



Finding the Right New Computer

BUYING THE RIGHT NEW COMPUTER INVOLVES MORE THAN FINDING THE ONE THAT LOOKS BEST. JUST LIKE WHEN BUYING A CAR, WHAT'S UNDER THE HOOD IS IMPORTANT.

If you spend a lot of time waiting for a slow computer, maybe it's time to replace it with a newer, faster model that has more features.

Windows or MacOS? There are other options such as Chromebooks and Linux, but most people will choose one of the big two.

You'll have limited choices with Apple computers — various MacBooks, a couple of desktop all-in-one models, the behemoth Mac Pro, and the tiny Mac Mini. Options are limited, too. Windows buyers have more choices to make.

There are dozens of big manufacturers and hundreds of smaller shops that build custom desktop machines. I'm going to make one overarching assumption: You'll be looking for a notebook computer. Not as many companies build notebooks, so you'll be limited to a dozen or so such as Acer, Dell, Hewlett-Packard, Lenovo, Microsoft, and Toshiba.



No company's computers are inherently better than any of the others. They all make powerful, high-end computers, and most also manufacture limited, low-end computers so look beyond the brand.

Think first about what kind of processor you need. The two primary choices are Intel and AMD. The CPU is responsible for most of the work the computer does, so take some



DESKTOP COMPUTERS OFFER THE BEST PERFORMANCE AND THE GREATEST CHOICE OF COMPONENTS, BUT A NOTEBOOK COMPUTER WILL BE SUFFICIENT FOR ALL BUT HIGH-END PHOTO AND VIDEO EDITING.

time to learn about the various options. Clock speed and the number of cores are the primary considerations.

At the top of the heap you'll find AMD's Ryzen 5 processors and Intel's Core i7 and Core i9 devices. If the tasks you perform need the fastest possible processing and you can justify the expense, that may be what you need, but many people will be satisfied with one of the mid-range processors, such as Intel's Core i5 or AMD's Ryzen 3. Low-priced processors such as AMD's Athlon and Intel's Celeron are

best avoided unless you're on a strict budget or have limited needs.

Each core in a CPU appears as a separate processor, and each core is typically able to handle two. A four-core processor with two threads will act like a computer with eight processors. More cores will provide faster operation and sometimes a CPU with more

THE CPU IS THE MOST SIGNIFICANT COMPONENT IN TERMS OF THE COMPUTER'S SPEED. MATCH THE CPU TO OTHER SYSTEM COMPONENTS TO ACHIEVE A BALANCED SYSTEM.





CHOOSING A SCREEN OR SCREENS MAY BE THE MOST IMPORTANT DECISION A USER WILL MAKE BECAUSE OF THE AMOUNT OF TIME SPENT INTERACTING WITH THE VIDEO SYSTEM.

cores but a lower clock rate can perform better than one with a higher clock rate but fewer cores.

Next, consider the type of graphics card you need. Virtually all computers have “integrated graphics” on the motherboard, but many also include a dedicated graphics processing unit (GPU). If you do a lot of photo editing or video editing, the GPU is crucial. These are typically made either by Nvidia or AMD.

Memory is the next point to consider. More memory is generally better, but don’t overbuy. Check the specifications for the applications you’ll use most often. Software manufacturers often list minimum acceptable memory and recommended memory. Use the “recommended” option and think about how many applications you’ll have open simultaneously.

The final major point is how much storage you’ll need. Unless you’re dealing with severe budgetary restrictions, don’t even think about choosing a computer with a mechanical hard drive. A 500GB solid-state drive will be sufficient for Windows and all the applications, but data storage may be limited.

Avoid any hard drive smaller than 500GB. A 1000GB (1TB) drive is a good choice this year unless you need more storage. If you do need more space, using an external solid-state or mechanical drive is a good way to add it.

Beyond the Computer

SOME COMPONENTS, SUCH AS AN OPTICAL DRIVE THAT WOULD BE BUILT IN TO A DESKTOP COMPUTER, OR A SCREEN A SECOND SCREEN TO SUPPLEMENT THE ONE THAT’S PART OF A NOTEBOOK COMPUTER, SHOULD ALSO BE CONSIDERED.

Do you need an optical drive? If so, should it be built in? Few people need a built-in optical drive these days because software is no longer distributed on physical media. If you have CDs and DVDs that you still need to get data from, an external USB optical drive is a good choice.

Likewise, an optical drive will be essential if you’re still using DVDs for backup. Many better choices for backup exist, including online services and external hard drives.

Although any notebook computer will have a built-in screen, it’s usually easier to work with a larger screen (or two). Few people will want to go back to a small monitor after working with a large monitor, or to go back to a single monitor after working with two.

- **Adding a larger monitor:** Even the largest notebook computer will have a screen no larger than 17 inches. A screen that large makes the computer so heavy that it really is no longer easily portable, but even a modest 24-inch external monitor will be easier to read, and many people prefer even larger monitors.

- **Adding a second monitor:** Editors, photographers, videographers, and stockbrokers are people for whom a second or third or even fourth monitor will be essential. Even those who feel that a second monitor would be excessive usually find that they use the second monitor to reduce clutter on the primary monitor.

Make sure that the computer has at least one DisplayPort or HDMI port, and it’s better if there are two. Alternatively, many computers come with Thunderbolt ports that can be used with a dock to provide multiple video connections, USB ports, Ethernet ports, and more.

It’s hard to imagine a modern notebook computer that omits Wi-Fi, but it’s important to check the specifications to ensure that it offers both 2.4GHz and 5GHz options. To future-proof the computer, choose one that also includes 50GHz Wi-Fi.

For computers that are used primarily at a desk that’s near the router, an Ethernet connection will be faster. If the computer doesn’t have an Ethernet port, it’s easy to add one with a USB 2 or USB 3 adapter, or by adding a dock that includes Ethernet.

After selecting and purchasing the perfect new computer, you’ll need to work out what to do with the old computer, and that’s the topic we’ll consider in July. [Ω](#)