



How to Fix an Overheating Desktop Computer

Guide for improving the thermal performance of CPU and GPU of a desktop computer.

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INTRODUCTION

Overheating is very common in any computer system. Not only can overheating cause the system to constantly crash, but it also significantly decreases the longevity of the components. My guide will focus on improving the thermal performance of the CPU and the GPU.

I particularly focus on these two components since they are the most accessible components in the system. If their thermal performances are improved, the whole system's performance will cool down as well.

For readers without background information, the central processing unit (CPU) acts as the brain of any computer system. Therefore, if it crashes because of overheating, the whole system will crash too. The graphics processing unit (GPU) in my guide is the discrete type which processes graphics so that they can be rendered on our screen. If the GPU overheats, our screen will go black.



TOOLS:

- [Screwdriver with various bits](#) (1)
- [Case fan, 120 mm](#) (2)
- [Thermal paste or liquid metal](#) (1)



PARTS:

- [CPU](#) (1)
- [GPU \(discrete\)](#) (1)

Step 1 — How to Fix an Overheating Desktop Computer



- Remove the screws from the side tempered glass panel using your hands.
- Remove the front panel cover by applying a pulling force to the grip.
- ⓘ The position of the grip varies in case designs.

Step 2



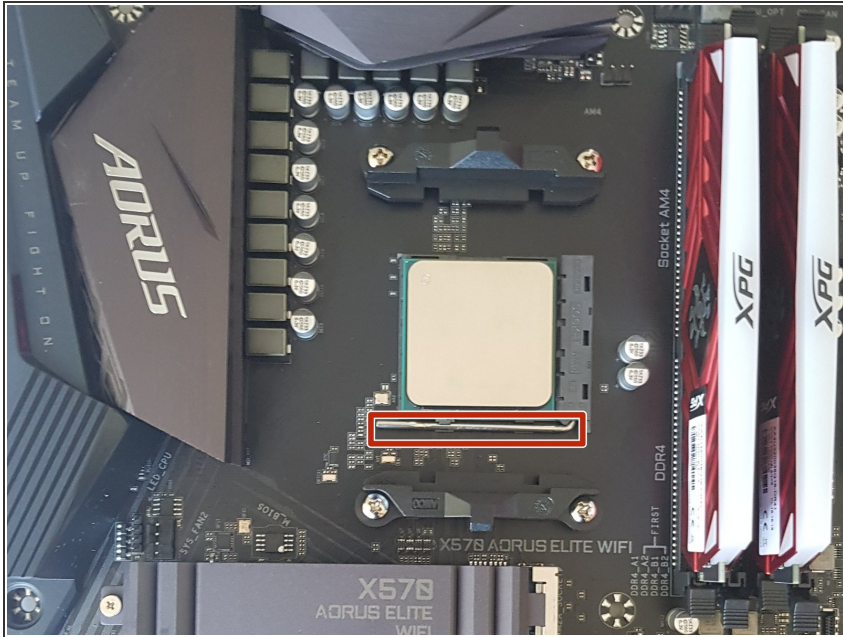
- Clean the front panel dust filter using a tissue or a cloth.
- ⓘ This step assures the internal components can easily access fresh air without dust accretion.

Step 3



- Remove the screws that are connecting the CPU cooler and wires to the motherboard.
- ⓘ This applies to most AMD and Intel CPU brackets.
- ⓘ If you are still not sure about how to remove the cooler, refer to your motherboard's manual guide for more information.

Step 4



- Remove the CPU from the motherboard by raising the retention arm. Lay the CPU carefully on a soft surface to avoid damaging him by deforming some pins.

Step 5



- Use a tissue to gently clean off the leftover thermal compound.
 - Apply a small amount of thermal paste (or liquid metal) to the surface of the CPU.
- i** You can refer to the [How to Apply Thermal Paste](#) guide for more information.

Step 6



- Reattach the screws that connect the CPU cooler and wires to the motherboard.

Step 7



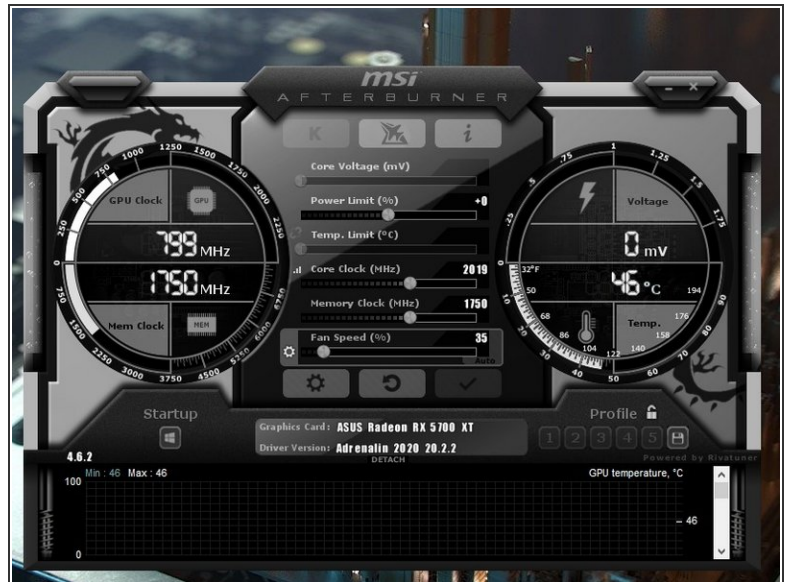
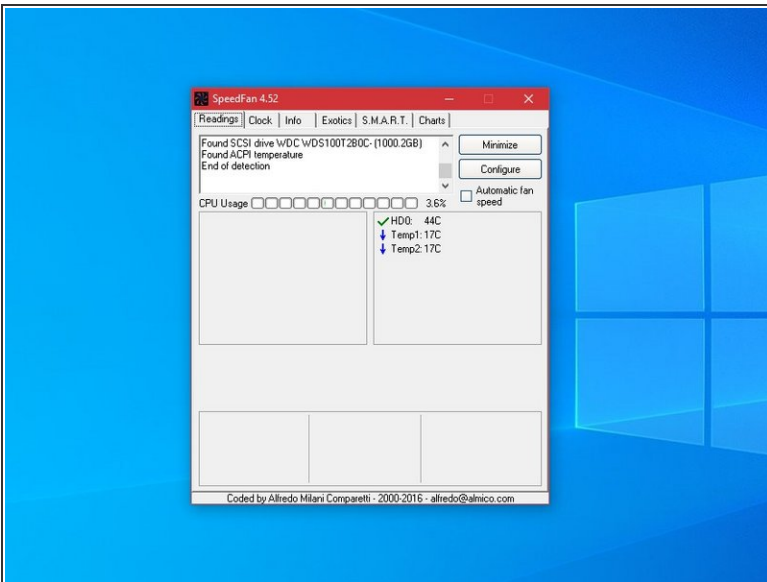
- Mount two 120 mm type case fans on top of the case as an addition to exhausting hot air. You need at least four screws (two for each fan mounting diagonally) to mount the fans. (I recommend eight screws.)
- ⓘ This process improves the airflow inside the case because the heat generated by the CPU and the GPU will dissipate faster.

Step 8



- Replace the screws from the side tempered glass panel using your hands.
- Reattach the front panel cover.

Step 9



- Run the system and check for its cooling performance. When your system is on heavy workload, you can increase the fan speed of either the CPU or GPU for better heat dissipation.
- ① Check the temperature of your CPU and increase the cooler fan speed by using [SpeedFan](#).
- ① Check your GPU temperature and increase the fan speed by using [MSI Afterburner](#).

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