Reverse Engineering Challenge

Nintendo DS Lite

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Nintendo DS Lite

The Nintendo DS Lite is a portable handheld console made by Nintendo in 2006 after the release of the Original DS in 2004, The Nintendo DS has around 95 million units manufactured and is still in demand till this day despite manufacturing of the DS has been discontinued on March 2014.

Why chose the DS?

I chose the Nintendo DS because I personally like how it looks and have a interest in fixing them. I also want to educate others on how the internal parts of the DS look and what every individual component is, I like how Nintendo was able to fix that much onto a small system and still be able to perform very well.

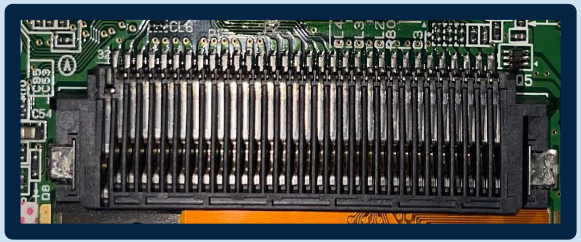
Shell


SLOT-1
PUSH CARD TO EJECT
5.2V ⎓ IN
NINTENDO DS lite
SLOT-2


MIC
X
Y
A
B
START
SELECT

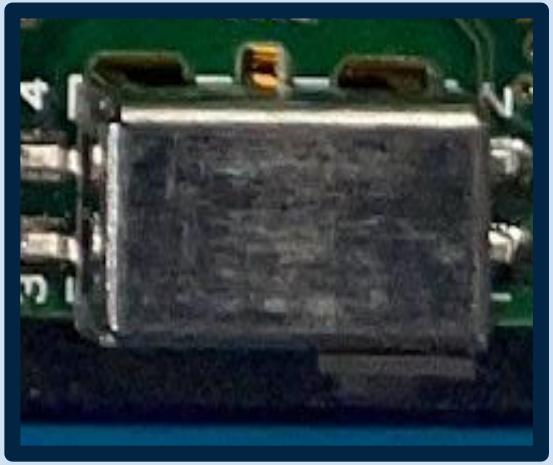
Game Slots

This is the **DS Card Reader.** Once you insert a game card the pins make contact with the exposed copper and once it does the system starts reading the game's code.



This is the **Game Boy Advance Slot Reader**. Once you put in a GBA Cartridge, the pins touch the exposed copper on the game and it starts reading out the coding then it displays it onto the bottom or top screen, this depends on the users personal preference.

Sliders and Jack

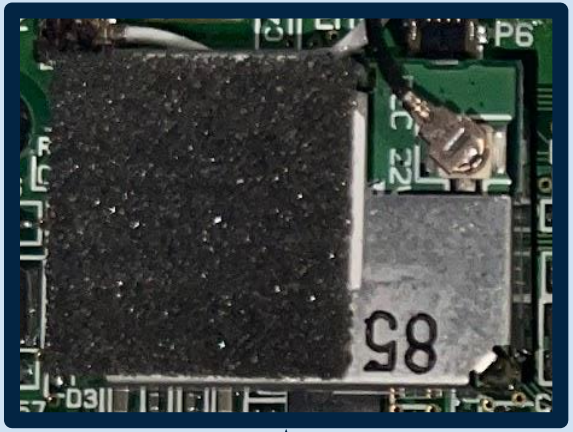


This is the **Volume slider.** It's used to control how loud the sound is when outputting a sound.

This is the **headphone jack.** Once you plug in a 3.5 mm headphone jack audio will come out of the headphones.

This is the **power slider.** Once the power slider has been pushed up the device will power on and if you slide it back up the device will power off (must slide up to power on/off).

Wifi Chip and Power Chip



This is the **Wifi Chip.** This Wifi Chips connects to the top screen and motherboard to provide the DS with wifi to play online.

This is the **device power management chip**. This chip controls the amount of power that goes throughout the system.

Battery pins and Shoulder Buttons

This is the **Battery Pins.** The Battery Pins touch the copper on the battery and provides power to the device.

These are the **Shoulder Buttons**. These are controls so the device can receive input once they are pressed on and sends feedback to the games code.

What I learned:

I learned that there are hidden components on the motherboard, For example the GPU is under the DS game slot and previously I was not aware of where it was placed but now I know. I now know how the controls work, You press a button and once you press it the pressure touches a copper pad to send feedback to the system.

Website cited

- “Nintendo DS Architecture: A Practical Analysis.” *The Copetti Site*, Rodrigo Copetti, 7 Jan. 2024, classic.copetti.org/writings/consoles/nintendo-ds/.