# SPEED UP WINDOWS 7 ©

***Here are lots of ideas to help speed up Windows 7 on an older PC. On newer PC's you will probably not notice any difference in speed. NOTE: Most of the changes below require Administrator privileges.***

1. **VIRUS & SPYWARE:** Run all available Anti-virus and Anti-malware programs. See my ANTI - MALWARE TOOLS & TIPS sheet. Note also that some Anti-malware suites slow down older PC's.

2. **REMOVE BROWSER ADD-ONS & 3rd PARTY TOOLBARS:** Remove all un-needed toolbars, add-ons and plug-ins from Firefox and IE. *(Some are removed in the browser and others are removed from Add/Remove Programs. )*

3. **REMOVE ALL DESKTOP SEARCH TOOLBARS:** Including Google Desktop, MSN Desktop, Copernic Desktop, etc. *(Control Panel > Add/Remove Programs).*

4. **REMOVE ALL LARGE FILES FROM THE DESKTOP:**
   a. The Desktop is actually a folder located at: *(C:\Users\<UserName>\Desktop).* To see the size of the Desktop folder, go to *(C:\Users\<UserName>\).* Right-click the "Desktop" folder then click Properties. It should be under about 2 MB. Yes, 2 MB, not 2 GB.

   b. Large files actually located on the desktop can slow down the boot time as well as regular operations. Large files should never be located on the desktop. This includes program files and data files. Moving files off of the Desktop can make a big difference because some users are in the habit of storing everything on the Desktop. In addition, "System Restore" constantly monitors the Desktop Folder; the smaller the folder the less time System Restore wastes on monitoring it.

   c. Basically, the Desktop should have nothing on it but Shortcuts, and Folders with shortcuts in them.

   d. Any files that you find on the Desktop should be moved to either the "My Documents" folder or to a folder on the C Drive root: (IE: C:\data). If desired, you can put shortcuts on the Desktop to those files or programs.

   e. Along with this, you should never download files to the Desktop. It is too easy to forget and leave them there. Create a folder just to use for downloads. For example: C:\Downloads

5. **REMOVE ALL UNNECESSARY SOFTWARE:** *(Control Panel > Add/Remove Programs).*

6. **DISABLE UNNECESSARY "BACKGROUND" PROGRAMS, PROCESSES, & SERVICES:**
   a. Eliminate un-needed programs that start-up during boot. *(I do NOT recommend using "MSCONFIG").* I recommend using "Codestuff Starter", "Glary Utilities" or other startup manager utilities. Warning: On the Codestuff Starter "Startups" Tab, there is a startup listed that has no name and no description. Do not disable this entry or Windows will not boot. Unless you are experienced, stay away from the "Processes" & "Services" tabs.

   b. If you dare, you can try disabling un-needed Services. See this link for info on disabling non-critical Windows Services: www.blackviper.com

7. **CPU PERFORMANCE**: *(Control Panel > System & Security > Power Options)*. Click "Show additional Plans". Select: "⊙ High Performance".

8. **RAM:** Make sure you have at least 1 GB of Memory. 2 GB is better. *(Control Panel > System and security > System)*. You need even more if you use RAM intensive programs like photo or video editing.

9. **HARD-DRIVE FREE SPACE:** Make sure Drive "C:" has plenty of Free-space. When Drive C: gets too full, Windows 7 will run slow, boot slow, and crash a lot. Windows needs lots of room for Temporary files (> 15% free, maybe more).

10. **HARD-DRIVE HEALTH & SPEED:** Install and run the HDTUNE Utility:
    a. Make sure the "C:" drive's health is OK. *If the health is in doubt, install and run the Crystal Disk Info utility to confirm its health status.*

    b. Run the Benchmark test for data transfer rate. NOTE: A 5400 RPM Drive should run at least 30 MB/sec and a 7200 RPM drive should run at least 85 MB/sec, otherwise your PC will be slow.

    c. Run the "Slow" Error scan to check for data corruption. If any bad blocks, run chkdsk /f /r.

11. **THEME:** Some Themes run faster than others. To change to the Classic 98/XP look and get improved performance from an old PC, go to *(Control Panel > System and Security > System > Advanced system settings > Advanced tab > Performance "Settings" button > Visual Effects tab).*
    a. Un-check "❑ Use visual styles on windows and buttons". OK, OK to exit.
    b. *Note: Themes and Color schemes affect each other in mysterious ways.*

12. **COLOR SCHEME:** *(Control Panel > Appearance and Personalization > Personalization > Window color).* If Aero is on, click "Advanced appearance settings....". If Aero is off, you will already be at the classic Appearance settings" window). *Note: Some Color schemes run faster than others: Fastest is Windows 7 Classic (all visual effects disabled. See above), VeryFast is Windows 7 Basic (any non-Aero theme), Fast is Windows 7 Aero with transparency disabled, Slowest is Windows 7 Aero with Transparency on.*
    a. If Aero is on, you can disable transparency at this time*, (Control Panel > Appearance and Personalization > Personalization > Window color).* Uncheck the box: "❑ Enable Transparency". *WARNING: Making these changes will set most, if not all, of your Display/Desktop customizations back to default.*

13. **SPEED vs VISUAL EFFECTS**: You can improve the speed of Windows 7 on an older PC by reducing the overall number of Visual Effects running in the background. *(Control Panel > System and Security > System > Advanced system settings > Advanced tab > Performance; "Settings" button > Adjust visual effects).*
    a. To get maximum speed on an older PC (Windows Classic mode), un-check all boxes except "☑ Smooth edges of screen fonts, "☑ Smooth scroll list boxes", "☑ Use Drop Shadows for icon lables on the desktop", "☑ Use visual styles on windows and buttons", and any other desired visual features. *WARNING: Every time you make a change here, some or all of the Desktop Appearance Personalization settings will reset back to default.*
    b. Click OK, OK to return to the "System" window.
    c. At this point you can add a custom image for the desktop, but don't turn on any "Themes" or you will re-enable various visual effects.

14. **VIRTUAL MEMORY**: *(Control Panel > System and Security > System > Advanced system settings > Advanced tab > Performance "Settings" button > Advanced tab > Under "Virtual Memory", click <Change>).*
    a. If you only have one hard drive, make sure the box is checked for: "☑ Automatically manage paging file size for all drives". (This is the default).
    b. If you have a second Hard drive, you can select it for the paging file location.
        1) First, uncheck the box for "☑ Automatically manage paging file size......."
        2) Verify the following is selected: "⊙ Custom size":
        3) Select a drive for the Paging file, then:
            i) If you have 1GB of RAM, set both the Initial size and Maximum size to 2048 (in MB's).
            ii) If you have 2 GB of RAM, set both the Initial size and Maximum size to 3072 (in MB's).
            iii) If you have 3 or 4 GB of RAM, set both the Initial size and Maximum size to 512 (in MB's). (Recommended from www.tweakguides.com)
            iv) Warning: You MUST click the <Set> button for the change to take

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15. **HARD DRIVE OPTIMIZATIONS**
    a. **INDEXING:** Customize or disable indexing. Indexing is constantly running in the background to make the Search function appear speedier.
        1) CHANGE INDEXING:  *(Control Panel > System and security > System > Performance Options and tools > Adjust indexing options).* Basically you only need the "Users" Folder and the "Start Menu" indexed. Click <Modify> to change the drives and folders for which Indexing operates.

        2) DISABLE INDEXING: *(Control Panel > Programs > Programs and features > Turn Windows features on or off).*  Uncheck the box for "☐ Indexing service".

    b. **WINDOWS SEARCH:** Disable Windows Search *(Control Panel > Programs > Programs and features > Turn Windows features on or off).* Uncheck the box for "☐ Windows search". *(Warning: This may impair the performance of Windows 7.)*

    c. **ERROR-CHECK** all hard-drives: (*My Computer > Right-click Drive X: ICON > Properties > Tools Tab > Error-checking > click "Check Now").* Check "☑ Automatically fix errors & ☑ Scan for & attempt recovery of bad sectors. Click "Start". For Drive C, click "Schedule Disk Check" & then restart the PC. The scan will take place during next boot.

    d. **CLEAN TEMP FILES:** Run the TFC (Temp File Cleaner) or CCleaner Utility to remove un-needed files.

    e. **DEFRAG:**
        1) Before doing a defrag, do the following tasks: a) Empty the Recycle Bin; b) Compact all Mail Folders; c) Set the Power Options > Power scheme to "Always On"; d) Make sure you have run CCleaner; e) Do a System Restart; f) Continue with the next step.

        2) Do the Defrag: *(My Computer > Right-click Drive X: > Properties > Tools Tab > Defragment Now button > Defragment button.)* (Actually, I prefer the "MyDefrag" Utility)**.** See the DEFRAG section my "WINDOWS 7 TIPS" sheet.

        3) If there are a lot of scattered <u>unmovable</u> files, run the Microsoft "Page Defrag" Utility.

        4) Registry DEFRAG: Using "Glary Utilities", run the Registry Clean module and then the Registry Defrag module.

    f. **SPINRITE:** If available, run the SpinRite program on each hard-drive. NOTE: Hardware errors can slow down a system and with no error indications.

16. **SYSTEM PROTECTION (SYSTEM RESTORE)**: *(Control Panel > System and Security > System > Advanced system settings > System Protection tab > Protection settings:  "Configure" button)* .
    a. If you have more than one hard drive or partition, make sure System Protection is running only for Drive C.
    b. If a 3rd party restore program is running, make sure disable the Windows System protection on all drives. More than one restore program wastes space and slows the PC.

17. **VIDEO ADAPTER DRIVER:** A downlevel or incorrect Video Adapter Driver can slow down a PC. *(Control Panel > Appearance and Personalization > Personalization > Display > Adjust resolution > Advanced Settings > Adapter tab)*: Make sure the Adapter Type matches your video hardware. If it is only identified as "Generic", "Default", or "Standard", you will not get the best results. You should try to install the correct Video Adapter driver either from the Manufacturer or from Microsoft updates.

18.  **HARDWARE:** If a hardware component is your bottleneck, the easiest way to find out is by using the built-in utility program that assesses the main hardware components of your PC and gives them a numbered index value (Currently from 1 to 5.9). You can see the results of this assessment at *(Control Panel > System and Security > System > Windows Experience Index)*. If you can, upgrade the component with the lowest number.

19.  **COMPACT MAIL FOLDERS: This will not speed up Windows 7, but it will speed up your mail.**
     a.  **Remove/save/detach all attachments, empty the trash.**

     b.  **Archive Old Mail:**
         • THUNDERBIRD: See the THUNDERBIRD TIPS" on my site at www.jimopi.net
         • OUTLOOK:        http://email.about.com/od/outlooktips/qt/et_archive_mail.htm
         • WINDOWS LIVE MAIL: (Near as I can tell, there is no archive function. Use *(File > Export > Messages > WLM)* and save to an empty folder. *(I have not yet figured this out for sure)* ***???***

     c.  **Compact Mail Folders:**
         • THUNDERBIRD: *(File > Compact Folders)*
         • OUTLOOK:        *(Right-click Personal Folders > Properties > Advanced > Compact Now)*
         • WINDOWS LIVE MAIL: *(Right-click Personal Folders > Properties > Advanced > Compact Now)* ***??? (Not verified)***

20.  **PERFORMANCE OPTIONS:** For more ideas, see  *(Control Panel > System and security > System > Performance Information and tools > Advanced Tools).*

21.  **DISABLE UNUSED DEVICES IN THE BIOS**: The BIOS in your PC has a listing of all active devices (ie: Serial Port 1, Serial Port 2, Game Port, MIDI Port, Infrared, Bluetooth,  etc). Disabling any devices that you never use can speed up Windows 7 and improved reliability by reducing the chance for Interrupt conflicts between devices.

22.  **LAPTOPS:** Laptop Processors run slower when on Battery power to conserve energy. Plug-in the laptop to get maximum speed. Some Laptops can be configured to run the processor at full speed under battery power, but it will drain the battery faster.  *(See Power Options > Advanced settings).*

23.  **LAST RESORT**. Reinstall Windows from scratch.