HP Pavilion dv5000 Notebook PC series support

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Computer Does Not Start and the LEDs Blink or the Computer Beeps

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First steps when an LED or beep code occurs

Battery power LED blinks

LEDs near Caps Lock and Number Lock keys blink

Computer makes beeping sounds

Finding service

This document pertains to HP and Compaq Notebook computers.

If your computer makes one or two short beeps while starting, and Windows still opens, the computer is indicating normal BIOS startup was successful. If your computer does not start, a more serious hardware issue is likely occurring. Listen for beeps and look at the Light Emitting Diodes (LEDs) near the **Caps Lock** key, the **Num Lock** key, the battery, and the AC Adapter to help determine troubleshooting steps. This support document contains information that can help you learn more about the issue and how to resolve the problem.

Figure 1: Example of blinking LED condition (your computer may look different)

First steps when an LED or beep code occurs

An LED or beep code usually means a basic function is unable to start. A basic function might include reading memory, displaying video, or being able to send information to a hard drive. The most common problems that cause LED and beep codes are memory and heat-related failures caused by a build-up of dust in critical cooling areas.

Use the following steps when your computer emits an LED code or beep code:

Step 1: Remove dust from cooling areas

If your computer is new and has never been used before, skip this step and go to Step 2: Perform a power reset .

Over time, dust can collect in the cooling vents of your computer. Too much dust can block airflow, causing sensitive components to overheat and fail. Before troubleshooting startup codes, it is important to remove any dust that may have accumulated.

While wearing eye protection, use canned air to blow out vents, preferably outdoors.

Figure 2: Blowing dust from air vents
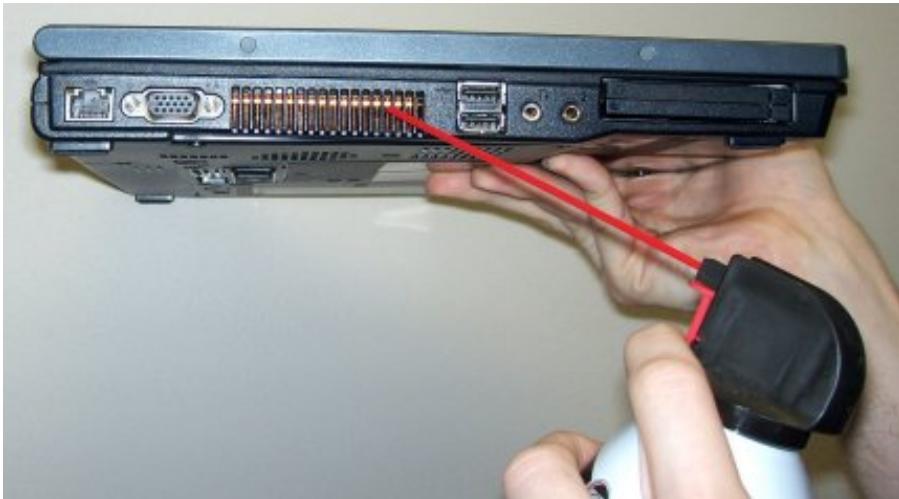
After cleaning the computer's air vents, restart the computer.

If the computer starts normally, you are done. Otherwise, go to the next step.

Step 2: Perform a power reset

If your computer does not start, performing a power reset can sometimes fix the problem.

Follow these steps to reset the power:

1. Disconnect all peripheral devices such as printers, USB storage devices and media cards.

2. Disconnect the AC power adapter.

3. Remove the battery.

4. Press and hold the **Power** button for at least 15 seconds.

5. Reconnect the AC power adapter (do not connect the battery), and press the **Power** button.

6. Look for glowing LEDs near the **Caps Lock** and **Num Lock** keys, and listen for the sound of drives and fans turning.

If the computer starts normally, you are done.

If the computer still fails to start and emits lights or beeping sounds, continue to the next step.

Step 3: Write down the LED or beep code

Use the following steps to write down the LED or beep codes onto a piece of paper.

1. Press the **Power** button to turn on the computer.

2. Your computer's power socket or power adapter may have an LED. If it has an LED, look at the light next to the power socket or the light on the AC power adapter and note its condition: off, blinking or constantly on.

3. Look at the indicator lights near the **Caps Lock** and **Num Lock** keys and note their condition. If the lights blink, count the number of times they blink between pauses.

    NOTE:After a sequence of blinks or beeps, there is a pause for a few seconds, and the sequence is repeated (usually 3 or 4 times). The blink sequence can be repeated by pressing the **Power** button.

4. Listen to your computer for any loud beeping noises. If your computer makes a beeping noise, note the type and number of beeps between pauses. For example: two long beeps followed by one short beep.

5. On a piece of paper, write down what you have noted to remember the LED or beep code. Then proceed to the next section.

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Battery power LED blinks

The Battery power LED indicates the condition of the power supply. When starting the computer, or when the computer is in operation, use the chart to identify the power condition.

Battery Power LED	Component Tested	Error Condition
Battery power LED off, and Caps Lock/Num Lock off	Battery or AC Adapter	AC adapter not connected or failure Battery low charge or failure
Battery power LED blinking	Battery	Insufficient charge on the battery
	When new computer is used for first time, the white LED light for the AC power connector blinks.	Battery is still in "Shipping Mode", the light continues to blink even when AC power is connected. To resolve, turn off notebook, connect AC power and allow battery to charge for at least 30 minutes, then start computer.

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AC Adapter not connected or battery low charge

When the computer is on battery power only and the AC adapter is disconnected, if the Battery

Power and Caps Lock / Number Lock LEDs do not glow, there is either a very low change or no charge in the battery. Connect the AC power adapter, verify that the battery power LED glows, allow the battery to charge for 15 - 30 minutes and then attempt to start the computer. If it starts, run the battery test and calibrate the battery. If it does not start, if possible, connect a replacement battery to verify that the battery is the problem.

If the computer does not start after charging the battery, remove the battery and connect the AC power supply. Verify that the battery power LED glows, and then attempt to start the computer. If the LED still does not glow, either the AC adapter has failed, or there is a bad connection between the adapter and the system board. If possible, connect a different AC power adapter to verify that the adapter is the problem, or contact HP for support which may require a service event.

Insufficient charge on the battery

If the **battery light** LED (which looks like a lightning bolt) flashes, the battery has insufficient charge to start the computer. To resolve this error, try the following solutions.

- Connect the notebook PC to AC power and attempt to start the computer again.
  - Check the AC adapter to confirm that all of the plugs are securely seated.
  - Determine if the power LED on the AC adapter is lit (if available) to verify that the computer is receiving AC power from the wall outlet.

- If the computer operates on AC power correctly, charge the battery for thirty minutes to one hour and then restart the computer.

  NOTE:Charging the battery for this length of time is called "trickle charging". Trickle charging is a continuous constant-current charge at a low rate, which recharges the battery slowly when it is in a deep discharge state. Deep discharge occurs when a battery is left unused for extended periods of time.

LEDs near Caps Lock and Number Lock keys blink

The LED lights near the Caps Lock and Num Lock keys will blink if an error is detected during the start up process. The LEDs will blink a number of times in a sequence and then stop. The number of blinks in the sequence indicates what component caused an error when it was being tested during start up.

If the LEDs stop blinking and the computer does not start, you can press the power button again to repeat the tests. Count the number of blinks, and use the chart to identify the error condition.

Knowing the number of blinks is helpful when you contact an HP support agent for technical help.

Caps Lock/Num Lock LED	Component Tested	Error Condition
LEDs blink 1 time	CPU	CPU not functional
LEDs blink 2 times	BIOS	BIOS corruption failure
LEDs blink 3 times	Memory	Module error not functional
LEDs blink 4 times	Graphics	Graphics controller not functional
LEDs blink 5 times	System board	General system board failure
LEDs blink 6 times	BIOS	BIOS authentication failure

CPU not functional

The computer processor (Blink code 1) has stopped functioning properly. Contact HP for assistance.

BIOS corruption failure

If a BIOS corruption error occurs (Blink code 2), you may not even notice the blink codes,

because as soon as the computer recognizes the error, it restarts, attempts to recover the BIOS, and then restarts again. You may notice an extra-long startup process as a result, and a message indicating that the BIOS has been recovered may display on startup. If this occurs, update the BIOS on the computer. For more information, see Updating the BIOS .

Module error not functional

If you experience a memory failure (Blink code 3), follow the guide in the table below.

If Using Original Memory	If New Memory Is Added
Reseat the memory. If reseating the memory does not resolve the problem, try replacing the memory with new memory.	Reseat the memory. If you continue to experience this error code after reseating the memory, the problem may be with the memory itself. Take the new memory out of the computer, put the original memory back into the computer, and then retest it.

If you do not feel comfortable reseating the memory yourself, take the computer to a computer retailer and ask them to reseat it for you.

NOTE:Some memory module errors may allow the computer to start but will then cause the computer to restart and display a blinking error code.

Reseating memory modules

If a memory module is loose or is not making good contact with the memory slot, the computer can fail to start. To reseat the memory module, take the memory module out of the memory slot and then put it back into the slot to make a better connection so the computer can recognize the memory.

The memory module compartment on most notebooks is located on the bottom of the case,

however, on some models, the memory compartment is under the keyboard. See your User Guide for the exact location of memory modules on your notebook.

Use the following steps to remove and reseat the memory modules:

NOTE:Removing and reseating memory modules requires the use of tools and the partial disassembly of the computer. If you do not feel comfortable doing this work yourself, take the computer to an HP authorized service provider for technical service. See Finding service for more information.

Follow these steps to remove and reseat the memory modules:

1. Turn off the computer and disconnect the power cord.

2. Remove the cover to access the memory.

Figure 3: Memory module cover (your cover may be different)
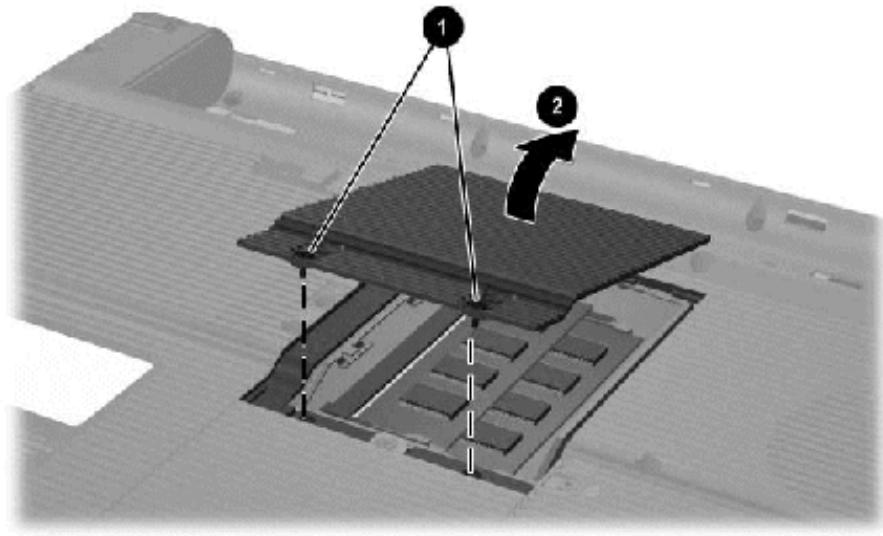
1 - Retention screws (2)

2 - Direction to remove compartment cover

NOTE:Your computer may look different than the computer in the graphic.
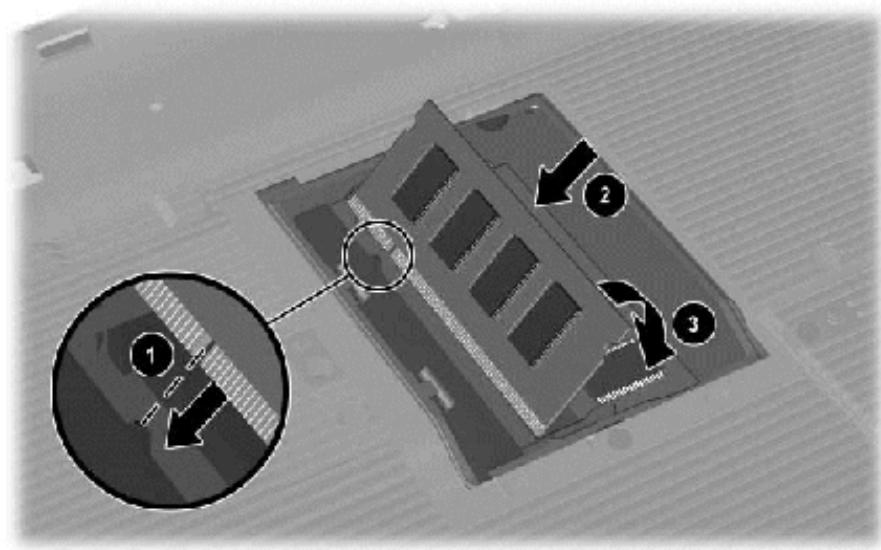

NOTE:Some computers may not have a cover that provides access to the memory. Have the computer serviced if you cannot access the memory.

3. Remove all of the memory modules in the computer.

4. Reinsert all memory modules.

Figure 4: Notch alignment and memory module insertion

1 - Notch alignment

2 - Direction to insert the module

3 - Direction to seat module

5. Replace the cover, battery, and power cord.

6. Turn on the computer.

7. Perform any tests to verify the computer can start up and run in the Windows operating system.

   If the computer fails to boot to the Windows desktop after the memory is reseated and the battery is installed, contact HP for support. See Finding service for more information.

Graphics controller not functional

If you experience a graphics controller failure (Blink code 4), contact HP for assistance.

General system board failure

A general system board failure (Blink code 5) is the failure of a component not covered by the other LED error codes. Contact HP for assistance. See Finding service for more information.

BIOS authentication failure

The BIOS authentication error (Blink code 6) is extremely rare. It is the result of a discrepancy between the BIOS and the hardware that is installed on the computer. This error occurs when the BIOS cannot authenticate signatures from the hardware on the system. The purpose of the BIOS authentication is to be sure that no one has tampered with the BIOS on the computer. If a BIOS authentication failure occurs, the computer automatically performs a BIOS recovery. If the computer does not automatically recover the BIOS, contact HP for assistance. See Finding service for more information.

Computer makes beeping sounds

The most common cause of a computer beeping upon startup is a loose or bad memory module. Reseat the memory modules to resolve problems with the computer beeping. If this does not resolve the issue, contact HP for assistance. See Finding service for more information.

Reseating memory modules

If a memory module is loose or is not making good contact with the memory slot, the computer can fail to start. To reseat the memory module, take the memory module out of the memory slot and then put it back into the slot to make a better connection so the computer can recognize the memory.

The memory module compartment on most notebooks is located on the bottom of the case, however, on some models, the memory compartment is under the keyboard. See your User Guide for the exact location of memory modules on your notebook.

Use the following steps to remove and reseat the memory modules:

NOTE:Removing and reseating memory modules requires the use of tools and the partial disassembly of the computer. If you do not feel comfortable doing this work yourself, take the computer to an HP authorized service provider for technical service. See Finding service for more information.

Follow these steps to remove and reseat the memory modules:

1. Turn off the computer and disconnect the power cord.

2. Remove the cover to access the memory.

Figure 5: Memory module cover (your cover may be different)
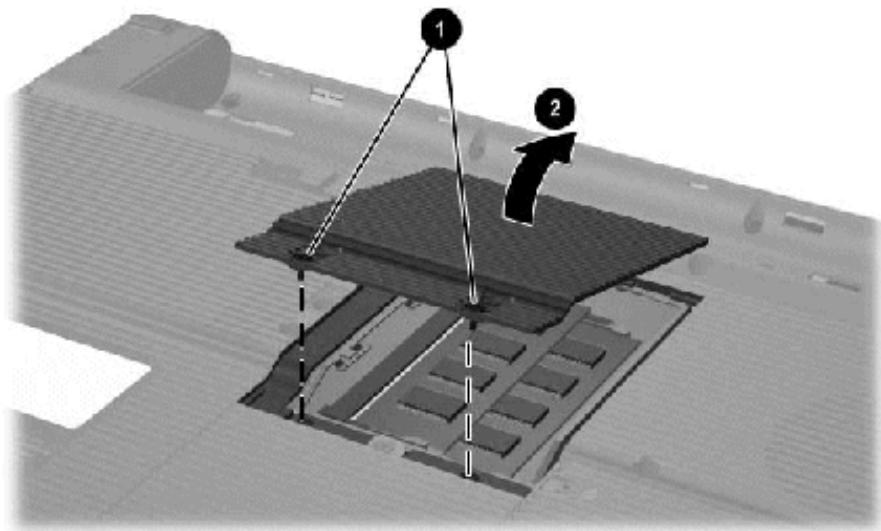
1 – Retention screws (2)

2 – Direction to remove compartment cover

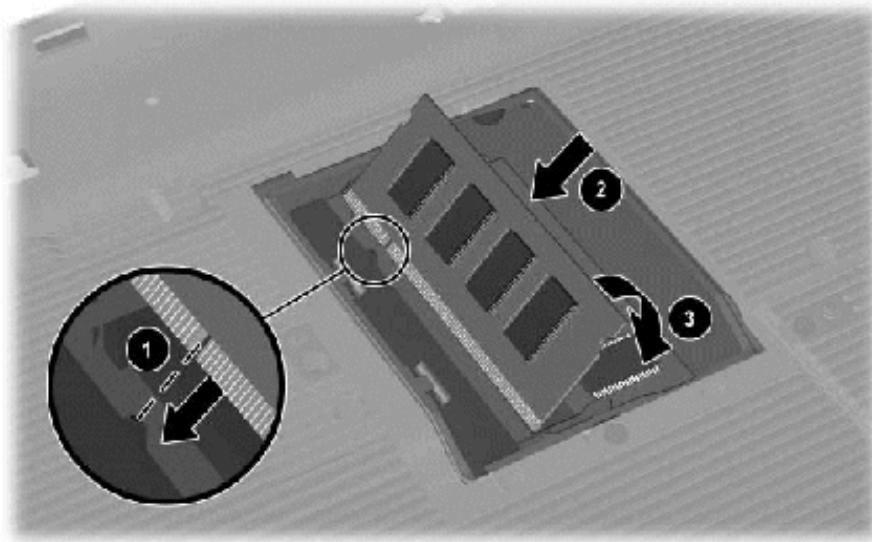NOTE:Your computer may look different than the computer in the graphic.

NOTE:Some computers may not have a cover that provides access to the memory. Have the computer serviced if you cannot access the memory.

3. Remove all of the memory modules in the computer.

4. Reinsert all memory modules.

Figure 6: Notch alignment and memory module insertion

1 - Notch alignment

2 - Direction to insert the module

3 - Direction to seat module

5. Replace the cover, battery, and power cord.

6. Turn on the computer.

7. Perform any tests to verify the computer can start up and run in the Windows operating system.

   If the computer fails to boot to the Windows desktop after the memory is reseated and the battery is installed, contact HP for support. See Finding service for more information.

Finding service

Many of the problems associated with LED or beep codes require service or parts replacement. To find an HP authorized service provider, go to www.hp.com/go/support .

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