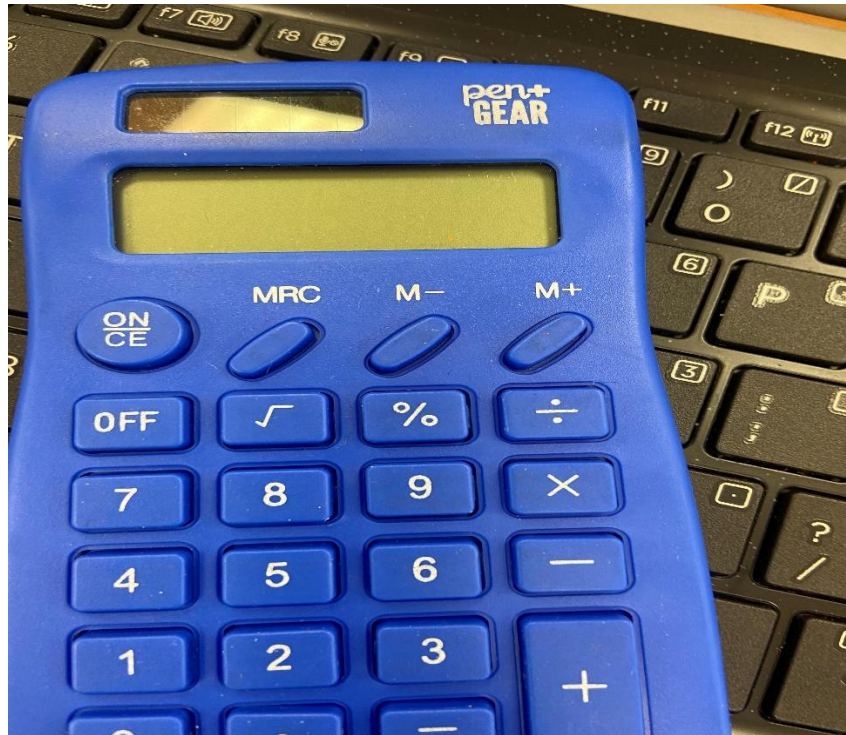


Robo Royals 67671 A

Charles P.

Chauncy P.

Deconstruction of a Calculator

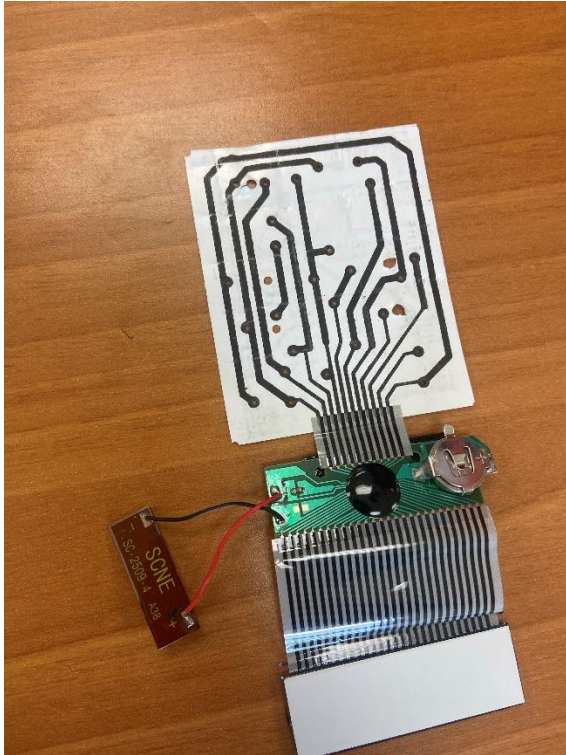


We choose to deconstruct this a pen +gear calculator. The people who invented calculators are JACK KILBY and EDITH CLARKE. They also have a company to help make calculators called "Texas instruments". They specialize in manufacture, and analog specialty in chips that they insert in the product. The headquarters of Texas instruments is located in Dallas, Texas, U.S. Texas instruments started in 1951, united states. The first instrument the company made was T1-2500 DATA MATH. The first calculator the company published was sent out on September 21, 1972 with a single chip calculator. From this challenge we learned a lot of things we had no clue of. From this outstanding challenge we learned that the calculator has this piece that can send numbers to the LED screen to display the numbers on the screen and the keys for this calculator have a big roll in the invention when you press the key it sends the number signal to the pad. This then sends to the led screen that will give us our answer to the problem.

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After we deconstructed we found this amazing price That is the main part for the calculator to work. The signal pad sends the LCD screen which number to display.



This is the device that have been decomposed of its parts. These are the number pads for the calculator that has been stripped from its original state these are the keys that help the signal pad to display the numbers on the led screen.

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The pen gear calculator has a durable plastic casing, with simple openings in the front that allow rubber to push through, just like a television remote. By pressing a button, you complete a circuit underneath the rubber, which sends electrical impulses through a circuit board below. Calculators combine inputs using electronic components called logic gates. Together, the logic gates enable circuits to add, subtract, multiply and divide the numbers sent to them by transistors. If both the signals that arrive at the gate are 1s, then AND sends out a 1. We found the rubber number pad and the circuit board with the LCD connected to it. The LCD was smooth and silky mostly because it's made out of liquid crystal the rubber number pad is nice and ok nothing to average. The board had nice marks on it and it had a nice design. We made a nice experiment and pressed the rubber button pad on the circuit board then pushed it against it and numbers it started to program. We think the programming chip is the heart of the body. some calculators need light because if the solar panel doesn't collect the light waves the calculators starts to have errors and will not function.

We learned what goes inside a calculator and how the electrical components work. Since binary code is used in calculators we also learned some binary coding. Like how 01001 equals 9. If you want to know how 01001 equals 9 its $0+8+0+0+1$ because it's a coding system with 0 and 1 digits known as bits to represent all characters in devices. It was made by "Gottfried Leibniz" he believed that "Binary code" was a symbolic Christian idea " create ex nihilo " and when you input numbers into a calculator, the integrated circuit converts those numbers to binary strings of 0s and 1s. I also learned how circuit boards works and how they transmit signals to do their duty. Which is to conduct electricity through pathways for any technical purpose such as X-ray's. This is very interesting how the calculator is a quite simple electronic device to make. Anybody could make a calculator as long as they have common knowledge. You'll need a Programming board , small wires, LDC , Pushbuttons & other stuff you will surely need to get to make your own.

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