

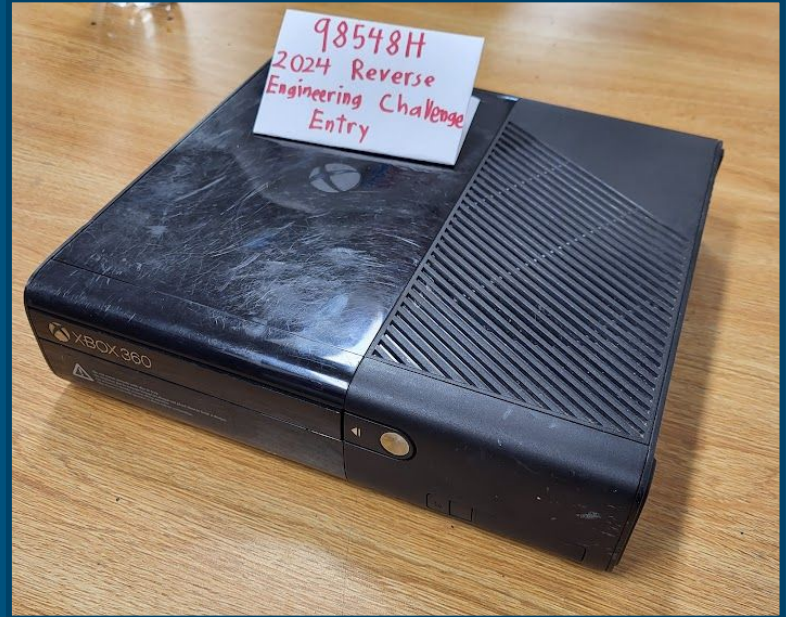
Reverse Engineering: Xbox 360

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Why an Xbox 360?

All the members of our team had access to an Xbox 360 while growing up and enjoyed the entertainment that this console brought. We have access to a nonfunctional Xbox 360 E Console. Our team would like to further understand exactly how this console works.



Components

The Xbox 360 has a variety of components. All components contribute to the function of the console.

- Shell
- Motherboard
- Heat Sink
- Disc Drive
- I/O

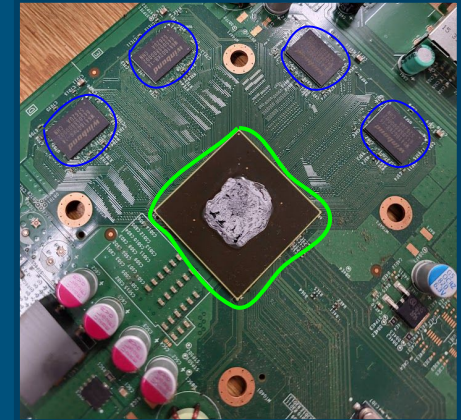
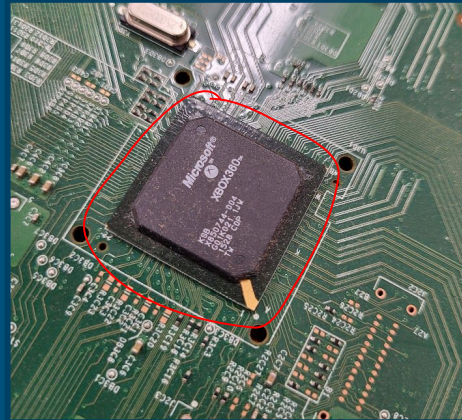
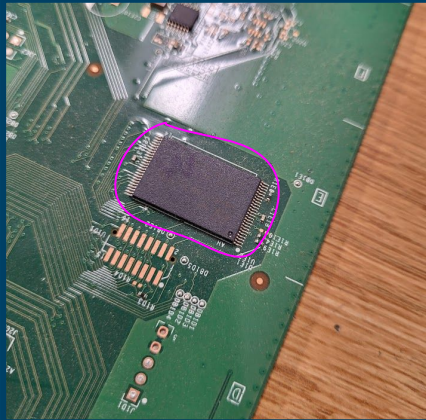
Shell

The exterior of the console is called the shell. It protects the interior of the console and all other components. It also holds the entire console together and is connected via plastic clips that are on the inside of the shell. The only way to disconnect the clips was to use a precision knife to reach through slits in the shell and pry up the clips.



Motherboard

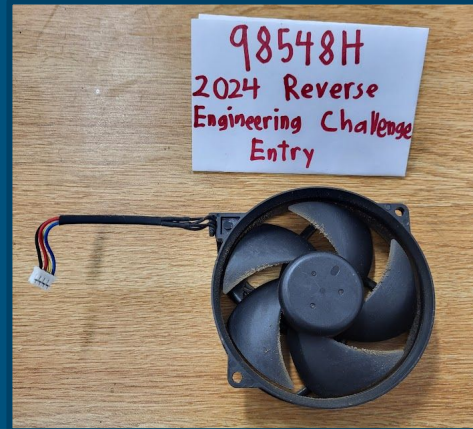
The motherboard is the most important part of the console because it contains the main components. These include the **CPU**, which does most of the processing for the console, the **RAM**, which is used for quick access to temporary data, the **NAND**, which is permanent storage that is built into the console, and the **GPU**, which processes the graphics and outputs the video signal.



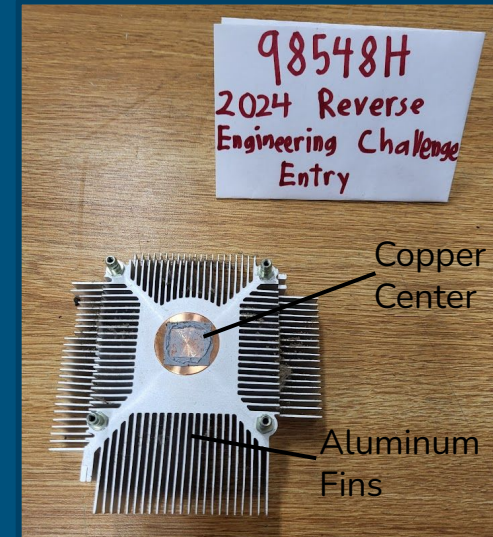
Heat Sink

The heat sink is initially attached directly above the CPU because that is the hottest part of the Xbox. It uses heat conductive metal, to dissipate heat. It also has a fan attached to assist with dissipating heat by pulling the hot air away from the CPU.

Fan



Heat Sink

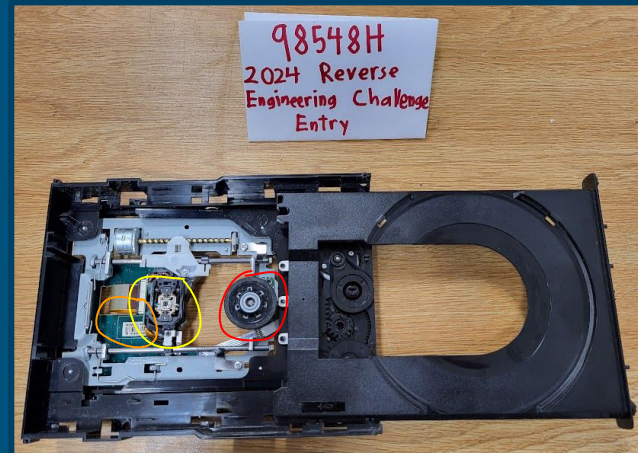


Disc Drive

The disc drive is a major component of the system as it reads data which is stored on DVDs. The way it works is there is a **motor** that spins the disc around. As the disc is spinning another **motor** moves a **laser** back and forth and this laser reads the data stored on the disc.



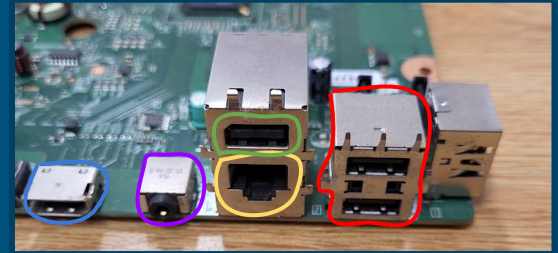
Bottom View



Top View

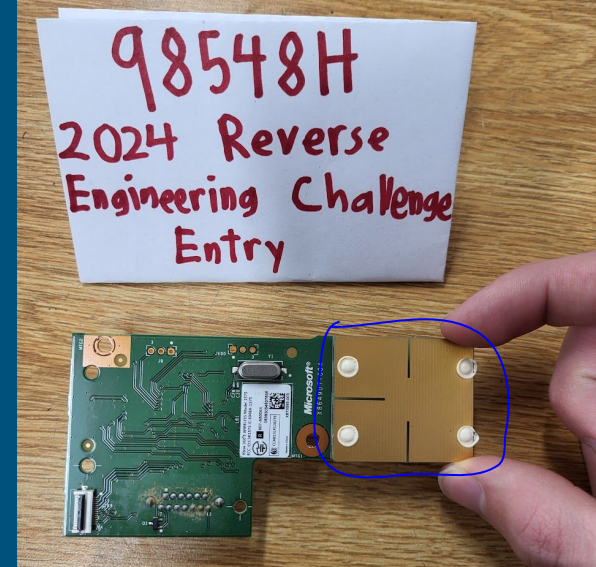
I/O (Input/Output)

This Xbox includes several slots for input and output connections which are used to send data to and from the Xbox. These include four **USB ports**, **HDMI port**, **Ethernet port**, two **proprietary ports** for external sensors and buttons, **3.5 mm AV output port**, and **power supply connection**.



Miscellaneous Boards

Also in the console, where two circuit boards with additional functions. The first one is the RF module. This is used to connect and communicate with wireless controllers, and the **large, gold colored plate** functions as an antenna. The second one is the **wifi module** which allows the xbox to wirelessly connect to the internet.



Conclusion

After the deconstruction, we learned many about many important components of the Xbox 360 and their functions. This helped us to have a better understanding of not only how our childhood console worked, but how game consoles work in general. Overall this has been an interesting and informative experience for our whole team.

