



D.I.Y LED Electronic Hourglass Kit

Level – Beginner

AK-178



List of Components:

- 1 x PCB board
- 57 x Blue LED(LED-3B)
- 1 x Toggle On-Off Switch
- 1 x Push Button
- 1 x 16 Pin IC BASE(16-LP)
- 1 x STC15W201S IC
- 1 x 4Pin Male Header
- 1 x 1.35mm DC Jack
- 1 x Battery Holder

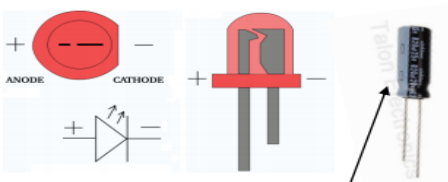
Required components which are not in the kit: Soldering iron, solder, and solder paste.

Component Polarity

When dealing with polarized components, it is important to be able to identify which pins represent the anode (positive) and cathode (negative). Here are a few ways of doing so for LEDs and capacitors:

- The shorter pin usually is the cathode (negative).

However, for LEDs if the leads are cut you can assume the cathode lead is on the side of the LED that has a flat cut. For capacitors, there usually is a sign on the component itself indicating which lead is the cathode (-).



Steps to Solder:

Note: Turn on solder iron to 285 C temperature and solder used for this kit is 60tin/40lead. You need to place components from labeled side of the board and solder at the green side (back) of the board

Step 1: First solder 16 pin IC base at U1 on the board, then insert STC15W201S IC placing notch side towards the notch on the PCB. See image below for reference.



Step 2: Place, slide switch, push button switch on the S1,S2 labeled on the board respectively(Any direction).

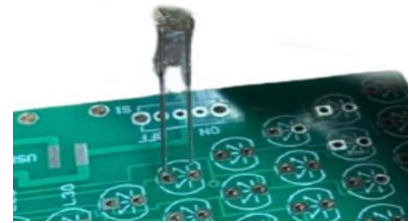


Step 3: Place 4 pin male headers near the 1SP labeled on the front side of the PCB.

Step 4: Now solder 2.35mm DC Jack near the DC1 on the PCB.

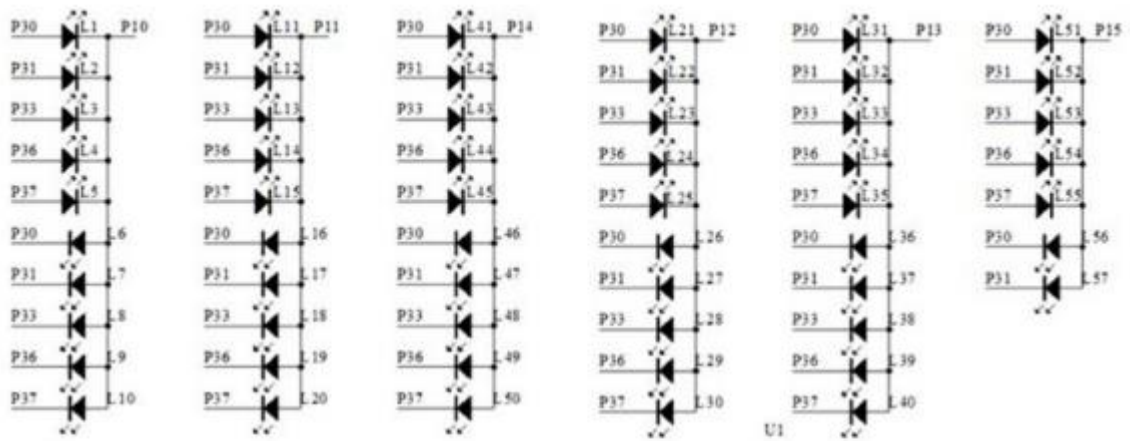


Step 5: Finally, it is time for soldering 57pcs LED on the board. Follow the polarity directions as indicated at the beginning of this manual. The positive side goes as shown in the image below. Beware of LED polarity soldering, otherwise end up burnt.



Step 6: Now, hook the 5V-6V power supply to the jack using battery holder and you can see the hourglass working.





U1

