

Strategies for conserving laptop battery power

Have you ever run out of battery power on your mobile PC during a meeting or a class? Sufficient battery life is a persistent challenge for mobile PC users. Windows offers several ways to help maximize the battery life of your mobile computer.

Optimize your power settings

The display and hard disk on your mobile PC are the two biggest consumers of battery power. By choosing a power plan (called a power scheme in Windows XP) you can extend your battery life. A power plan is a collection of hardware and system settings that control how your mobile PC manages power.

Windows XP includes two power schemes that were created specifically for mobile PCs.

The Portable/Laptop power scheme minimizes the use of power to conserve your battery, but adjusts to your processing needs so that the system speed is not sacrificed.

The Max Battery power scheme minimizes power use but does not adjust as your processing demands change. You should use Max Battery only in situations that require minimal processing, such as reading documents and taking notes in a meeting.

Use a power scheme designed to maximize battery life:

Click **Start**, and then click **Control Panel**.

1. In Control Panel, verify that you're in Category view, and then click **Performance and Maintenance**.
2. In the Performance and Maintenance window, click **Power Options**.
3. On the **Power Schemes** tab of the **Power Options Properties** dialog box, click the arrow under **Power schemes**, and then click **Max Battery**.
4. Click **OK**.

Take advantage of low-power states

Windows XP provides the following battery-saving states: **standby** (which is like snoozing) and **hibernation** (which is like deep sleep)

Sleep (Standby)

In a sleep state (standby), your display and hard disk turn off, and all open programs and files are saved in random access memory (RAM)—your computer's temporary memory—rather than to the hard disk. Information stored in RAM is cleared when the computer turns off, so it's a good idea to save your work before placing your system in standby mode. Otherwise, you may lose data if you lose power, you swap batteries, or your system crashes.

To put your computer into a sleep state,

1. Click **Start**, and then click **Control Panel**.
2. In Control Panel, verify that you're in Category view, and then click **Performance and Maintenance**.
3. In the Performance and Maintenance window, click **Power Options**.
4. In the **Power Options Properties** dialog box, click the **Advanced** tab.
5. Under **Power buttons**, click the arrow, and then click **Standby**.
6. Click **OK**.

Sleep (standby) is particularly useful when you're using your mobile PC intermittently during the day. For example, when driving between clients' offices during the day, put your computer to sleep or on standby to maximize the life of your battery and maintain quick access to open programs, files, and documents. When you want to use your computer again, it wakes up quickly, and your desktop is restored exactly as you left it.

Hibernation

In hibernation, your computer saves everything to your hard disk and then shuts down. When you restart the computer, your desktop is restored exactly as you left it. Hibernation uses less power than the sleep state (standby), but it takes a bit longer to resume.

To put your computer in hibernation:

1. Click **Start**, and then click **Control Panel**.
2. In Control Panel, verify that you're in Category view, and then click **Performance and Maintenance**.
3. In the Performance and Maintenance window, click **Power Options**.
4. In the **Power Options Properties** dialog box, click the **Hibernate** tab.
5. Under **Hibernate**, select the **Enable hibernation** check box.
6. Click **OK**.

Note This puts your computer into a power-saving state, but saves your work to your hard disk so that you can safely turn off your computer.

Adjust screen brightness

You can also conserve battery by reducing the screen brightness. To adjust your screen brightness, refer to the instructions from your mobile PC manufacturer. Every computer is slightly different, but you can usually use a combination of keys, a function key, or a software tool to dim the screen.

Even better than dimming the screen is blanking it completely when you're not using your computer. You can further minimize power consumption by reducing the amount of time the computer is idle before the screen goes blank.

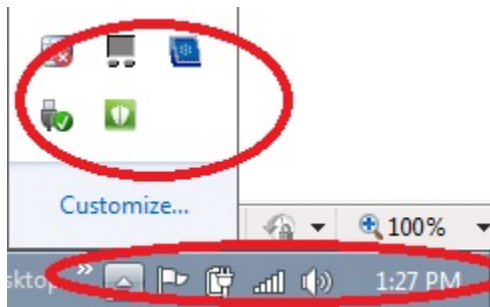
Turn off wireless

Another significant drain on your battery power is your wireless card. You should turn off your wireless device when you're using your mobile PC but are not connected to a wireless network. You can either remove your Wi-Fi card or press the manual hardware button on your computer if you're using a Centrino-based mobile PC. Refer to the instructions from your mobile PC manufacturer to learn where the manual hardware button is.

Additional power saving tips

In addition to adjusting power settings to maximize battery life, consider the following tips to minimize power consumption when you're away from electrical outlets.

- **Turn off scheduled tasks.** If you use scheduled tasks to run programs or scripts, or if you schedule other tasks to occur automatically at a preset time, specify that these tasks won't be performed when the computer is running on battery power.
- **Keep the use of tools in the notification bar to a minimum.** Try to minimize your CPU's usage. Look at the notification area of the taskbar and close any tools (or utilities) that are not necessary. Often, these tools are installed on the computer when you first receive it. Windows 7 users can also click the up arrow at the end of the notification area to see tools and utilities that are hidden but available. The notification bar, shown below, is on the bottom right of your computer desktop.



- **Limit power-intensive activities.** Avoid watching a DVD or playing online games on your mobile PC when you need to conserve battery power.
- **Charge your battery often.** When you're on the road, be sure to carry a power cord and plug your computer in whenever you have the chance.
- **Completely drain nickel-based batteries.** If you're using an older laptop (at least 3 years old) with a nickel hydride battery, be sure to completely drain it and recharge it monthly to ensure that it will hold its charge. Most newer mobile PCs use lithium ion batteries, which don't need to be drained to maximize their capacity.
- **Consider purchasing an additional battery.** Buying an extra battery is a good investment for your peace of mind. Battery prices vary widely. You can significantly increase the power available to you if you're willing to splurge a little. Contact the manufacturer of your mobile PC to find a replacement battery.

By adjusting your mobile PC settings to conserve battery power and by implementing these tips, you can relieve the stress and inconvenience of running out of battery power.