

BUYING A "WINDOWS 7" PC [©]

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Windows7_Buy.lwp

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This guide is to help you wade through the many issues that should be considered when shopping for a new "Windows 7" Desktop or Laptop PC. Included are my suggested minimum specifications. They are high to help ensure that your new PC will comfortably meet your current expectations as well as your future needs.

Print out this guide and take it to the store with you.

1. RE-INSTALL DVD's: Make sure that Windows Installation DVD's or Recovery DVD's are included with the PC purchase. (See **Note 1 below*).
2. OS (OPERATING SYSTEM): I recommend Windows 7 Professional over Home Premium because it offers "Virtual XP Mode", includes a free download copy of Windows XP, and allows "Win 7" system backups to a network drive. If you have no need for these features, then Windows 7 Home Premium is OK. Always look for the 64-Bit version of Win 7 because it runs faster and recognizes more RAM than the 32-Bit version. Since almost every new PC available comes with a 64-Bit Processor, most come with the 64-bit version of Win7 already pre-installed. Be aware that the 64-Bit versions of Windows 7 may not have drivers available for all your peripherals. Make sure your current printers and other external devices have drivers available for 64-Bit Vista or Windows 7. (Yes, *Vista 64-Bit drivers will work with Windows 7*). If they do not, you will have to stick with 32-Bit Win 7 for now or buy new devices.
3. CPU (CENTRAL PROCESSING UNIT) should support 64-Bits, hardware DEP, and VT. See ****Note 2**.
 - I prefer Intel Processors. Period. AMD's are OK but occasionally problematic.
 - Desktops = Intel Core 2 Quad, 2 GHz or higher. With a 1600 MHz FSB (Front Side Bus). Core 2 Duo will work, but is much slower in Virtual XP Mode.
 - Laptops = Intel Centrino Core 2 Duo 1.66 GHz or higher (with 1066 MHz FSB)
 - L2 cache = 2 MB preferred. 1MB acceptable.
4. RAM = 3 - 6 GB or more *****Note 3**. (*The more the better, as it seems that Windows 7 takes what RAM it wants to support the video needs*)
5. Video RAM (Dedicated, not shared if possible): (*More is better!*)
 - 128 MB minimum - If Display is less than 2.3 megapixels (*less than 1920 x 1200*)
 - 256 MB minimum - If Display is 2.3 megapixels or more. (*1920 x 1200 or more*)
6. HARD DRIVES = 1 or 2 500GB SATA Drives are adequate and I prefer that size over a single 1 TB Drive. (*Note: Per Steve Gibson, the bigger the drive, the less reliable the drive*). Also, 7200 RPM (or 10,000 RPM) drives are preferred over 5400 RPM for good PC speed.
7. DVD Writer = Dual Layer Blue-Ray or DVD writer. (*Lightscribe is a waste of money*).

8. CARD READER = 5-in-1 or better. *(This is for camera type memory cards)*
9. ETHERNET ADAPTER = 1 GB speed *(Also called 10/100/1000 MB speed)*
10. USB PORTS = 4 or more ports *(USB version 2.0 is standard. USB 3.0 is coming soon.)*
11. IEEE 1394a Firewire Adapter ports = 1 or more ports. *(Especially if you do video)*
12. WIRELESS: Mandatory for a Laptop. Optional for a Desktop.
13. FLOPPY DRIVE = An included Floppy is not necessary. *(USB Flash Drives make Floppies obsolete. USB Floppy drives are available separately and are cheap).*
14. BLUETOOTH = Optional, but nice. *(Connects to cell phones & portable devices.)*
15. SOFTWARE = If you plan to buy Office 2007, make sure it is included in your PC purchase. It is cheaper than buying it later. Many users prefer to stick with Office 2003 or Office XP; both seem to run OK on Windows 7. If you have the CD's for Microsoft Office, you can install it on your new PC. Personally, I prefer the "Open Office" Suite. It is a free download from Sun.

***Note 1 - Re-Install/Recovery DVD Issues.**

- If you buy a PC at a place like Best Buy or similar store, you pretty much have no hope of getting a Recovery CD/DVD set as part of the deal.
- Most manufacturers will sell you a Recovery DVD set for from \$5.00 to \$20.00 or so, but you have to phone them and possibly hassle with the Customer Service Rep.
- If you shop online at places like dell.com, lenovo.com or acer.com, you can customize your order to include a Recovery DVD set with your PC for a small additional charge. In some cases you can actually order a real Windows 7 Install DVD with your PC. This is the most desirable way to go.
- Most if not all new Windows 7 PC's come with a Utility Program that allows you to burn your own Recovery DVD Set from a hidden or second partition on the hard-drive. *(You are only allowed to use the Utility once, so if it fails to complete successfully, you have to call the manufacturer) .*
- Windows 7 also includes utility that allows you to burn a "Windows 7 Repair CD".
- WARNING: Most Recovery DVD's restore your PC to the way it was when you bought it and cannot be used for a Windows "Repair" install. Plus, Recovery DVD's destroy all your personal data during the recovery process. *I recommend making regular image backups so you can restore your PC back the the way it was before a problem, including all your currently installed programs, settings, customizations, and data. See my "BACKING UP AN IMAGE OF YOUR HARD-DRIVE" tips sheet.*

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****Note 2 - CPU:**

- In today's Desktop PC environment, I recommend getting a 64-Bit CPU so you can use the 64-Bit version of Windows 7. More and more 64-Bit Software becoming available that will take advantage of the increased performance. Also, your 32-Bit applications will run just fine under Windows 7 (64-Bit). *Note: You will find that most PC's for sale have the 64-bit version of Windows 7 pre-installed.*
- In addition, if you plan to run "Virtual XP Mode" inside Windows 7, the CPU must also support VT(Virtualization Technology) as well as Hardware DEP for added security. To find out if a PC supports these features, I suggest downloading the utility called "SecurAble" (from www.grc.com/securable.htm). Put it on a flashdrive and take the flashdrive shopping with you to test CPU features on a demo PC in the store. *NOTE: Intel has charts showing which Processors support 64 bit and VT. They can be found here: <http://ark.intel.com/> Note. All Intel "Core i3, i5, and i7" processors include VT. Note: Core 2 Solo & Core 2 Duo processors run "Virtual XP Mode" more slowly, so any Core 2 Quad is better if it supports VT.*

*****Note 3 - RAM:**

- More is better. If you use memory intensive programs like Photoshop, Paintshop Pro, or do video editing, I suggest you get 4 or 8 GB (or even 12MB) of RAM or more.
- WARNING: The 32 bit versions of Windows 7 can only recognize a maximum of about 3.2 GB of RAM, so having 4GB or more is wasted. One big reason to buy 64-bit Windows 7.
- The 64-Bit version of Windows 7 Professional can recognize up to 192 GB of RAM. (*Windows 7 Home Premium 64-Bit will recognize up to 16 GB of RAM*).

MONITORS & DISPLAYS (LCD):

- GLOSSY or MATTE? LCD screens come in either a glossy or matte face. The best style for you is a matter of taste. Personally, I hate the sharp reflections and glare found on a glossy screen and prefer a non-reflective anti-glare (matte) screen. Many people will argue just the opposite because they like the "more vivid" colors and clarity found with glossy screens. They claim they are not bothered by the reflections or they plan to use the PC in a dark area. Consider this when shopping. *Note: Anti-glare films are available to put over glossy screens if needed.*
- Monitor Size:
 - ✓ LCD Displays are measured by the diagonal "corner-to-corner" distance of the screen.
 - ✓ Note that a 17" wide-screen is a lot shorter than a 17" standard 4:3 screen. When replacing a CRT monitor with an LCD Monitor, be aware of this. For example, a wide-screen 20" LCD is about the same screen height as a standard 17" CRT Monitor (about 11" high). I suggest you pick a monitor one size larger than what you think you'll need.
- Backlight: Newer LCD displays are now using white LED's instead of a fluorescent Lamp for backlighting. They cost more, but will give a longer and brighter life. Fluorescent lamps dim over their life making both monitors and laptop screens harder to see as they age.

LAPTOP/NOTEBOOK PC's:

When shopping for a Laptop PC, in addition to the issues discussed above, you should think carefully about the following items:

1. **Screens:**
 - a. Glossy screen or matte screen? . Read the discussion above under MONITORS & DISPLAYS (LCD).
 - b. Laptop screen size typically varies from 12" to 17". Personal needs vary, so you must consider factors like larger screens mean a thicker heavier PC with shorter battery life.
 - c. Aspect Ratio: I prefer standard 4x3 ratio over a wide-screen Laptop, but you must choose.
2. **Keyboards:**
 - a. Keyboard size is important if you plan to use the laptop's built-in keyboard most of the time. Laptops with smaller screens have undersize keyboards that can be difficult to use if you are used to touch typing on a standard-size keyboard. For me, undersize keyboards tire out my hands. If the keyboard feels scrunched up to you, try a larger screen Laptop. They will have larger keyboards and possibly even a full size keyboard.
 - b. Keyboard feel is also important. The keys should provide a clear physical tactile feedback each time a key-button is pressed. Not too firm and not too soft.
 - c. Lastly, the surface of the tops of the Keys should all be concave (not flat).
3. **Mouse Touchpad.** Be sure to test the feel and action of the touchpad. Note that Lenovo and some other Manufacturers provide a Trackpoint Stick in addition to the touchpad. I like the trackpoint feature a lot, but it takes a little getting used to. If you do not like the touchpad on a laptop, don't let that be the show stopper. You can simply plug in an external mouse or trackball into the USB port. Many users do this routinely.
4. **Hard-drives:**
 - a. Rotational Speed (RPM's): If you don't ask, you will probably end up with a 5400 RPM hard-drive inside because they are cheaper. Specify a 7200 RPM drive. They make the whole PC run faster. Also, 10,000 RPM drives are great but expensive.
 - b. SSD's (Solid State Hard-drives): These drives are now large enough to use as your main Drive (C:). Be aware that the cheaper SSD's are annoying slow and the high-speed SSD's are currently very expensive (1-2010). Beware that any SSD drive can fail suddenly and catastrophically without warning, therefore when using SSD's, it is even more important to do regular image backups to an external hard-drive.
5. **Docking Station / Port Replicator:** A docking station allows you to plop your laptop down and automatically connect it to an external monitor, keyboard, mouse, and various USB devices via a hidden connector on the bottom of the laptop. Most brands offer this feature, but only on certain specific models. Personally, I would never buy a laptop without this feature. *Note: There are several 3rd party "Universal" docking stations available that connect to the PC via a single USB plug. I do not recommend them.*
6. **Speakers.** Unfortunately just about all Laptop built-in speakers are awful. Plan on using earphones or external speakers for your multimedia.
7. **Brands:** Except for HP/Compaq brand, which has had continual reliability problems over the past few years, any other brand is OK. Just pick the features that please you the most, and get a well padded case to protect it.

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NETBOOKS: Forget about a netbook as your primary PC. Netbooks should only be considered if you need a secondary or auxiliary PC for portability. Netbooks require way too many compromises in performance and features to be your main PC.

MEDIA CENTER PC's:

All versions of Windows 7 include the Media Center software, but some PC's are sold with additional special Audio/Video hardware installed. These PC's require additional RAM and a faster CPU because you need more computing power to do handle movies, HDTV, or video manipulation of any kind. Also, pay special attention to the WINDOWS EXPERIENCE INDEX (WEI), and make sure the Base Score is at **least 5.0**.

PRINTERS:

If you can find one that prints on blank CD/DVD's, buy it. All-in-one printers are great. Make sure your printer manufacturer offers a 64-Bit driver for Vista/Windows 7.

SPEAKERS:

The quality of speakers included in a Desktop PC purchase should not be a concern. If you do not like the speakers included, good speakers are cheap and easy to find.

WINDOWS EXPERIENCE INDEX (WEI): *(Note: In general, WEI is mostly worthless)*

1. Windows 7 includes a utility program that assesses the main hardware components of your PC and gives them a numbered index value consisting of a single "Base Score" and five component "sub-scores". *(Scores currently range from 1.0 to 7.9).*
2. These scores help ensure that the hardware is adequate to meet your expectations.
3. The Base Score is equal to the lowest component sub-score value (in other words, the weakest link in the PC).
4. The five sub-score components are:
 - Processor speed
 - Memory (RAM) speed
 - Graphics speed
 - Gaming graphics speed
 - Primary Hard Disk speed
5. The individual component sub-score values can help you decide if you should choose the next model up when shopping. (For desktops, in the future, you may be able to upgrade some individual components, but if you buy a laptop, no hardware upgrades are possible.)
6. You can find the WEI Scores of any Windows 7 PC by going to: *(Control Panel > System and Security > System > Windows Experience Index)*. (If you ask a store clerk about this, he probably know what you're are talking about).
7. All new PC's built with Windows 7 pre-loaded are supposed to have a WEI Base Score of at least 3.0. *(Warning: Scores below 3.0 may not support the Aero Glass Interface.)*
8. In the future, software packages designed for Windows 7 will hopefully include the recommended minimum "Windows Experience Index" Base Score right on the Box. If not, you will have to use the "Required hardware specifications" listed on the box as you currently do with XP. If you have a specific heavy-duty Software package in mind, research its requirements carefully at the manufacturer's website before choosing a new PC.

For additional details regarding the WINDOWS EXPERIENCE INDEX, simply Google those three words. There is lots of info about "WEI" available.

****Always check for the latest version of this guide at: www.jimopi.net**