

# GUIDE TO BUYING A "WINDOWS 10" PC



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**I suggest you print out this GUIDE along with its companion SHOPPING COMPARISON CHART and take them to the store with you.**

***This guide identifies the many topics you should consider when shopping for a new "Windows 10" Desktop or Laptop PC. You can fill out the SHOPPING COMPARISON CHART as you shop to help compare desired features.***

***My suggested minimum specifications are for a "Power User", and are high to help ensure that your new PC will comfortably meet your current expectations as well as your future needs.***

***IN A NUTSHELL: For the average user, who just does simple tasks like word processing, Internet browsing, e-mail, and watching online videos, almost any PC will work great as long as it includes an Intel CPU @ 2.5 GHz or faster, at least 4 GB RAM, and a fast Hard-Drive. Be sure to buy with Windows 10 already installed (and not an upgrade to Windows 10).***

1. OS (OPERATING SYSTEM):
  - a. WINDOWS 10 HOME vs WINDOWS 10 PRO. The Home version of Windows 10 is fine for almost all home users.
  - b. Look for the 64-bit version of Windows 10 because it runs faster and recognizes more RAM than the 32-bit version. Since almost every new PC comes with a 64-bit Processor, they also usually come with the 64-bit version of Windows 10 pre-installed.
  - c. Be aware that all your printer and other peripheral devices may not have Drivers written for Windows 10. Make sure all your current devices have Drivers available for Windows 10. If not, then plan to buy a new printer or other devices.
2. CPU (CENTRAL PROCESSING UNIT). See **\*\*Note 2 for many more details.**
  - I prefer Intel brand Processors. Personally, I stay away from AMD Processors.
  - Desktops = I personally recommend the Intel i5 @ 2.7 GHz or higher as the best choice for price/performance. The Intel i3 @ 2.7 GHz or higher is OK too.
  - Laptops = Intel i3 or i5 @ 2.3 GHz speed or higher.
3. RAM = 4 GB to 6 GB or more **\*\*\*Note 3.** (*The more the better, as it seems that Windows 10 takes some of the available RAM to support the needs of the video graphics processor* ).
4. TOUCHSCREEN: Not worth the extra money unless the PC can convert into a Tablet.

## 5. HARD DRIVES

- SSD's: Today I highly recommend only Solid State Drives as the main hard drive in any new PC. They are great for speed, but are cost more per GB. *I recommend you buy the largest SSD you can afford. See my comments below regarding SSD's.*
  - SIZE: Believe it or not, one or two 500GB SATA Drives are adequate, unless you edit video or have a large library of photos, video, or pictures. I prefer two 500 GB drives over a single 1 TB Drive for better reliability. *(Note: Per Steve Gibson, the bigger the drive, the less reliable the drive, especially drives over 2 TB in size).*
  - DESKTOP PC: Make sure the PC has room for a second Hard-drive.
  - RPM: 7200 RPM drives are preferred over 5400 RPM for good PC speed. Stay away from Laptops that come with a 4200 RPM hard-drive. *Both 4200 RPM and 5400 RPM drives make a PC feel sluggish. SSD's are best.*
6. DVD Writer = Dual Layer Blue-Ray or DVD writer. *WARNING: Many new PC's come without a DVD Drive. You will have to purchase an External USB DVD Drive with the PC.*
  7. CARD READER = 5-in-1 or better. *(This is for camera type memory cards)*
  8. NETWORK (Ethernet) ADAPTER = 1 GB speed *(Also called 10/100/1000 MB speed)*
  9. USB PORTS = 4 or more ports; more are better. Having at least one USB 3.0 port is preferred. *Currently USB version 2.0 is still standard. USB 3.0 can be added to a desktop at a later time, but not to a Laptop.*
  10. IEEE 1394a Firewire Adapter ports = 1 or more ports. *(Especially if you do video)*
  11. WIRELESS: Mandatory for a Laptop. Optional for a Desktop. *Note: Top-of-the-line Lenovo Thinkpads offer wireless with 3 internal antennas for better connectivity.*
  12. FLOPPY DRIVE = An included Floppy is not necessary. *(USB Flash Drives make Floppy disk's obsolete, but USB External Floppy drives are available separately and are cheap).*
  13. BLUETOOTH = Optional, but nice. Especially if you want to connect to a Bluetooth keyboard, mouse, camera, cell phone or other portable device.
  14. MICROSOFT OFFICE = If you plan to buy Office 2007/2010/2013/365, make sure it is included in your PC purchase. It is cheaper than buying it later. **NOTE:** OFFICE 2013 includes additional features for a touchscreen. *(Personally, I prefer the "LIBRE OFFICE" Suite. It is a free download from [libreoffice.org](http://libreoffice.org)).*
  15. RE-INSTALLATION DVD's: If at all possible, make sure that Windows 10 Installation DVD's or Recovery DVD's are included with the PC purchase. *(See \*Note 1 below for details).*

### **\*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 10 Install DVD with your PC. This is the most desirable way to go.
- Most if not all new Windows 10 PC's come with a Utility Program that allows you to burn your own set of Recovery DVD's (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 10 also includes utility that allows you to burn a "Windows 10 Repair CD". This is a bootable CD that make certain repairs that may make an unbootable system boot again. You can also download the CD image (ISO) from Microsoft. Be sure to specify 32-bit or 64-bit.
- **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 way it was before a critical problem arises, including all your currently installed programs, settings, customizations, and data. See my tip sheet called "BACKING UP AN IMAGE OF YOUR HARD-DRIVE" for details.*

### **\*\*Note 2 - CPU's:**

- INTEL i5 vs i7: Although some Intel i7's are better than i5's, they are not as cost effective. An i5 CPU with a higher clock speed will actually run faster than an i7 with a slower clock speed, but the i7 Processor can do more multitasking for video editing, etc.
- AMD: If you insist on the AMD brand, get one in the "Phenom" family or better. In my experience, the speed of AMD CPU's varies dramatically among similar models and their performance is poorly documented. **Get Intel.....**
- 64 BIT vs 32 BIT: I absolutely recommend getting a 64-Bit CPU so you can use the 64-Bit version of Windows 10 either now or later. You will find that most PC's for sale not only have a 64-bit CPU, but they also come with the 64-bit version of Windows 10 pre-installed. In the future, more and more 64-Bit Software will be available that can take advantage of the increased performance of the 64-bit CPU. Not to worry; Your 32-Bit applications will run just fine under Windows 10 (64-Bit).
- VIRTUAL XP MODE: Windows 10 does not support VIRTUAL XP MODE.
- SPEED CHARTS comparing the speed of various CPU's, see: <http://www.cpubenchmark.net/>

### **\*\*\*Note 3 - RAM:**

- More is better. If you use memory intensive programs like Photoshop, Paintshop Pro, or do video editing, I suggest you get 8 GB or even 12MB of RAM or more.
- **WARNING:** The 32 bit versions of Windows 10 can only recognize a maximum of about 3.2 GB of RAM, so having 4GB or more is wasted. This is one big reason to choose 64-Bit Windows 10.

## LCD MONITORS & DISPLAYS:

- **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 darkened area. Consider these ideas 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.
  - ✓ 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 fact. 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.
- **LED BACKLIGHTING:** LED backlighting is how standard in all LCD Monitors and laptops.
- **TOUCHSCREENS:** Having a touchscreen that is in front of you, where you can get tired while holding your arm up, makes no sense to me. They do make sense in a convertible Laptop so you can convert it into a tablet.

## VIDEO CARDS:

- Unless you are doing gaming or video editing, the built-in video is fine.
- If you are offered a choice of a Video Card "With Adapters" or "Without Adapters", I would always go "With Adapters". You may be glad you have them if you ever upgrade your Monitor.
- The main thing is to make sure the video output connector on the PC is a match to the video input connector on the monitor. There are many new ways to connect a monitor. Some of the video connectors you will find are: VGA (HD15), HDMI, HDMI Micro, HDMI Mini, DVI, DVI-D, DVI-I, DVI-A, and Displayport. [Http://en.wikipedia.org/wiki/List\\_of\\_video\\_connectors](http://en.wikipedia.org/wiki/List_of_video_connectors).
- **RESOLUTION:** Newer large monitors can have resolutions up to 2560x2048. Make sure you get a video card that can support the best resolution of your Monitor.
- **MULTIPLE MONITORS:** Some video cards support multiple Monitors. Don't pay extra for those unless you plan to use multiple monitors now or in the future.

## HARD-DRIVES:

- **DRIVE RPM:** (Rotational Speed in revolutions per minute) Especially for laptops, if you don't ask the seller, you will probably end up with a 4200 RPM or 5400 RPM hard-drive inside because they are cheaper. Be sure to specify a 7200 RPM hard-drive. They make the whole PC run much faster and responsive. SSD's are even better.
- **SSD's** (Solid State Hard-drives):
  - ✓ Available drives are now large enough to use as your main Drive (C:). Prices are WAY DOWN, so I highly recommend going for a 240 GB or larger SSD as your main drive.
  - ✓ If you do choose an SSD: Beware that they 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. You should be doing this anyway.
  - ✓ **MLC vs TLC TECHNOLOGY:** Always pick "MLC" technology drives and avoid "TLC" technology drives.

- Some larger Laptops offer space for two hard-drives. In this case, you can make the main drive SSD and the second drive a regular drive. You can then automate regular image backups to the second drive.

## 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. **SCREEN:**

- a. GLOSSY or MATTE? Read the discussion above under MONITORS & DISPLAYS (LCD).
- b. SIZE: Laptop screen size typically varies from 12" to 17". Personal preference, but you must consider that larger screens mean a thicker heavier PC, and a shorter battery life.
- c. LED Backlighting for laptop screens is now standard.
- d. ASPECT RATIO: I prefer standard 4x3 ratio over a Wide-Screen, but you must decide what fits your needs. Pretty much "Wide-Screen" laptops are all that are available these days.
- e. TOUCHSCREEN: If you have a laptop that can convert into a tablet then a touchscreen may be a good idea for you. Otherwise, having a touchscreen that is in front of you where you can get tired holding your arm up, makes no sense to me.

### 2. **KEYBOARD:**

- 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).
- d. Bluetooth attached wireless keyboards make this even easier.
- e. Remember that External full-size Keyboards can solve any Laptop keyboard issues.

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 or via Bluetooth. Many users do this routinely.

4. **DOCKING STATION (PORT REPLICATOR):** A docking station allows you to plop your laptop down and automatically connect it to an external monitor, full-size keyboard, mouse, Network, 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.*

5. **SPEAKERS.** Unfortunately just about all Laptop built-in speakers are awful. Plan on using earphones or external speakers for your multimedia.

6. **CASE RUGGEDNESS:** Lift the left or right front corner of the laptop. Both corners should lift exactly the same without flexing. If it flexes at all, pick a different laptop.

7. **BRANDS:** I prefer and recommend LENOVO and DELL brands for both Desktops and Laptops; for too many reasons to mention here. I have also been impressed with the build quality of ACER.

**LAPTOP or DESKTOP?** Basically newer Laptops have all the power of a Desktop and add portability. The disadvantages of a laptop are numerous though; smaller screen, cramped keyboard, poor sitting position. If you choose a laptop for portability needs, I suggest you consider choosing one that supports the Docking Station / Port Replicator option. See the section above.

**ALL-IN-ONE DESKTOPS:** Basically All-in-One Desktops save a lot of desk space, but in my opinion that advantage is outweighed by the fact that they leave no room for expansion (same as a laptop, everything is jammed into one case). For example, you cannot install a better Video card, or add a USB 3 adapter, or add internal hard-drives, or add internal DVD players. So make sure the PC has everything you want when you buy it, as you have no room for growth.

**CONVERTABLE LAPTOPS:** These designs are great as you can use Windows 10 as a regular PC or as a Tablet. They cost more, but come with a touchscreen. Having a touchscreen on a regular on non-convertible laptop is useless for me personally as my arm would get tired holding my hand up to the screen all the time.

### **MEDIA CENTER PC's:**

Windows 10 does NOT 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 editing.

### **PRINTERS & OTHER EXTERNAL DEVICES:**

**PRINTER DRIVERS:** Windows 10 drivers for older printer models are frequently NOT available. Search the Printer Manufacturer's website (Not Microsoft.com) to see if a Windows 10 driver is available for your model printer. If not, there is a possibility that Windows 10 may have a "built-in" generic driver that will work with your printer. *WARNING: The Generic Windows 10 Printer Drivers frequently have limited functionality. You really need a Driver provided by the Printer Manufacturer for full functionality.* See if your old Printer works with Windows 10 before you go out and buy a new one. *NOTE: All-In-One printers complicate the printer driver issue even more.*

**OTHER EXTERNAL DEVICES:** All my comments about printers applies to all external devices.

### **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. Never expect good speakers inside a Laptop PC.

***\*\*Always check for the latest version of this guide at: [www.jimopi.net](http://www.jimopi.net)***