hp pavilion home pc

hp invent

upgrading and servicing the pc

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Safety Information

Before you get started, please read this important safety information about your HP Pavilion home PC.

This product has not been evaluated for connection to an "IT" power system (an AC distribution system with no direct connection to earth, according to IEC 60950).

AC Power Safety Warnings

The power supply is pre-set for the country/region in which you purchased the HP Pavilion. If you move to another country/region, please make sure you check its voltage requirements before plugging your PC into an AC power outlet.

Install the computer near an AC outlet. The AC power cord is your HP Pavilion PC's main AC disconnecting device and must be easily accessible at all times. For your safety, the power cord provided with your system has a grounded plug. Always use the power cord with a properly grounded wall outlet to avoid the risk of electrical shock.

To reduce the possibility of an electric shock from the telephone network, always plug your computer into the AC outlet before connecting it to the telephone line. Also, always disconnect the telephone line before unplugging your computer from the AC power outlet. Failure to do so before you open the PC or do any procedures can result in personal injury, or equipment damage.

Your system is provided with a voltage select switch for use in a 115 or 230 VAC power system. The voltage select switch has been pre-set to the correct voltage setting for use in the particular country/region where it was initially sold. Changing the voltage select switch to the incorrect position can damage your PC and void any implied warranty.

Always disconnect the modem cord from the telephone system before installing or removing your computer cover.

Do not operate the computer with the cover removed.

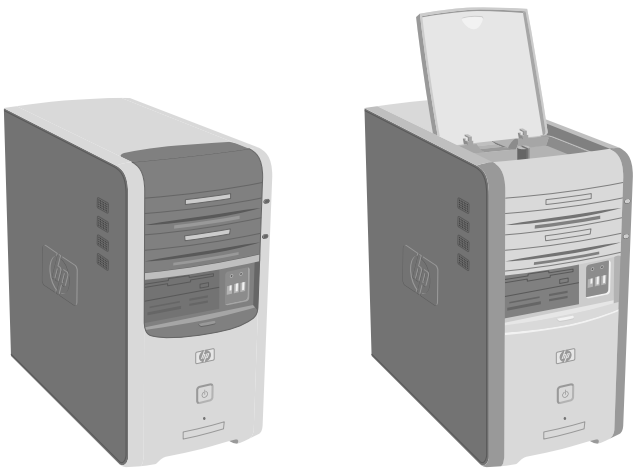
The power supply is not user-serviceable. To prevent damage to the power supply, have a qualified person repair or replace it. All other components are user-serviceable.

Electrostatic discharge (ESD) can damage disk drives, add-in cards, and other components. If an ESD station is not available, wear a wrist strap attached to a metal part of the computer. Place cards on a conductive foam pad or inside the card wrapper, if possible, but never on the card wrapper.

The PC is heavy; be sure to use ergonomically correct lifting procedures when moving the computer.

Welcome

Thank you for purchasing the HP Pavilion home PC. The *Upgrading and Servicing the PC* guide provides instructions on how to remove and replace hardware components of your PC.



Opening and Closing the PC

Preparing the PC

Read the following items before attempting to upgrade or service the PC:

- These procedures assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.
- Write down and save the system model and serial numbers, all installed options, and other information about the system. It will be easier to consult this information than to open up and examine the PC.
- HP recommends that you use an antistatic wrist strap and a conductive foam pad when working on the system.

Warning: ***Always disconnect the modem cord from the telephone system, and then disconnect the PC from the power source before removing the front and side panels of the PC. Failure to do so before you open the PC or do any procedures can result in personal injury or equipment damage.***

Before Opening the PC

To avoid injury and equipment damage, always follow this procedure in this order before opening the PC.

1. Remove any media from the drives.
2. Turn off the PC and all peripherals.
3. Disconnect the modem/telephone cable.
4. Disconnect the power cord and all other attached cables (such as the keyboard, mouse, and monitor).

Warning: ***Please read "Safety Information" in the beginning of this document before installing and connecting your system to the electrical power system.***

After Closing the PC

To avoid injury and equipment damage, always follow this procedure in this order after closing the PC.

1. Reconnect the power cord and all other attached cables (such as the keyboard, mouse, and monitor).
2. Reconnect the modem/telephone cable.
3. Turn on the PC and all peripherals.
4. If you installed an add-in card, install any software drivers supplied by the card manufacturer.

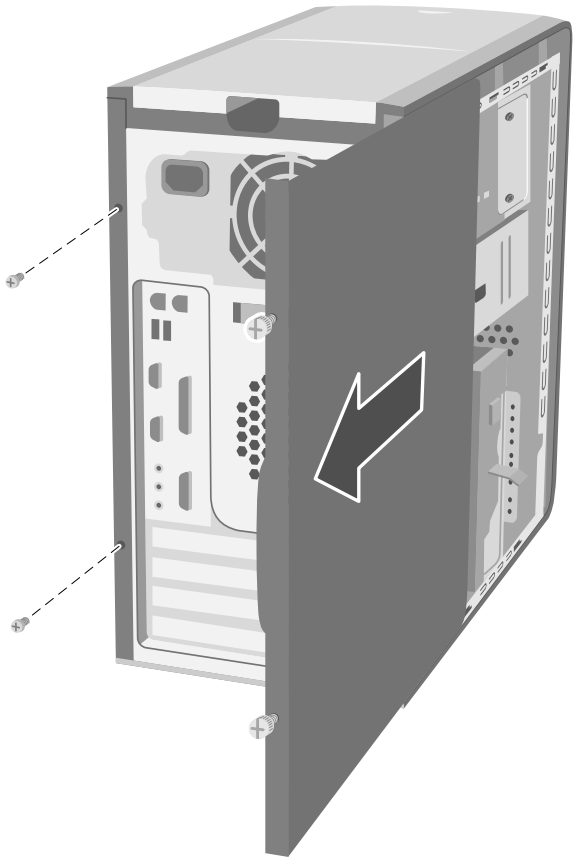
Removing the Side Panel

1 See "Before Opening the PC" on page 3.

2 Loosen the two thumbscrews on the right side of the back panel. The first time you loosen these screws, you may need to use a Phillips screwdriver. These screws do not detach; they stay on the side panel loosely until you tighten them again.

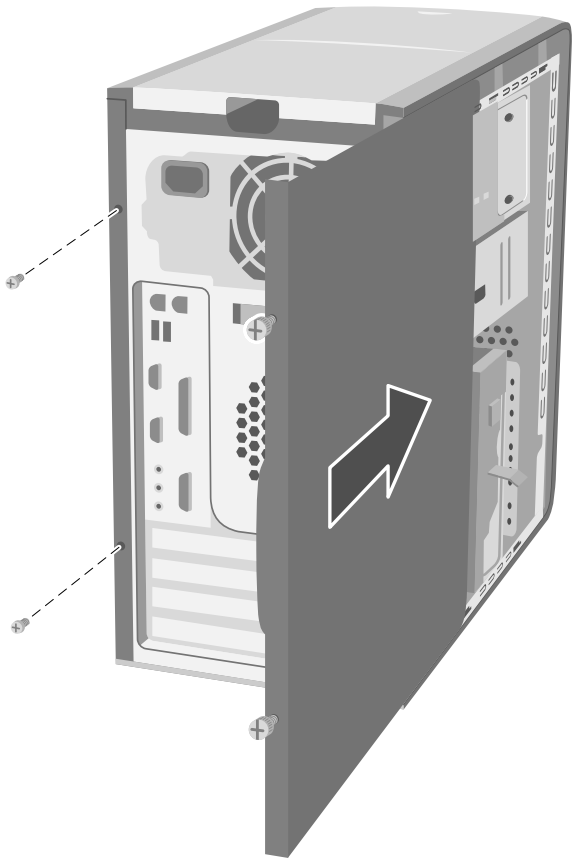
3 Pull the panel back toward you until it stops. Lift the panel off the chassis and set it aside.

Note: *You do not need to remove the other side panel to replace the hardware listed in this guide.*



Replacing the Side Panel

1. Align the notches inside the side panel with the holes on the chassis frame.
2. Slide the side panel forward on the frame until it locks into place, and then tighten the thumbscrews on the side panel.
3. See “After Closing the PC” on page 3.



Locating Components Inside the PC

A Upper optical drive bay

B Lower optical drive bay

C Diskette (Floppy) drive

D 6-In-1 memory card reader (may not be included with all models)

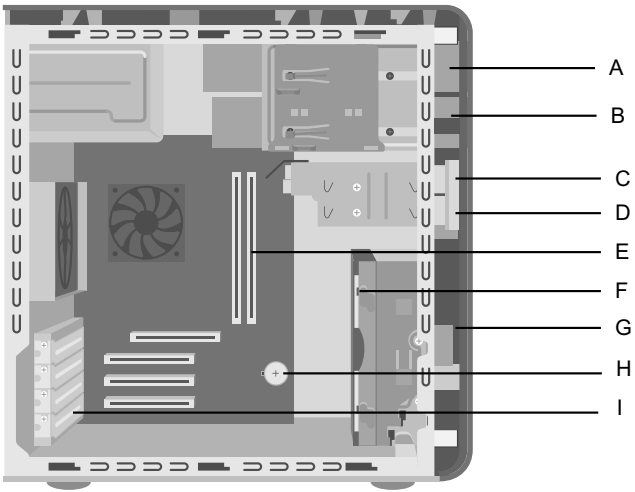
E Memory sockets

F Primary hard disk drive

G Expansion bay for second hard disk drive

H Lithium battery

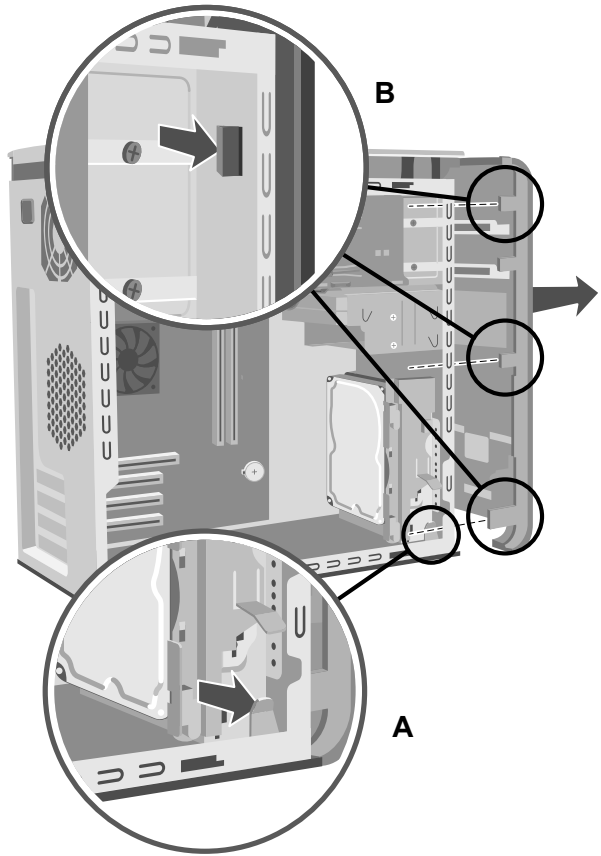
I PCI/AGP Add-in card slots



Removing the Front Panel

This procedure is only necessary when removing or replacing an optical drive, a 6-In-1 memory card reader, or a diskette drive.

1. Remove the side panel with the thumbscrews. See “Removing the Side Panel” on page 4.
2. Unlock or pull back the front panel release tab (**A**). This tab is located at the bottom of the front panel, near the hard drive bracket. Pull the tab all the way back until the bottom of it rests against the frame of the chassis. The arrow mark on the release tab points to *unlock* when it is in the unlock position.
3. Locate the three small tabs (**B**) attached to the front panel on the side of the chassis. Press each tab away from the center of the chassis. Press the top, the middle, and the bottom tab, and then gently remove the front panel.



Replacing the Front Panel

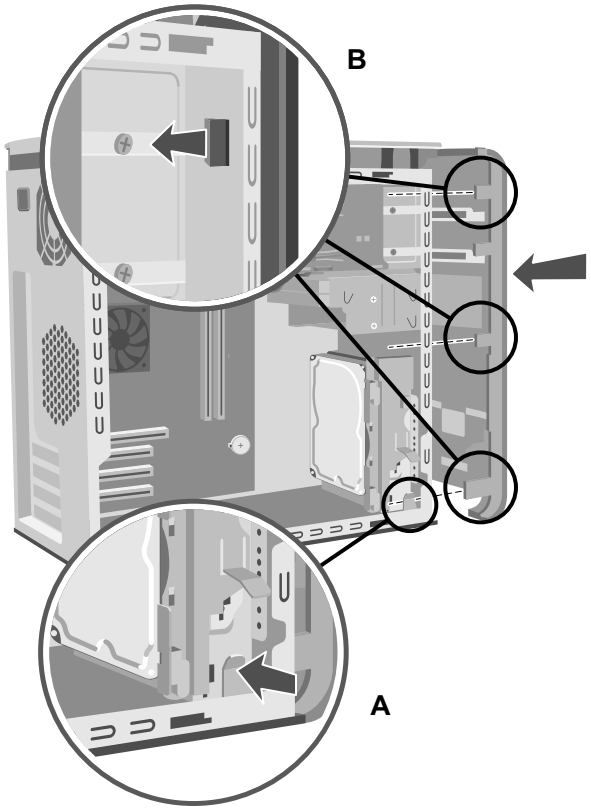
1 Place the chassis upright, and then align the bottom of the front panel with the ridge on the bottom of the chassis.

Or

Slide the bottom of the front panel under the bottom of the chassis, making sure the tab on the bottom of the front panel is inserted into the slot on the bottom of the chassis.

2 Guide the three small tabs (**B**) on both sides of the front panel into the correct holes, until the panel snaps into place.

3 Lock the front panel release tab (**A**) by pushing it until it rests against the hard drive bracket. The arrow mark on the release tab points to *lock* when it is in the lock position.



Removing and Replacing Drives

Your PC includes several drives that you can replace or upgrade.

Important: *Before adding a new optical drive, make sure that it is compatible with the Microsoft® Windows® XP Home Edition operating system. Also, make sure you have the correct software and drivers for the optical drive to work with the operating system.*

Your PC model may come with:

- One or two optical drives (CD, DVD, CD-RW, DVD+RW, or combo). These drives are located in the two bays at the top of the chassis.
- One diskette drive located directly under the lower optical drive bay.
- One 6-In-1 memory card reader located under the diskette drive.
- One primary hard disk drive and an expansion bay for a second hard disk drive.

A Upper optical drive bay

B Lower optical drive bay

C Diskette (Floppy) drive

D 6-In-1 memory card reader (may not be included with all models)

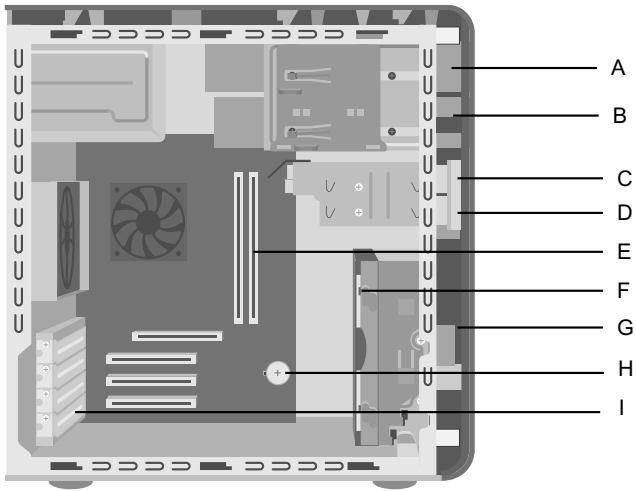
E Memory sockets

F Primary hard disk drive

G Expansion bay for second hard disk drive

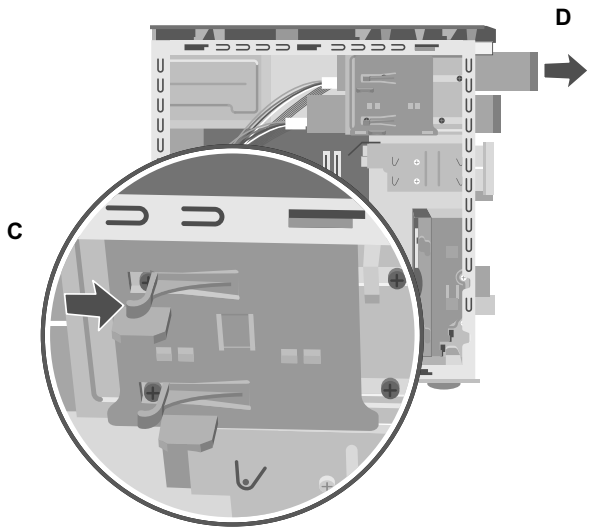
H Lithium battery

I PCI/AGP Add-in card slots



Removing an Optical Drive

1. Remove the side panel that has thumbscrews. See page 4.
2. Remove the front panel. See page 7.
3. Gently lay the PC on its side.
4. Pull back on the plastic tab (**C**) on the side of the optical drive you want to remove. Push the drive partway out through the front of the PC (**D**).
5. Make a note of each cable and plug orientation attached to the back of the optical drive you want to replace before removing the cables.
6. Disconnect the power cable and data cable from the back of the optical drive you want to remove, using a gentle rocking motion. Some PC models may have a sound cable. If so, disconnect the sound cable.
7. Pull the drive out through the front of the PC (**D**).

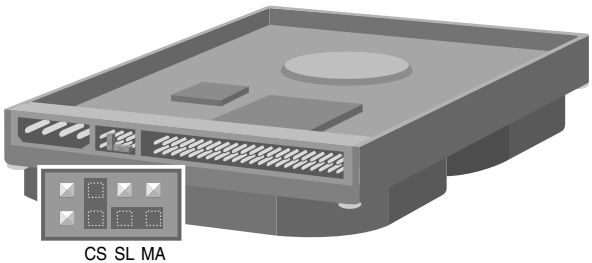


Installing an Optical Drive

If you are adding a drive to an empty optical drive bay, you need to remove the drive cover.

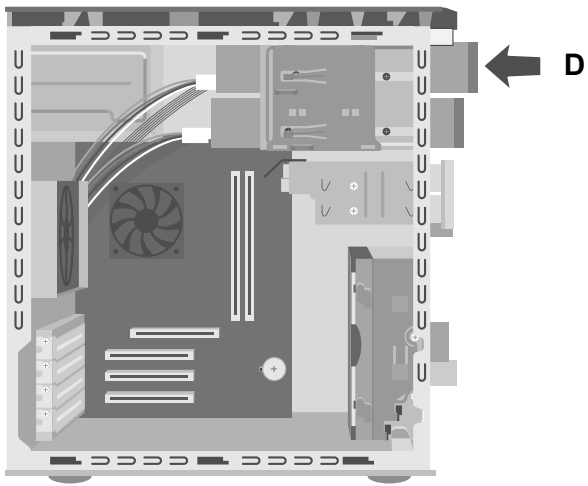
1. Remove the side panel that has thumbscrews. See page 4.
2. Remove the front panel. See page 7.
3. If your optical drive bay is empty, remove the drive cover by pressing the tabs on each side of the drive cover, and then pulling it toward you and out of the PC.
4. Make sure the jumper on the new drive is in the CS (Cable Select) position.
5. Slide the new optical drive through the front of the PC. Don't slide the drive in all the way; you need room to attach the cables.

Note: *A jumper is a small plastic connector or wire that electrically connects two pins in order to define a configuration setting. Below is an example of drive with Cable Select jumper installed (your drive may vary).*



6. Connect the power cable and data cable to the back of the optical drive. Some PC models may have a sound cable. If so, connect the sound cable.

7 Push the optical drive all the way in through the front of the PC until it snaps into place (**D**).



8 Replace the front panel. See page 8.

9 Replace the side panel. See page 5.

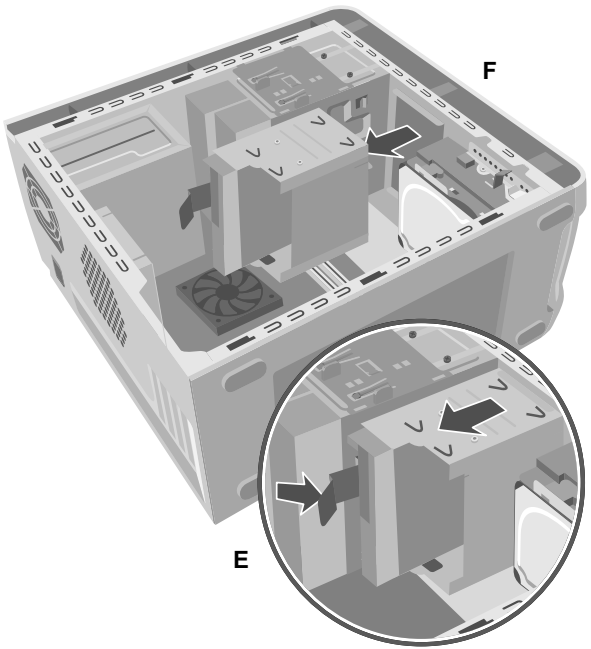
Removing the 6-In-1 Memory Card Reader or the Diskette (Floppy) Drive

The PC has a removable drive cage that holds the 6-In-1 memory card reader and the diskette drive. You can remove and replace either of these drives if they are included with your model.

To ensure that the drive fits properly into the HP Pavilion, be sure to purchase the replacement diskette drive from HP. Refer to the *Support Guide* for the telephone number of the HP Customer Care Center.

To remove the 6-In-1 memory card reader drive or the diskette drive:

1. Remove the side panel that has thumbscrews. See page 4.
2. Gently lay the PC on its side.
3. Make a note of each cable attached to the drive you want to replace.
4. Push down on the drive cage release tab (**E**).
5. Hold the release tab down as you pull the cage toward the back of the chassis, and then lift it out (**F**). Removing the drive cage provides more space to remove the cables.
6. Remove the cables attached to the back of the drives in the drive cage.

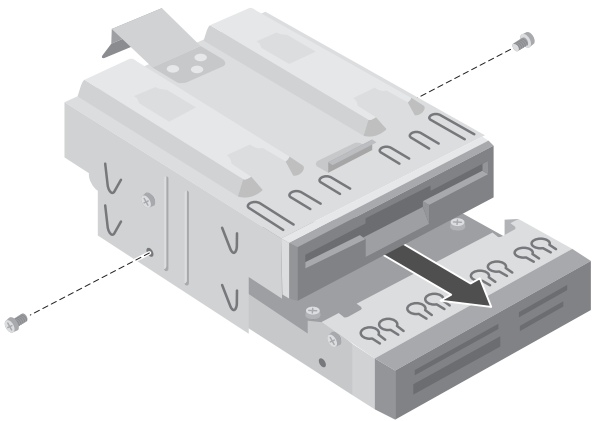


7 Remove the screw from each side of the drive cage to remove the 6-In-1 memory card reader.

Or

Remove the screw from each side of the drive cage to remove the diskette drive.

8 Pull the drive out through the front of the drive cage.

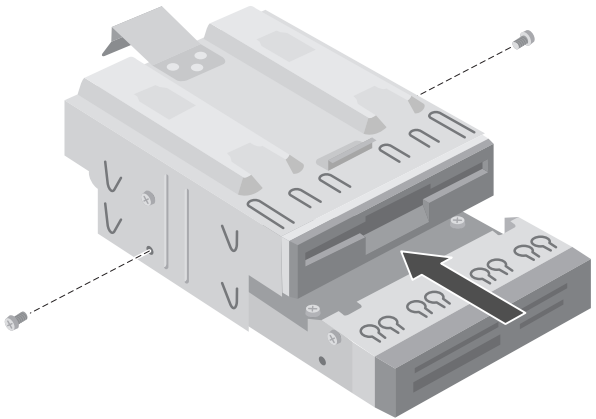


Installing the 6-In-1 Memory Card Reader or the Diskette (Floppy) Drive

1 See "Removing the 6-In-1 Memory Card Reader or the Diskette (Floppy) Drive" on page 13.

2 Slide the replacement drive into the drive cage until the two screw holes on each side are aligned.

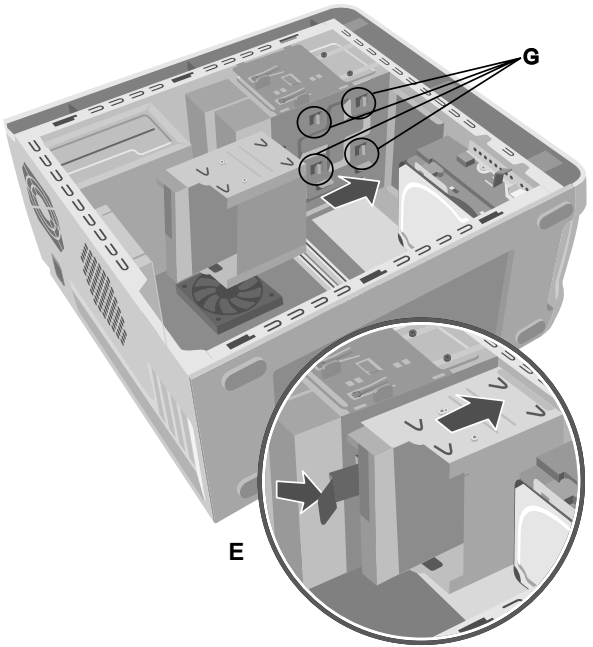
3 Attach the screw on each side of the drive cage.



4 Pull the drive cage release tab (**E**) back. Align the four holes on the top of the drive cage with the four latches (**G**) on the bottom of the optical drive bracket. Slide the latches into the four holes on the drive cage, pushing the drive cage forward until it snaps into place.

5 Connect the cables to the back of the drive you installed.

6 Replace the side panel. See page 5.



Removing the Preinstalled Hard Drive

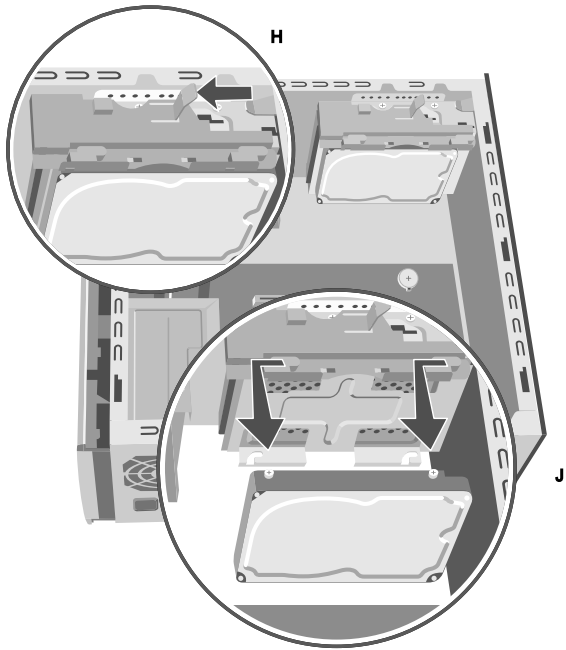
You can replace the preinstalled (primary) hard drive or install a second hard drive in the PC.

You need to remove the primary hard drive from the chassis if you want to replace it with a higher-capacity drive, or if you want to safeguard your data when sending the PC out to be repaired.

The preinstalled hard drive is preloaded with the system recovery partition of your PC. If you remove this hard drive, please store in an antistatic bag that is properly sealed.

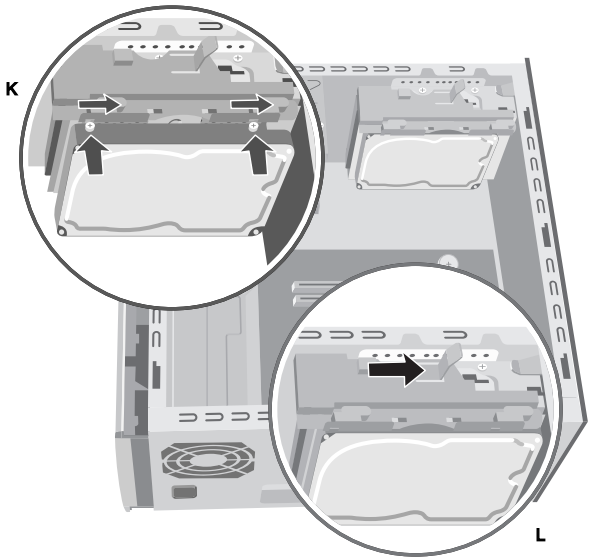
To remove the preinstalled hard drive:

1. Remove the side panel that has thumbscrews. See page 4.
2. Gently lay the PC on its side.
3. Make a note of each cable attached to the hard drive before removing the cables. Remove the cables from the back of the hard drive.
4. Push the release tab attached to the hard drive bracket (**H**) until it is unlocked. Gently push the hard drive in the same direction and then pull it out of the hard drive bracket (**J**).



Replacing the Preinstalled Hard Drive

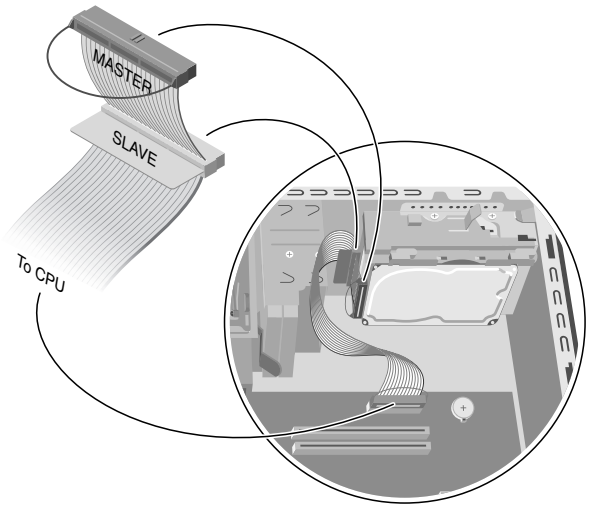
1. Make sure the release tab on the hard drive bracket is in the unlocked position before you insert the new hard drive.
2. Align the two screws on the top and bottom of the replacement hard drive with the screw head tracks on the top and bottom of the hard drive bracket. Slide the hard drive until it snaps into place (**K**).
3. Push the release tab on the top of the hard drive bracket into the locked position (**L**).



4 Attach the IDE and power supply cables to the back of the hard drive.

Warning: ***Make sure the IDE cable end labeled* Master *is connected to the primary hard drive. If you have a second hard drive, make sure the IDE cable labeled* Slave *is connected to the second hard drive. If the IDE cable is not connected correctly, the PC will not be able to locate the hard drives and data may be lost.***

5 Replace the side panel. See page 5.



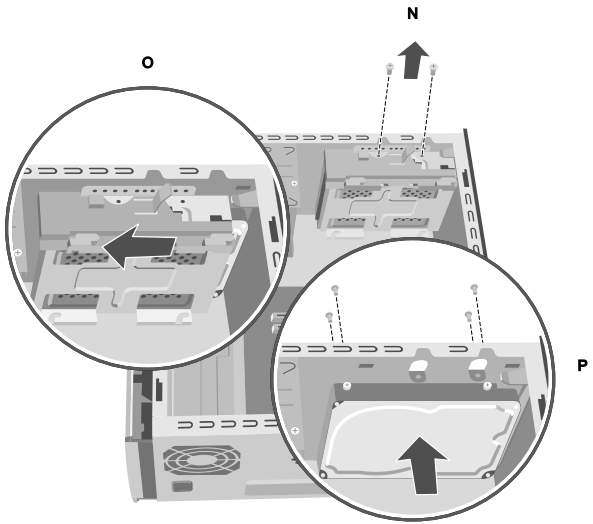
Installing a Second Hard Drive

Some PC models may have an empty bay to add a second hard drive.

1. Remove the side panel. See page 4.
2. Remove the front panel. See page 7.
3. Gently lay the PC on its side.
4. See "Removing the Preinstalled Hard Drive" on page 17.

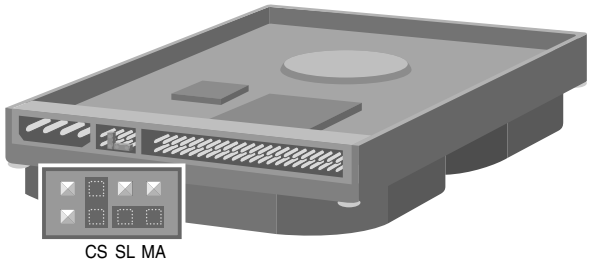
   Note: *You do not need to remove the preinstalled hard drive from the bracket when installing a second hard drive.*

5. Remove the two screws on the hard drive bracket (**N**).
6. Slide the bracket away from the bottom of the chassis, and then pull it up and out of the chassis (**O**).



7. Align the hard drive to the screw holes (**P**) on the front of the chassis and use four regular 6/32 Phillips screws (not included with your PC) to secure the hard drive to the front of the PC.

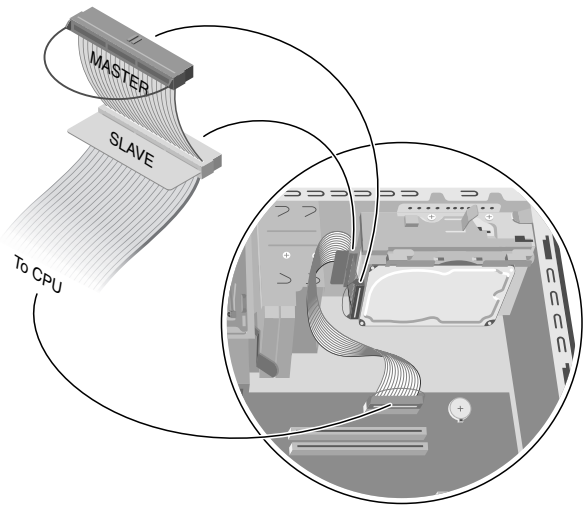
8 Make sure the jumper on the new drive is in the CS (Cable Select) position. Below is a drive with a Cable Select jumper installed. Your drive may vary.



9 Attach the power cable to the back of the drive.

10 Make sure you attach the connector marked *Master* on the IDE ribbon cable to the back of the primary hard drive. After this primary connection is attached, twist the remaining part of the cable marked *Slave* on that same IDE ribbon cable and connect it to the second hard drive.

Warning: ***Make sure the IDE cable end labeled* Master *is connected to the primary hard drive. If you have a second hard drive, make sure the IDE cable labeled* Slave *is connected to the second hard drive. If the IDE cable is not connected correctly, the PC will not be able to locate the hard drives and data may be lost.***



11 Connect the end of the IDE cable labeled *CPU* to the motherboard.

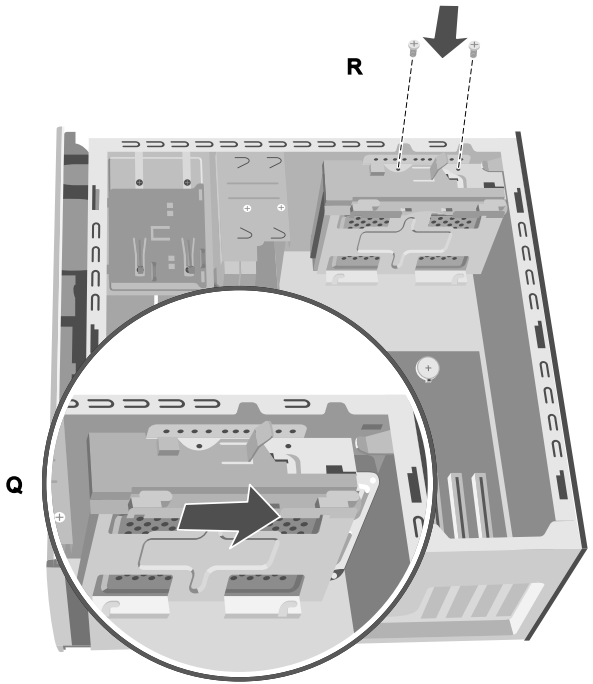
12 Place the hard drive bracket over the new second hard drive, align the four tabs to the holes on the front of the chassis, and then slide it toward the bottom of the chassis until it snaps into place (**Q**).

13 Attach the two screws to the hard drive bracket (**R**).

14 Replace the preinstalled hard drive. See page 18.

15 Replace the front panel. See page 8.

16 Replace the side panel. See page 5.

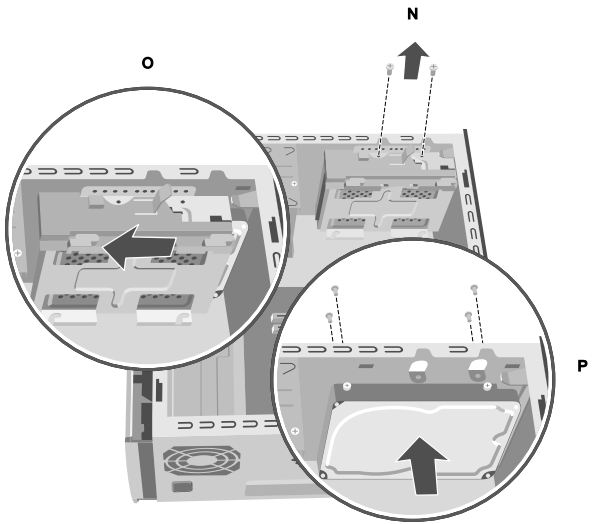


Removing a Second Hard Drive

1. Remove the side panel. See page 4.
2. Remove the front panel. See page 7.
3. Gently lay the PC on its side.
4. See "Removing the Preinstalled Hard Drive" on page 17.

   Note: *You do not need to remove the preinstalled hard drive from the bracket when installing a second hard drive.*

5. Remove the two screws on the hard drive bracket (**N**).
6. Slide the bracket away from the bottom of the chassis (**O**), and then pull it up and out of the chassis.
7. Make a note of each cable attached to the second hard drive before removing the cables. Remove the IDE and power cables from the back of the second hard drive.
8. Remove the four screws on the front of the chassis to release the hard drive from the front of the chassis (**P**). Pull the hard drive out of the chassis.



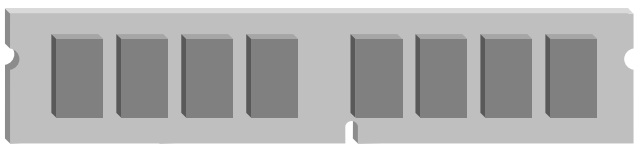
Adding Memory

The motherboard contains sockets for DDR DIMMs (double data rate dual in-line memory modules).

To determine the memory capacity and speed of the memory module your PC model uses, and for specific memory module information and specifications:

1. Go to the HP Web site by typing *http://www.hp.com* into your Web browser address box.
2. Press Enter on your keyboard.
3. Select your country or region from the drop-down list.
4. Click the arrow to the right of the drop-down list, and then click the **support & drivers** link.
5. Click **HP technical support**.
6. Search for your PC model number, and then search for "upgrading memory" to find out your system configuration and memory requirements.

The motherboard contains 184-pin DDR DIMM sockets. The number of sockets depends on which model you have.



DDR DIMM

Warning: ***Using the wrong type of memory module could damage the system.***

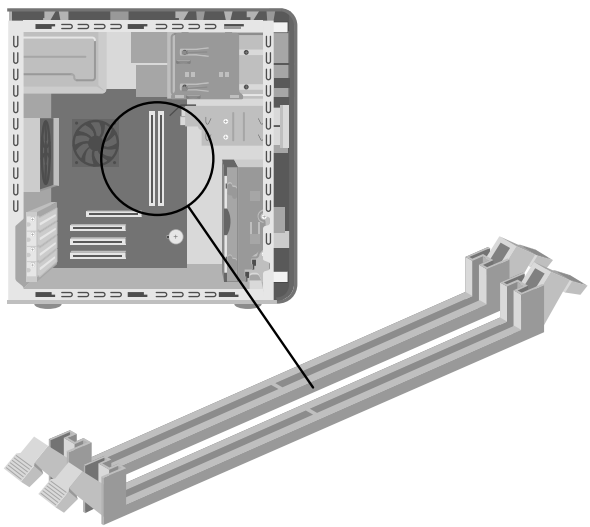
About Installing DDR DIMMs

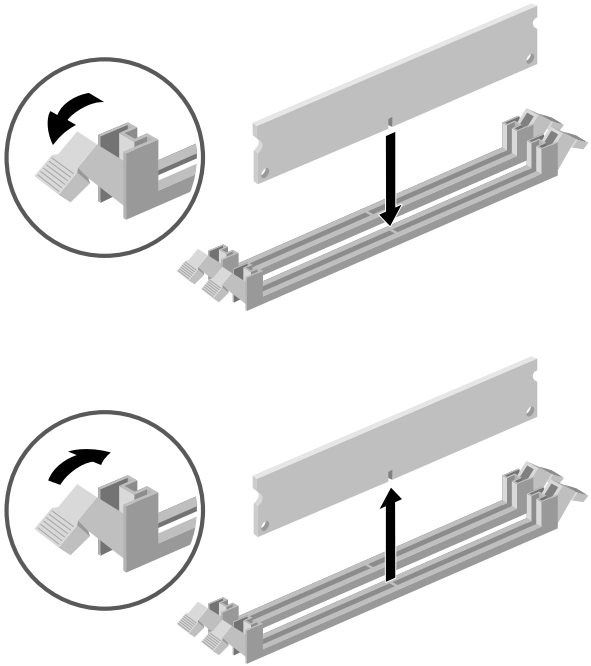
DDR DIMMs must be 184-pin unbuffered DDR SDRAM (double data rate synchronous dynamic random access memory). The HP Pavilion ships with one or more memory modules, but you can replace the existing memory modules with higher-capacity ones. You can install 128 MB, 256 MB, 512 MB, or 1024 MB (1GB) memory modules in the PC.

Note: *Some memory configurations vary, depending on your PC model. 512 MB and 1024 MB DDR DIMM memory modules are not compatible with all PC models.*

Removing a Memory Module

1. Remove the side panel that has thumbscrews. See page 4.
2. Gently lay the PC on its side.
3. Locate the memory sockets on the motherboard.
4. Move any cabling out of the way, if necessary.
5. Push down the two retaining clips on the ends of the socket until the memory module pops out of the socket. Hold the memory module by its edges only, as you lift it away from the socket. Store it in its antistatic packaging.



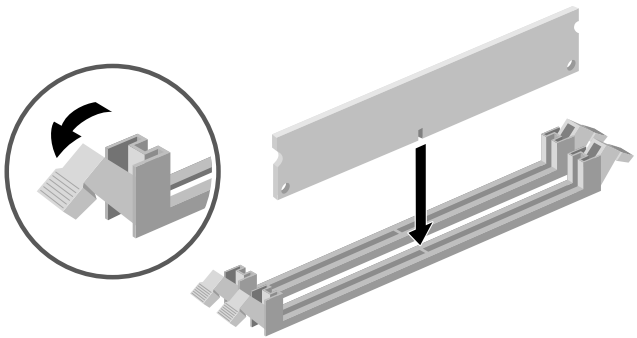


Warning: ***Do not pull the memory module out of the socket. Use the retaining clips to eject the module.***

Installing a Memory Module

1. See "Removing a Memory Module" on page 25.
2. Holding the new memory module by its edges only, remove it from the antistatic packaging. (Avoid touching the memory chips or the gold contacts on the module.) The memory module has one or two small notches on the lower edge, which fit into raised bumps in the memory socket.
3. Hold the memory module in alignment with the socket, aligning the notches with the bumps.

4 Push straight down on top of the memory module until it is fully seated in the socket. The retaining clips on the ends of the socket automatically lock it into position when the memory module is fully seated.



5 Replace any cabling that was removed.

6 Replace the side panel. See page 5.

Add-In Cards

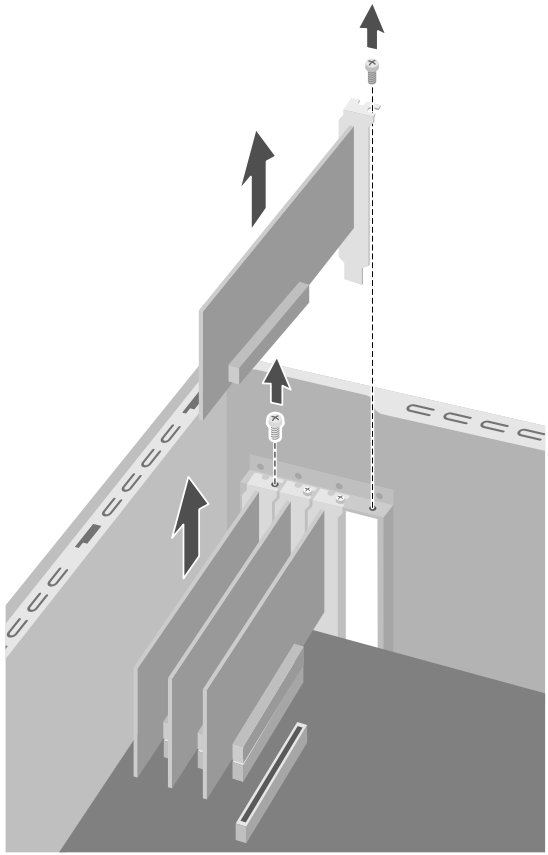
At some point, you may want to add a PCI or an AGP card to the PC to accommodate a new component, such as a scanner, or to upgrade an existing card.

Warning: ***Do not overload the system by installing add-in cards that draw excessive current. The system is designed to provide 2 amps (average) of +5 V power for each board/card in the PC. The total +5 V current draw in a fully loaded system (one with all add-in card slots filled) must not exceed the total number of slots multiplied by 2 amps.***

Removing an Add-In Card

1. Remove the side panel that has thumbscrews. See page 4.
2. Gently lay the PC on its side.
3. To prepare an empty card slot for a new card, loosen the screw of the expansion slot cover. Remove the cover of the empty slot.
4. If you are replacing a card, make a note of any external or internal cables attached to the card, and then disconnect them.
5. Loosen the screw on the bracket of the card you are replacing.
6. Hold the bracket and the far top corner of the card. Carefully remove the card by pulling the card straight out of the expansion slot.

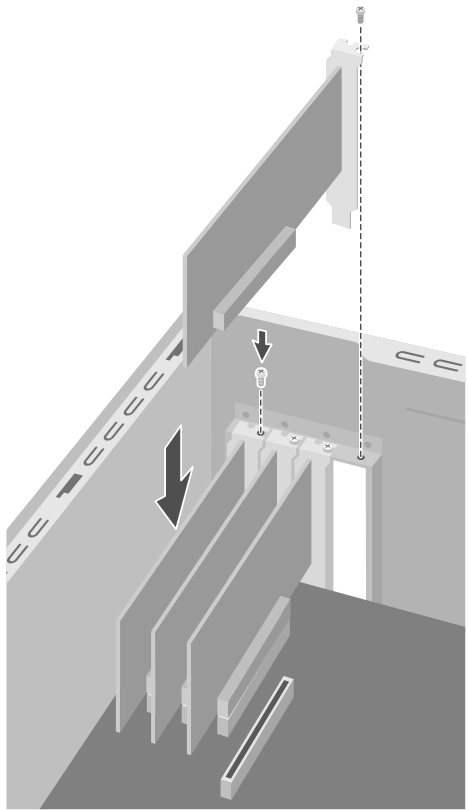
Warning: ***Be careful of the sharp edges on the expansion slot cover.***



Installing an Add-In Card

1. Insert the new card into the slot and push straight down. Make sure the card is properly seated.
2. Attach the screw to secure the card you have replaced.
3. Connect any external or internal cables attached to the card.
4. Replace the side panel. See page 5.

Note: *If the new card or device isn't working, read through the card manufacturer's installation instructions, and recheck all connections, including those to the card, power supply, keyboard, and monitor. If the problem still exists, run the BIOS setup program and load the default settings, and then save and exit.*



Replacing the Battery

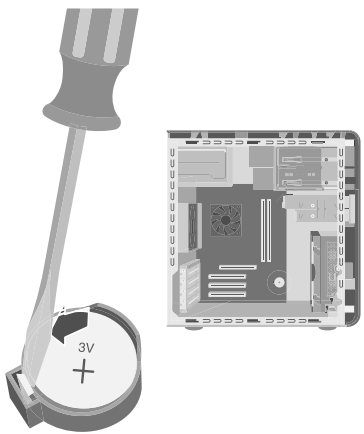
A lithium battery on the motherboard provides backup power for the PC's timekeeping capability. The battery has an estimated life expectancy of seven years.

When the battery starts to weaken, the date and time may be incorrect. If the battery fails, replace it with a CR2032 lithium battery (3 volt, 220mAH rating) or an equivalent battery.

Warning: ***There is danger of explosion if the battery is incorrectly replaced. Replace only with the same, or equivalent, type of battery. Discard used batteries according to the manufacturer's instructions.***

To replace the battery:

1. Remove the side panel that has the thumbscrews. See page 4.
2. Gently lay the PC on its side.
3. Remove any cabling, if necessary, to reach the battery.
4. Remove any memory modules, if necessary, to reach the battery.
5. With a flat screwdriver, press the metal latch that holds the battery in its socket away from the battery. The battery will pop out.
6. Install the new CR2032 battery in the socket, with the positive (+) side facing up.



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