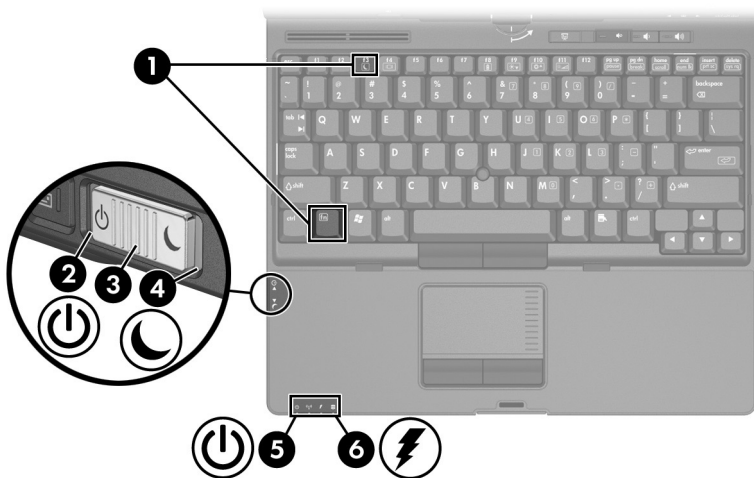


# 2

## Power

### Power Control and Light Locations



| Component                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ❶ <b>fn+f3</b>                | Initiates Standby.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ❷ <b>Power/standby switch</b> | <p>When the tablet PC is</p> <ul style="list-style-type: none"><li>■ Off, slide to the left and release to turn on the tablet PC.</li><li>■ In Standby, slide to the right or left and release to exit Standby.</li><li>■ In Hibernation, slide to the right or left and release to exit Hibernation.</li><li>■ On, slide to the right and release to enter Standby.</li></ul> <p>If the tablet PC has stopped responding and Microsoft® Windows® shutdown procedures cannot be used, slide to the left and hold for 5 seconds to turn off the tablet PC.</p> |
| ❸ <b>Power light</b>          | Green: The tablet PC is on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Component             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ④ Standby light       | Blinking green: The tablet PC is in Standby mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ⑤ Power/standby light | Green: The tablet PC is on.<br>Blinking green: The tablet PC is in Standby mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ⑥ Battery light       | Amber: A battery pack is charging.<br>Green: A battery pack is close to full charge capacity.<br>Blinking amber: A battery pack that is the only available power source has reached a low-battery condition. When the battery reaches a critical low-battery condition, the battery light begins blinking more quickly.<br>Off: If the notebook is connected to an external power source, the light is turned off when all batteries in the notebook are fully charged. If the notebook is not connected to an external power source, the light is turned off until the battery reaches a low-battery condition. |

## Selecting a Power Source

The tablet PC can run on internal or external AC power. The following table indicates the best power sources for common tasks.

| Task                                                | Recommended Power Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work in most software applications                  | <ul style="list-style-type: none"><li>■ Charged battery pack in the tablet PC</li><li>■ External power supplied through one of the following devices:<ul style="list-style-type: none"><li><input type="checkbox"/> AC adapter</li><li><input type="checkbox"/> Optional docking device</li><li><input type="checkbox"/> Optional Aircraft Adapter</li><li><input type="checkbox"/> Optional Automobile Power Adapter/Charger</li><li><input type="checkbox"/> Optional 90W Air/Auto/AC Combo Adapter</li></ul></li></ul> |
| Charge or calibrate a battery pack in the tablet PC | <p>External power supplied through</p> <ul style="list-style-type: none"><li>■ AC adapter</li><li>■ Optional docking device</li><li>■ Optional Automobile Power Adapter/Charger</li><li>■ Optional 90W Air/Auto/AC Combo Adapter</li></ul> <p>△ To prevent damage to the tablet PC and aircraft systems, do <i>not</i> charge the battery pack while you are using an Auto/Air/AC Adapter on an aircraft.</p>                                                                                                             |
| Install or modify system software or write to a CD  | <p>External power supplied through</p> <ul style="list-style-type: none"><li>■ AC adapter</li><li>■ Optional docking device</li></ul>                                                                                                                                                                                                                                                                                                                                                                                     |

# Standby and Hibernation

Standby and Hibernation are energy-saving features that conserve power and reduce startup time. They can be initiated by you or by the system. Refer to the [“Initiating Standby, Hibernation or Shutdown”](#) section in this chapter for details about when to use each setting.

## Standby



**CAUTION:** To avoid a complete battery discharge, do not leave your tablet PC in Standby for extended periods. Connect the tablet PC to an external power source.

Standby reduces power to system components that are not in use. When Standby is initiated, your work is saved in random access memory (RAM) and the screen is cleared. When you resume from Standby, your work returns to the screen where you left off.

- Saving your work before initiating Standby is not usually necessary but is a recommended precaution.
- When the tablet PC is in Standby, the standby light and the power/standby light flash.

## Hibernation

Hibernation saves your work to a hibernation file on the hard drive, and then shuts down the tablet PC. When you restore from Hibernation, your work returns to the screen where you left off. If a power-on password has been set, the password must be entered to restore from Hibernation.

You can disable Hibernation. However, if Hibernation is disabled, and the system reaches a low-battery condition, the system will not automatically save your work while power is on or when Standby has been initiated.

In the Power Options window, Hibernation is not displayed as an option if it has been disabled. You must enable Hibernation in order to select it in the Power Options window. To verify that

Hibernation is enabled, select **Start > Control Panel > Power Options > Hibernate** tab. Make sure that the **Enable hibernate support** check box is selected.



**CAUTION:** If the configuration of the tablet PC is changed during Hibernation, resuming from Hibernation may not be possible. When the tablet PC is in Hibernation:

- Do not dock or undock the tablet PC in a docking device.
  - Do not add or remove memory modules.
  - Do not insert or remove any hard drives.
  - Do not connect or disconnect external devices.
  - Do not insert or remove a PC Card or a Secure Digital (SD) Memory Card.
- 

## Initiating Standby, Hibernation or Shutdown

The following sections explain when to initiate Standby or Hibernation and when to shut down your tablet PC.

### When You Leave Your Work

Initiating Standby clears the screen and uses less power than leaving the tablet PC on. Your work returns instantly to the screen when you resume from Standby.

Initiating Hibernation clears the screen, saves your work to the hard drive, and uses much less power than Standby.

Shutting down the tablet PC and removing the battery pack is recommended to extend the life of the battery pack when the tablet PC will be disconnected from external power for an extended period. For details on battery pack storage, refer to the [“Storing a Battery Pack”](#) section in this chapter.

## When the Power Supply Is Uncertain

Make sure that Hibernation remains enabled, especially if you are operating the tablet PC on battery power and do not have access to an external power supply. If the battery pack fails, Hibernation saves your work to a hibernation file and shuts down the tablet PC.

HP recommends that if you pause your work when the power supply is uncertain, you do one of the following:

- Initiate Hibernation.
- Shut down the tablet PC.
- Save your work, and then initiate Standby.

## When Using Infrared Communication or Drive Media



**CAUTION:** Do not initiate Standby or Hibernation while using drive media. Doing so may result in possible video and audio degradation and loss of audio or video playback functionality.

Standby and Hibernation interfere with the use of infrared and Bluetooth communication, and drive media. Note the following guidelines:

- If the tablet PC is in Standby or Hibernation, you cannot initiate an infrared or Bluetooth transmission.
- If Standby or Hibernation is accidentally initiated while a drive medium (such as a diskette, CD, or DVD) is in use:
  - ❑ Your playback may be interrupted.
  - ❑ You may see a warning message: “Putting the computer into Hibernation or Standby may stop the playback. Do you want to continue?” Select **No**.
  - ❑ You may need to restart the playback to resume audio and video.

## Using the Default Power Settings

The following tables describe the factory power settings on the tablet PC. You can change many of these settings according to your preference. For more information on changing power settings, refer to the [“Managing Power Options”](#) section in this chapter.

## Turning the Tablet PC or Display On or Off

| Task                                        | Procedure                                                                                                                                                                                                                                                                                                                                                              | Result                                                                                                                                                                                      |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Turn on the tablet PC.                      | Slide the power/standby switch to the left.                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"><li>■ The power light and the power/standby light are turned on.</li><li>■ The operating system loads.</li></ul>                                          |
| Shut down the tablet PC.*                   | <p>Save your work and close all open applications. Then</p> <ul style="list-style-type: none"><li>■ Slide the power/standby switch to the left and follow the on-screen directions (if displayed) for shutting down the tablet PC.</li><li>■ Shut down the tablet PC through the operating system. Select <b>Start &gt; Shut Down&gt; Shut Down &gt; OK.</b></li></ul> | <ul style="list-style-type: none"><li>■ The power light and power/standby light are turned off.</li><li>■ The operating system shuts down.</li><li>■ The tablet PC is turned off.</li></ul> |
| Turn off the display while the power is on. | Close the tablet PC.                                                                                                                                                                                                                                                                                                                                                   | Closing the tablet PC activates the display switch, which turns off the display. This conserves battery power.                                                                              |

\* If the system is unresponsive and you are unable to shut down the tablet PC with these procedures, refer to the [“Using Emergency Shutdown Procedures”](#) section in this chapter.

## Initiating or Restoring from Hibernation

| Task                                                                 | Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Result                                                                                                                                              |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Initiate Hibernation.                                                | <ul style="list-style-type: none"><li>■ Select <b>Start &gt; Shut Down&gt; Hibernate &gt; OK</b>. (If the Hibernate option is not displayed, press and hold the <b>shift</b> key.)</li><li>■ If Hibernation has been configured, slide the power/standby switch to the right or left.</li></ul>                                                                                                                                                                 | <ul style="list-style-type: none"><li>■ The power light and power/standby light are turned off.</li><li>■ The screen clears.</li></ul>              |
| Allow the system to initiate Hibernation (with Hibernation enabled). | <p>No action required.</p> <ul style="list-style-type: none"><li>■ If the tablet PC is running on battery power, the system initiates Hibernation after 30 minutes of tablet PC inactivity or when the battery pack(s) reach a critical low-battery condition.</li><li>■ If the tablet PC is connected to external power, the system does not initiate Hibernation.</li><li>■ Power settings and timeouts can be changed in the Power Options window.</li></ul> | <ul style="list-style-type: none"><li>■ The power light and power/standby light are turned off.</li><li>■ The screen clears.</li></ul>              |
| Restoring from user-initiated or system-initiated Hibernation.       | <p>Slide the power/standby switch to the right or left.</p> <p> If the system initiated Hibernation because of a critical low-battery condition, connect external power or insert a charged battery pack before you slide the power/standby switch.</p>                                                                                                                      | <ul style="list-style-type: none"><li>■ The power light and power/standby light are turned on.</li><li>■ Your work returns to the screen.</li></ul> |

## Initiating or Resuming from Standby

| Task                                                    | Procedure                                                                                                                                                                                                                                                                                                                                                                                             | Result                                                                                                                                                 |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Initiate Standby.                                       | <ul style="list-style-type: none"><li>■ Slide the power/standby switch to the right.</li><li>■ With the tablet PC on, press <b>fn+f3</b>.</li><li>■ Select <b>Start &gt; Shut Down&gt; Standby &gt; OK</b>.<br/>(If the Standby option is not displayed, press the <b>shift</b> key.)</li></ul>                                                                                                       | <ul style="list-style-type: none"><li>■ The power light and power/standby light blink.</li><li>■ The screen clears.</li></ul>                          |
| Allow the system to initiate Standby.                   | <p>No action required.</p> <ul style="list-style-type: none"><li>■ If the tablet PC is running on battery power, the system initiates Standby after 10 minutes of tablet PC inactivity. (Default setting)</li><li>■ If the tablet PC is attached to external power, the system does not initiate Standby.</li><li>■ Power settings and timeouts can be changed in the Power Options window.</li></ul> | <ul style="list-style-type: none"><li>■ The standby light and power/standby light blink.</li><li>■ The screen clears.</li></ul>                        |
| Resume from user-initiated or system-initiated Standby. | <ul style="list-style-type: none"><li>■ Slide the power/standby switch to the right or left.</li><li>■ If the display was closed while the tablet PC was in Standby, open the display.</li></ul>                                                                                                                                                                                                      | <ul style="list-style-type: none"><li>■ The standby light and power/standby light are turned off.</li><li>■ Your work returns to the screen.</li></ul> |

## Using Emergency Shutdown Procedures



**CAUTION:** Emergency shutdown procedures result in the loss of unsaved data.

If the tablet PC is unresponsive and you are unable to use normal Windows shutdown procedures, try the following emergency procedures, in the sequence provided:

- Press **ctrl+alt+delete**. Select **Shut Down**.
- Slide and hold the power/standby switch to the left for at least 5 seconds.
- Disconnect the tablet PC from external power and remove the battery pack. For more information about removing and storing the battery pack, refer to the [“Storing a Battery Pack”](#) section in this chapter.

## Managing Power Options

Many default power settings can be changed in the Power Options window. For example, you can set an audio alert to warn you when the battery pack reaches a low-power condition, or you can change the default settings for the power/standby switch.

By default, when the tablet PC is on:

- Pressing the power/standby switch to the right initiates Standby.
- Pressing the **fn+f3** hotkey, called the “sleep button” in the operating system, initiates Standby.
- The display switch turns off the display. The display switch is activated by closing the display. (By default and when using custom settings, the display switch also turns on the tablet PC if the display is opened while the tablet PC is in Standby.)

## Accessing the Power Options Window

To access the Power Options window, double-click the Power Meter icon on the taskbar, or select **Start > Control Panel > Power Options**.

## Displaying the Power Meter Icon

The Power Meter icon is on your taskbar by default. The icon changes shape to indicate whether the tablet PC is running on a battery pack or external power. Double-click the icon to display the Power Options window.

To hide or show the Power Meter icon on the taskbar:

1. Access the Power Options window.
2. Select the **Advanced** tab.
3. Select or clear the **Always show icon** on the taskbar check box.
4. Select **Apply**.
5. Select **OK**.



---

If you cannot see an icon you have placed on the taskbar, the icon may be hidden. Select the arrow or vertical bar on the taskbar and expand it to view hidden icons.

---

## Setting or Changing a Power Scheme

The Power Schemes tab in the Power Options window assigns power levels to system components. You can assign different schemes depending on whether the tablet PC is running on a battery pack or external power.

You can also set a power scheme that initiates Standby or turns off the display or hard drive after a time interval that you specify.

To set a power scheme:

1. Access the **Power Options** window, and then select the **Power Schemes** tab.
2. Select the power scheme you wish to modify, and adjust options in the lists on the screen.
3. Select **Apply**.

## Using a Security Password

You can add a security feature that prompts you for a password when the tablet PC is turned on or restores from Standby or Hibernation.

To set a password prompt, access the **Power Options** window, and then select the **Advanced** tab. Select the check box for **Prompt for password when the computer resumes from Standby**, and select **Apply**.

For more information about using security passwords, refer to [Chapter 9, “Security.”](#)

## Processor Performance Controls

On select tablet PC models, Windows XP supports software that enables you to control processor performance. The central processing unit (CPU) speed can be set for optimal performance or for optimal power conservation.

For example, the software can be set to trigger an automatic change in processor speed when the power source changes from external power to battery pack power, or when the tablet PC use changes between active and idle.

Processor performance controls are managed in the Power Options window.

To access Windows XP processor performance controls, select **Start > Control Panel > Power Options > Power Schemes** tab.

The power scheme you select determines how the processor performs when the tablet PC is connected to external power or is running on battery power. Each power scheme for external power or battery power sets a specific processor state.

Different states may be used, depending on whether the tablet PC is running on external or battery power. After a power scheme has been set, no other intervention is required to control the performance of your tablet PC processor. The following table describes the processor performance on external and battery power for the available power schemes.

| <b>Power Scheme</b> | <b>Processor Performance While on External Power</b> | <b>Processor Performance While on Battery Power</b>                                                                           |
|---------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Home/Office Desk    | Always runs at the highest performance state.        | Performance state is determined based on CPU demand.                                                                          |
| Portable/Laptop     | Performance state is determined based on CPU demand. | Performance state is determined based on CPU demand.                                                                          |
| Presentation        | Performance state is determined based on CPU demand. | Starts at lowest performance state, then uses linear performance reduction (stop-clock throttling) as the battery discharges. |

| Power Scheme             | Processor Performance While on External Power        | Processor Performance While on Battery Power                                                                                  |
|--------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Always On                | Always runs at the highest performance state.        | Always runs at the highest performance state.                                                                                 |
| Minimal Power Management | Performance state is determined based on CPU demand. | Performance state is determined based on CPU demand.                                                                          |
| Max Battery              | Performance state is determined based on CPU demand. | Starts at lowest performance state, then uses linear performance reduction (stop-clock throttling) as the battery discharges. |

## Using Battery Packs

When the tablet PC is connected to external AC power, the tablet PC runs on AC power. When a charged battery pack is in the tablet PC and the tablet PC is not connected to external power, the tablet PC runs on battery power.

The tablet PC switches between AC power and battery power according to the availability of an external AC power source. For example, if the tablet PC contains a charged battery pack and is running on external AC power supplied through the AC adapter, the tablet PC switches to battery power if the AC adapter is disconnected from the tablet PC.

You can leave a battery pack in the tablet PC or in storage, depending on how you work. Keeping a battery pack in the tablet PC enables the battery pack to charge whenever the tablet PC is connected to external AC power and also protects your work in case of a power outage.

However, battery packs in the tablet PC slowly discharge when the tablet PC is turned off. For this reason, the primary battery pack is not shipped inside the tablet PC and must be inserted before the tablet PC can run on battery power.

## Identifying Battery Packs

This tablet PC supports up to 2 battery packs:

- The primary battery pack is a 6-cell lithium-ion battery pack that can be used only in the battery bay. One primary battery pack is included with the tablet PC.
- The travel battery pack is an optional 8-cell lithium-ion battery pack that can be used only in the travel battery case.

If you will not be using the tablet PC for 2 weeks or more, remove the battery pack and store it as described in the “[Storing a Battery Pack](#)” section in this chapter to prolong battery pack life. For more information about leaving your work, refer to the “[Initiating Standby, Hibernation or Shutdown](#)” section in this chapter.



Only compatible AC adapters and battery packs should be used with the tablet PC. For additional information, visit the HP Web site at <http://www.hp.com> or use the *Worldwide Telephone Numbers* booklet, included with your tablet PC, to contact Customer Care.

---

## Inserting or Removing a Primary Battery Pack



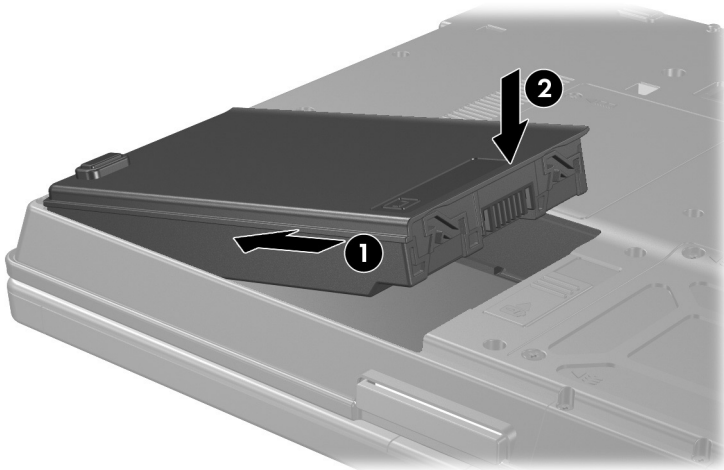
**CAUTION:** To prevent loss of work when removing a battery pack that is the sole power source, initiate Hibernation or turn off the tablet PC before removing the battery pack.

---

To insert a primary battery pack:

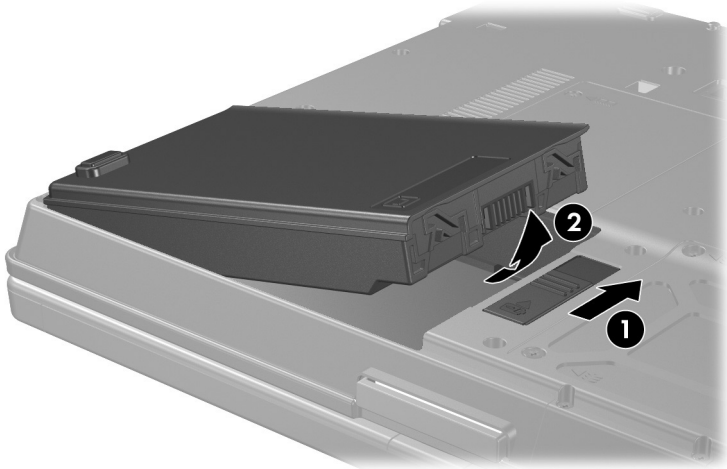
1. Turn the tablet PC upside down.
2. Slide the battery pack  into the battery bay until it is seated.

3. Press the battery pack ② into the tablet PC.



To remove a primary battery pack:

1. Turn the tablet PC upside down with the battery bay toward you.
2. Press the battery release latch **1** to the right.
3. Slide the battery pack **2** out of the tablet PC.

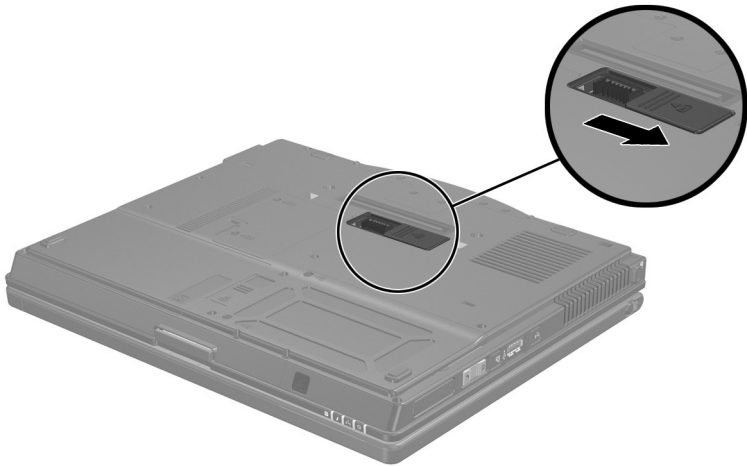


## Attaching or Detaching an Optional Travel Battery

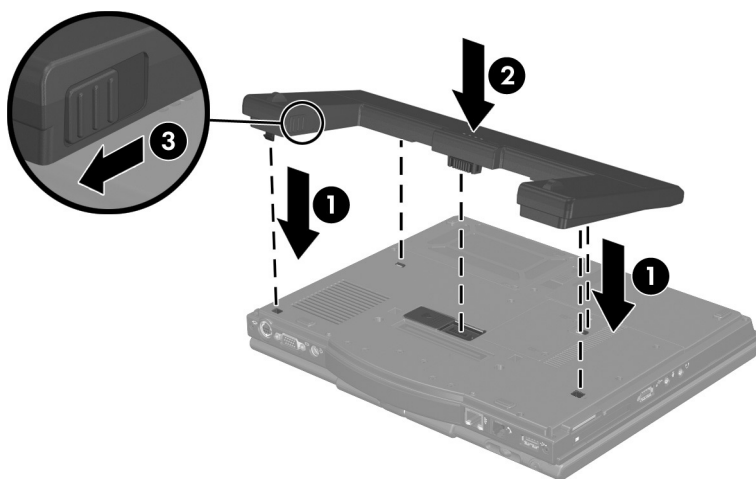
To attach an optional travel battery:

1. Turn the tablet PC upside down with the primary battery bay toward you.

2. Open the travel battery connector on the bottom of the tablet PC by sliding the cover to the right.

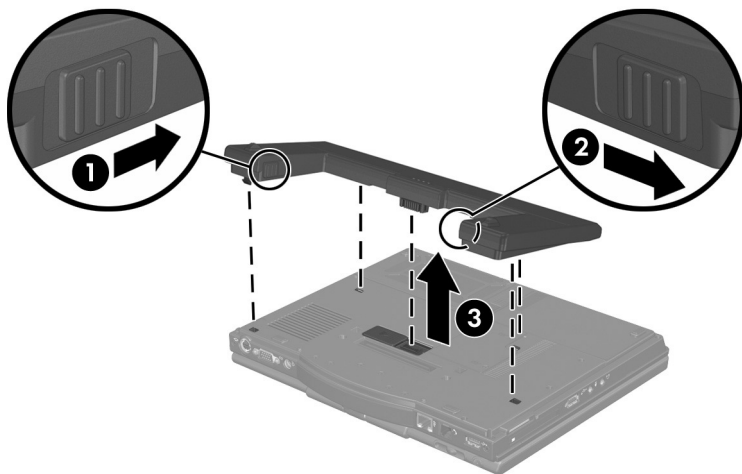


3. Insert the tabs on the travel battery caddy into the recesses on the bottom of the tablet PC ❶.
4. Press the travel battery caddy onto the tablet PC until it snaps into place ❷.
5. Slide the locking latch ❸.



To detach an optional travel battery:

1. Unlock the travel battery from the tablet PC by sliding the locking switch **1**.
2. Press the release latch **2**.
3. Lift the travel battery **3** up and away from the tablet PC.



## Charging Battery Packs

Multiple battery packs in the system charge and discharge in a preset sequence:

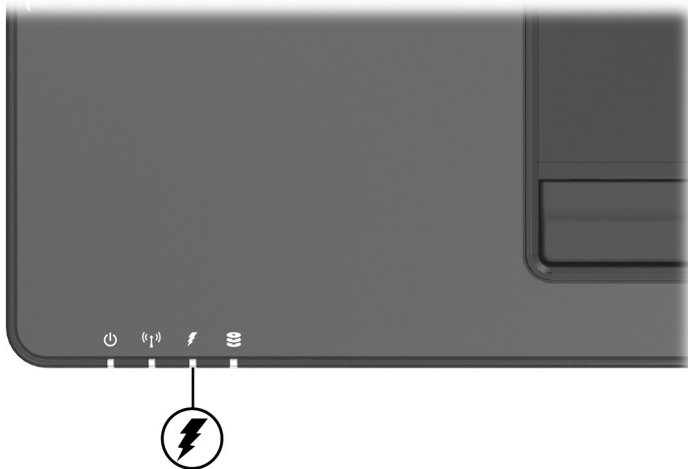
■ Charge sequence:

1. Primary battery in the tablet PC battery bay
2. Travel battery

■ Discharge sequence:

1. Travel battery
2. Primary battery in the tablet PC battery bay

While a battery pack is charging, the battery light on the tablet PC is on. The light is turned off when all battery packs are fully charged.



Battery packs can also be charged in the optional HP Universal Charger.

---

## Charging the Primary Battery



**CAUTION:** To prevent damage to the tablet PC and aircraft systems, do not charge the battery pack while you are using an Auto/Air/AC Adapter on an aircraft.

---

The primary battery pack charges when it is inserted into the tablet PC and the tablet PC is connected to external power. External power can be supplied through the following:

- AC adapter
- Optional docking device
- Optional Automobile Power Adapter/Charger

- Optional 90W Air/Auto/AC Combo Adapter



An optional Aircraft Power Adapter can run the tablet PC, but it cannot charge a battery pack.

## Charging an Optional Travel Battery

The battery pack in the travel battery charges when it is attached to the tablet PC and the tablet PC is connected to external power. External power can be supplied through the following:

- AC Adapter
- Optional docking device
- Optional Automobile Power Adapter/Charger
- Optional 90W Air/Auto/AC Combo Adapter



Because the travel battery covers the docking connector, the travel battery cannot be used or charged with a docking device.



An optional Aircraft Power Adapter can run the tablet PC, but it cannot charge a battery pack.

## Charging a New Battery Pack

Fully charge the battery pack while the tablet PC is connected to external power through the AC adapter.

A new battery pack that has been partially but not fully charged can run the tablet PC, but the battery charge indicators may be inaccurate.

## Charging an In-Use Battery Pack

To prolong battery life and increase the accuracy of battery charge indicators:

- Allow a battery pack to discharge to 10 percent of a full charge through normal use before charging it.
- When you charge a battery pack, charge it fully.

## Monitoring the Charge of a Battery Pack

This section explains several ways you can determine the amount of charge in your battery pack.

### Obtaining Accurate Charge Information

To increase the accuracy of all battery charge displays:

- Allow a battery pack to discharge to about 10 percent of a full charge through normal use before charging it.
- When you charge a battery pack, charge it fully.
- If a battery pack has not been used for one month or more, calibrate the battery pack instead of simply charging it. For calibration instructions, refer to the [“Calibrating a Battery Pack”](#) section in this chapter.

### Displaying Charge Information on the Screen

This section explains how to access and interpret battery charge displays.

## Viewing Charge Displays

To view information about the status of any battery pack in the tablet PC:

- Select the **Power Meter** icon on the taskbar.
- or-
- Select **Start > Control Panel > Power Options > Power Meter** tab.

## Interpreting Charge Displays

Most charge displays report battery status as both a percentage and as the number of minutes of charge remaining.

- The percentage indicates the amount of charge remaining in the battery pack.
- The time indicates the approximate running time remaining on the battery pack *if the battery pack continues to provide power at the current level*. For example, the time remaining will decrease when you start playing a DVD and will increase when you stop playing a DVD.

Most charge displays identify battery packs by location:

- Location 1 is the battery pack in the primary battery bay.
- Location 2 is the optional travel battery pack.

On some displays, a lightning bolt icon may be displayed on the charge display beside a battery pack location. The icon indicates that the battery pack in that location is charging.

## Managing Low-Battery Conditions

Some low-battery condition alerts and system responses can be changed in the Power Options window of the operating system. The information in this section describes the alerts and system responses set at the factory. Preferences set in the Power Options window do not affect lights.

## Identifying Low-Battery Conditions

This section explains how to identify low and critical low-battery conditions.

### Low-Battery Condition

When a battery pack that is the only power source for the tablet PC reaches a low-battery condition, the battery light blinks.

### Critical Low-Battery Condition

If a low-battery condition is not resolved, the tablet PC enters a critical low-battery condition.

In a critical low-battery condition:

- If Hibernation is enabled and the tablet PC is on or in Standby, the tablet PC initiates Hibernation.
- If Hibernation is disabled and the tablet PC is on or in Standby, the tablet PC remains briefly in Standby, then shuts down and loses your unsaved work.

To verify that Hibernation is enabled, select **Start > Control Panel > Power Options > Hibernate** tab. Make sure that the **Enable hibernate support** check box is selected.

## Resolving Low-Battery Conditions



**CAUTION:** If the tablet PC has reached a critical low-battery condition and has initiated Hibernation, do not restore power until the power/standby light is turned off.

---

## When External Power Is Available

To resolve a low-battery condition when external power is available, do one of the following:

- Connect the AC adapter.
- Plug an optional Automobile Power Adapter/Charger into the tablet PC and into a vehicle cigarette lighter receptacle.
- Plug an optional 90W Air/Auto/AC Combo Adapter into the tablet PC and into a vehicle cigarette lighter receptacle or into the in-seat power supply available on some commercial aircraft.

△ To prevent damage to the tablet PC and aircraft systems, do *not* charge the battery pack while you are using an Auto/Air/AC Adapter on an aircraft.

- Plug an optional Aircraft Power Adapter into the tablet PC and into the in-seat power supply available on some commercial aircraft. (An optional Aircraft Power Adapter can run the tablet PC but cannot charge a battery pack.)

## When a Charged Battery Pack Is Available

To resolve a low-battery condition when a charged battery pack is available, turn off the tablet PC or initiate Hibernation, insert a charged battery pack, and then turn on the tablet PC.

## When No Power Source Is Available

To resolve a low-battery condition when no power source is available, initiate Hibernation, or save your work and shut down the tablet PC.

## When the Tablet PC Cannot Exit Hibernation

To resolve a low-battery condition when the tablet PC lacks the power to exit Hibernation:

1. Insert a charged battery pack or connect external power.

2. Exit Hibernation by pressing the power/standby switch to the right or left.

## Calibrating a Battery Pack

This section describes when and how to calibrate a battery pack.

### When to Calibrate

Even if a battery pack is heavily used, it should not be necessary to calibrate it more than once a month. It is not necessary to calibrate a new battery pack before first use. Calibrate the battery pack under the following conditions:

- When battery charge displays seem inaccurate.
- When you observe a significant decrease in battery run time.
- When the battery pack has been unused for one month or more.

### How to Calibrate

To calibrate a battery pack, you must fully charge, fully discharge, then fully recharge the battery pack.

### Charging the Battery Pack

A battery pack can charge whether the tablet PC is off or in use, but it will charge faster when the tablet PC is off.

To charge the battery pack:

1. Insert the battery pack into the tablet PC.
2. Connect the tablet PC to an AC outlet or an optional Automobile Power Adapter/Charger. The battery light on the tablet PC is turned on.
3. Leave the tablet PC connected to external power until the battery pack is fully charged. The battery light on the tablet PC is turned off.

## Discharging the Battery Pack

Before you begin a full discharge, disable Hibernation.

To disable Hibernation:

1. Select **Start > Control Panel > Power Options > Hibernate** tab.
2. Clear the **Enable Hibernation** check box.
3. Select **Apply**.

The tablet PC must remain on while the battery pack is being discharged. The battery pack can discharge whether or not you are using the tablet PC, but will discharge faster while the tablet PC is in use.

- If you plan to leave the tablet PC unattended during the discharge, save your work before beginning the discharge procedure.
- If you use the tablet PC occasionally during the discharge procedure and have set energy-saving timeouts, expect the following performance from your system during the discharge process:
  - ☐ The monitor will not turn off automatically.
  - ☐ Hard drive speed will not decrease automatically while the tablet PC is idle.
  - ☐ System-initiated Standby will not occur.

To fully discharge a battery pack:

1. Select the **Power Meter** icon on the taskbar, or access the Power Schemes tab by selecting **Start > Control Panel > Power Options > Power Schemes** tab.
2. Make a note of the 2 settings in the Plugged In column and the 2 settings in the Running on Batteries column so that you can reset them after the calibration.
3. Use the drop-down lists to set the 4 options (2 in each column) to **Never**.

4. Select **OK**.
5. Disconnect the tablet PC from the external power source, but do *not* turn off the tablet PC.
6. Run the tablet PC on battery power until the battery pack is fully discharged. The battery light begins to blink when the battery pack has discharged to a low-battery condition. When the battery pack is fully discharged, the battery light is turned off and the tablet PC shuts down.

## Recharging the Battery Pack

To recharge the battery pack:

1. Connect the tablet PC to external power and maintain the connection until the battery pack is fully recharged. The battery light on the tablet PC is turned off.  
  
You can use the tablet PC while the battery pack is recharging but the battery pack will charge faster if the tablet PC is off.
2. If the tablet PC is off, turn it on when the battery pack is fully charged and the battery light is turned off.
3. Access the Power Schemes tab by selecting **Start > Control Panel > Power Options > Power Schemes** tab.
4. Refer to the settings you recorded earlier. Reenter the settings that you recorded for the items in the Plugged In column and the Running on Batteries column.
5. Select **OK**.



**CAUTION:** After calibrating the battery pack, reenable Hibernation.

Failure to reenable Hibernation may result in a complete battery drain and potential data loss.

To reenable Hibernation, select **Start > Settings > Control Panel > Power Options > Hibernate** tab. Select the **Enable Hibernation** check box, and then select **Apply**.

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## Conserving Battery Power

Using the battery conservation procedures and settings described in this section extends the time that a battery pack can run the tablet PC from a single charge.

## Conserving Power As You Work

To conserve power as you use the tablet PC:

- Turn off wireless and local area network (LAN) connections and exit modem applications when you are not using them.
- Disconnect external devices you are not using that are not connected to an external power source.
- Stop or remove a PC Card you are not using. For more information, refer to [Chapter 6, “Hardware Components.”](#)
- Use the **fn+f9** and **fn+f10** hotkeys to adjust screen brightness as you need it.
- Use optional powered speakers instead of the internal speakers, or use the volume buttons to adjust system volume as you need it.
- Turn off a device connected to the S-Video out jack by using the **fn+f4** hotkey or by turning off support for the device in Windows.
- Run the tablet PC on external power while formatting a diskette.
- If you leave your work, initiate Standby or Hibernation or shut down the tablet PC.

## Selecting Power Conservation Settings

To set the tablet PC to conserve power:

- Select a short wait for the screen saver and select a screen saver with minimal graphics and motion. To access screen saver settings, select **Start > Control Panel > Display > Screen Saver** tab.
- Select a Power Scheme with low-power-use settings through the operating system. Refer to the [“Setting or Changing a Power Scheme”](#) section in this chapter.

## Storing a Battery Pack

If a tablet PC will be unused and unplugged for more than 2 weeks, remove any battery packs and store them separately.



**CAUTION:** To prevent damage to a battery pack, do not expose it to high temperatures for extended periods of time.

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High temperatures accelerate the self-discharge rate of a stored battery pack. To prolong the charge of a stored battery pack, place it in a cool, dry place.

Use the following table to estimate how long you can safely store a battery pack. The storage times provided are based on a battery pack that contains 50 percent of a full charge. A fully charged battery pack can be safely stored for longer times; a battery pack containing a lower charge can be safely stored for less time.

Calibrate a battery pack that has been stored for one month or more before using it.

| Temperature Range °F | Temperature Range °C | Safe Storage Time     |
|----------------------|----------------------|-----------------------|
| 115° to 140°         | 46° to 60°           | Less than 1 month     |
| 79° to 113°          | 26° to 45°           | No more than 3 months |
| 32° to 77°           | 0° to 25°            | 1 year                |

## Disposing of a Used Battery Pack



**WARNING:** There is a risk of fire and chemical burn if a battery pack is handled improperly. Do not disassemble, crush, or puncture a battery pack or short the contacts on a battery pack. Do not expose a battery pack to temperatures higher than 60°C (140°F), or dispose of a battery pack in water or fire.

When a battery pack has reached the end of its useful life, do not dispose of it in general household waste.

- In Europe, dispose of or recycle battery packs by using the public collection system or by returning them to HP, your authorized HP service partners, or their agents.
- In other regions, refer to the *Worldwide Telephone Numbers* booklet, included with the tablet PC, to contact Customer Care and request information about battery pack disposal.

For more information about battery pack precautions and disposal and the complete text of governmental agency notices, refer to the *Regulatory and Safety Notices* guide on the *Tablet PC Documentation CD*.

