The Components of a PlayStation 3 Slim

By: Ryka Jain, Aditi Pangal, Krithi Tandyala, Arushi Subramanyam, and Manasa Raghuraman

VEX Robotics Team: 50008C (Pixibots)

The device we picked to take apart was a Sony Playstation 3 Slim, or PS3. It is a video game console. We picked the PS3 because it is a challenging device to take apart, so it would be a new experience for all of us. Not to mention, we've all played video games and were curious how they worked.

When we opened it up, we researched the different parts and picked 7 out of 13 parts to explain and showcase here. The parts we picked to showcase were the Fan System, AC Inlet, Hard Drive, Antennas, Control Panel, Motherboard, and Blu-Ray Disc Drive. The parts we did not pick are the Blu-Ray Laser, Laser Unit, Laser Lens, Pram Battery, Power Supply, and Heat Sink. None of the parts we found and researched were TI components.

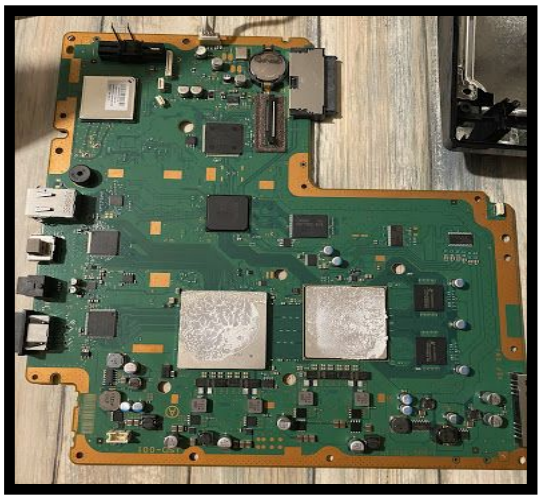

Figure 1: This is the motherboard of the PS3.

The *motherboard* is the powerhouse of all electronic devices. There are no detachable parts for the motherboard except the pram battery. Aluminum electrolytic capacitors is the part of the motherboard that stores electrical energy. It is needed for devices that require a lot of energy. A thin part of the capacitor acts as the dielectric for the capacitor, so it transmits energy without conducting it.

The *fan system* is used to cool the parts down, and is made of two detachable parts: the fan base and the fan blades. It is essential in making the electronic components last longer.

Figure 2: This is fan system in the PS3.

The *control panel* is an area where the basic commands are displayed. It can eject the blu-ray disc and turn the PS3 on and off.

Figure 3: This is the control board for the PS3.

Figure 4: This wire is the AC Inlet.

The *AC Inlet* is a connector that allows an AC wire, which is located under the power supply, to be connected to it. AC Power, which stands for Alternating Current, is needed in every device.

The *hard drive*, or hard disk drive, is from TOSHIBA and its main purpose is to store data. In the case of the PS3, the hard drive stores the games' save data.

Figure 5: This is the picture of the hard drive in its casing in the PS3.

Figure 6. The antennas are two thin wires.

The *antennas* capture and transmit radio electromagnetic waves. The antennas are two wires that are connected to thin metal structures.

Blu-ray drives come in three main forms to read blu-ray discs; Blu-ray reader, Blu-ray combo drives, and Blu-ray burners. Blu-ray burners read and write CDs, DVDs, and Blu-ray discs. They are needed to watch high definition movies with good picture and sound qualities.

Figure 7: This is the Blu-Ray Disc Drive.

In the end, we learned that there are many parts required to run the PS3, and that all of these parts are essential for the PS3 to function properly. In the beginning, we were starting off by researching too specifically, by only researching parts of the motherboard, when we should have been focusing on the entire PS3. From this electronic challenge, we learned lots about the components of the PS3, and plan to do more projects like this in the future!

Parts List of the PS3

- Fan System
- AC Inlet
- Hard Drive
- Antenna
- Control Panel
- Motherboard
  - Aluminum Electrolytic Capacitor
- Blu-Ray Disc Drive
- Blu-Ray Laser
- Laser Unit
- Laser Lens
- Pram Battery
- Power Supply
- Heat Sink