Playstation 3: 4478X



We chose to deconstruct a broken Playstation 3. I thought it was an ideal choice since I played on the thing almost everyday until it decided I was playing too much and gave up on life. I was intrigued by what the inside of the console could hold, so instead of sitting in the garage collecting dust, when I saw this challenge I thought it could be put to good use.





(Left: Blu Ray Drive - Right HDD Cage)

The more simple parts include the **cover**, **case**, **blu ray drive**, **HDD cage**, **fan**, **motherboard shield**. We also found things that required a little more research than others. We were intrigued by the little circular item we unplugged and found it is called a **board battery**. As you can infer from its name it provides electrical energy to the circuit board.



(Board Battery)



(Circuit Board)

We finally found the circuit board and we had no idea what we were looking at. We did a lot of research to be able to identify what was on the circuit board and what the pieces did. The first thing that glared at us were the two large silver squares towards the middle of the circuit board. We discovered these are **processors**. They are responsible for fetching, decoding, executing and writing back information that it receives from the coding that is present in programs.



(Processors - With Thermal Paste Residue)

Near the processors you can see lines connecting different parts of the circuit board. We found these are called **bridges.** They are responsible for providing a path for electrical current to flow.



Next we looked into **IC chips**. We found out what they were and how to identify them on the circuit board. An integrated circuit is a set of electronic circuits on one small flat piece (or "chip") of semiconductor material, normally silicon. They have a multitude of functions such as an amplifier, oscillator, timer, counter, computer memory, or microprocessor. Some of the IC chips were scratched but we were able to make out that TI provided at least two relatively small semiconductor chips. Further research indicated that specifically for playstations TI provide IC chips used for for either memory or video output. This part of the research was difficult as so many different sources claimed many different uses of the TI chips in the playstation, probably due to the quantity of products that playstation puts out and so many different models. We also found the little silver pieces surrounding the IC chips are contacts. Pins that trigger electrical currents that allow the chip to perform action.



(IC CHip - Texas Instrument Logo)

Additionally, the small rectangles surrounding the chips are **resistors** and **capacitors**. Resistors let us introduce precisely controlled amounts of resistance into electrical circuits. Capacitors store electrical energy in electrical fields.



(Larger: Capacitors - Smaller: Resistors)

(A Mess)

To conclude, our team has learned not to take technology for granted. There is so much more to a machine than meets the eye. We have spent a lot of time researching and we're not anywhere close to comprehending how *everything* works. Technology is genuinely astounding.

Parts:

- Cover
- Case
- Blu Ray Drive
- Board Battery (The green Circle Thing)
- Power Supply
- HDD Cage
- USB and Wifi Controller
- Fan
- Motherboard Shield
- Motherboard
 - IC Chips
 - Resistors
 - Bus/Bridge
 - Capacitors
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