Optical Wired Mouse

SYSTEM THINKING
BETA TEAM - 4

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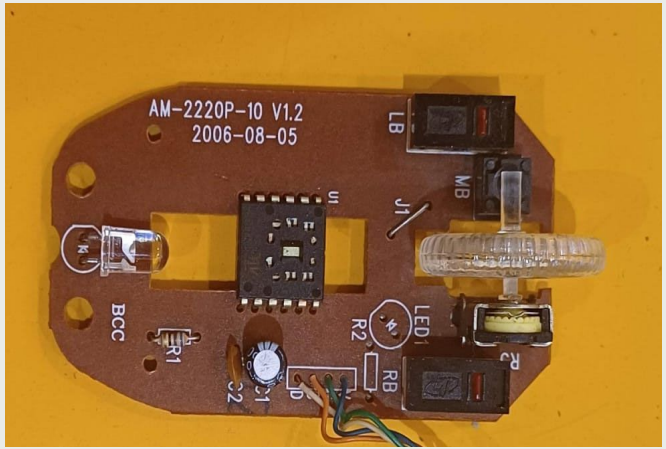
WHAT IS MOUSE?

A computer mouse is a hand-held device that controls the pointer on a computer screen. It's used to select items and give instructions to the computer.

COMPONENTS

MICRO SWITCHES

To select a specific keys on the screen. Has high Durability, Longevity, precise and Faster reliable response.

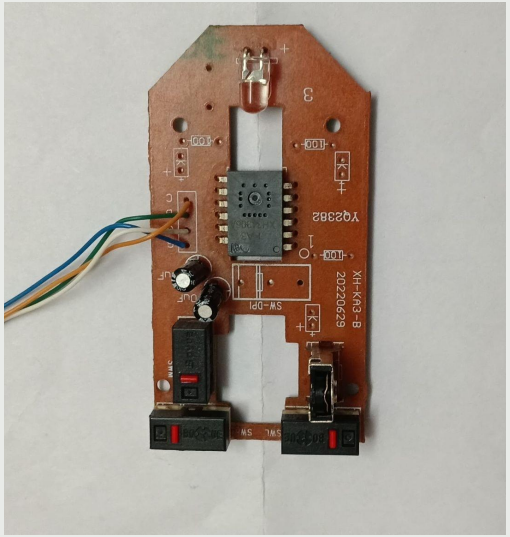


SCROLL WHEEL

To scroll the screen and for zooming operations

POTENTIOMETER

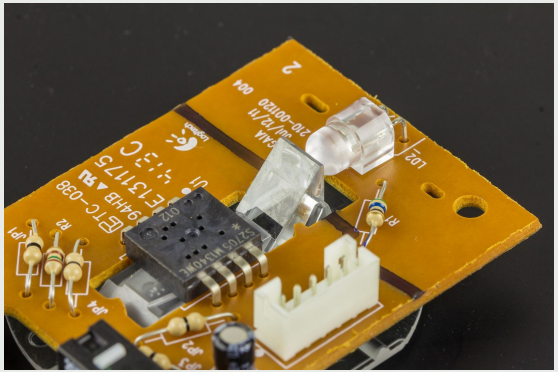
Converts scrolling movement to Analog Voltage Signal



COMPONENTS

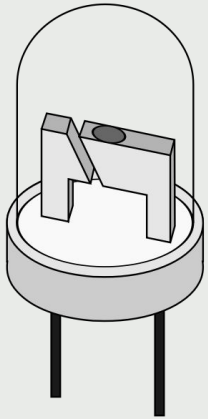
OPTICAL NAVIGATION CHIP

Acts as Controlling Unit as well as measures variations in Light from LED. Brain of mouse and responsible for monitoring motion



LED

Acts as the Light source



CAPACITOR

Voltage Stabilisation, Energy Storage.

COMPONENTS

UPPER CASING & LOWER CASING

Facilitates easy handling of the user and houses the switch actuators

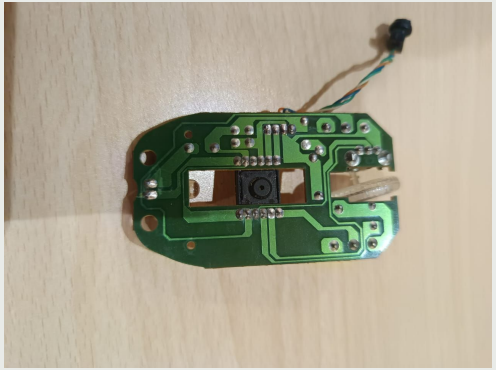
Houses the PCB and facilitates motion of the mouse

SWITCH ACTUATORS

For the user to actuate the Micro Switches. Utilises Compliant mechanism to complete that action.

PCB BOARDS

Integrates all electronic components



System Flow

System	Sub - System	Compnents	Attributes
Mouse	Pointer	Micro-Switches	To select a specific keys on the screen. Has high Durability, Longevity, precise and Faster reliable response.
	Scroller	Scroll Wheel	To scroll the screen and for zooming operations
	Optical sensing	Potentiometer	Converts scrolling movement to Analog Voltage Signal
		Optical Navigation Chip(MIcrocontoller + Optical Sensor)	Acts as Controlling Unit as well as measures variations in Light from LED. Brain of mouse and responsible for monitoring motion
		LED	Acts as the Light source
		Capacitors (Ceramic)	Voltage Stabilisation, Energy Storage.
		PCB Board	Integrates all electronic components
		Upper Casing	Facilitates easy handling of the user and houses the switch actuators
		Lower Casing	Houses the PCB and facilitates motion of the mouse
		Switch Actuators	For the user to actuate the Micro Switches. Utilises Compliant mechanism to complete that action.
		Connecting Wires	Has Ground(G), Power(V), Data In(D),Data out(C) wires for their specific operations
		Optical Light Guide	Transfers the light to light sensor
		USB Pin	Facilates the connectioin between a computer system and the mouse.


Thank
You