

Reverse Engineering Challenge

DISSECTING COMPUTER OPTICAL MOUSE

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What is a Computer Mouse

The mouse is a small, movable device that lets you control a range of things on a computer. Most types of mice have two buttons, and some will have a wheel in between the buttons. Most types of mice connect to the computer with a cable, and use the computer's power to work. Some types of mice are wireless.

TYPES OF MICE

- **Mechanical Mouse.** The mechanical or ball mouse is a refined version of Engelbart's original mouse which had external wheels. ...
- **Optical and Laser Mice**
- Wireless Mouse
- Vertical Mouse
- Pen Mouse
- Stylus Mouse
- Joystick Mouse
- Gaming Mouse

Optical and Laser Mice

I will be explaining the different parts and the functionalities of the mouse.

Please see below the pic of my mouse after I unscrewed it:

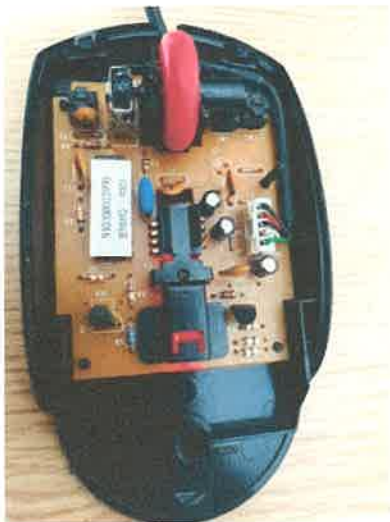


Fig: 1. Internal Optical Mouse



Fig: 2. External Optical Mouse

Optical mice use light-emitting diodes (LEDs) for illumination when first popularized. The color of the optical mouse's LEDs can vary, but my mouse has a red LED. Also red is most common because red diodes are inexpensive and silicon photodetectors are very sensitive to red light.

Buttons:

The button or buttons of a mouse constitute part or all the top surface of the mouse. When we press a button, it tells the computer to perform an action at the cursor's location on the screen. My Two-button mice allows me to input different messages to my computer depending on whether I click the right button or the left button. My computer interprets these different clicks based on the configuration of my mouse driver.

Motion Detection:

My computer needs to receive data about the motion and location of my mouse. Optical mice use an optical sensor to track the mouse's movement across a surface.

Scroll Wheel:

On my mouse, the scroll wheel also functions as a third button. In some cases, pressing the scroll button will toggle a scroll mode on or off. This mode allows to scroll by moving the entire mouse instead of by rolling the wheel.

Connections:

Mouse can't transmit data if it isn't connected to the computer. Some mice connect to computer via a cord, while others are cordless. My mouse has a cord, it is likely a USB cord that fits into the computer's USB port.

Summary:

Though it looks small and tiny, but it helps a lot in running the computers and makes it easy to operate.

I had a good experience with this activity to understand the internals of this tiny little non-living creature (MOUSE)

References:

https://en.wikipedia.org/wiki/Computer_mouse

https://en.wikipedia.org/wiki/Optical_mouse