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Managing Your Notebook's Power

See Battery for more information on getting the best performance from battery packs.

Use your notebook connected to an electrical outlet as often as possible, as battery life expectancy is affected by the number of times it it is charged.

When leaving your notebook unattended for long periods, place it in standby or hibernate mode. You can exit either power management mode by pressing the power button.

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Power Management Modes

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Standby Mode

This mode conserves power by switching off the hard drive and display

after a preset period of inactivity (a time-out). When standby mode is exited, your notebook will return to the same operating state it was in before entering standby.

If your notebook loses power from both the electrical outlet and the battery while in standby mode, data may be lost.

To enter standby mode in Windows XP:

Start -> Turn off computer -> Stand By.

or

You can set your notebook to go to Standby Mode:

* When you close the lid of your notebook

* When you press the power button

via the **Advanced tab** settings in **Power Options Properties** (accessed via **Start -> Control Panel -> Pick a category -> Performance and Maintenance -> Power Options**).

To exit standby mode, press the power button. You can exit standby mode by pressing a key or touching the touch pad. For more information on standby mode, see Turning Your Notebook On and Off, Chapter 2.

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Hibernate Mode

In Hibernate mode, power is conserved by system data being copied to the hard drive, and your notebook completely turning off. When hibernate mode is exited, your notebook will return to the same operating state it was in before entering hibernate mode.

Hibernate Mode can be enabled/disabled in the Power Options Properties window.

If enabled, your notebook will go into hibernate mode if the battery charge level becomes critically low.

Depending on how you set the Power Management Options on the Advanced tab in the Power Options Properties window, use one of the following methods to enter hibernate mode:

* When you close the lid of your notebook

* When you press the power button

* **Start -> Turn Off Computer -> Hibernate** (if the Hibernate option does not show, press **Shift**, and the Standby option will switch to Hibernate).

If the Hibernate option is not available for these methods, Hibernate mode has not been enabled. Check the **Enable Hibernation** box on the the Hibernate tab of the Power Options Properties window and click **Apply** to enable Hibernation.

If your PC Cards do not operate correctly after exiting hibernate mode,

remove and reinsert the card or restart your notebook.

To exit hibernate mode, press the power button. You cannot exit hibernate mode by pressing a key or touching the touch pad. For more information on hibernate mode, see Turning Your Notebook On and Off, Off, Chapter 2.

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Power Options Properties

To access the Windows Power Options Properties window:

Start -> Control Panel -> Pick a category -> Performance and Maintenance -> Power Options

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Power Schemes Tab

The Power Schemes pull-down menu in the Power Options Properties displays the selected preset power scheme.

To maximize battery power, use the Portable/Laptop power scheme.

In Windows XP the processor's performance level depends on the power scheme you select. You do not need to make any further adjustments to set the performance level. Each preset power scheme has different time-out settings for entering standby mode, hibernate mode, turning off the display, and turning off the hard drive. For more information on power management options, see the Help and Support Center.

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Alarms Tab

Enable audible alarms by clicking each Alarm Action button and selecting Sound alarm.

The Low battery alarm and Critical battery alarm settings alert you when when the battery charge falls below a certain percentage.

When you receive your notebook, the Low battery alarm and Critical battery alarm check boxes are selected. See Battery (Section 6.2) for more information on low-battery warnings.

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Power Meter Tab

Displays the current power source, battery status and charge amount.

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Advanced Tab

With the Advanced tab you can:

- Set power icon and standby mode password options.

- Depending on your operating system, program the following functions by clicking an option from the corresponding pull-down menu, and then clicking **OK**.

  >Set the computer to Stand by/Hibernate/Do nothing when you close the laptop lid.

  >Set the computer to Ask me what to do/Stand by/Hibernate/Shut down/Do nothing when you press the power button.

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Hibernate Tab

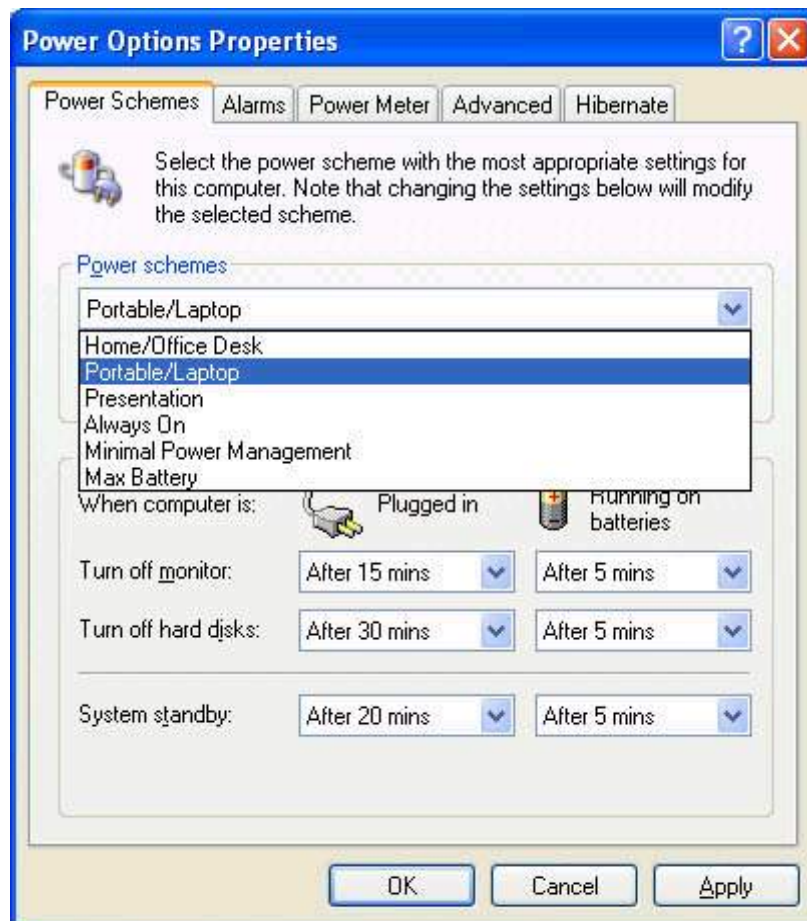The Hibernate tab lets you enable hibernate mode by clicking the **Enable hibernation** check box.

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SpeedStep

Your notebook is equipped SpeedStep technology to better manage power consumption. It changes the processor speed to find the best balance between your computing performance and power consumption needs. Higher speeds enjoy better performance, while slower speeds conserve more power.

In Windows XP, the processor's performance level depends on the Power Scheme you select (see Power Options Properties, section 6.1.3). You do not need to make any further adjustments to set the performance level. Each preset power scheme has different time-out settings for entering standby mode, hibernate mode, turning off the display, and turning off the hard drive. For example, the **Portable/Laptop mode** automatically changes SpeedStep modes depending on if you are running the computer on AC power or batteries in order to prolong battery usage while still providing optimal performance. You can also individually alter and save each of these settings and schemes if desired.

Windows XP automatically chooses the SpeedStep mode to find the most appropriate speed for your processor according to the Power Scheme you choose and your current system demands.

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Battery Performance

Using a battery lets you work with your notebook without connecting it to an electrical outlet. Your notebook comes with one 8-cell Li-Ion battery pack installed, which will give you more than 300 charging/discharging cycles.

The performance of the battery can vary, depending on operating conditions. Your battery may last less time if you are running power-intensive programs, playing CDs or DVDs, using PC cards or have high high display-brightness settings.

The Power Management Options can be set to alert you when the battery charge is low.

Ensure any battery you use is compatible. Failure to do so may risk fire or explosion. For more details on purchasing compatible batteries, talk to your notebook retailer.

Batteries should never be disposed of with household waste. Contact your local waste disposal or environmental agency for advice on disposing of used lithium-ion batteries.

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Checking the Battery Charge

Battery Status	Indicator 🔋 behavior
Charging	blinks green
Fully Charged	solid green
Discharging	off
Low Battery (10%)	solid amber -> approximately 12 minutes left
Critical Low	blinks amber -> approximately 3 minutes left; system beeps

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Power Meter

The power meter 🔋 indicates the remaining battery charge. When your notebook is running on battery power, you can check the remaining remaining battery charge, doubleclick the icon on the taskbar. For more details, including how to make the 🔋 icon appear on the taskbar if it is is not already, see Power Management, section 6.1.

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Low-Battery Warning

After a low-battery warning, save your work immediately, then connect your notebook to an electrical outlet. Hibernate mode will begin automatically if the battery runs completely out of power.

You will hear the low-battery warning when the battery charge is approximately 90 percent depleted. Your notebook will beep once, indicating approximately 10 to 15 minutes of battery operating time remain. If you do not connect your notebook to alternative power source source during that time, there will be a periodic beep. Your notebook will automatically enter hibernate mode if the battery charge reaches a critically low level. For more information, see Power Management, section 6.1.

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Charging the Battery

When connected to an electrical outlet, a completely discharged battery battery will charge in 3 to 5 hours (depending on whether your notebook notebook is on or off and what programs, if any, are running). You can leave the battery in your notebook as long as you like. The battery's internal circuitry prevents the battery from overcharging.

Before using the battery for the first time it must be charged. Connect the computer to an electrical outlet and allow the battery to fully charge, charge, indicated by the battery indicator light on the front panel of the notebook.

Once a battery pack is fully charged for the first time, use your notebook notebook on battery power until the battery discharges completely. This This will extend battery life, and helps ensure accurate monitoring of battery capacity.

If necessary, the battery will be charged whenever your notebook is connected to an electrical outlet.

The battery will not be charged if it or your notebook is too hot, either from use or being in a hot environment. If this occurs the battery indicator will light red. Disconnect your notebook from any electrical outlet, and allow it and the battery to cool to room temperature. You can can then reconnect your notebook to the electrical outlet and charge the the battery. The battery indicator will also light red if the battery is bad bad and needs replacing.

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Removing the Battery

Before removing the battery, ensure your notebook is turned off.

1. Unlock the battery by pressing the battery latch lock

2. Slide and hold the battery release latch

3. Remove the battery

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Installing a Battery

1. Slide the battery into the bay

2. Press it into place gently but firmly until the latch locks it into place

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Storing a Battery

If storing your notebook for an extended period of time, remove the battery. Fully charge the battery before using your notebook again.

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Working With Extra Battery Packs

If you spend a lot of time traveling, working without connecting your notebook to an electrical outlet, it may be a good idea to carry additional additional battery packs so you can quickly replace a discharged battery battery and continue working.

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Maximizing Battery Life

A battery can be recharged many times, but over time it will lose its ability to hold a charge. To maximize battery life:

* Don't leave your notebook plugged in and unused for more than a few few hours. Overcharging may shorten battery life.

* If you will not be using your notebook for a long period, remove the battery.

* If you have a spare battery pack, alternate the batteries.

* Ensure your notebook is off when replacing the battery.

* Store spare battery packs in a cool, dry place, out of direct sunlight.

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