

## PEAK Class 101: How to use ReadyBoost Under Windows Vista?



### 1. ReadyBoost System Requirements

In order to use the ReadyBoost feature of Windows Vista, you need to have the correct type of SD card or USB drive available. Both capacity and speed are critical properties for a device to work with ReadyBoost.

- Minimum capacity 256MB, recommended 512MB or more. Windows Vista ReadyBoost can create a cache file on the external memory device between 235MB and 4GB in size in order to improve the performance of the PC. You will need at least 512MB for a significant performance increase.
- USB 2.0 is required in order to meet the ReadyBoost speed specification. USB 2.0 provides a data transfer speed of 480 Mbps. Your computer must be equipped with USB 2.0 ports and the USB devices in them must be USB 2.0 compatible. Other memory devices used for ReadyBoost, such as CF, SD, MMC and MS cards, must be connected via USB 2.0 readers.
- Sufficient Read/Write speed : The memory device itself needs to have sufficient Read/write speed specified by Microsoft standards. According to Storage-0008 and Storage-0009 standards currently being outlined by WHQL for Removable Media Device, the minimum requirements are as follows:

#### **Storage-0008 Basic Level (minimum requirement):**

Random Read (4KB block) > 3 MB/sec  
Random Write (512KB block) > 2 MB/sec

Above are the minimum requirements required to run ReadyBoost. As for those who wish to use ReadyBoost in its maximum performance under Windows Vista Premium/Ultimate, you will need:

#### **Storage-0009 Premium Level (recommended):**

Random Read (4KB block) > 5 MB/sec  
Random Write (512KB block) > 3 MB/sec

### 2. Actual Applications of ReadyBoost

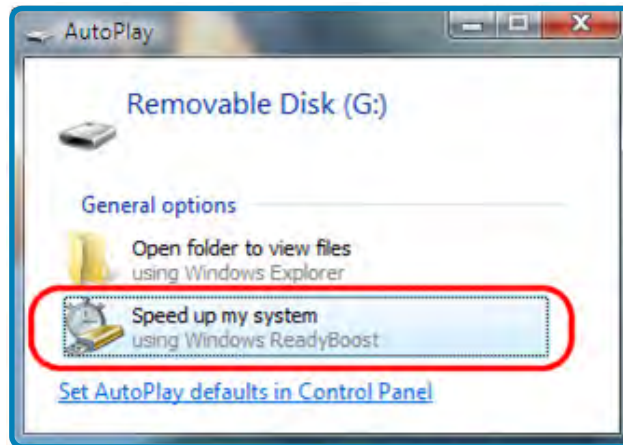
How do we activate this new feature of Windows Vista? Here's how to do it, with easy step-by-step instructions, using the Peak XTREME 2 200X USB pen drive as an example. This device complies with ReadyBoost Premium Level and provides extremely effective acceleration to your PC.

- (1) First, plug in PEAK XTREME 2 200X flash drive into any free USB 2.0 port.

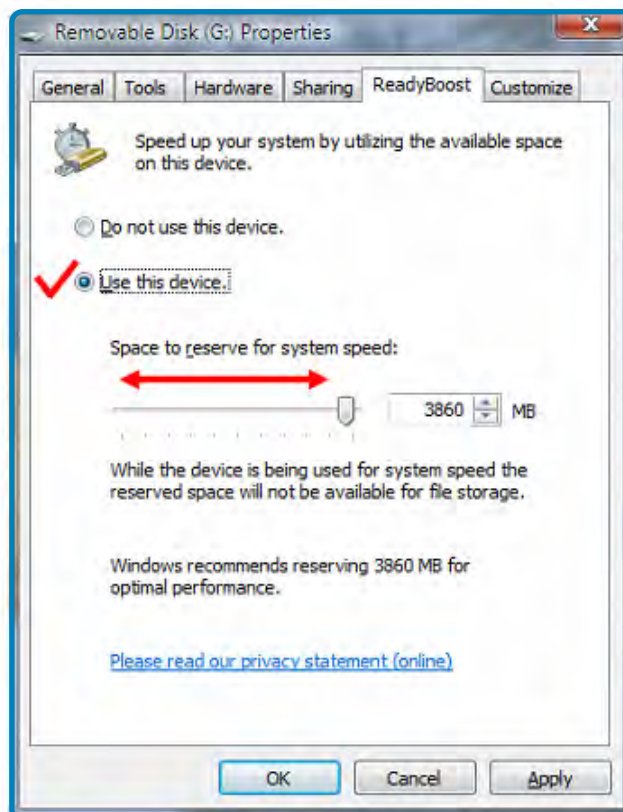


The Right Choice  
[www.peakhardware.com](http://www.peakhardware.com)

- (2) After Windows Vista completes the driver installation for the USB flash drive, the following screen will be displayed. Choose "Speed up my system"



- (3) Now, choose "Use this device" and adjust the reserved space (range: 235MB~4GB) for ReadyBoost in the bar under "Space to reserve for system speed".



- (4) After that, a file called ReadyBoost.sfcache will appear in the flash drive. The system will now save and access data on the flash drive. The user will gradually experience an improvement in system response speed.

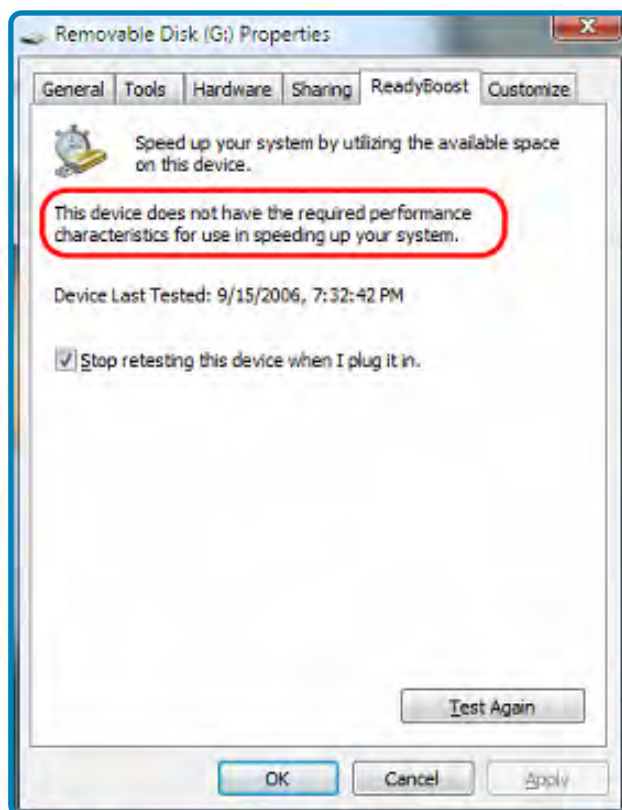


### 3. ReadyBoost FAQ

#### Q : Why can't ReadyBoost be activated?

A : There are two main reasons why ReadyBoost can't be activated:

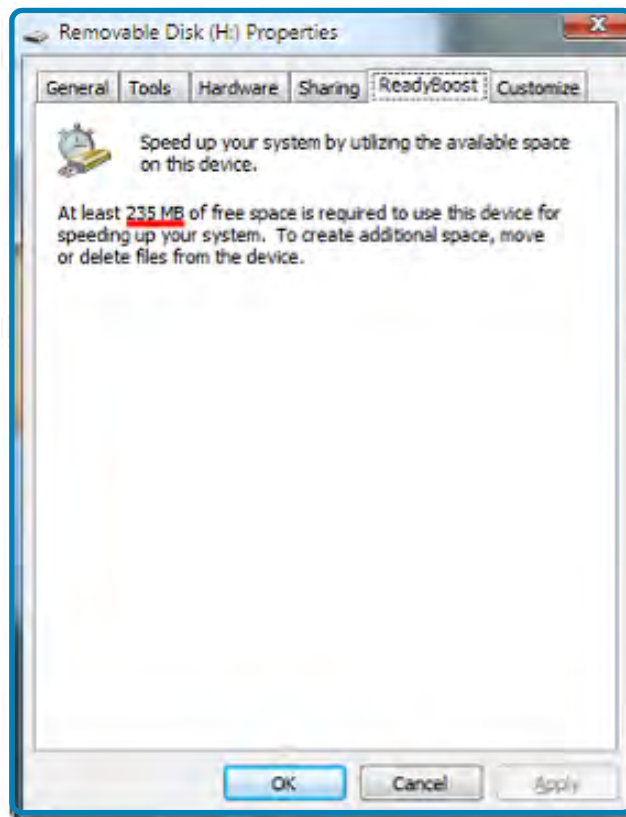
- (1) **Too slow:** If the speed of the USB flash drive does not meet the minimum requirement, the following screen will be shown.



▲ Please use a faster flash drive.

- (2) **Insufficient space:** If the flash drive is full of data and does not have at least 235MB of space, ReadyBoost will not be activated as shown below.





▲ Please remove unimportant files and try again.

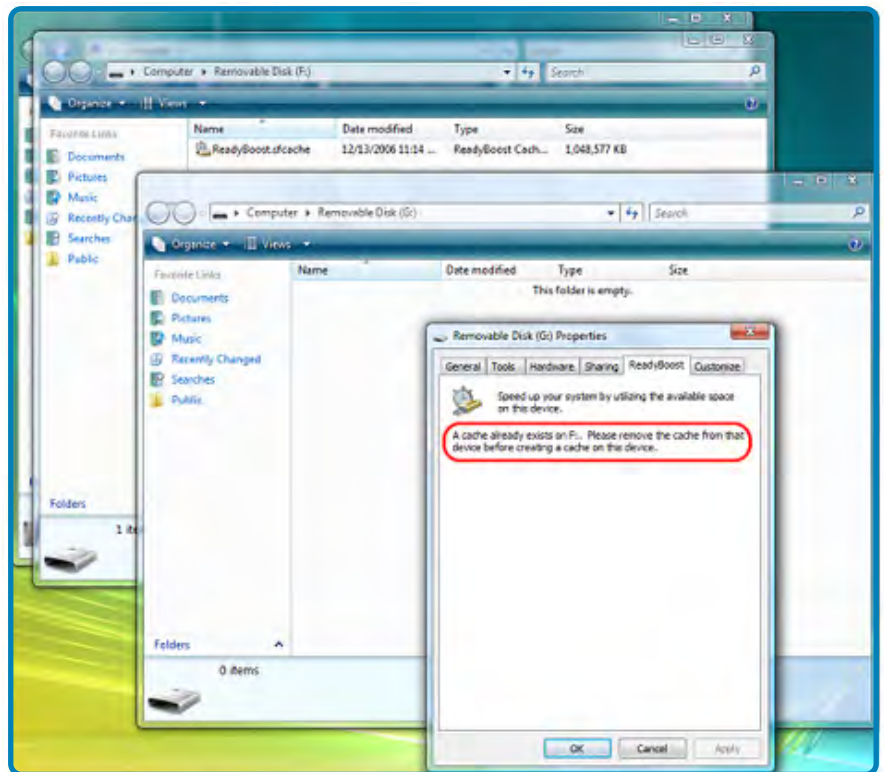
**Q : What happens when you use the same USB Flash Drive for ReadyBoost on two different Vista computers?**

**A :** When you use the USB Flash Drive for the first time on computer A, it prompts you to set up a ReadyBoost cache file on it (e.g. 2 GB). If you then insert the flash drive for the first time into computer B, it deletes the cache file created by computer A and prompts you to set up its own cache file (e.g. 4 GB). Each computer also records its ID and its ReadyBoost cache file size on the flash drive. These details remain on the flash drive and are not deleted automatically. When the flash drive is reinserted into computer A, it detects its own settings and sets up its preferred 2 GB cache file automatically. When the flash drive is moved back to computer B, it automatically deletes the cache file set up by computer A, reads its own settings and sets up its own 4 GB cache file. Once a Vista computer has used a flash drive for ReadyBoost, it will recognize it automatically and set up its cache file without user intervention, unless there is insufficient free space due to the presence of other (non-cache) files on the drive.

**Q : Using two flash drives on one computer?**

**A :** Since only one flash drive can be used for ReadyBoost on a computer, it is a “first come, first served” scenario. Therefore, when flash drive A is plugged into the computer, it will be used for ReadyBoost. When flash drive B is plugged into, it will simply be a storage device without ReadyBoost. The system will automatically remove any existing cache files on flash drive B to provide more space.





▲ Figure – When two flash drives are plugged into the computer at the same time, Windows Vista will use the first flash drive (F:) for ReadyBoost.

Conversely, if flash drive B is plugged into the computer first, it will be used for ReadyBoost and flash drive A will become a simple storage device. However, if flash drive B is removed, the ReadyBoost function will be deactivated. Flash drive A will remain as a simple storage device unless it is unplugged and plugged in again.

#### Simulation and response description:

##### Step 1

- UFD A is plugged in before UFD B
- UFD A ReadyBoost is activated,
- UFD B will be used as a storage device (ReadyBoost file removed)

##### Step 2

- UFD B is plugged in before UFD A
- UFD B ReadyBoost is activated and cache is recreated,
- Now, UFD A will be used as a storage device (ReadyBoost file removed)

##### Step 3

- Unplug UFD B and leave UFD A on the PC
- ReadyBoost is deactivated and UFD A is still a simple storage device. (Unplug UFD A and plug it in again to activate ReadyBoost)

#### Q : When ReadyBoost file is being accessed, what will happen when the flash drive is removed?

A : Nothing! The computer will not crash. It will merely restore to its original speed. For the flash drive, ReadyBoost.sfcache is only a temporary file and it will be accessed again when the flash drive is plugged in again. Other files on the flash drive will not be affected as well.

#### Q : I accidentally deleted the ReadyBoost .sfcache file from the USB drive when using it on another PC. What will happen when I try to use it again in my Vista PC?

A : Nothing! Vista keeps a record of each flash device it has used for ReadyBoost and will automatically re-create the .sfcache file as soon as it recognises the USB drive. If there is insufficient space on the drive because of other files present, it will present the user with a dialog box to reconfigure the ReadyBoost file size.

#### Q : When ReadyBoost is activated, can I save or access other files on the flash drive?

A : Of course. File access on the flash drive will not conflict with ReadyBoost. In the worst case, the performance of ReadyBoost will reduce a bit.



**Q : Besides flash drives, do memory cards or USB hard drives support ReadyBoost?**

**A :** ReadyBoost is able to support all kinds of EMD (External Memory Device) with USB interface. Therefore, any memory device that complies with ReadyBoost standard can be used. Currently, flash drive is the most convenient method to use ReadyBoost.

As for flash cards, the speeds of CF/SD/MS/xD cards and the readers must comply with ReadyBoost requirements. Therefore, in order to use ReadyBoost on flash cards, both the cards and the readers must be fast enough.

In terms of USB hard drives or mini hard drives, these storage devices are based on “disks” which still operate by mechanical behaviours. Currently, these devices do not meet the requirements of ReadyBoost.



*The Right Choice*

[www.peakhardware.com](http://www.peakhardware.com)