

What Computer Should I Buy So I Can Caption?

Closed captioning products MacCaption and CaptionMaker allow you to easily author, edit, encode and repurpose video captions for television, web and mobile delivery. Utilizing exclusive e-Captioning™ technology, MacCaption (for Mac) and CaptionMaker (for Windows) simplify the process of complying with FCC regulatory requirements, enabling greater access to broadcast content for television, online and mobile viewers.

Introduction

Looking at the specifications, or “specs,” for running the software is just one part of deciding on a new machine for your captioning needs. The actual creation of captions is not very resource intensive, so going by just the specs can be deceiving.

One additional thing to consider along with the software specs is, “What kind of videos will I be playing back on my system?” If you are just using 320×240 proxy files, almost any machine made in the past three years will be more than adequate for your needs. “But what if I have a 1920×1080 Pro-Res HQ file and I want to do an alpha-channel text overlay on top of that to review my open captions or subtitles?” Now things become a bit more complex.

Let’s look at three different components of your system and their impact on playing back HD content for captioning.

Processor Speed

If you are just outputting a text file, then one would expect to utilize little processor time. But add in decoding of a high resolution h.264 file and creating an alpha-channel overlay, and suddenly that Intel Core i3 is overtaxed. Your computer is performing millions of calculations per second, many of which aren’t even related to what you are currently doing, so having a multi-core processor is a must when working with video and simultaneously having a few web browser tabs open as well as your email.

Luckily the price of quad-core processors has dramatically dropped recently, so skip the i3 or Duo and go with a quad-core or better processor.

RAM Considerations

RAM is the temporary storage space on your computer, and it transfers data to and from your processor. The more RAM you have, the more efficiently your processor can be utilized. Playing back complex video codecs can put a heavy burden on your system, and not having enough RAM can quickly make playback difficult. If you don’t have enough RAM then data starts getting pushed over to your hard drive for temporary storage, and a standard hard drive is about a thousand times slower than RAM at accessing data.

Think of it in terms of a desk: Items on top of the desk are easy to access and work with at any time. A hard drive is a drawer at the bottom of the desk. It too can hold things but it takes a lot longer for you to find them than if they were on the top of your desk. RAM is often limited by the operating system you are using, and how many physical slots are available. Any new machine should come with at least 4GB of RAM, and 8GB is even better.

RAM is inexpensive these days, one of the least expensive components you can purchase for a PC, so don't skimp.

When shopping, just make sure you get a machine with a 64-bit operating system. All Macs sold today are 64-bit, and most Windows machines are too, but be sure to check. If you've found the perfect machine for you, but it is low on RAM, you can almost always add more. Several RAM resellers have excellent video tutorials on how to add more RAM to your machine.

Hard Drive Specifications

While your RAM and processor are important, they become useless if your hard drive can't deliver data fast enough to them to process.

Modern hard drives with SATA3 connectors have good theoretical performance, but actual performance numbers can tell a different story. For example, one major manufacturer's drives have a theoretical sustained transfer rate of 110-123MB per second. In practical terms the rate is more like 50-60MB for a single drive.

In addition to the video data being read, remember that the operating system is also concurrently trying to write information to the hard drive. Also consider that drives get slower with age and usage so what may be good enough right now might not work very well in two years.

Solid State Drives by contrast have an actual transfer rate that is up to three times the theoretical and six times the actual compared to a recent hard drive.

Another factor to consider is the connector for external drives. Drive enclosures with USB3 are inexpensive and offer a substantial boost over older USB2 technology. While USB3 is backwards compatible with USB2, just remember you will only get speeds that match USB2. You might also have trouble playing back many HD videos using USB2 so make sure you are getting a USB3 connection end to end if you expect to be able to play back high bit rate videos.

If price is no object, then of course get a RAID of SSD disks with a Thunderbolt interface, but for most people a simple external hard drive will provide a big boost in performance because getting the OS data and user data in different locations will help dramatically.

Conclusion

As a whole, processor, RAM and hard drive can all affect your ability to caption. When looking at buying a new computer for captioning, look beyond just the specs and think about how you will use the computer.

If you buy a computer now that isn't up to the task, you might end up buying twice.

