PCI Express graphics card installation

Introduction

This document describes how to install a PCI Express (PCIe) graphics expansion card.

Kit contents

- Graphics card
- Graphics driver CD
- Warranty information
- Regulatory information
- Installation instructions
- Card guide (for select graphics cards)

- Low-profile bracket (for select graphics cards)
- Support bracket (for select graphics cards)
- DVI-VGA video cable adapter (for select graphics cards)
- Display port to DVI cable adapters (for select graphics cards)
- High-density graphics cable adapter (for select graphics cards)

Your responsibilities

You are responsible for determining whether the product is appropriate for your use and will interface with other equipment without malfunction or damage. You are also responsible for backing up data before installing any product and for regularly backing up data after installing the product. HP is not liable for any damage to equipment or data loss resulting from the use of any product. To determine the compatibility of this product with your computer or workstation, view *QuickSpecs* at http://www.hp.com/go/productbulletin.

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Warnings and cautions

WARNING! Any surface or area of the equipment marked with this symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists. To reduce the risk of injury from a hot component, enable the surface to cool before touching.

WARNING! Any surface or area of the equipment marked with this symbol indicates the presence of an electrical shock hazard. To reduce the risk of injury from electrical shock, do not open any enclosed area marked with this symbol.

WARNING! To reduce the risk of electric shock or damage to your equipment:

— Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

— Plug the power cord in a grounded (earthed) outlet that is easily accessible at all times.

— Disconnect power from the equipment by unplugging the power cord from the electrical outlet.

WARNING! To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper computer setup, posture, health, and work habits for computer users, and provides important electrical and mechanical safety information. This guide is located at http://www.hp.com/ergo and on the documentation CD (if one is included with the product).

WARNING! If a product is shipped in packaging marked with this symbol, the product must always be lifted by two persons to avoid personal injury due to product weight.

CAUTION: Static electricity can damage the electronic components of the computer. Before beginning these procedures, be sure you discharge static electricity by briefly touching a grounded metal object.

CAUTION: To prevent damage to the computer, observe the following Electrostatic Discharge (ESD) precautions while performing the system parts removal and replacement procedures:

— Work on a static-free mat.

— Wear a static strap to ensure that any accumulated electrostatic charge is discharged from your body to the ground.

— Create a common ground for the equipment you are working on by connecting the static-free mat, static strap, and peripheral units to that piece of equipment.

NOTE: HP accessories are for use in HP computer products. They have been extensively tested for reliability and are manufactured to high quality standards.

Step 1—Preparing for component installation

Download and install updates

1. Check for available system BIOS updates specified for your HP computer model and operating system at http://www.hp.com/support.

2. Install the system BIOS updates, if available.

Accessing the internal components of the computer

1. If you need help preparing the computer for this installation, consult the removal and replacement procedures in the service guide for your computer at http://www.hp.com/support/manuals.

2. Power down the computer, and then disconnect the power cord.

3. Power down all external devices, and then disconnect them from the computer.

4. Remove the side access panel.

Removing components

1. If present, remove the card support to enable access to the expansion slots and system board connectors.

2. Select an appropriate PCIe expansion slot and remove the slot cover. For optimum performance, HP recommends installing the card in the primary PCIe graphics expansion slot of the computer. Some cards occupy two expansion slots.
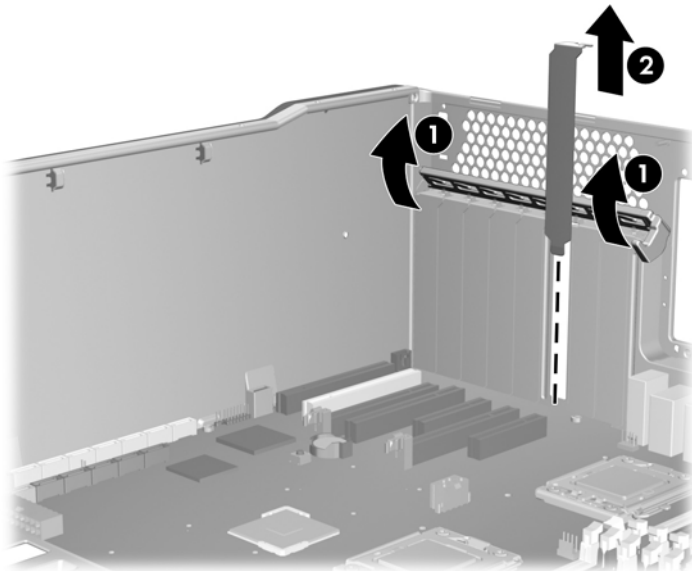
📝 **NOTE:** To identify an available PCIe expansion slot, see the service label on the side access panel.

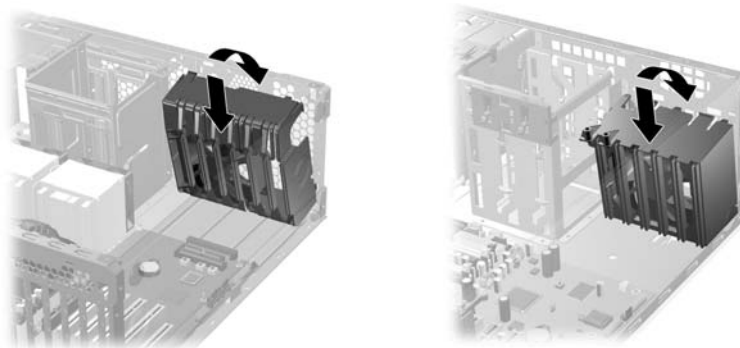**Figure 1** Removing the expansion slot cover

Step 2—Installing the graphics card

To install the graphics card:

NOTE: If the computer has a card guide integrated into the chassis, omit the first step.

1. (Optional) If a card guide was included with the kit, lower it into the chassis and snap it into place. The following figure shows two graphics card guide types.

   Figure 2 Installing the card guide (Optional)

2. If your computer requires a low profile card, replace the full-height bracket on the card with the supplied low-profile bracket.

3. To install the PCIe graphics expansion card:

   a. If the PCIe graphics expansion card fits in a card guide, lower the card into the chassis and align the card in the groove of the card guide.
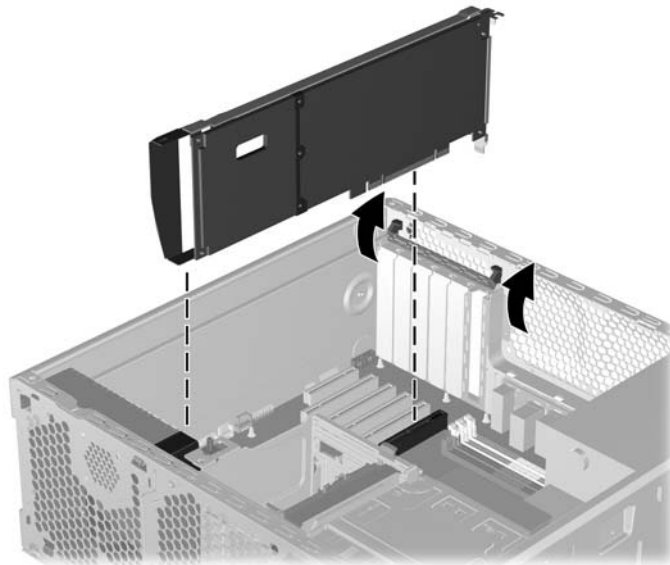
      NOTE: For long cards, rotate the graphics card bulkhead under the rear chassis lip, and then align the card extender with the card guide, while lowering it into the slot.

      Figure 3 Aligning and installing a long graphics card

   b. Verify that the keyed components of the card align with the slot (1).

   c. Close the expansion slot retention clamp (2).

d. If the graphics card requires additional power, locate the computer auxiliary graphics power supply cable and connect it (3).
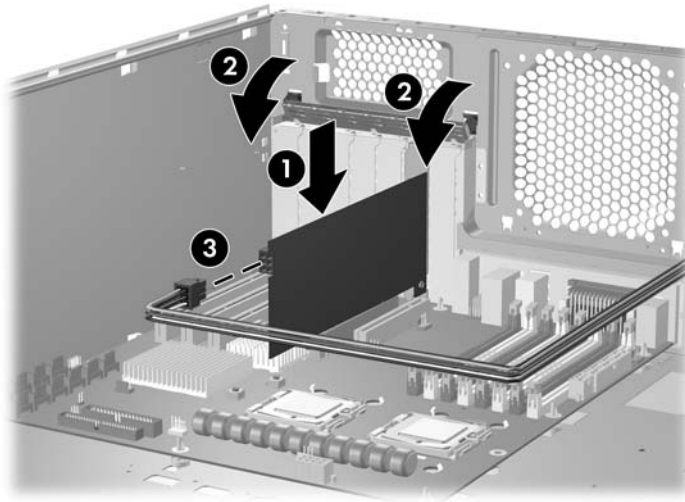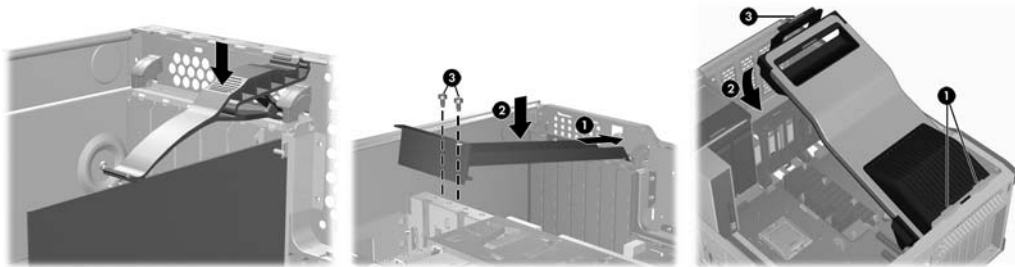
📝 **NOTE:** See the service guide to locate the auxiliary graphics power supply cable.

Figure 4 Installing the graphics expansion card

4. Reinstall the card support, if removed previously. Otherwise, if the PCIe graphics card has a support bracket, install the support bracket to limit the movement of the card.

Figure 5 Installing the support bracket

Step 3—Reassembling the computer

1. Reinstall the side access panel.

2. Reconnect power to the computer and all external devices.

3. Restore power to the computer and all external devices.

Step 4—Configuring the software

1. After restoring power to the computer, install the graphics drivers from the CD included in the kit.

   NOTE: At the time of component installation, look for device firmware and driver updates, designated for your computer model and operating system. Obtain updates from http://www.hp.com/support.

2. Using a supplied video cable adapter appropriate for the monitor, attach one end of the cable adapter to the interface connector on the graphics card, and the other end to the monitor.

Japanese 日本語

This document is available in Japanese. See http://www.hp.com/support/manuals, then select your product and select **Japanese** from the drop down **Manual Language** menu.

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