

PC Troubleshooting: Solve USB Power Problems

A self-help guide about USB power problems with some tips on how to resolve common difficulties.

Many USB devices don't have a power adapter that plugs into an electrical socket; they get their electrical power through their USB connection. Unfortunately, USB connections can sometimes fall short in their power deliveries, and when that happens, the USB device can fail or your PC can stop working altogether.



More power-hungry USB devices like external hard drives or DVD drives usually come with their own power adapters.

POWER OVERLOADS

Many USB devices like mice, keyboards, and speakers depend on the USB cable to deliver power as well as data. If too many of these devices are connected to a single USB port on your PC, the USB bus can be overloaded, causing it to shut down. Here's how to check and control your USB power consumption:

Find out how much power is being used by each USB port—or more accurately, each *root hub*—on your PC. Open Device Manager by going to **Start**, right-clicking **My Computer**, selecting **Properties**, and selecting the **Hardware** tab. Click **Device Manager**.

Scroll down the list and double-click **Universal Serial Bus Controllers**. It's usually the last entry in the list. You should see one entry for each root hub on your computer. Double-click the first **USB Root Hub** listing (see Figure 1) and select the **Power** tab.

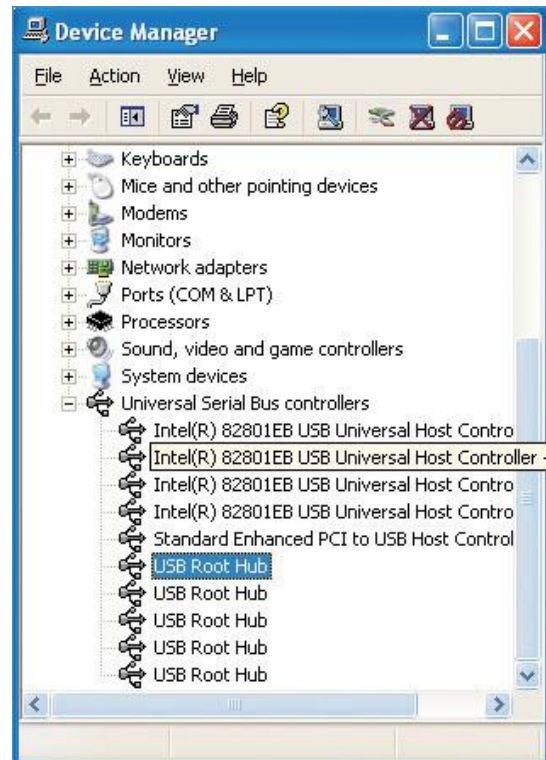


Figure 1: Open the **USB Controllers** listing in **Device Manager**.



1. USB hubs come in two types, self powered and bus powered. A bus-powered hub draws power from the USB root hub, so it won't help relieve power overloads. Make sure you buy a self-powered hub that comes with its own power adapter.
2. Under Attached Devices you will see each device attached to a port on that root hub and next to it the maximum power requirements for that device. The sum of the power requirements

shouldn't exceed 500 milliamps (see Figure 2).

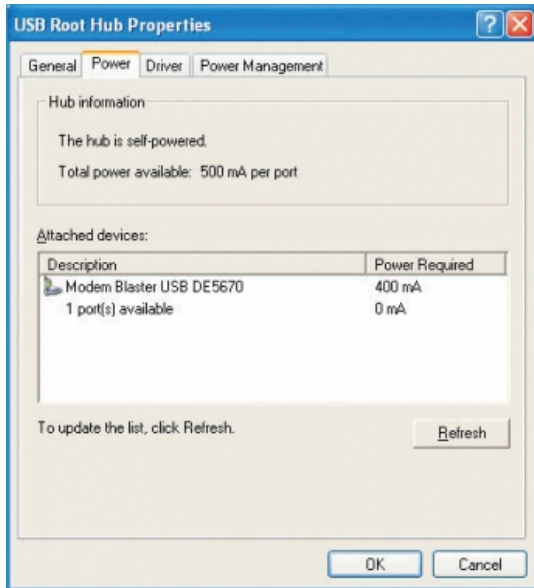


Figure 2: Check the Power tab on each of the USB Root Hub listings.



Your computer should have one root hub for every two USB ports. Each root hub provides a maximum of 500 milliamps (mA) to be shared by all of the attached devices.

If a USB root hub is drawing too much power, try moving one of the devices to a different port on a different root hub. If all your USB ports are in use, buy a USB hub (see Figure 3). A hub expands one USB port to two, four, or more ports.



Figure 3: A USB hub can expand a single USB port into many ports.

PROBLEMS WITH SUSPEND MODE

If a mouse or other USB device won't work or causes your computer to crash after you've brought your computer back from Standby or Suspend mode, there may be a conflict between USB and your computer's power management. Here's what to do:

Update Windows to Service Pack 1. To check which Service Pack you have installed on Windows XP, open Windows Explorer by right-clicking **Start** and selecting **Explore**. Click **Help | About Windows**.



If you've already updated Windows XP to Service Pack 2, you're good to go. But if you don't want to install SP2, you only need to upgrade to SP1 to fix the compatibility problems.

If a Windows update doesn't do the trick, try disabling power management for each USB root hub. On each of the Root Hub Properties screens select the **Power Management** tab and uncheck the **Allow The Computer To Turn Off This Device To Save Power** box (see Figure 4). Click **OK**.

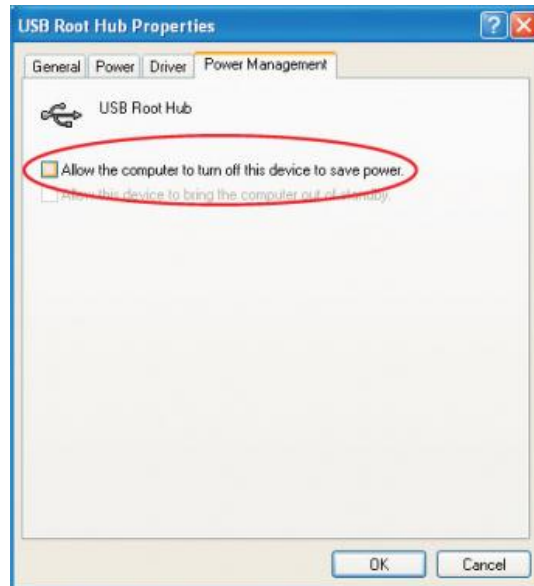


Figure 4: Disabling power management can solve USB incompatibility problems. [More.... Tips and Articles from Edis Trading](#)