One Time Pad Generator Kit Instructions
applemountain.etsy.com

Introduction

This easy-to-build electronic kit generates random alphanumeric characters used to create one time pads for secure communications. When the touch sensor is pressed the microcontroller computes a random number using on-board entropy collection. This number is then displayed as a alphanumeric character using the fifteen included LEDs. The LEDs will display a character for approximately one second. A new character will be displayed continuously until the sensor is released. The system sleeps in low power (about 4 micro-amps) after the button is released. Power is provided by the included 3 volt CR1625 battery. See wikipedia.org/wiki/One-time_pad for using one time pads.

Parts

You should have the following parts in your kit:

1 - High Quality Lead-Free Professionally Printed Circuit Board 2"x2"
1 - Programmed ATTINY13A Microcontroller
15 - Red LEDs
1 - Battery Holder
1 - CR1225 Battery

Online Instructions

http://tinyurl.com/pjron9t

Assembly

The white outlines on the printed circuit board illustrate the correct orientation of all the parts. Most important are the LEDs and the microcontroller. The microcontroller has a dot on the top corner which must align with the white notch on the microcontroller outline on the board. Each LED has a flat side which must align with the flat side of the LED outlines on the printed circuit board. The battery holder outline on the printed circuit board also shows the correct way to orient the metal battery holder.

Optional Touch Sensor Extension for Kits with Face Plates

If you are building a kit with face plates, you will need to extend the touch sensor to the edge of the board using left over leads from the LED's. This is very easy and straight forward. Just insert a leftover wire from a LED in the via of a touch sensor pad on the front of the board. Then bend it over the board till it touches the wire protruding out of the back of the board. Solder the wire to the pad. Do this for both the left and right touch pads.

Further resources

Should you need additional help please feel free to message me at my shop:

applemountain.etsy.com

Thanks and have fun!