

#### **Remove the door from the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+**

The model 112/85 or ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+ has two doors. The top door allows access to the media and the bottom allows access to the DASD. Use the following procedure for removing both doors.

1. Open the door that you want to remove and release the tab at the center hinge point as shown in the following figure.
  - a. Lift up the bottom tab at hinge A to release the top door.
  - b. Press down on the top tab at the hinge A to release the bottom door
2. Gently swivel the top back edge of the door forward until it releases from the system unit.

*Figure 1. Removing the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+*



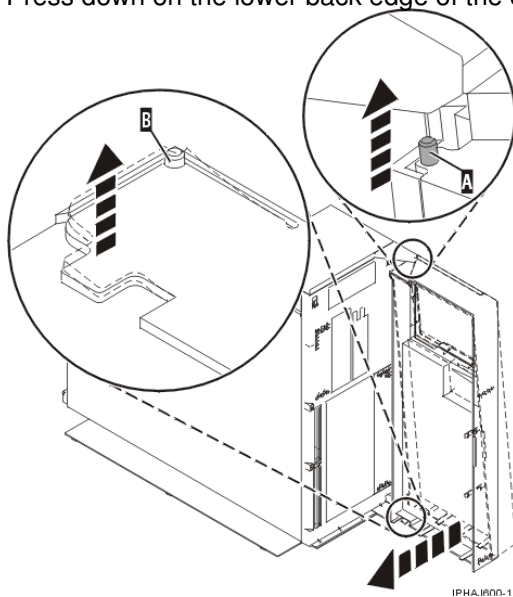
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## Install or replace the door on the model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

To install the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+ with acoustic feature front door see, [Install the door on the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+](#)

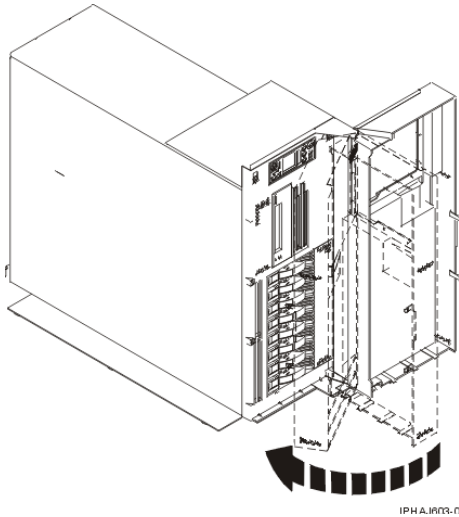
To install the model ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, front door, do the following:

1. Set the door on the lower retaining post B, as shown in the following figure.
2. Rotate the door toward the top of the system unit.
3. Press down on the lower back edge of the door, and seat the top post A into its matching slot.



4. Close the door.



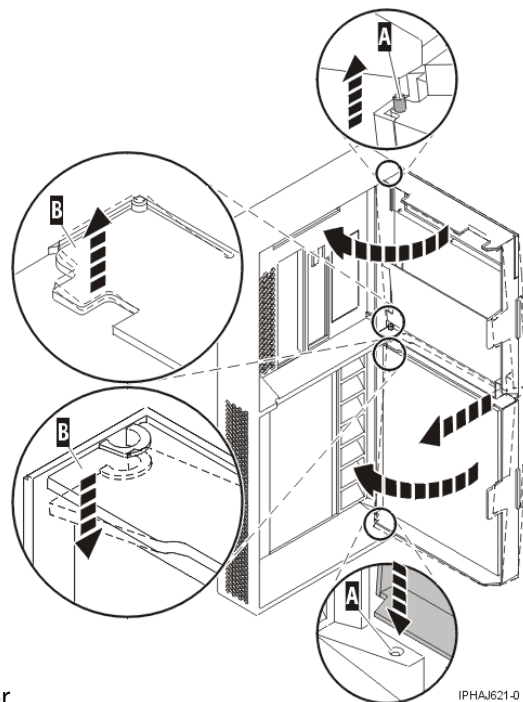


**Parent topic:** [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#)

**Install the door on the model ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+**

The model 112/85 or ESCALA PL 250T/R+ or ESCALA PL 450T/R-L+ has two doors. The top door covers the media bays, and the bottom door covers the DASD bays.

1. Set the door into the retaining post A.



*Figure 1. Installing the model 112/85 door*

2. Rotate the door toward the system unit.
3. Press down on the back edge of the door, and seat the post B into its matching slot.
4. Close the door.

## Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, service access cover

This topic describes how to remove and install the service access cover for the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .

- **Remove the service access cover from the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,**

The following procedures describe how to remove the service access cover for the rack-mounted and stand-alone model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .

- **Install the service access cover on the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,**

The following procedures describe how to install the service access cover on the rack-mounted and stand-alone model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part](#) [Identify a failing part](#) [SMP processor cable connections](#)

## Remove the service access cover from the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,

The following procedures describe how to remove the service access cover for the rack-mounted and stand-alone model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .

**Tip:** Some of the figures in these procedures may not look exactly like the system unit that you have. However, the steps to perform the task are the same.

- Remove the service access cover from the rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,
- Remove the service access cover from the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

**Parent topic:** Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover

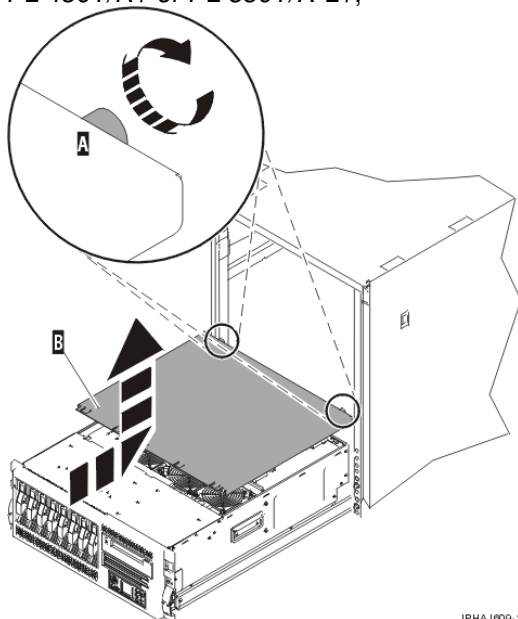
## Remove the service access cover from the rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,

To remove the service access cover from a rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, , refer to [Figure 1](#) and [Figure 2](#) , and follow these steps:

1. Place the rack-mounted system or expansion unit in the service position.
2. Loosen the two thumbscrews located at the back of the cover.
3. Slide the cover toward the back of the system unit. When the front of the service access cover clears the upper frame ledge, lift the cover up and off the system unit.

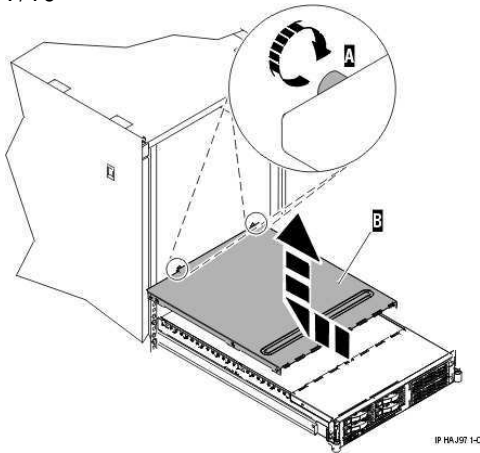
**Attention:** For proper cooling and airflow, install the cover before starting the system. Operating the system without the cover for more than 30 minutes could damage the system components.

*Figure 1. Remove the service access cover from the rack-mounted ESCALA PL 250T/R, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,*



IPHA1000-1

Figure 2. Remove the service access cover from the ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ or 7/10

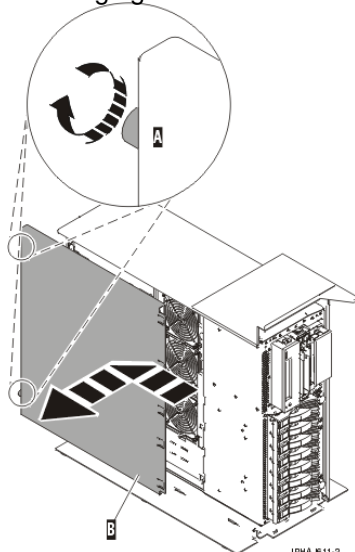


**Parent topic:** [Remove the service access cover from the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

## Remove the service access cover from the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

To remove the service access cover from a stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, , do the following:

1. Loosen the two thumbscrews located at the back of the service access cover as shown in the following figure.



2. Slide the service access cover toward the back of the system unit. When the front of the cover clears the front frame ledge, lift the cover off the system unit.

**Attention:** For proper cooling and airflow, install the cover before starting the system. Operating the system without the cover for more than 30 minutes could damage the system components.

**Parent topic:** [Remove the service access cover from the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

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## **Install the service access cover on the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,**

The following procedures describe how to install the service access cover on the rack-mounted and stand-alone model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, .

- [Install the service access cover on the rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)
- [Install the service access cover on the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

**Parent topic:** [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#)

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## **Install the service access cover on the rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10,**

To install the service access cover on a rack-mounted model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, 7/10, , refer to [Figure 1](#) and [Figure 2](#), and follow these steps:

1. Place the service access cover A on the top of the system unit, approximately 25 mm (1 in.) from the front of the system unit.
2. Hold the service access cover against the system unit, and slide it toward the front of the system. Ensure that the fan LED cables do not get caught on the front edge of the service access cover as you move it forward. The tabs on the service access cover slide beneath the upper chassis ledge, and the two thumbscrews align with the screw holes at the back of the system unit.
3. Tighten the thumbscrews B located at the back of the cover.

*Figure 1. Install the service access cover on the rack-mounted model ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,*

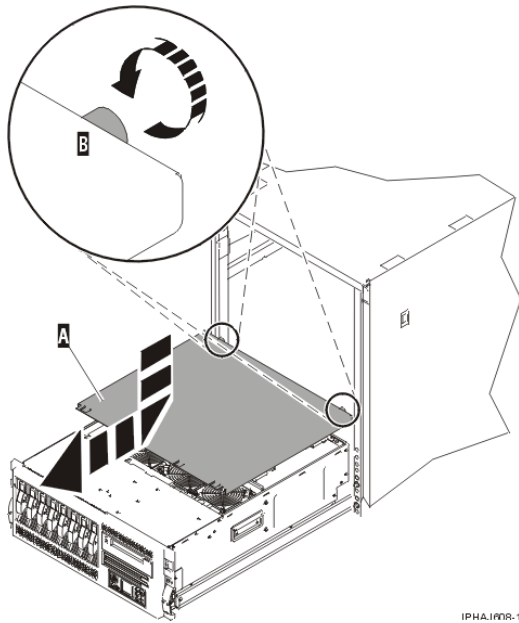
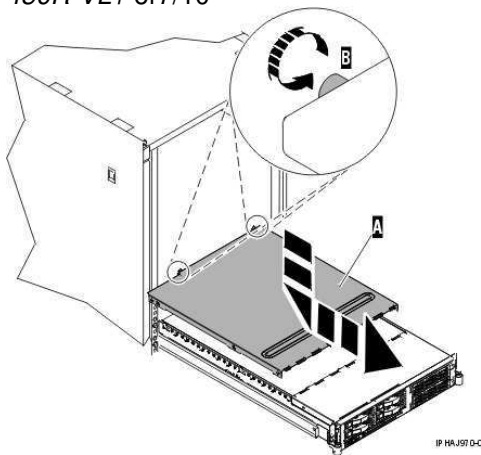


Figure 2. Install the service access cover on the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ or 7/10

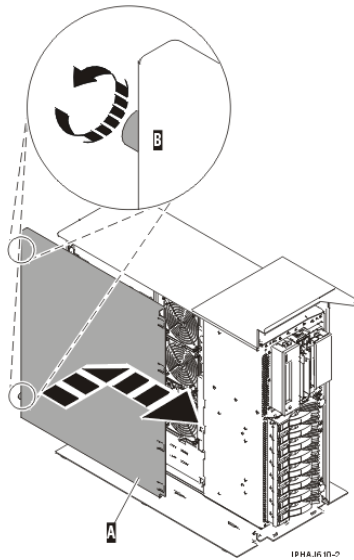


**Parent topic:** [Install the service access cover on the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

## Install the service access cover on the stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,

To install the service access cover on a stand-alone model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, , follow these steps:

1. Align the service access cover pins with the slots in the system. The flanges on the top and bottom of the cover wrap around the system frame, as shown in the following figure.
2. Hold the service access cover against the system unit A and slide it toward the front of the system.
3. Tighten the two thumbscrews B located at the back of the cover.



**Parent topic:** [Install the service access cover on the model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+,](#)

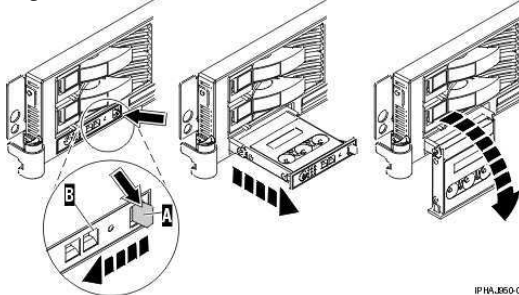
## Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels

Because only part of the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels control panel is visible from the front of the server, the following procedure describes how to gain access to all of the control panel's features, including the display.

To access all of the control panel's features, complete the following steps:

1. Press inward on the spring-loaded tab A located on the right side of the control panel B so that it pops out slightly, as shown in the following figure.

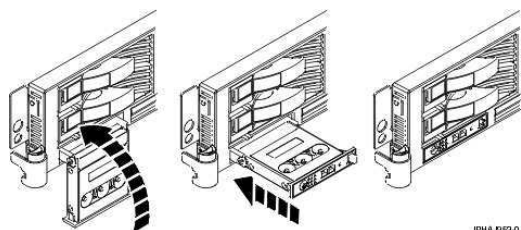
*Figure 1. Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels*



2. Pull the control panel out, toward the front of the system, until it can be pivoted downward on its hinge.
3. To move the control panel back into the device enclosure, lift the control panel up to align it with the opening and push it into place until you feel the tab lock, as shown in the following figure.

*Figure 2. Close the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels*





IPHA1093-0

Parent topic: [Related procedures](#)

## Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#)
[Install a feature using the Hardware Management Console](#)
[Remove a part using the Hardware Management Console](#)
[Replace a part using the Hardware Management Console](#)
[Place the rack-mounted system or expansion unit in the service position or operating position](#)
[Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#)
[Front cover](#)
[Remove and replace model ESCALA PL 245T/R covers and doors Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#)
[Verify the installed part](#)
[Identify a failing part](#)
[SMP processor cable connections](#)

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## Verify the installed part

This topic describes how to verify a newly installed or replaced part on your system, logical partition, or expansion unit. Verify an installed feature or replaced part by selecting the appropriate procedure for the operating system or for the console as follows.

- [Verify an installed feature or replaced part on an AIX system or logical partition](#)
- [Verify the installed part on a Linux system or logical partition \(run AIX diagnostics\)](#)
- [Verify the presence of an installed part using Hardware Management Console \(HMC\)](#)  
Use these instructions to verify an installed part using the Hardware Management Console (HMC). If you have reference codes, symptoms, or location codes that you used during the service action, locate the records to use during this procedure.
- [Verify the presence of an installed part using the Advanced System Management Interface \(ASMI\)](#)  
Use these instructions to verify a newly installed part or replaced part using the Advanced System Management Interface (ASMI).

Parent topic: [Related procedures](#)

## Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#)
[Install a feature using the Hardware Management Console](#)
[Remove a part using the Hardware Management Console](#)
[Replace a part using the Hardware Management Console](#)
[Place the rack-mounted system or expansion unit in the service position or operating position](#)
[Place](#)



the rack-mounted model ESCALA PL 245T/R in the service position or operating position Front cover Remove and replace model ESCALA PL 245T/R covers and doors Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels Identify a failing part SMP processor cable connections

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## Verify an installed feature or replaced part on an AIX system or logical partition

To verify the operation of a newly installed feature or replacement part, select the appropriate procedure:

- [Verify the installed feature using AIX](#)
- [Verifying the replaced part using AIX](#)

Verify the installed feature using AIX:

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. Select **Advanced Diagnostics Routines**. Press Enter.
4. From the **Diagnostic Mode Selection** menu, select **System Verification**. Press Enter.
5. When the **Advanced Diagnostic Selection** menu appears, do one of the following:
  - ◆ To test a single resource, select the resource that you just installed from the list of resources and press Enter.
  - ◆ To test all the resources available to the operating system, select **All Resources** and press Enter.
6. Select **Commit**, and wait until the diagnostic programs run to completion, responding to any prompts that appear.
7. Did the diagnostics run to completion and display the message `No trouble was found`?
  - ◆ **No:** If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection. You can learn more about these codes in [Reference codes](#). Review the installation procedures to ensure that the new feature is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system is running in LPAR mode, note the logical partition in which you installed the feature. Contact your service provider for assistance.
  - ◆ **Yes:** The new device is installed correctly. Exit the diagnostic programs and return the system to normal operations.

Verify the replacement part using AIX

To verify the operation of a newly installed feature or replacement part, follow these steps:

1. Did you replace the part using either AIX or the online diagnostics service aid's concurrent (hot-swap) service operation?
  - ◆ **No:** Go to step 2.
  - ◆ **Yes:** Go to step 5.
2. Is the system powered off?
  - ◆ **Yes:** If the system supports slow boot, set the system to perform a slow boot. For information, see [Performing a slow boot](#).
  - ◆ **No:** Go to step 4.
3. Start the system and wait until the AIX operating system login prompt displays or until apparent system activity on the operator panel or display has stopped. Did the AIX login prompt display?
  - ◆ **Yes:** Go to step 4
  - ◆ **No:** If an SRN or other reference code is displayed, suspect a loose adapter or cable connection. You can learn more about these codes in the [Reference codes](#). Review the procedures for the part that you replaced to ensure that the new part is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system does not start or you have no login prompt, see: [Problems with loading and starting the operating system](#).

If the system is partitioned, note the logical partition in which you replaced the part. Contact your service provider for assistance.

4. At the command prompt, type `diag a` and press Enter to check for missing resources. If you see a command prompt, go to step 5.

If the **Diagnostic selection** menu is shown with **M** appearing next to any resource, follow these steps:

- a. Select the resource and press Enter.
  - b. Select **Commit**.
  - c. Follow any instructions that are shown.
  - d. If a *Do you want to review the previously displayed error?* message is shown, select **Yes** and press Enter.
  - e. If an SRN is shown, suspect a loose card or connection. If no obvious problem is shown, record the SRN.
  - f. If no SRN is shown, go to 5.
5. Test the part by doing the following:
    - a. At the command line, type `diag` and press Enter.
    - b. From the **Function Selection** menu, select **Advanced Diagnostics Routines**. Press Enter.
    - c. From the **Diagnostic Mode Selection** menu, select **System Verification**. Press Enter.
    - d. Select **All Resources**, or select the diagnostics for the individual part to test only the part you replaced, and any devices that are attached to the part you replaced. Press Enter.

Did the **Resource Repair Action** menu appear?

- ◆ **No:** Go to step 6.
  - ◆ **Yes:** Go to step 7.
6. Did the *Testing Complete, No trouble was found* message appear?
    - ◆ **No:** There is still a problem. Contact your service provider. **This ends the procedure.**
    - ◆ **Yes:** Select **Log Repair Action**, if not previously logged, from the **Task Selection** menu to update the AIX error log. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action is not displayed on the Resource List, select **sysplanar0**. Press Enter.

**Tip:** This action changes the indicator light for the part from the fault state to the normal state.

Go to step 9

7. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the *Resource Repair Action* menu appears. After replacing a part, you must select the resource for that part from the *Resource Repair Action* menu. This updates the AIX error log to indicate that a system-detectable part has been replaced.

**Note:** On systems with a indicator light for the failing part, this changes the indicator light to the normal state.

Follow these steps:

- a. Select the resource that has been replaced from the *Resource Repair Action* menu. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the Resource List, select **sysplanar0**. Press Enter.
  - b. Select **Commit** after you make your selections. Did another *Resource Repair Action* display appear?
    - ◆ **No:** If the *No Trouble Found* display appears, go to step 9
    - ◆ **Yes:** Go to step 8.
8. The parent or child of the resource you just replaced may also require that you run the Resource Repair Action option on it. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the *Resource Repair Action* menu appears. After replacing that part, you must select the resource for that part from the *Resource Repair Action* menu. This updates the AIX error log to indicate that a system-detectable

part has been replaced.

**Note:** This changes the indicator light for the part from the fault state to the normal state.

Follow these steps:

- a. From the *Resource Repair Action* menu, select the parent or child of the resource that has been replaced. If the repair action was to reseal a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the Resource List, select **sysplanar0**. Press Enter.
- b. Select **Commit** after you make your selections.
- c. If the *No Trouble Found* display appears, go to step 9.
9. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the value they had prior to servicing the system.
10. Did you do any hot-plug procedures before doing this procedure?
  - ◆ **No:** Go to step 11.
  - ◆ **Yes:** Go to step 12.
11. Start the operating system, with the system or logical partition in normal mode. Were you able to start the operating system?
  - ◆ **No:** Contact your service provider. **This ends the procedure.**
  - ◆ **Yes:** Go to step 12.
12. Are the indicator lights still on?
  - ◆ **No. This ends the procedure.**
  - ◆ **Yes.** Turn off the lights. See one of the following for instructions:
    - ◇ [Identify a failing part using stand-alone diagnostics](#)
    - ◇ [Running the stand-alone diagnostics from a Network Installation Management server](#)
    - ◇ [Changing service indicators with the ASMI menus](#)

Parent topic: [Verify the installed part](#)

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## Verify the installed part on a Linux system or logical partition (run AIX diagnostics)

To verify the newly installed or replaced part, choose one of the following:

- [Verify the presence of an installed part using the Advanced System Management Interface \(ASMI\)](#)
- [Verify an installed part using the stand-alone diagnostics](#)  
Use these instructions to verify an installed part in a Linux system, expansion unit, or logical partition.

Parent topic: [Verify the installed part](#)

---

## Verify an installed part using the stand-alone diagnostics

Use these instructions to verify an installed part in a Linux system, expansion unit, or logical partition.

You can use stand-alone diagnostics to verify an installed part in a Linux system, expansion unit, or logical partition. You access these diagnostics from a CD-ROM or from the Network Installation Management (NIM) server. This procedure describes how to use the diagnostics from a CD-ROM. For information on running

diagnostics from the Network Installation Management (NIM) server, see [Running the stand-alone diagnostics from a Network Installation Management server](#).

## Prerequisites

- If this server is directly attached to another server or attached to a network, be sure communication with the other servers is stopped.
- stand-alone diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.
- stand-alone diagnostics require access to the system console.

To use stand-alone diagnostics, follow these steps:

1. Stop all jobs and applications and then stop the operating system on the system or logical partition.
2. Remove all tapes, diskettes, and CD-ROM.
3. Turn off the system unit power. The next step boots the server or logical partition from the stand-alone diagnostics CD-ROM. If the optical drive is not available as the boot device on the server or logical partition on which you are working, follow these steps:
  - a. Access the ASMI. See [Managing your server using the Advanced System Management Interface](#) for information on using the ASMI.
  - b. On the ASMI main menu, click on **Power/Restart Control**.
  - c. Click on Power On/Off System.
  - d. Select the **Service mode boot from default boot list** option in the AIX/Linux logical partition mode boot drop-down menu.
  - e. Click on **Save settings and power on**. As soon as the optical drive has power, insert the standalone diagnostic CD-ROM.
  - f. Go to step 5.
4. Turn on the system unit power and immediately insert the diagnostics CD-ROM into the optical drive.
5. After the **keyboard** POST indicator displays on the system console and before the last POST indicator (**speaker**) displays, press the numeric 5 key on the system console to indicate that a service mode boot should be initiated using the default service mode boot list.
6. Enter any requested password.
7. At the *Diagnostic Operating Instructions* display, press Enter.

**Note:** If an SRN or other reference code is displayed, suspect a loose adapter or cable connection. Review the procedures for the part that you replaced to ensure that the new part is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system will not boot or you have no login prompt go to [Problems with loading and starting the operating system](#).

**Note:** If you received an SRN or any other reference code when you attempted to start the system, you can learn more about these codes in [Reference codes](#).

8. 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.
9. From the Function Selection menu, select **Advanced Diagnostics Routines**. Press Enter.
10. From the Diagnostic Mode Selection menu, select **System Verification**. Press Enter.
11. When the Advanced Diagnostic Selection menu appears, select **All Resources**, or test only the part you replaced, and any devices that are attached to the part you replaced, by selecting the diagnostics for the individual part. Press Enter.
12. Did the *Testing Complete, No trouble was found* message appear?
  - ◆ **No:** There is still a problem. Contact your service provider.
  - ◆ **Yes:** Go to step 13.
13. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the value they had prior to servicing the system.
14. If the indicator lights are still on, follow these steps:
  - a. Select **Identify and Attention Indicators** from the *Task Selection* menu to turn off the system attention and indicator lights. Press Enter.

- b. Select **Set System Attention Indicator to NORMAL** and press Enter.
- c. Select **Set All Identify Indicators to NORMAL** and press Enter.
- d. Choose **Commit**.

**Note:** This changes the system attention and identify indicators from the *Fault* state to the *Normal* state.

- e. Exit to the command line.

**Parent topic:** [Verify the installed part on a Linux system or logical partition \(run AIX diagnostics\)](#)

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## Verify the presence of an installed part using Hardware Management Console (HMC)

Use these instructions to verify an installed part using the Hardware Management Console (HMC). If you have reference codes, symptoms, or location codes that you used during the service action, locate the records to use during this procedure.

Use this procedure to update your HMC records after you have completed a service action on your server. If you have reference codes, symptoms, or location codes that you used during the service action, locate the records to use during this procedure.

1. At the HMC, examine the service action event log for any open service action events. See [Viewing serviceable events](#) for details.
2. Are there any service action events that are open?
  - ◆ **No:** If the system attention LED is still on, use the HMC to turn off the LED. See [Activating and Deactivating LEDs](#). **This ends the procedure.**
  - ◆ **Yes:** Continue with the next step.
3. Record the list of open service action events.
4. Examine the details of the open service action event. Is the error code associated with this service action event the same as you gathered earlier.
  - ◆ **Yes:** Continue with the next step.
  - ◆ **No:** Choose from the following options:
    - ◇ Review the other serviceable events and find one that does match and continue with the next step.
    - ◇ If the log does not match what you had gathered earlier, contact your service provider.
5. Select and highlight the service action event from the Error Associated With This Serviceable Event window.
6. Click **Close Event**.
7. Add comments for the serviceable event. Include any unique additional information. Click **OK**.
8. Did you replace, add, or modify a FRU of the open service action event?
  - ◆ **No:** Select the **No FRU Replaced for this Serviceable Event** option and click **OK** to close the service action event.
  - ◆ **Yes:** Perform the following steps:
    - a. From the FRU list, select a FRU that you need to update.
    - b. Double-click the FRU and update the FRU information.
    - c. Click **OK** to close the service action event.
9. If you continue to have problems, contact your service provider.

**Parent topic:** [Verify the installed part](#)

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## Verify the presence of an installed part using the Advanced System Management Interface (ASMI)

Use these instructions to verify a newly installed part or replaced part using the Advanced System Management Interface (ASMI).

To verify the newly installed or replaced part, follow these steps:

1. If the unit ID does not match the label on the system or expansion unit, update the configuration information.
  - ◆ For information on accessing up the ASMI, refer to [Accessing the Advanced System Management Interface](#)
  - ◆ For information on using the ASMI [Managing your server using the Advanced System Management Interface](#).
2. Turn off the failing part indicator light. For instructions, see [Changing service indicators](#).

**Parent topic:** [Verify the installed part](#)

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## Identify a failing part

The following procedures describe how to locate and identify a failing part on your system or expansion unit.

- [Identify a failing part on a model ESCALA PL 245T/R](#)
- [Identify a failing part on an AIX system or logical partition](#)
- [Identify a failing part on a Linux system or logical partition](#)
- [Identify a failing part using the Advanced System Management Interface](#)

Use this task to identify a failing part if the Linux operating system is running on the system or logical partition.

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#) [Install a feature using the Hardware Management Console](#) [Remove a part using the Hardware Management Console](#) [Replace a part using the Hardware Management Console](#) [Place the rack-mounted system or expansion unit in the service position or operating position](#) [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#) [Front cover](#) [Remove and replace model ESCALA PL 245T/R covers and doors](#) [Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#) [Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#) [Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#) [Verify the installed part SMP processor cable connections](#)

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## Identify a failing part on a model ESCALA PL 245T/R

Light path diagnostics provide a path that you can follow to help you identify the source of an error. The server must be connected to a power source for the light-emitting diodes (LED) inside the server to be lit; the server

does not have to be turned on for the LEDs to be lit.

The server is designed so that LEDs remain lit when the server is connected to an ac power source but is not turned on, provided that the power supply is operating correctly. This feature helps you to isolate the problem when the operating system is shut down.

Many errors are first indicated by a lit information LED or system-error LED on the operator information panel on the front of the server. If one or both of these LEDs are lit, one or more LEDs elsewhere in the server might also be lit and can direct you to the source of the error.

To identify a failing part on a model ESCALA PL 245T/R follow these steps:

1. If this is a rack mounted server, [Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position.](#)
2. [Remove and replace the model ESCALA PL 245T/R side cover.](#)
3. Find the light-path diagnostic card on top of the fan attached to the disk drive cage. Use the following figure and table to identify each light on the card.

Figure 1. Light path diagnostic card indicator LED layout

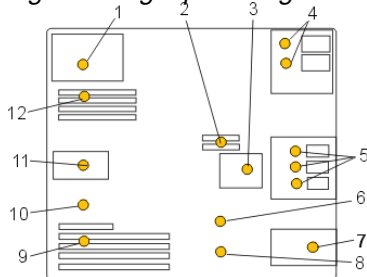


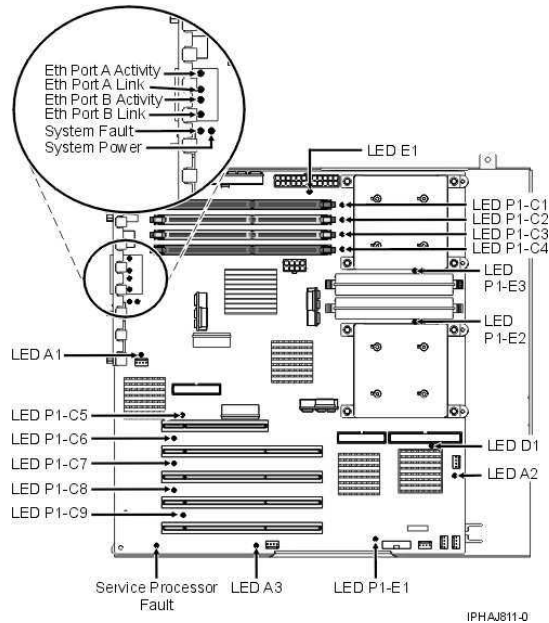
Table 1. ESCALA PL 245T/R Fault-indicator LEDs

<b>1</b> Power supply fault-indicator LED	<b>7</b> Front fan fault-indicator LED
<b>2</b> Voltage-regulator module fault-indicator LED	<b>8</b> Battery fault-indicator LED
<b>3</b> Disk-drive bay fan fault-indicator LED	<b>9</b> PCI adapter fault-indicator LED
<b>4</b> Optical-media bay fault-indicator LEDs	<b>10</b> Thermal fault-indicator LED
<b>5</b> Disk-drive bay fault-indicator LEDs	<b>11</b> Rear fan fault-indicator LED
<b>6</b> System backplane fault-indicator LED	<b>12</b> Memory fault-indicator LED

4. Refer to the service label on your system or the following figure to locate an LED on the system backplane for replaceable parts.

Figure 2. System backplane indicator LED layout





Parent topic: [Identify a failing part](#)

## Identify a failing part on an AIX system or logical partition

To identify a failing part on a system or logical partition running AIX, you must locate the failing part, and then activate the indicator light for that part.

- [Locate a failing part in an AIX system or logical partition](#)
- [Activate the indicator light for the failing part](#)

Parent topic: [Identify a failing part](#)

## Locate a failing part in an AIX system or logical partition

To locate the failing part in a system or logical partition running AIX, follow these steps:

1. Log in as root user or `celogin-`.
2. At the command line, type `diag` and press Enter.
3. From the **Function Selection** menu, select Task Selection and press Enter.
4. Select Display Previous Diagnostic Results and press Enter.
5. From the **Display Previous Diagnostic Results** display, select Display Diagnostic Log Summary. A **Display Diagnostic Log** display appears. This display contains a chronological list of events.
6. Look in the T column for the most recent S entry. Select this row in the table and press Enter.
7. Choose Commit. The details of this log entry are shown.
8. Record the location information and the SRN value shown near the end of the entry.
9. Exit to the command line.

Use the location information for the failing part to activate the indicator light that identifies the failing part. For instructions, see [Activate the indicator light for the failing part](#).



Parent topic: [Identify a failing part on an AIX system or logical partition](#)

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## Activate the indicator light for the failing part

The indicator light helps you locate which part to replace. To activate the indicator light, follow these steps:

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. From the **Function Selection** menu, select Task Selection. Press Enter.
4. From the **Task Selection** menu, select Identify and Attention Indicators. Press Enter.
5. From the list of lights, select the location code for the failing part and press Enter.
6. Select Commit. This turns on the system attention and indicator light for the failing part.
7. Exit to the command line.

Parent topic: [Identify a failing part on an AIX system or logical partition](#)

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## Identify a failing part on a Linux system or logical partition

There are a number of methods to identify a failing part on a system or logical partition running Linux.

- **Locate a failing part and activate the indicator light**  
Use this task to locate a failing part if the service aids have been installed.
- **Activate the indicator light for the failing part**  
Use these instructions to activate the indicator light. The indicator light helps you locate which part to replace.
- **Deactivate the failing-part indicator light**  
After replacing a failing part, use this task to deactivate the failing-part indicator light.
- **Identify a failing part using stand-alone diagnostics**  
Use this task if the operating system is stopped or if you need to stop the system or logical partition to replace the failing part.

Parent topic: [Identify a failing part](#)

---

## Locate a failing part and activate the indicator light

Use this task to locate a failing part if the service aids have been installed.

To identify a failing part on a system or logical partition running Linux, you must locate the failing part, and then activate the indicator light for that part.

- **Locate a failing part in a Linux system or logical partition**  
Use these instructions if you do not know the location code of the failing part. If you know the location code proceed to the next task to activate the indicator light.

Parent topic: [Identify a failing part on a Linux system or logical partition](#)

## Locate a failing part in a Linux system or logical partition

Use these instructions if you do not know the location code of the failing part. If you know the location code proceed to the next task to activate the indicator light.

To locate the failing part in a system or logical partition running Linux, follow these steps:

1. Log in as root user.
2. At the command line, type `grep diagela /var/log/platform` and press Enter.
3. Look for the most recent entry that contains a system reference code (SRC).
4. Record the location information.

**Parent topic:** [Locate a failing part and activate the indicator light](#)

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## Activate the indicator light for the failing part

Use these instructions to activate the indicator light. The indicator light helps you locate which part to replace.

To activate the indicator light, follow these steps:

1. Log in as root user.
2. At the command line, type `/usr/sbin/usysident -s identify -l<location code>` and press Enter. Substituting the location code of the failing unit for `<location code>`.
3. Look for the system attention light to identify the enclosure that contains the failing part.

**Parent topic:** [Identify a failing part on a Linux system or logical partition](#)

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## Deactivate the failing-part indicator light

After replacing a failing part, use this task to deactivate the failing-part indicator light.

After replacing a failing part, follow these steps to deactivate the failing-part indicator light:

1. Log in as root user.
2. At the command line, type `/usr/sbin/usysident -s normal -l<location code>` and press Enter. Substitute the location code of the failing unit for `<location code>`.
3. Look for the system attention light to identify the enclosure that contains the failing part.

**Parent topic:** [Identify a failing part on a Linux system or logical partition](#)

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## Identify a failing part using stand-alone diagnostics

Use this task if the operating system is stopped or if you need to stop the system or logical partition to replace the failing part.

You can use stand-alone diagnostics to identify a failing part in a Linux system, expansion unit, or logical partition. You access these diagnostics from a CD-ROM or from the Network Installation Management (NIM) server. This procedure describes how to use the diagnostics from a CD-ROM. For information on running diagnostics from the Network Installation Management (NIM) Server, see [Running the stand-alone diagnostics from a Network Installation Management server](#).

### Prerequisites:

- If this server is directly attached to another server or attached to a network, be sure communications with the other servers are stopped.
- Ensure that no other activity is running on the logical partition. Stand-alone diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.
- You must have access to the system console to use stand-alone diagnostics.

To use stand-alone diagnostics from a CD-ROM, follow these steps:

1. Stop all jobs and applications, and then stop the operating system on the system or logical partition.
2. Remove all tapes, diskettes, and CD-ROM.
3. Turn off the system unit power.

**Note:** The next step starts the server or logical partition from the stand-alone diagnostic CD-ROM. If the CD-ROM or DVD-ROM drive is not available as the startup device on the server or logical partition on which you are working, follow these steps:

- a. Access the Advanced System Management Interface (ASMI). See [Managing your server using the Advanced System Management Interface](#) for information on using the ASMI.
  - b. On the ASMI main menu, click **Power/Restart Control**.
  - c. Click **Power On/Off System**.
  - d. Select the **Service mode boot** from **default boot list** option in the AIX or Linux logical partition mode boot list.
  - e. Click **Save settings** and power on the system. As soon as the optical drive has power, insert the AIX diagnostic diskette.
  - f. Go to step 5.
4. Turn on the system unit power and insert the diagnostics 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 5 key on either the directly attached keyboard or the ASCII terminal. This indicates that a service mode boot should be initiated using the default service mode boot list.
  6. Enter any requested password.
  7. At the Diagnostic Operating Instructions display, press Enter.

**Tip:** If the Diagnostic Operating Instructions display does not appear, contact your support center for assistance.

8. If the terminal type is requested, use the **Initialize Terminal** option on the **Function Selection** menu to initialize the operating system.

**Parent topic:** [Identify a failing part on a Linux system or logical partition](#)

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## Identify a failing part using the Advanced System Management Interface

Use this task to identify a failing part if the Linux operating system is running on the system or logical partition.

To activate the indicator light for a failing part, follow these steps:

1. If the unit ID does not match the label on the system or expansion unit, update the configuration information.
  - ◆ For information on setting up the ASMI refer to [Accessing the Advanced System Management Interface](#).
  - ◆ For information on using the ASMI, refer to [Managing your server using the Advanced System Management Interface](#)
2. Turn on the failing part indicator light. For instructions, see [Changing service indicators](#).

**Parent topic:** [Identify a failing part](#)

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## SMP processor cable connections

This feature is installed by a service provider. However, you might need to disconnect and reconnect this cable to add or remove memory or processors.

The following procedures describe how to disconnect and reconnect the SMP processor cable from individual model ESCALA PL 850R/PL 1650R/R+ system units.

- **Disconnect the SMP processor cable from a system unit**  
Learn how to disconnect an SMP processor cable.
- **Reconnect the SMP processor cable to a system unit**  
Learn how to reconnect an SMP processor cable.

**Parent topic:** [Related procedures](#)

### Related tasks

[Before you begin](#)

[Start or stop the system or logical partition](#)
[Install a feature using the Hardware Management Console](#)
[Remove a part using the Hardware Management Console](#)
[Replace a part using the Hardware Management Console](#)
[Place the rack-mounted system or expansion unit in the service position or operating position](#)
[Place the rack-mounted model ESCALA PL 245T/R in the service position or operating position](#)
[Front cover](#)
[Remove and replace model ESCALA PL 245T/R covers and doors](#)
[Model 112/85, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, door](#)
[Model 112/85, ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+, ESCALA PL 250T/R, PL 250T/R+ or PL 450T/R-L+, ESCALA PL 450T/R, PL 450T/R+ or PL 850T/R-L+, service access cover](#)
[Gain access to the model ESCALA PL 250R-L, PL 250R-L+ or PL 450R-VL+ control panels](#)
[Verify the installed part](#)
[Identify a failing part](#)

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## Disconnect the SMP processor cable from a system unit

Learn how to disconnect an SMP processor cable.

### **DANGER**When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

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To disconnect an SMP processor cable connection from a system unit, complete the following steps:

1. If necessary, open the front door of the rack.
2. Disconnect the power source from the system by unplugging the system.

**Note:** This system can be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

(L003)



or

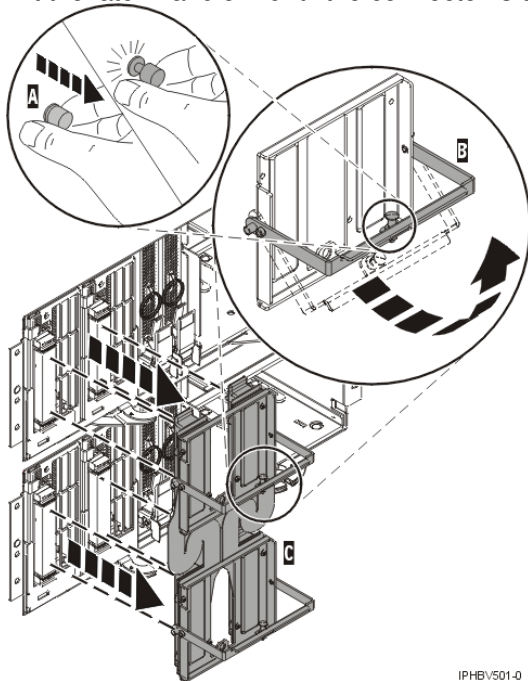


3. [Remove the model ESCALA PL 850R/PL 1650R/R+ front cover.](#)
4. Remove the left edge of the trim kit on the system rack to expose the left edge of the SMP processor cable.

**Attention:**

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

5. Unlatch the plastic fastener A, as shown in the following figure.
6. Lift the latch handle B until the connector is unseated.



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7. Carefully pull the connector from the system.
8. When the guide pins are free, carefully pull the flexible cable C away from the system unit to gain access to the system unit.

**Parent topic:** [SMP processor cable connections](#)

## Reconnect the SMP processor cable to a system unit

Learn how to reconnect an SMP processor cable.

**DANGER** When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

To connect an SMP processor cable to a single system unit, complete the following steps:

1. Perform prerequisite tasks as described in [Before you begin](#).
2. Stop all system units. Refer to [Stop the system or logical partition](#).
3. If necessary, open the front rack door.
4. Disconnect the power source from the system by unplugging the system.

**Note:** This system can be equipped with a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

(L003)



or

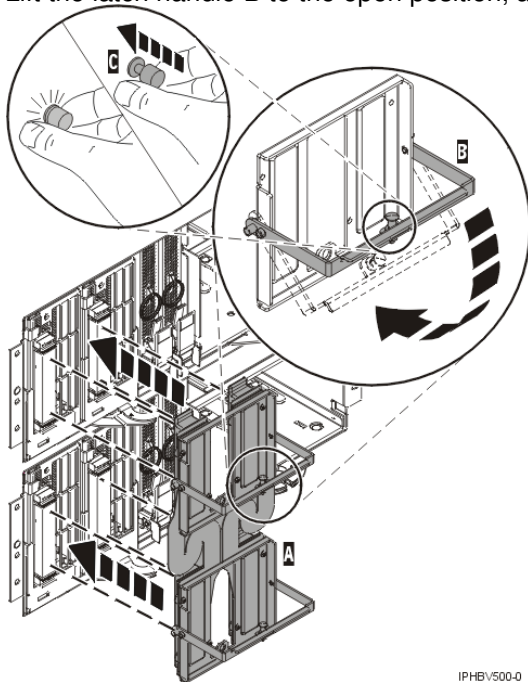


5. If necessary, remove the left edge of the trim kit on the system rack.

**Attention:**

- ◆ Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge from damaging your hardware.
- ◆ When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- ◆ If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted metal surface of the system for a minimum of 5 seconds.

6. Lift the latch handle B to the open position, as shown in the following figure.



IPHBV500-0

7. Align the guide pins with the connector on the system unit.
8. Carefully push the connector A into the system unit connection.
9. Push the latch handle down to seat the pins.
10. Secure the plastic fastener C.
11. Replace the left edge of the trim kit.
12. [Install the model ESCALA PL 850R/PL 1650R/R+ front cover.](#)
13. Close the front rack door.

**Parent topic:** [SMP processor cable connections](#)

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## Technical publication remarks form

<b>Title :</b> ESCALA POWER5 Hardware Information Backplanes and cards
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<b>Reference N° :</b> 86 A1 29EW 00
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<b>Date:</b> July 2006
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