Reverse Engineering 2022

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Device chosen : calculator

Pieces in device:

-6 miniature screws

-plastic keys

-solar panels/ solar cell

-2 red wires

-display/screen

-the case/ wallet

-keyboard membrane

-keyboard sensors

-calculator chip

-plastic back

-plastic front

-conductor ribbon cable

We chose to explore a calculator for this project because a calculator is something most people use daily for either school or work. It is a commonly used device. That is why we chose to deconstruct or take apart a calculator.

The basic calculator functions by combining the inputs using electronic components called logical gates. It processes the information in binary form. The screws hold together the entire calculator. On our calculator, the inner pieces are the membrane for the keyboard, the two red wires, the calculator chip, the conductor ribbon cable, and the keyboard sensors. The difference between the inner and outer parts is that the outer parts are noticeable, and you can see them, while the inner parts are protected and hidden by the outer parts, you cannot see them. The inner parts are covered for our safety and its own safety. Without the inner parts the calculator would not function and without the outer parts it can break easily and harm the user. So, how it operates is by having something typed on the keys of the calculator. That information is then transferred from the keyboard sensors to the chip of the calculator.

Then, it solves the equation/problem and displays the answer on the display screen and the chip transfers its information through two (2) red wires. The calculator we deconstructed had no battery. It was solar powered and stored the rest of its energy collector. The keyboard's membrane sends truly little tactile feedback and is responsible for registering clicks on the membrane keyboard.

We learned multiple things from exploring our electronic device. A couple of things that we learned were what makes up a calculator, how the calculator operates, what each piece of the calculator does, and how to take apart a piece of technology. We also now know how to safely take apart a piece of technology.