

## Flash Drives in a Nutshell

### What are flash drives?

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Flash drives are the latest in the information storage craze. These are a purely digital storage medium, whose benefits will be listed forthwith. Flash drives are typically finger-sized drives that rely on a simple USB (versions 1.1 or 2.0) or FireWire plug to interface with a computer. Once plugged in and recognized by a computer, they will appear as any other drive (CD, DVD, floppy, hard drive, Zip, etc.) under the *My Computer* icon on your computer's desktop. The drives can then be accessed like any other computer drive.

Flash drives are also called: *jump drives*, *key drives*, *pen drives*, or simply *USB drives*. Flash drive memory is commonly used in digital cameras and portable digital music (MP3) players.

### Benefits?

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1. Stable storage medium that is not as susceptible to magnetic, static, or temperature differentials. It is the preferred storage medium used by the American military in field operations.
2. It is a purely digital storage medium, which means that there are no moving parts that wear out in time.
3. Larger and faster storage capacity – especially those using a USB 2.0 or FireWire interfaces.
4. Have a relatively low per megabyte (MB) cost. The larger the storage capacity, the less expensive per MB the medium becomes when it is compared to floppy or Zip drives.
5. “Plug and play” simplicity with Windows ME, 2000, and XP versions, and Macintosh 9 and 10 versions.
6. Does not have excessively burdensome hardware requirements – no special drive needed (unlike floppy disk or Zip cartridges) and no batteries. All modern computers (in the last 7-8 years) have USB ports.
7. No special formatting required, so information can be moved between Mac and Windows environments seamlessly – unlike floppies or Zips.

### Drawbacks?

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1. Can still be corrupted if they are not dismounted (“ejected” or “stopped”) correctly – little or no chance of data recovery in such cases. Corruption is usually the result of human error.
2. Not compatible with Windows 95, and still needs driver software for Windows 98.

### Safely Dismounting (“ejecting” or “stopping”) a Flash Drive

When you are done your session, you must tell your machine that you want to remove your flash drive. This is the digital equivalent of ejecting a floppy disk.

### To dismount your drive:

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1. Click on the *Unplug or Eject Hardware* icon in the taskbar's tool tray – this is the icon with the green arrow (circled in Figure 1).

Figure 1.



2. Click *Safely remove USB Mass Storage Device – Drive(G:)* – see Figure 2.

Figure 2.



*Note:* The flash drive might not always be the G: drive. It could be any letter designation, depending on how the computer's various drives (CD, DVD, floppy, hard drives, etc.) are configured. The important thing is recognizing that it is the "USB Mass Storage Device" that needs to be stopped.

3. Once you click on *Safely remove USB Mass Storage Device – Drive(G:)*, a notification balloon should appear above the taskbar (see Figure 3). Click the close icon in the top right corner of the balloon to close it and unplug the drive.

Figure 3.



### Why do you not pull the drive from the USB socket?

If you pull the flash drive from the socket without allowing the computer to dismount ("stop" or "eject") the drive, you risk corrupting the drive. You will no longer see the warning in Windows XP, like you did in Windows 2000. If the disk is corrupted, chances of recovering the data on the flash drive are slim to none without expensive drive utilities. Corruption will occur if the drive is unplugged while active (i.e., reading or writing files from your computer to the flash drive).

### Why can I not dismount the drive?

1. If you directly save your document from the program you created it in (i.e. Excel, PowerPoint, Word, etc.) to the flash drive and want to dismount the drive, you must close the program before you try to dismount the drive – otherwise you will see a warning (see Figure 4). When you save directly from the program to the flash drive, a door (or path) is created between the two. The open program puts its proverbial foot in the door, and thus keeps the path open. With the program's foot in the door, the flash drive cannot override the program. It is only after you close the program (taking its foot out) that you can follow the dismounting procedure.

This is the same as floppy disks. You might be able to physically eject the disk, but if the program you are writing to the disk from is still open, then you risk corrupting your data and crashing the program by prematurely ejecting the floppy disk.

Figure 4.



OR

2. If the flash drive will not let you dismount it, even after you have closed the program, then you must log off your computer's user profile. Simply click: *Start* (on taskbar) > click: *Log Off* > click: *Log Off* (in *Log Off Windows* window). Unplug the drive once it is fully logged out.