

Power Systems

*Removing and replacing parts in the  
EMX0 PCIe Gen3 I/O expansion drawer*

**IBM**



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## Removing and replacing parts in the EMX0 PCIe Gen3 I/O expansion drawer

Use the removing and replacing parts procedures when you repair, maintain, or exchange the parts in your EMX0 PCIe Gen3 I/O expansion drawer (EMX0 PCIe3 expansion drawer). Use the permanently removing parts procedures when you want to permanently remove a part from the EMX0 PCIe3 expansion drawer.

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## Removing and replacing parts in the EMX0 PCIe Gen3 I/O expansion drawer

Use the removing and replacing parts procedures when you repair, maintain, or exchange the parts in your EMX0 PCIe Gen3 I/O expansion drawer (EMX0 PCIe3 expansion drawer).

## Removing and replacing parts in an EMX0 PCIe3 expansion drawer that is not managed by an HMC

Use these procedures to remove and replace parts in an EMX0 PCIe3 expansion drawer that is attached to a server that is not managed by a Hardware Management Console (HMC).

Before you begin replacing parts, complete the following tasks:

1. If you are completing a replacement procedure that might put your data at risk, ensure, if possible, that you have a current backup of your system or logical partition (including operating systems, licensed programs, and data).
2. Review the installation or replacement procedure for the feature or part.
3. Note the significance of color on your system.

*Blue* or *terracotta* 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, to open or close a latch, and other actions. Blue indicates that the part must be removed and replaced when the system is powered off. Terracotta indicates that the part can be removed and replaced when the system or logical partition is powered on. The task might require some action before and after part replacement.

4. If parts are incorrect, missing, or visibly damaged, contact your service provider or next level of support.

**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:

- If IBM supplied the power cord(s), connect power to this unit only with the IBM provided power cord. Do not use the IBM 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.
  - For AC power, disconnect all power cords from their AC power source.
  - For racks with a DC power distribution panel (PDP), disconnect the customer's DC power source to the PDP.
- When connecting power to the product ensure all power cables are properly connected.

- For racks with AC power, 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.
- For racks with a DC power distribution panel (PDP), connect the customer's DC power source to the PDP. Ensure that the proper polarity is used when attaching the DC power and DC power return wiring.
- 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.
- Do not attempt to switch on power to the machine until all possible unsafe conditions are corrected.
- Assume that an electrical safety hazard is present. Perform all continuity, grounding, and power checks specified during the subsystem installation procedures to ensure that the machine meets safety requirements.
- Do not continue with the inspection if any unsafe conditions are present.
- Before you open the device covers, unless instructed otherwise in the installation and configuration procedures: Disconnect the attached AC power cords, turn off the applicable circuit breakers located in the rack power distribution panel (PDP), and disconnect any telecommunications systems, networks, and modems.

**DANGER:**

- 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. For AC power, remove the power cords from the outlets.
3. For racks with a DC power distribution panel (PDP), turn off the circuit breakers located in the PDP and remove the power from the Customer's DC power source.
4. Remove the signal cables from the connectors.
5. 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. For AC power, attach the power cords to the outlets.
5. For racks with a DC power distribution panel (PDP), restore the power from the Customer's DC power source and turn on the circuit breakers located in the PDP.
6. Turn on the devices.

Sharp edges, corners and joints may be present in and around the system. Use care when handling equipment to avoid cuts, scrapes and pinching. (D005)

**Attention:** Failure to follow the steps sequentially for field-replaceable unit (FRU) removal or installation might result in FRU or system damage.

Use the following precautions whenever you handle electronic components or cables:

- Use the electrostatic discharge (ESD) kit and the ESD wrist strap when you handle logic cards, single chip modules (SCMs), multiple chip modules (MCMs), electronic boards, and disk drives.
- Keep all electronic components in the shipping container or envelope until you are ready to install them.
- If you remove and reinstall an electronic component, temporarily place the component on an ESD pad or blanket.

## **Removing and replacing parts in an EMX0 PCIe3 expansion drawer that is managed by an HMC**

Use this procedure to remove and replace parts in an EMX0 PCIe3 expansion drawer that is attached to a server that is managed by a Hardware Management Console (HMC).

Problems on your managed system are reported to the management console as serviceable events. You can view the problem, manage problem data, report the event to your service provider, or repair the problem. On a regular basis, review and close any open serviceable events that have been repaired on the management console.

To repair a problem by using the Hardware Management Console, see *Repairing a part by using the HMC* ([http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj\\_hmc\\_repair.htm](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm)).

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## **Permanently removing parts in the EMX0 PCIe Gen3 I/O expansion drawer**

Use these procedures when you want to permanently remove parts in your EMX0 PCIe Gen3 I/O expansion drawer (EMX0 PCIe3 expansion drawer).









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