

# **The Inside of a Philips Blu-ray DVD Player**

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**What kind of device did you choose to explore, and why?**

The electronic device I chose is a Philips Blu-ray DVD player, popularly known as Digital Video Disc or Digital Versatile Disc. I chose this device as I was always curious to see how such a small disc could play a movie. A portable entertainment device which allows people to listen to music and see a movie. The main purpose of choosing this device is to understand how a DVD player works. I thought it would be exciting to open and learn how different parts are assembled including the disc drive mechanism, and the complicated electronic circuit.

**What identifiable parts did you find during deconstruction?**

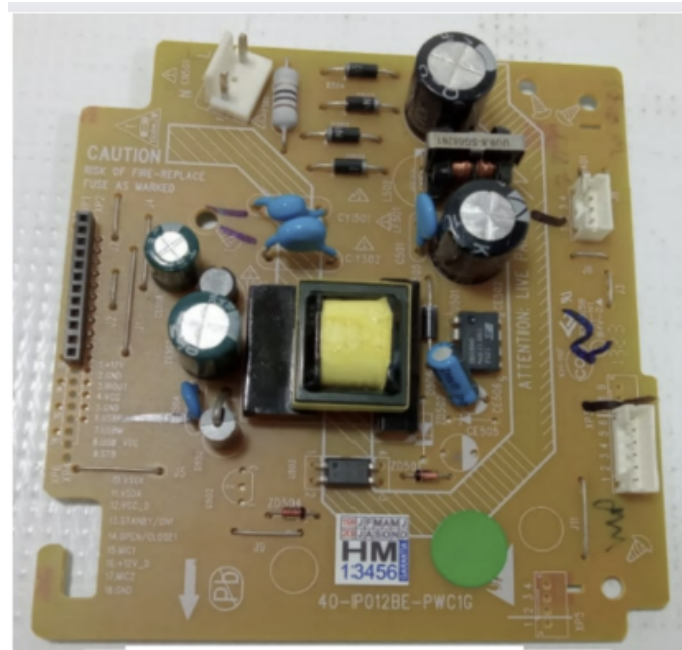
The list of identifiable parts are:

- Screws: 0.8 cm: QTY 6
- Screws: 1.0 cm: QTY 4
- Disc Holder: QTY 1
- Wires: QTY 4
- 40-PO12BE-PWC1G: QTY 1 : Source Card
- 40-B5519U-MAB4G: QTY 1 : Motherboard
- 40-BD2100-FED1G: QTY 1 : Replacement Front Board with LED buttons
- MT-WN713NM: QTY 1 : Wireless Circuit Board Module

**What role does each component play in the system?**

I had an old DVD player, so I decided to open it and see what was inside. The screws make the structure stronger and more stable. The DVD drive holds the disc and allows you to use CDs, DVDs, and Blu-ray discs to listen to music or watch a movie. The wires provide a path through which current can flow between different parts. Wires are made from materials that carry or conduct electrons more easily than other materials. The 40-PO12BE-PWC1G is a Philips Blu-ray source card. A source card contains information about the source of information, such as the author, title, publisher, copyright date, web address. The 40-B5519U-MAB4G is the motherboard. The motherboard is the backbone that ties the computer's components together at one spot and allows them to talk to each other. The 40-BD2100-FED1G is a Blu Ray Player Replacement Front Board with LED Buttons. The front board contains many parts such as LED display, push button switches, and the USB port. The MT-WN713NM is a Wireless Circuit Board Module. A wireless circuit board integrates wireless technology and offers connection over devices.

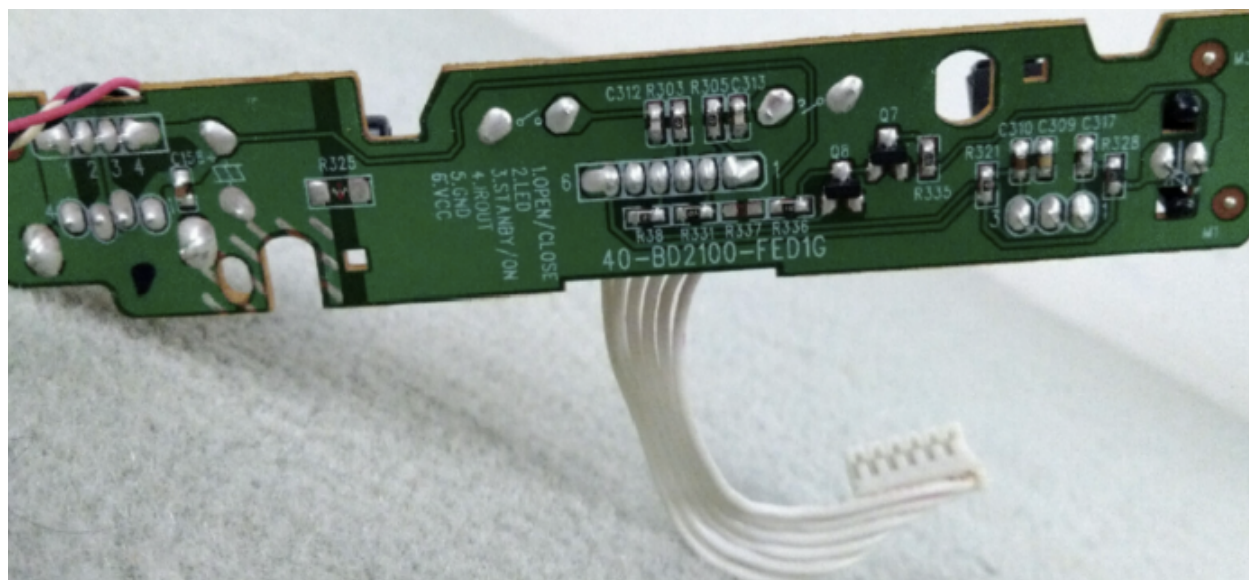
## Pictures



40-PO12BE-PWC1G



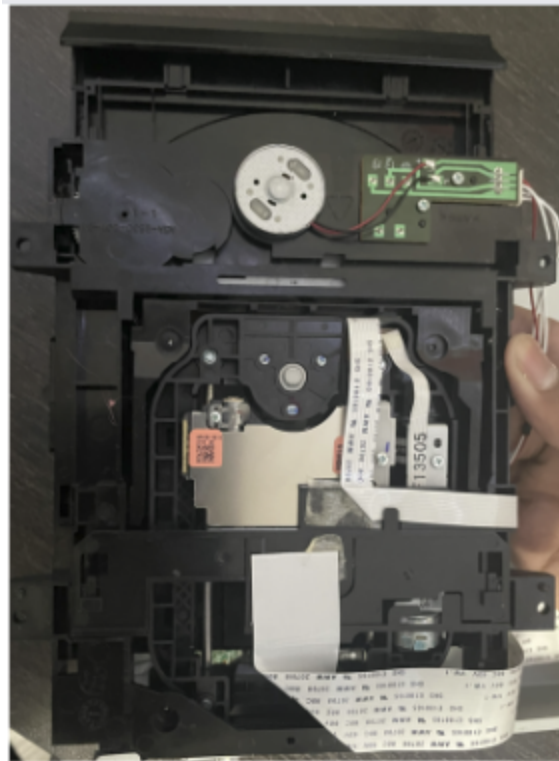
40-B5519U-MAB4G



40-BD2100-FED1G



MT-WN713NM



DVD drive



The front of the DVD player



Before breaking  
everything apart



The whole DVD  
player

### **What did you learn from exploring your electronic device?**

After opening the DVD player, I learnt that a variety of raw material is used to make a DVD player. The circuit board is made of silicon and aluminum. Hard plastic is used to make the housing, and the discs are made of plastic. It looks so complicated once you open it, but it is so user friendly and simple. The ability to play, pause, stop, or quickly shift a section makes it versatile. Though DVD sales have been on decline for over a decade, I hold the best childhood memories of enjoying movies on a DVD player.

### **Credits**

Special thanks to my family, peers and mentors.

### **Citations in MLA format**

“Circuits | Physics Library | Science.” *Khan Academy*, Khan Academy,  
<https://www.khanacademy.org/science/physics/circuits-topic>.

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<https://learn.sparkfun.com/tutorials/what-is-a-circuit/all>.

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