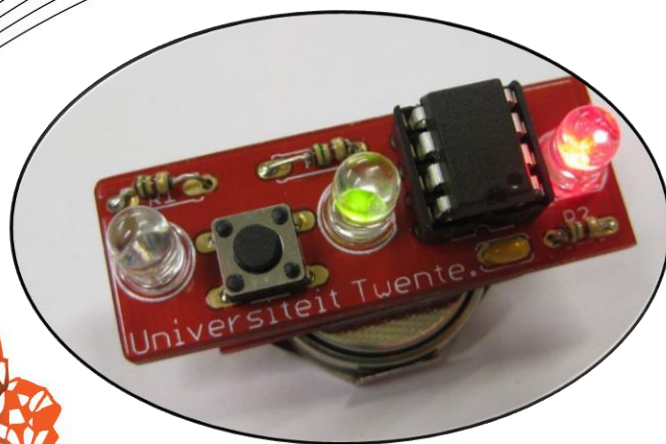




Electrical Engineering

Disco brooch
Soldering manual



UNIVERSITEIT TWENTE.

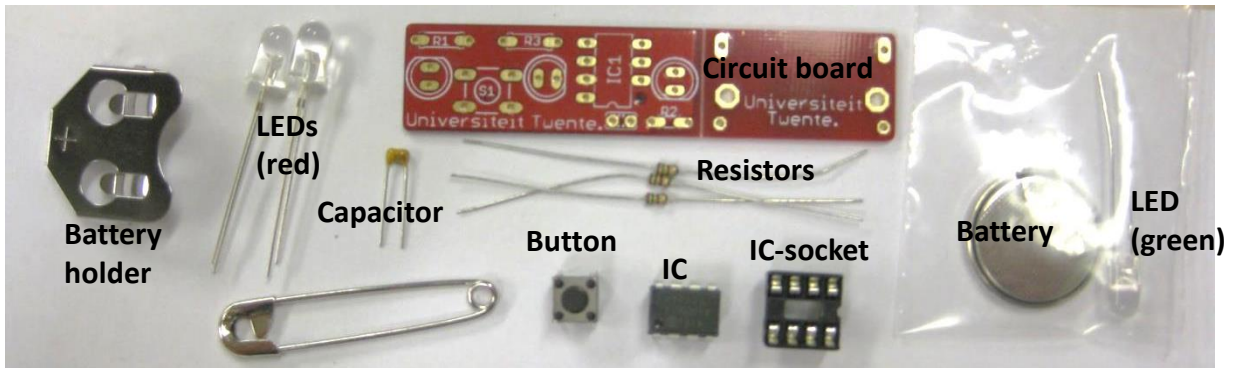
Faculty of Electrical engineering,
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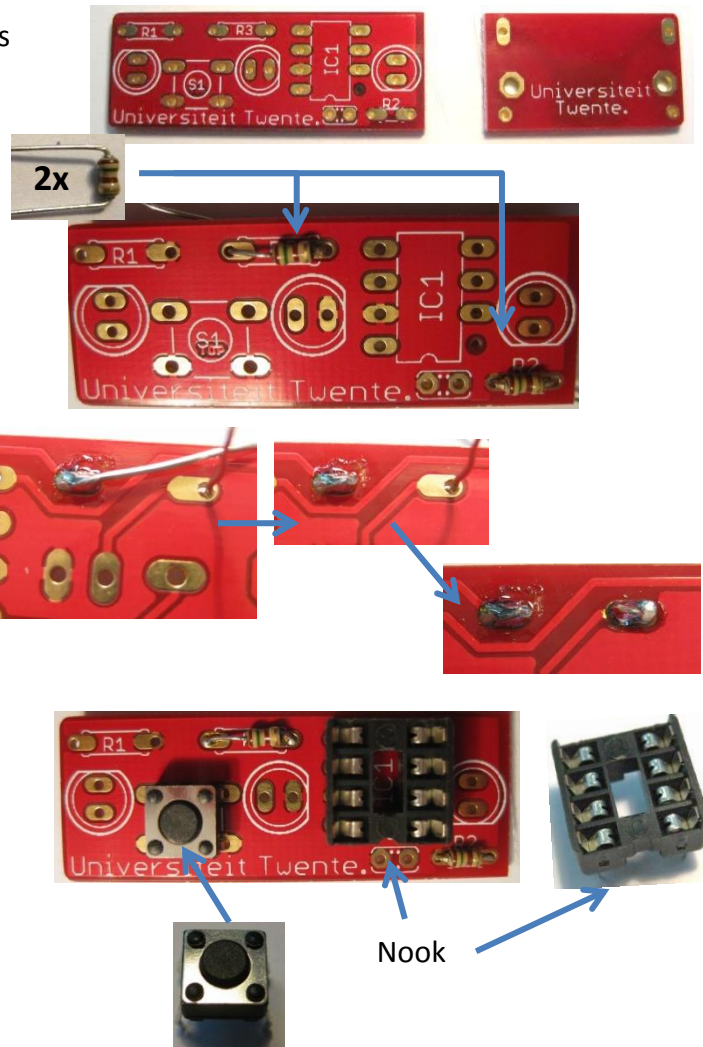
Disco brooch soldering manual

This is the soldering manual for the disco brooch. Try to work neatly and safe and properly read the instructions before you do anything.

Take one of the bags with parts and put them neatly on the side of your working space. Be careful, for some parts it is important to know how these are put into the circuit board. This will be indicated if this is the case. Leave the two parts in the smaller bag.



- Break the circuit board in 2 pieces
- Take 2 resistors and bend the legs.
- Put them in the circuit board at R2 and R3.
- Bend the legs on the bottom side of the circuit board.
- Solder the legs and cut them off.
- Soldering is the easiest if you hold the tin against one side of the leg while holding the soldering iron against the other side until there is enough to properly connect the leg and the golden pad. Then you first remove the tin and then the soldering iron.
- Solder the button and the IC-socket on the circuit board. Be careful with the orientation of the nook with regards to the circuit board.

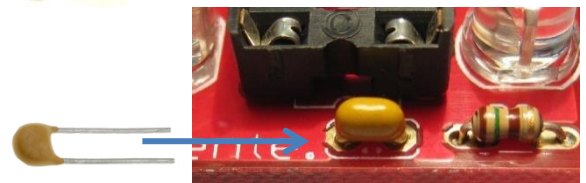


Disco brooch soldering manual

- Solder the two red LEDs at the corresponding spot. Take the green LED out of the bag of the battery. Solder this one on the centre spot.



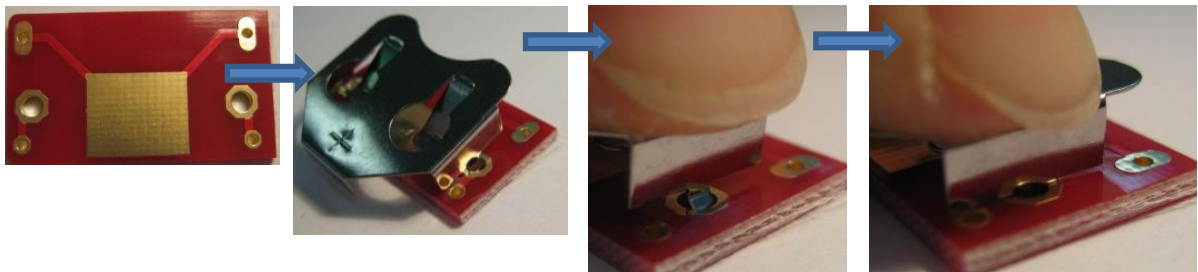
- Put the IC in the IC-socket. Beware of the nook.
- Solder the third resistor (R1) and the capacitor on the circuit board, **but don't cut off the legs indicated on the right.**



- Now ask one of the assistants to control your circuit board and to program your chip.

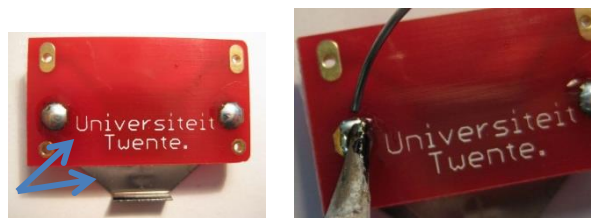


- Now take your second circuit board and the battery holder. Put the circuit board with the text on the bottom side on the table and put the battery holder in the two big holes of the circuit board. Make sure to put the battery holder in the circuit board the right way.



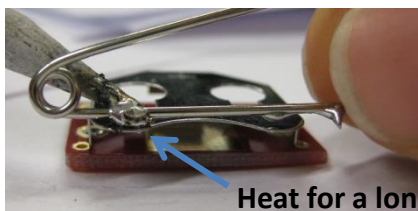
- Press the battery holder so the legs bend into the holes. Flip the circuit board. Make sure that metal plate is below the text of the print. Solder the battery holder in place.

Is it like this?

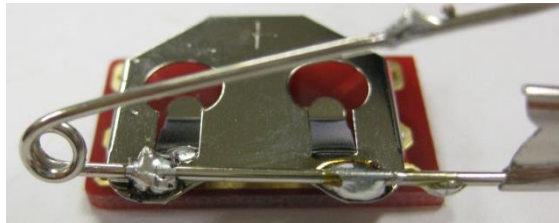


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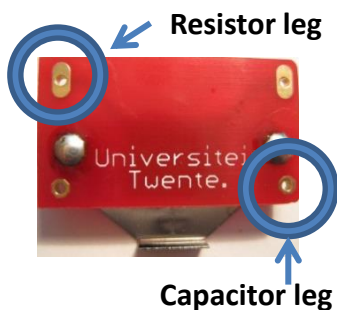
- Now there's a challenge. The safety pin needs to be soldered to the battery holder.
- Put some soldering tin on the left part of the battery holder. Put some soldering tin on the safety pin. Let both cool. Take the safety pin at the closing clip and melt the tin on the pin to the tin on the holder. Check if it is properly locked in place.



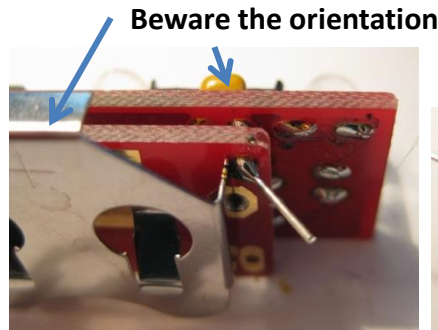
Heat for a long time



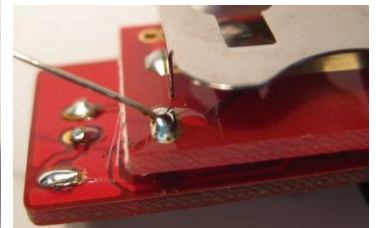
- Take the two prints and put two side that were soldered on towards each other. Insert the leg of the resistor and the leg of the capacitor through the two holes which are indicated on the pictures below.



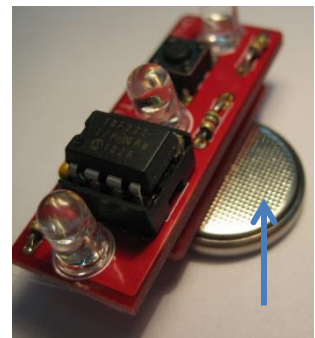
Capacitor leg



Beware the orientation



- Solder these and cut off the legs.
- Insert the battery into the holder and check if the brooch works, if not, ask for help.
- The Brooch turns on/off when holding the button, shortly pressing changes the blinking settings.



Wear your selfmade disco brooch with proud