Video Explanation - What is in a Computer? (5.5 min)

Hello everyone. Let's take a look at what's inside of a computer.

Now to start it off, computers have changed drastically. What we can see here, is this little computer can do everything we see on my desk right now. We can connect to speakers and monitor, keyboard and mouse and even a webcam and a microphone. They used to take a room, just full of mainframes, to do what this little single-board computer can do. Also our computers are drastically changing, because now we have integrated computers and smart watches and even health and fitness trackers. It's astounding where we're at now.

So let's talk about what a computer does. A computer's going to take input. And by taking input, it's then going to store it in memory. It'll be processed and then be provided as output.

So let's chat about it. We've got these input devices here. I've got a keyboard and a mouse. I've got a microphone. Then I've got output. I've got speakers. Here, I have my monitor. Also there's another input device sitting right here staring at me. It's my webcam. That's going to take in data as well. So let's change it up and talk about some of the other components in a computer.

So those components on the outside got to connect somewhere. So we can take a look at this, box. People call it a box. It's a computer case, it's a computer tower. Or you can just call it, the box. We take a look at the box, you can take a look at the front of our box.

And you'll find that we have USB ports, to plug in our components on the outside, like keyboard and mice. You got a headphone for speaker out. You got a microphone in port. You've got this optical drive, for those people who still use CDs. Which you never know.

Now besides the front of the box, you can take a look at the back of the box. And the back of our box here, we can see a variety of different items. We've got the power supply to plug in the computer case and power everything going on. We've got these adapter cards here, that gives us extra functionality. One here is for networking and internet. The other one's for display, to give us multiple monitors.

And besides all that, down below, we've got these connectors here, that hook to the system board. I've got some for the microphone. I've got something for a speaker. For external line in, to put those high-powered audio and send it into the computer system. I've got multiple display ports here, regarding VGA, DVI. Some cool ways to output to, again, monitors.

Now these thing aren't as powerful as this graphics card here. That graphics card there, well, that would be something like this. Something big and beefy to play your games. To do things such as virtual reality and 3D. You name it, that's where that goes. Now these graphics card ports here, it's built into the motherboard. Not as powerful.

Down below, I've got four USB ports to connect more external devices and components. And I also got a built in networking jack. Why two networking jacks? Because one might be built into the system board and another one might be awesome for gaming and high performance.

Let's take a look at the inside of this case and see what else we have going on here. Let's get inside the box. So we'll take off this side panel here and we'll get into the internals of our computer system. So we take a look at the inside of this computer system and one of the first things we see is this fan here. And this fan is sitting on top of these fins. And these fins have one job. To keep the CPU underneath cool. That CPU is going to be executing instructions and running programs. And that CPU's going to get really hot, really fast. That heat's going to go to these fins. And this fan here is going to cool down those fins.

Now what's that CPU doing? Well as our computer system takes an input, it's going to be taking in information. That information is going to be processed, through that CPU. And it's going to be stored in things like this hard-drive here, or right here, on these memory sticks.

So these memory sticks, they're called RAM. And these RAM sticks here, are going to temporarily store data so it can be executed faster, by our CPU. When we store data permanently, it'll be put on this hard-drive over

here, which is a solid-state drive. An example of that, would be my solid-state drive, right here. These solid-state drives are going to retain data and be able to read and write data very fast.

Now besides that, we have some expansion cards here. And these are going to be our graphics card and that network card we saw earlier. These are in expansion slots, which gives us more functionality. It adds more to our system board.

Where's the system board? Well that system board is this entire motherboard down below. Which is attached into our computer case. This motherboard is full of different components and capacitors and circuitry. It allows our entire computer system to be able to be sending and receiving data.

At the top here, I got an optical drive. That optical drive, uses those old-style CD/DVD discs. Yup, that can temporarily store data, on a CD or DVD.

Up here, this is our power supply. This is providing power down to all the components within the system. Including the main board itself, that system board. This power supply will attach to your wall outlet and give you the power needed to run all of your components inside. Whether you have a small graphics card or you're dropping in the latest and greatest beefy ones, in order to run anything you want to throw at your system. Including gaming. Homework assignments as well as business and productivity.

So get started identifying what is inside of your computer and become an IT professional.

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