Make Your Computer Faster: Use these 4 Tuning Tricks to Put Your PC in Turbo Mode

With the information given in this article you will be able to:

- ✓ Optimally tune your PC in next to no time with easy tweaks,
- ✓ Save a lot of money by applying the right settings,
- ✓ Work faster with Windows and avoid wasting time.

Adding new hardware to your system always comes at a cost, and there is also the risk that a driver will be incompatible with your current setup and you will need to reconfigure your whole system. However, with my tuning tricks you'll be able to gain more performance without these worries.

In order to get more performance from your PC, you don't necessarily need a better processor, more RAM, a faster motherboard, a larger hard drive or even an SSD drive. As long as your computer is reasonably recent, you can use my tuning steps to produce a substantial increase in speed. These tips are easy to apply and don't require you to use tuning tools or create new registry entries.

Try them out now and get the best performance possible out of your hardware.

More Power with the Right Windows and Hardware Settings

When you go into a computer shop and ask them how you can make your PC faster, most will recommend that you add more RAM, a faster processor or a larger hard drive, even if the system is only a year old. By the time you've finished, you'd probably spend less buying a new system.

My tip: there's no need to spend any money at all, so don't let yourself be talked into it by the sales person. With the right tuning steps you can get more performance from your system without expensive hardware upgrades.

There are lots of tuning options for your PC

If you want to optimise your PC's performance, there are various steps that you can take to do so:

- Optimise the BIOS/UEFI to make the system boot up faster.
- Install new drivers to gain access to new hardware functions and better performance.
- Boost access times to the hard drive.

These tips have been checked by me

In this article, I will show you my tried and tested settings and power tips that you can use to speed up and optimise your PC. These steps have been tested to the limits to enhance Windows performance, and were run on multiple PCs to ensure that they help boost speed on a range of different types of hardware and software setup.

The tuning tricks presented in this article work best on a fully clean computer. In this case, a clean computer means that you have:

Rule no 1: keep your PC clean

- Uninstalled all unnecessary programs
- Freed up wasted hard drive space and defragmented your hard drive using Windows built-in features.

In article W 595 - Windows Annual Checkup for 2015 you'll find all of the steps you need to take to clean up your PC and free it of junk data and unnecessary programs.

Are you missing articles from issues of the Windows Advisor that have already been published? No problem, as a Windows Advisor subscriber you can download missing articles in PDF format from the thousands of pages of Windows advice we've published in the past, for free, from the Downloads area of our website, www.windowsadvisor.co.uk.

Tip 1: Boot Your PC More Quickly with an Optimised BIOS/UEFI

Updating your BIOS/UEFI brings with it various benefits and is indispensable when you want to enhance your system's performance. Only the latest BIOS/UEFI update will support all the latest hardware devices at full performance, and very often a BIOS/UEFI update will fix problems in the firmware code which the manufacturers have come across.

Current BIOS/UEFI version

Before you begin updating your BIOS/UEFI, you need to find out exactly which BIOS/UEFI version you have currently installed on your system.

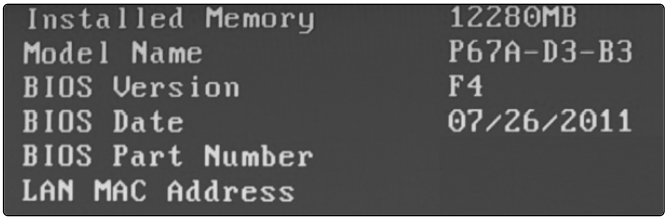
In order to view or change your BIOS/UEFI settings, you need to access the BIOS setup program. To access the BIOS setup menu, press one of the following keys (the exact key to press will vary depending on your BIOS/motherboard make): F1, Del, Ctrl, Alt, Esc, or Ctrl + Esc. The exact key you need to press for your type of BIOS will be displayed on the startup screen shown when you turn on your system.

Use the graphical interface if available

The BIOS/UEFI configuration program will then load. Depending on the motherboard manufacturer, the program interface can be quite complex, and can support navigation using the mouse or just the keyboard.

Note the version

Make a note of the BIOS/UEFI software version currently installed on your system:



Make a note of the BIOS version, date and other details

Look for a newer BIOS/UEFI version

Now you know the version of the BIOS/UEFI software currently installed on your computer you can begin to look for an updated version.

It is very important that you use the correct BIOS version for your system. An incorrect BIOS version can destroy your BIOS/UEFI chip and lead to your system not booting. Take time to look for the right version of the BIOS/UEFI software for your system, and follow this rule:

- If you bought your computer from a high street retailer such as Tesco, or from a brand manufacturer such as Hewlett Packard or Lenovo, then you will find the right BIOS/UEFI software for your system on the computer manufacturer's website.
- If you built the PC yourself, or bought an unbranded machine from a local independent retailer, then you will find the right BIOS/UEFI update for your system on the PC's motherboard manufacturer's website, usually in the Support section.

Choose the right update tool

There are many ways to update a BIOS/UEFI. I recommend using the tool provided by your motherboard manufacturer, such as ASUS, GIGABYTE or MSI. If you use the right tool for your motherboard, the update should be applied without problems. The update procedure is known as flashing and the tools in question are known as flash tools; for example, EZ Flash, Instant Flash, Q Flash or M Flash.

Apply the update using the manufacturer's tool

Once you have downloaded the latest BIOS/UEFI version from the manufacturer's website, copy the flash tool onto a bootable USB flash drive. The next section will show you how to prepare a bootable USB flash drive.

Create a bootable USB flash drive with the DOS operating system

You need a small tool to create your bootable USB flash drive. Here's how to do so:

1. Open your web browser and download a version of the DOS operating system which you can use to boot from your USB stick and run commands. You can download this for free from: https://www.biosflash.com/e/bios-boot-usb-stick.htm.
2. In the **Downloads** folder, click on the **usbdos.zip** file and unzip the contents of the file into a folder of your choice onto your PC, e.g. C:\USB-Boot-Stick.
3. Connect your USB flash drive and then open Explorer by pressing (⊞) + (E), right-click on your USB drive and select **Format**.
4. Choose to format the drive with the **FAT** or **FAT32** file system and click **Format**. This will erase all of the data currently on your memory stick.

Format the USB flash drive

5. Download the free HP USB Disk Storage Format Tool from the Downloads area of the Windows Advisor website, www.windowsadvisor.co.uk.
6. Right-click on the file you downloaded and choose **Run as administrator**.
7. Select your USB flash drive from the **Device** drop-down menu. Select **FAT** from the **File system** menu, and enter a name for the drive under **Volume label**, such as **Recovery Stick**.

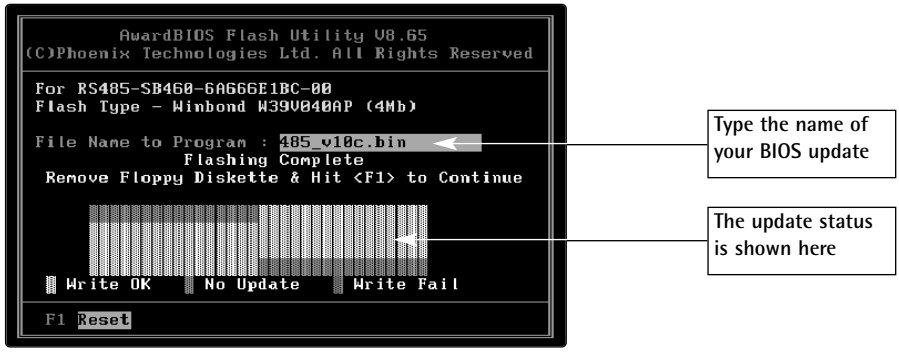
Install the DOS operating system

8. Under **Format Options**, tick the option **Create a DOS startup disk**.
9. Below that option click on the **...** button and select the folder that contains the unpacked contents of the usbdos.zip file, e.g. **C:\USB-Boot-Stick** then click on **OK**.
10. Click on **Start** to begin the process.
11. Close the tool once the process is complete. On your USB flash drive you will find the files **COMMAND.COM, IO.SYS** and **MSDOS.SYS**.
12. Copy your BIOS flash tool and the new BIOS/UEFI file onto the USB flash drive.

Your BIOS/UEFI update flash drive is now ready and you can use it to start your PC and install the new firmware software to your BIOS/UEFI chip:

1. Boot your computer using the USB flash drive. You may need to press a key indicated on screen to boot from a USB flash drive. Check your motherboard manual for details.

2. When the command prompt loads, type the name of your flash program, for example, AWDFLASH, and press Enter. The program's interface will load.



Updating an Award BIOS using the Award update too

Flash the BIOS

3. Depending on the flash program you have, you will probably first have to type the name of the new BIOS/UEFI firmware file.
4. The flash program will also probably include a feature that allows you to save your current BIOS/UEFI configuration.

   You should do this in order to create a backup of your existing settings. If you experience problems installing your BIOS/UEFI update, you can quickly restore your system using this backup.
5. Select the option to apply the new firmware update. Do not turn your computer off during the update process, which should take around a minute to complete.

Re-boot your system

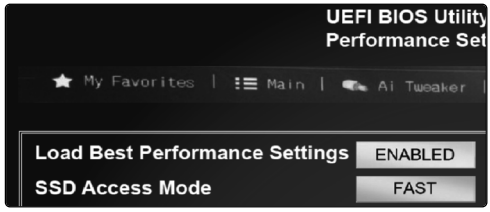
6. Once the update process is complete, remove the USB flash drive and re-boot your PC.

Activate the Optimal Settings for Improved Performance

PC manufacturers are always trying to keep systems running stably without any crashes. That is why the manufacturers configure new settings with very conservative settings, that will always ensure that a PC stays stable, but may not give the best possible performance. Therefore, the first step to tuning your BIOS/UEFI is to apply the optimal performance settings, as follows:

Get more performance with just a few clicks

1. In the BIOS/UEFI menu, look for the option called something like **Load Optimised Defaults**, **Load System Turbo Settings** or **Load Best Performance Settings** and activate it.
2. Save the changes in your BIOS or UEFI and then re-boot your system for the changes to take effect. Your PC will now be using faster hardware performance settings.



Activate the best performance hardware settings with just a few clicks of the mouse

Quick Analysis: Speed Up the Self-test

Speed up the boot process

By default, your BIOS/UEFI chip carefully checks the hardware devices installed in your PC when the system starts up. This can take some time, especially if you have a lot of RAM installed, since the BIOS/UEFI has to fill all of your available RAM with test data. This data is then re-read in order to check for any possible problems in the memory chips. Since RAM these days is much more stable than it used to be, you can reduce the tests performed in order to speed up the boot process.

To do so, follow these steps:

1. In the menu, switch to **Advanced BIOS Features** or **Advanced Feature** section.
2. Set the **Quick Power On Self Test** option to **Enabled** and save the changes. This option can also sometimes be called **Fast Boot** or **Quick Boot**. Check your BIOS/UEFI manual if you cannot find it.

You can do without the extensive storage test and launch the system much faster

The boot process can be reduced by up to 70% by activating this option in some cases.

Tip 2: Better Performance and Stability with New Drivers

Are your drivers up-to-date?

To increase performance, you need to make sure that your computer has the latest drivers installed.

First choice: get a driver from the device manufacturer

Check the manufacturer's website

If you're looking for new drivers, the first port of call should be the device manufacturer's website. They have all of the technical details they need to correctly code the driver, so they should be able to produce the best driver possible. Manufacturer's make the latest versions of their drivers available to download from their website. If you have a branded PC, such as a Lenovo, then you will usually find all of the drivers for your PC on the manufacturer's website, in this case www.lenovo.com. The process to locate drivers is the same for most hardware manufacturers:

1. Open your web browser and navigate to the hardware manufacturer's website.
2. Click on the **Support** or **Download** section to locate the drivers.
3. Type in the device's model number or serial number.

Type the model name to search for updates

Lenovo makes it easy to find the drivers you need for your PC

4. Select the operating system version you are using.
5. Download the relevant driver(s).

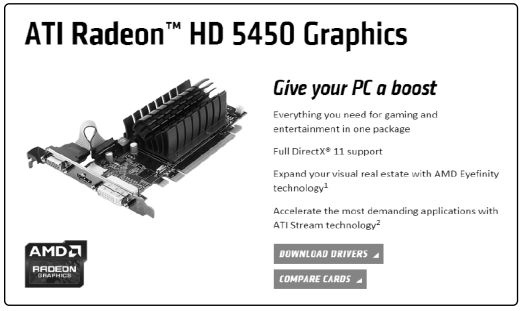
How to find a driver for an individual PC component

Check the component manufacturer's website for an update

If you've installed new components in your PC, such as a graphics card, or you've attached extra devices, such as a printer, you need to find the latest driver from the device manufacturer's website. When you're looking for drivers for external devices, the search process is usually easier, since the manufacturer and model details are printed on the device itself.

Analyse your devices with SiSoft Sandra

With internal components, such as your graphics card, you need to use a tool such as SiSoft Sandra or the Windows Device Manager in order to find the details of your device, such as the manufacturer and model number. Once you have done this, you can search on Google for the driver and find the direct link to the manufacturer's support site. Let's say, for example, SiSoft Sandra shows an ATI Radeon HD 5450 is installed in your PC. If you wanted to find the latest driver for this graphics card, open your browser and navigate to www.google.co.uk, enter **ATI Radeon HD 5450 driver** as the search term and press Enter. The top search result will point to the download that you need.



*Click **Download Drivers** to download the latest driver*

Tip 3: Perfectly Configure the Swap File

Configure the virtual memory

Windows uses a swap file in order to swap information from the RAM. Since the swap file provides an extension to the RAM using the hard drive, it is sometimes called a virtual memory.

How the swap file works

Often, the existing RAM on your PC usually forms bottlenecks since there is insufficient memory for all applications to use simultaneously. In order to give the system more memory than is actually physically available in the RAM on your computer, Windows uses additional hard disk space to simulate RAM.

Change the swap file settings

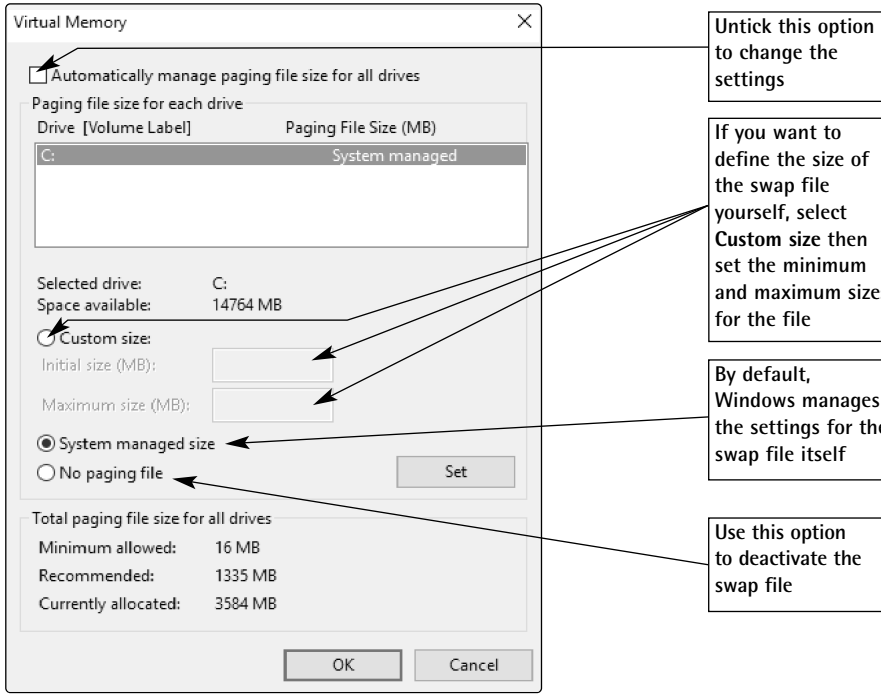
There is no general recommendation for the optimal configuration of the swap file. This primarily depends on what you use your PC for and the available amount of real RAM.

If you want to change the swap file settings, then proceed as follows:

1. Open the Control Panel by pressing (Windows) + (X) and clicking **Control Panel** (Windows 10/8.1) or by clicking **Start** > **Control Panel** (Windows 7).
2. Click on the **System** icon.
3. In the left-hand column, click on the **Advanced system settings** link.
4. Swap to the **Advanced** tab and click on the **Settings** button under **Performance**.
5. On the **Advanced** tab, click on **Change**.

Manually configure the settings

6. Untick the option **Automatically manage paging file size for all drives** to allow you to manually configure the swap file size.



How to manage the size of the swap file

The optimal swap file when you have a lot of RAM

Sometimes you don't need a swap file

Your system will run perfectly without a swap file, if you have enough RAM installed. The best swap file is therefore no swap file at all.

If your system has enough RAM (e.g. 4 GB or more for a Windows 32-bit system, or 8 GB for a 64-bit Windows version) you can try not to use any virtual RAM at all, as a test. However, you should only take advantage of this option if you have sufficient RAM available in order to cover the needs of Windows and all the other running applications.

Check your current RAM requirements

You can check whether you have enough RAM to run Windows without a swap file using the Task Manager. To do so, boot Windows and open the programs you normally work with. Press (⊞) + (R) and type **TASKMGR** then click **OK**. Click on the **Performance** tab and under **Memory** (**Physical Memory** in Windows 7) you will see how much actual memory you have available.

If you have more than 1 GB available when using your normal programs, you can try disabling the swap file.

If your system can't do without a swap file then you will receive a message regarding insufficient memory or in the worst case, an application could even crash. If this happens, boot your system into Safe Mode. In Windows 10/8.1, keep re-booting the machine until you are taken to the troubleshooting environment, then work through the menus to select **Safe Mode**. In Windows 7, when the PC starts, press (F8) and select the option **Safe Mode** from the **Advanced Options** menu.

Repeat the steps above to switch virtual RAM management on again, choosing the option to allow Windows to automatically manage your swap file.

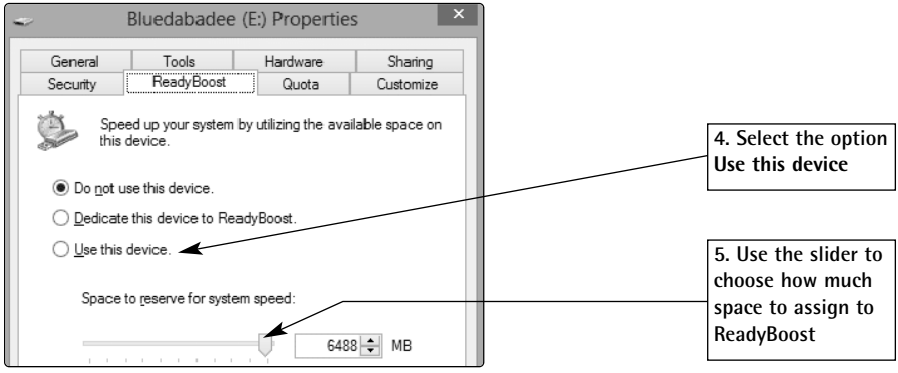
Tip 4: Boost Data Access Times

Optimise data access with ReadyBoost

There are lots of ways to optimise access to the data on your system. ReadyBoost helps speed up data access, especially on older PCs that don't have much RAM. ReadyBoost allows you to use a spare USB flash drive as an extension to your RAM. Windows uses the fast flash memory as an extra cache to speed up reading and writing to the slower hard drive.

This takes advantage of the fact that flash memory is much faster than mechanical hard drives, so can be used to smooth out the process of data transfer. To set up ReadyBoost:

1. Connect the USB drive you'd like to use for Ready Boost to your PC.
2. Press (⊞) + (E) to open Explorer, then navigate to **This PC** (Windows 10/8.1) or **Computer** (Windows 7).
3. Right-click on your USB drive and choose **Properties** > **ReadyBoost**.



With just a few mouse clicks, your USB flash drive is integrated into the system and provides additional memory

Increase the write speed of your hard drive

Boost the performance of your cache

The read and write speed on your hard drive depends on the technical properties of the hard drive itself. However, if the Windows cache settings are incorrectly configured, they can also slow down your hard drive. Alter the settings as follows:

1. Open the **Control Panel**, set the **View by** drop-down list to **Large icons** and click on **Device Manager**.

2. In the **Device Manager** look for your hard drive under **Disk drives**.
3. Right-click on the hard drive entry and select **Properties** from the menu.
4. Click on the **Policies** tab and activate the option **Enable write caching on the device**.
5. Once you have closed the window by clicking on **OK**, the advanced write cache will be activated on your hard drive.

Tuning your hard drive with CrystalDiskInfo

Boost the performance of your hard drive

The specialist tuning tool CrystalDiskInfo also allows you to tune your hard drive. You can download Crystal DiskInfo from the Downloads area of the Windows Advisor website, www.windowsadvisor.co.uk. Once you've installed the tool you can use it to speed up your hard drive by manipulating the Automatic Acoustic Management (AAM).

AAM = Automatic Acoustic Management

AAM is used to control your hard drive so that the read and write heads move slower and make less noise. Unfortunately, this means that your hard drive runs more slowly as a result. Launch the CrystalDiskInfo tool and disable AAM. To do so, click on the **Function** menu then select **Advanced Features** > **AAM/APM Control**. Drag the slider to the right-hand side and click on **Disable**. You will see that your hard drive performs considerably faster after applying these simple steps.

Summary

Using the four tuning and configuration techniques presented in this article, you can give your system a noticeable speed boost. Doing so allows you to save a lot of money that you'd spend on extra hardware or a new machine, and will allow you to keep your existing PC going for years to come.