Basic Case Cooling

To Make this a reasonably sized article that doesn't occupy the entire website by itself, I will have to limit the scope of this article considerably and focus on basic case cooling concepts. That means you won't find any information here in this article on peltiers, water cooling, refrigeration units, or submersible cooling. At minimum, each of these subjects deserves their very own separate article.

Establish A Case Airflow Pattern

Once again, since this is a basic case cooling article, I will limit our discussion to the most common case airflow pattern. That would be an 80mm fan at the front that intakes cool air and the rear power supply fan that exhausts the hotter air.

Make Sure The Case Airflow Pattern Is Free Of Obstructions

In my experience this is the number one cause of high temperatures--both case and CPU alike. I can't tell you the number of systems I work on personally whose owners complain about their computer overheating and locking up, or the temperature alarm in the BIOS going off constantly. When I open up their case I find a rat's nest of cables, wires, and dirty, grime-caked fans. It's completely ridiculous. Most of the time, in an hour with a few simple items I can fix all their heat issues.

The first thing you should do is make sure everything is clean and free of dust. If you want to know more on why this is important or just exactly how to do it, here is a link to my article on Cleaning Your Computer. Next, grab some rubber bands or plastic garbage ties (you really shouldn't use bread ties if you can help it because they contain metal wire which may become exposed and cause a short). Take your extra wires and power connectors, and band them up, placing them out of the way of the airflow path. If this is your first time doing this, don't be surprised if it takes several tries to achieve satisfactory results; this is normal.

Your next step is to get your drive cables out of the way as much as possible. There are many ways to do this. Some prefer to fold the excess ribbon cable; some people rubber-band them. Some stuff the extra cable in the drive bays between the floppy and hard drives. Again, how you do it is not important--only that you get them out of the way of the airflow path.

If you want, you can even totally replace them with Rounded Cables. Naturally, I have an article about those also, but it is really outside of the scope of this article. If you have followed the previous steps correctly, by now you should be able to look inside your case and mentally trace the "S" airflow path from the bottom front of the case to the top rear. This area should have a minimal amount of clutter.

Supplemental Cooling

This is the last area I would like to cover. I will keep this section simple, like the rest of the article. The simplest form of additional cooling is to add a second fan to the rear of the case. Most cases are designed to support this. Simply look for the area on the rear of the case that looks like Swiss cheese.

Most of the time, these areas accept a 60mm fan. Mount the fan blowing air outside the case in the same direction as the power supply fan. The second form of additional cooling you might want to consider is the card cooler, or exhaust fan variety. This comes in too many varieties to list, but my personal favorite is the exhaust fan that looks like a commercial fan. This type installs in the rear of the case, much like an add-in card. It even mounts using the card retention bar to which your other add-in cards attaches.

If you follow these steps you should greatly lower your case temperatures. Of course, if you are a hardcore

overclocker, these basic steps probably won't be enough, and you might want to consider one of the more exotic cooling types that we mentioned at the beginning of the article.

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