

## Deciding on a New Computer (1/9/2023)

It is an obvious fact that computers get old and they do eventually fail. It seems, as they get older, no matter how well you maintain them, their performance seems to slip. In any event, many of you will be in the market for a new computer during the next year. This handout is to help you understand the advertising that you see and to perhaps aid you in making an intelligent choice. It is an expansion of the FAQ handout.

A couple of things should be considered first. What is your approximate budget? Do you want a desktop or a laptop? What are you going to use it for?

First the budget: Computers (Windows format) seem to get more complicated with every new offering. Today you can get a very good new machine for somewhere in the neighborhood of \$500 - \$550. That's the average. If you are going to spend much more than, say \$750, you should get some really nice extra features. A real low-end unit can be had for around \$350 (Chomebooks don't count in my mind because they don't run Windows). The extremely low-priced units often "feature" sub-par specs and should be avoided. I, personally, would not buy a computer with an Intel Celeron or Pentium processor.

Let's address the desktop or laptop idea first. They each have their advantages (and disadvantages). This decision should be independent of application and budget.

Laptops are compact, portable, self contained and ideal for folks who want to move them around the house (or to use them while traveling). They are somewhat limited in screen size (max 17.3"). They don't have unsightly wires. New ones will always have built in Wireless Internet capability and almost always have a built-in camera and microphone. Extra expenses associated with a Laptop might be to buy an external mouse and a carrying case. If you buy a Laptop, you also might want to invest in a wireless router to set up WiFi in your house (if you don't already have one). An addition feature in some laptops is called 2 in 1. In this type of unit, the screen folds back on itself to permit using the computer as a tablet. This is useful if you want to manually draw on your screen with a special stylus. In my opinion a 2 in 1 is not worth the extra expense for our generation.

Desktops probably provide a little more power for your money and allow you to replace or upgrade certain components (such as a screen). If you want a very large screen, a desktop is the way to go. But, they are stationary and have lots of wires. Actually, a third option is called an All-in-One where the computer is physically in the screen. It behaves more like a desktop and is more expensive than a traditional desktop.

Laptop as Desktop – A laptop can be set to keep running when the lid is closed. This permits connecting an external monitor, external Keyboard and mouse and essentially using this laptop as a desktop. (just like a desktop tower). This involves a little additional investment above the laptop itself, (External monitors are around \$100 or more and keyboard and mouse... maybe another \$25.) Another option is using that external monitor as an extension of the laptop's own screen, thereby allowing you to use two monitors at once. This would allow you to shuffle work from one to the other and is very convenient. Easily set up in Windows 10 or 11

What are you using it for? If you want to do email and Internet searches, you don't need anything extra special. If you do lots of online games with complex graphics you might require more computing power. See specifications below to help make your decision. Applications such as word processing or creating spreadsheets can be done on any computer, but these are done through extra applications.

### Computer Ads

Computer ads are full of abbreviations and what seems like code words. Here are some guidelines to assist you. All advertising will state the hard drive size (in Giga-bytes or GB - a GB is 1000 Megabytes), the amount of memory or RAM (also in GB) and the type or brand and often the speed of the chip (processor). They will also describe some or all of the other items below.

- Size of Hard Drive. Laptops will have 128 to 1000 GB, depending on the price. Desktops will have 500 to 2000 GB (1000 GB = 1 TB) or even more, again depending on the price. If you are buying a new machine to replace a 5-year-old computer, chances are you currently have a smaller hard drive. Getting a huge drive is most important if you save a LOT of pictures and iTunes songs. Paying extra for the

largest available hard drive may be a little overkill. Hard drives come in three basic rotation speeds - 5400 RPM, 7200 RPM and 10,000. The faster makes for quicker access. If it doesn't say anything, it's likely 5400 RPM. More and more computers today have solid-state drives (SSD) that don't rotate (more durable and faster, but more expensive). SSDs are perfect for students who put computers in their backpacks and then jog or ride a bike.

- Memory or RAM (Random Access Memory) - sometimes described as DDR (Double Data Rate) RAM. Laptops will usually start at 4 GB (budget machines) and go up to 16 GB or ever higher. All new machines come with Windows 11. I've seen machines with as high as 32 GB. The more RAM the more expensive. Desktops will may start as low 4 GB go up to 64 GB or higher. The more RAM you have the better your machine will perform.
- Chip (Processor) - Intel quad core (4 cores) processors (Celeron, Pentium, i3, i5 and i7) and AMD quad cores are the most common. Lots of buzz words here. If possible, shoot for the higher end of Intel, i.e. an i5 or i7. With AMD you have to use the Internet to get reviews and compare to the Intel. Speed is sometimes quoted. If it is, it is described in GHz (Gigahertz). This number can vary all over the map from 1.5 GHz to well over 3.00 GHz. If chip is very high-speed, the ad will probably brag about it. As stated above, I personally would not buy a machine with an Intel Celeron or Pentium chip.
- Operation System and Touch Screen - If buying a Windows Machine, the current system will be Windows 11. Although a touch screen may be available, many or even most machines sold with Windows 11 will NOT have touch capability. It still works fine with a mouse. If you want a touch screen be sure to check. All versions of Windows prior to Win 10 are not supported by Microsoft anymore. Windows 10 will be supported through 2025.
- CD/DVD Reader/ Writer – Most laptops today will NOT have a drawer for CD/DVD. (external ones are only \$30) These CD/DVD drawers were left out to save weight and make the machine thinner. You may have noticed newer cars don't have CD players any more either. Desktops will usually have a drawer. Reason: A typical data disk can only hold about 750 MB of information – that's only ¾ of one GB. Flash drives capable of holding 16 GB or 32 GB are under \$20 and much smaller. This makes CDs rather inefficient.
- Wireless Capability - Laptops will always have 802.11 b/g/n wireless built in. Desktops today have this built in. If you have a wireless router in your home, the computer can be put anywhere within range of the router's signal. This applies to wireless printers too.
- USB slots - Two USB slots in cheaper model Laptops, 3 or 4 in more expensive ones. Desktops typically have 4 to 6 slots in back and maybe two more in the front. There is a new smaller USB jack called a USB-C jack that is offered in addition to the standard USB slot. An adapter is required to use this with a conventional USB device.
- Camera Card Slots - (for digital camera cards) Many new machines will have a slot that lets you take the memory card out of your camera and put it into the machine directly.
- Webcam built in - Most Laptops have a built-in webcam and a built-in microphone. If unit doesn't have camera included, a clip-on camera can be purchased for as little as \$25. Desktops seldom include cameras (the exception is the all-in-one). Most add-on cameras include a microphone.
- Battery - Laptops will often brag about battery life. All will have Lithium-Ion batteries. Life of battery depends on the number of cells. I speculate that battery-life claims are a little (maybe even greatly) overstated. Most will last over two hours. When it says "up to" 6 hours of life, you know that's under super ideal conditions. Extra batteries are expensive. Even under normal usage a laptop battery usually doesn't last more than five years.
- Computer Brand - This represents MY opinion: There are many brands on the market. With Desktops, HP and Dell populate the middle of the pack. Sony (marketed under the name VAIO) tends to be a little more pricey. With Laptops, I've had good luck with Sony (VAIO), HP and Dell. Lesser-known brands such as Lenovo (IBM affiliate), Acer and Asus are available. I would pay more attention to the features than the brand.

- Software - Most new Windows machines come with MS Office loaded but not activated. This can be done for a price or you can choose to load one of many free "office suites" such as Libre Office or WPS Office (See [www.filehippo.com](http://www.filehippo.com)). These are decent alternatives. Also, most new machines come with a trial version of virus checkers too. Don't let the salesperson talk to into buying something extra. Good virus and spyware checkers can be downloaded for no charge from the Internet after purchase or you can use the virus checker built into Windows 11.

### Afterthought

I personally don't believe in buying the extended warranty on a new machine. It's expensive and you know the companies make money on them. Most electronic failures happen early in a unit's life - which would be covered under the regular warranty. A later failure might be better handled by replacing the machine. **By the way, damage done by viruses or dropping a unit is never covered by regular or extended warranties.**

Also, to avoid bait and switch, it is a good idea to have a well-defined set of requirements in mind when you go shopping. There are many slick salespeople out there who will try to tell you that you need more than you had in mind. Sometimes I think they target people in our generation.

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### Another Afterthought

As I write this (early in January 2023) I have been watching product availability in places like Sam's Club, Costco and Staples. All three places have limited in-store availability of computers and printers. I'm sure the large demand dictated by home schooling and remote learning has caused this to be true. Nevertheless, if you're in the market for a new one, watch the ads online. You can sometime order a laptop or printer that will be in the store within a couple of days.

Below is a ROGUH idea of the kind of machine I usually recommend (when asked) to folks looking for a new one. Please know that this is a guideline and should not be viewed as gospel.

Dan's Guidelines – what to have in mind when looking for a laptop

Brand: Not that important – Dell and HP are ubiquitous. Lenovo & Acer are OK.  
 Screen Size: 15.6" is standard. Larger OR small is usually more expensive.  
 Hard Drive: If Solid State (SSD) at least 128 GB; if conventional drive at least 500 GB. SSD is faster.  
 RAM: Start at 8 GB. More is better but 8 GB is OK. 16 GB or more is high end.  
 Chip: This is the processor. If Manufactured by Intel aim for i5 or i7. If AMD, check the Internet for reviews and comparison to Intel.  
 Most users don't need a touch screen. Can add cost.  
 Modern laptops will not have a CD/DVD drawer

An i5 or i7 with 8 or 12GB or RAM and a decent Hare Drive should be in the Neighborhood of \$500 to \$600. *The machine below, currently (Jan 2023) available at Costco Online exceeds those guidelines. It's also \$699 + tax. Below is the sale price.*

15.6" DISPLAY

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16GB MEMORY

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1.0TB SSD

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GeForce™ RTX 2050



Acer Aspire 5 15.6" Laptop - 12th Gen Intel Core i7-1260p - GeForce RTX 2050 - QHD (2560 x 1440)

Item 1691576 | Model A515-57G-7830

★★★★☆ 4.1 (11) [Write a review](#)

Online Price	\$1,099.99
Less	-\$400.00
<hr/> Your Price	<hr/> \$699.99

Shipping & Handling \$14.99\*

\$400 OFF

\$400 manufacturer's savings is valid 12/26/22 through 1/15/23. While supplies last. Limit 5 per member. [Terms & Conditions](#)

Features:

- 12th Gen Intel® Core™ i7-1260P (12-Core) Processor
- NVIDIA® GeForce RTX™ 2050 Graphics, 4GB
- 15.6" Widescreen LED-backlight QHD (2560 x 1440) IPS Display
- Wi-Fi 6 (2x2/160) Gig+ and Bluetooth®
- Backlit Keyboard and Fingerprint Reader

