

Input module switch board

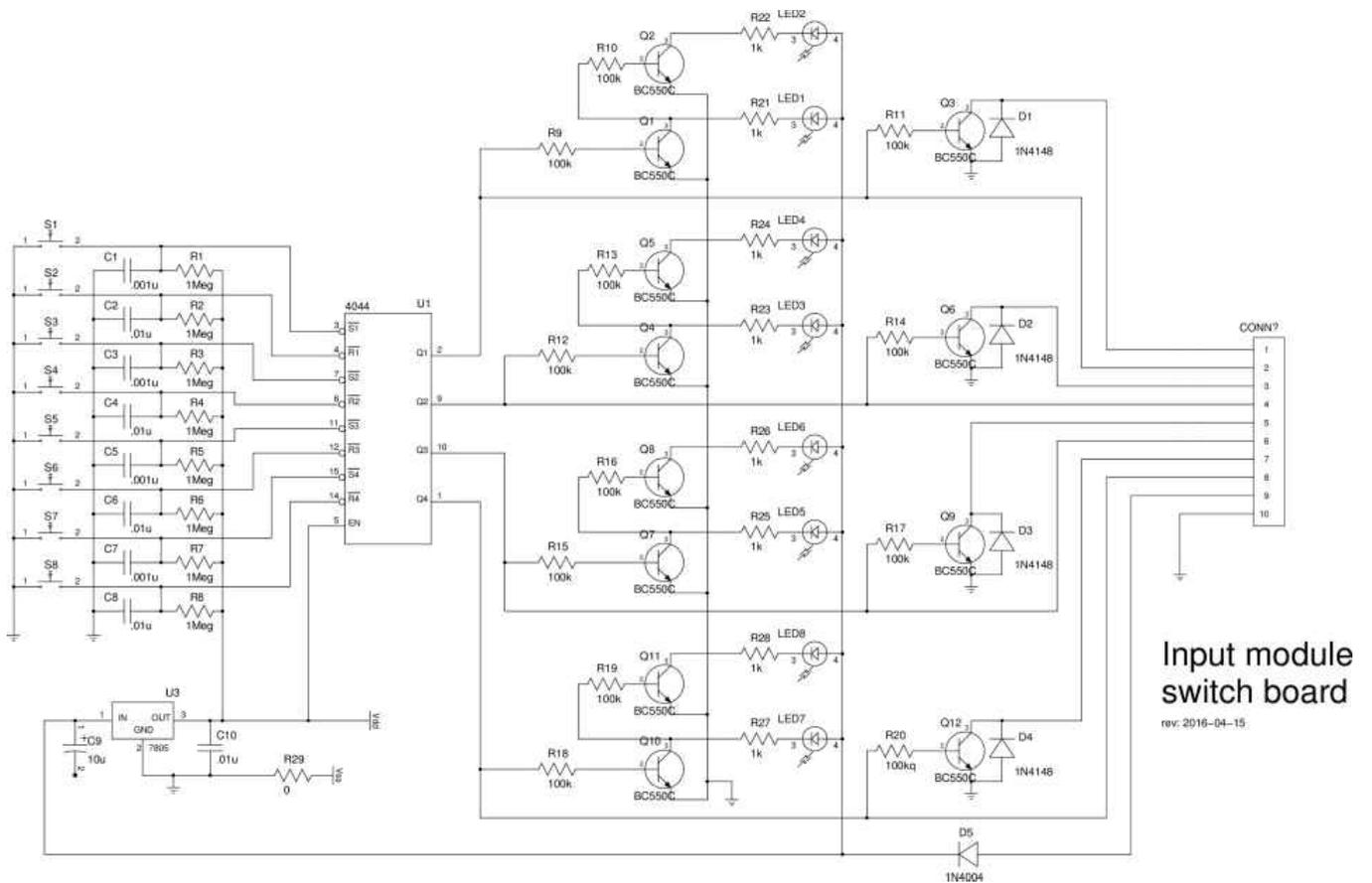
Description

This board contains the “on-off” switch buttons for the input module.

Each channel has two outputs:

1. A logic level, 5 volts.
Logic high turns the channel on. Logic low turns the channel off.
If the board is unplugged (missing), the channel is on.
2. NPN Open collector for controlling external devices.
The transistor is on when the channel is on.

Schematic



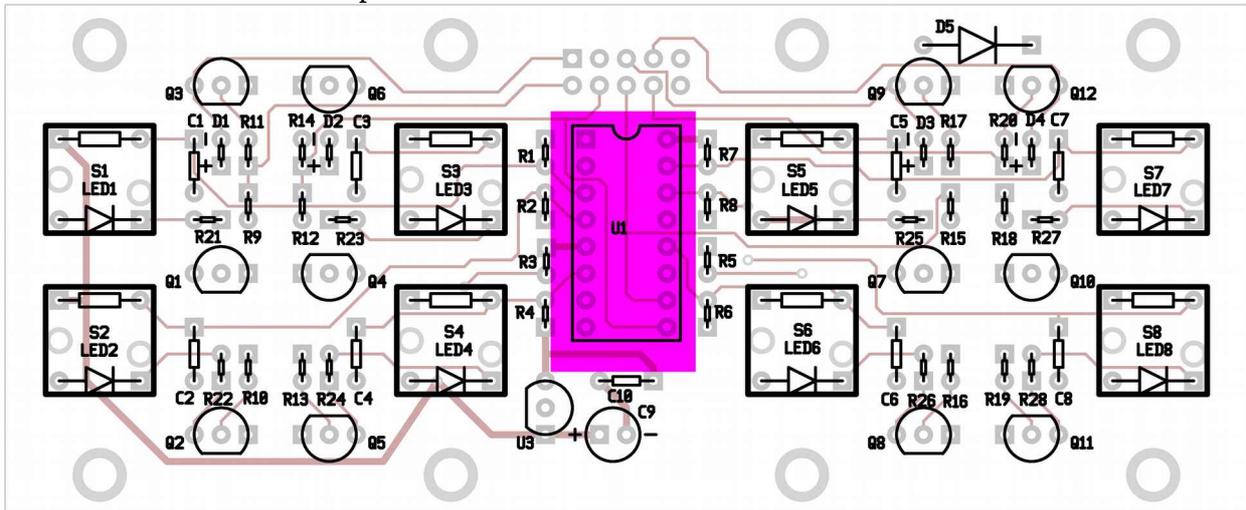
PCB assembly

1. (1) 16 pin IC socket

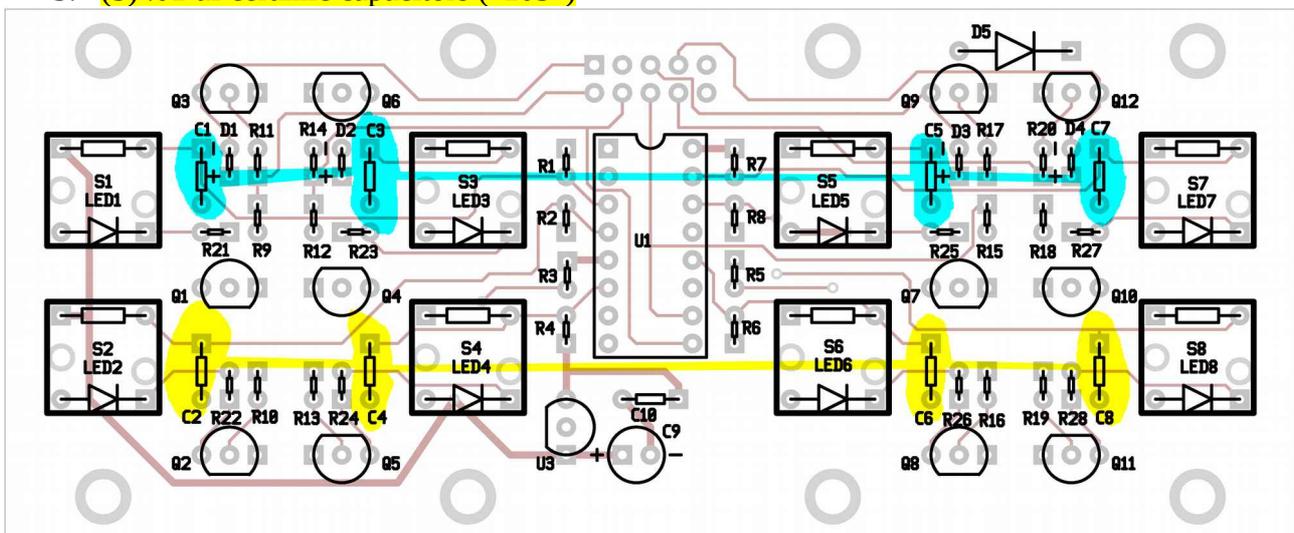
Note direction. The notch (pin 1) goes up as viewed in the picture.

To make sure it is seated, solder one pin then check. Reheat if necessary.

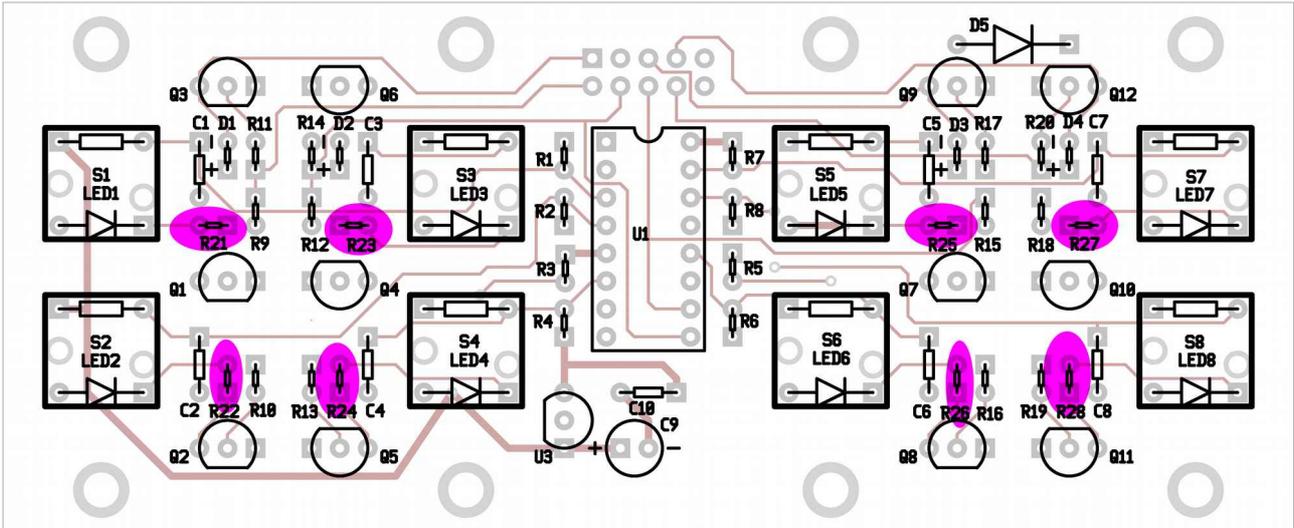
Then solder the other pins.



2. (4) .001 uf ceramic capacitors ("102")
3. (5) .01 uf ceramic capacitors ("103")

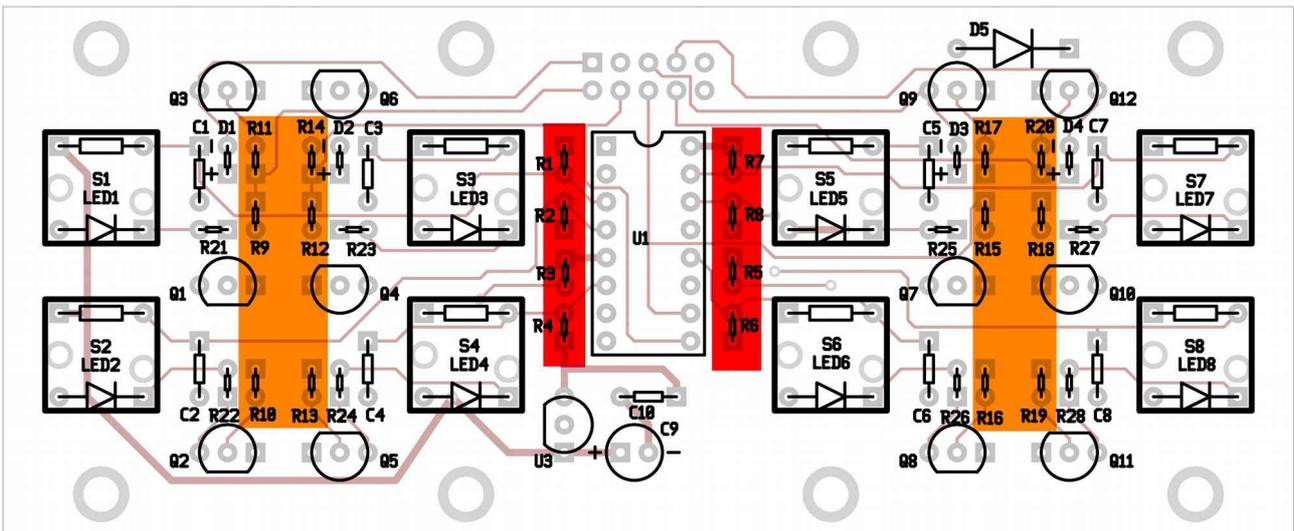


4. (8) 1000 ohm (1k) resistors (brown black black brown brown) ("10011")



5. (12) 100k resistors (brown black black orange brown) ("10031")

6. (8) 1Meg resistors (brown black black yellow brown) ("10041")

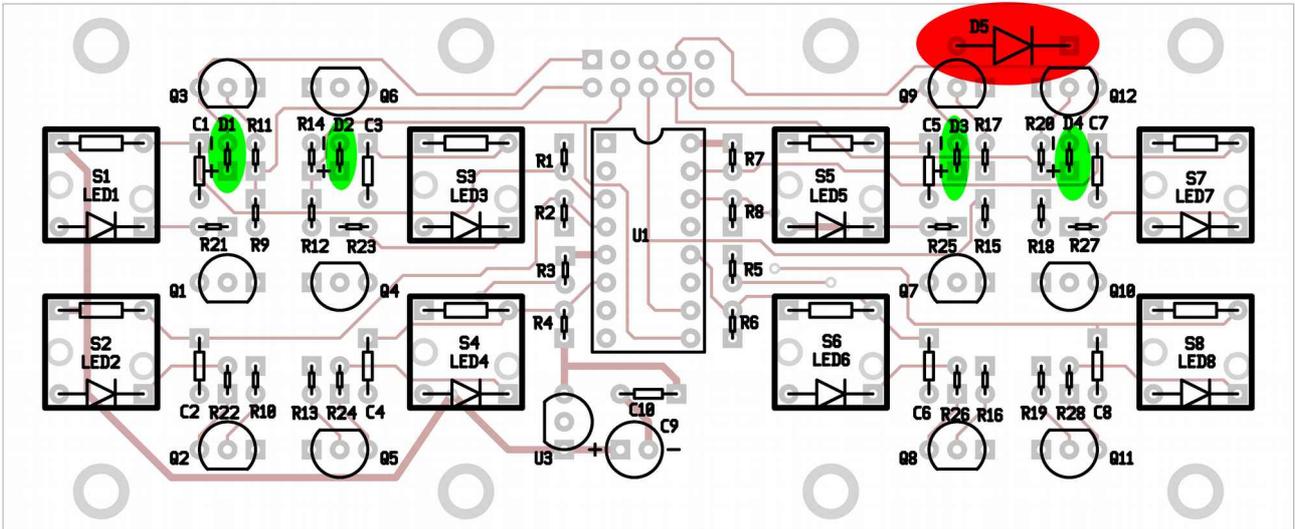


7. (4) small (1N4148) diodes

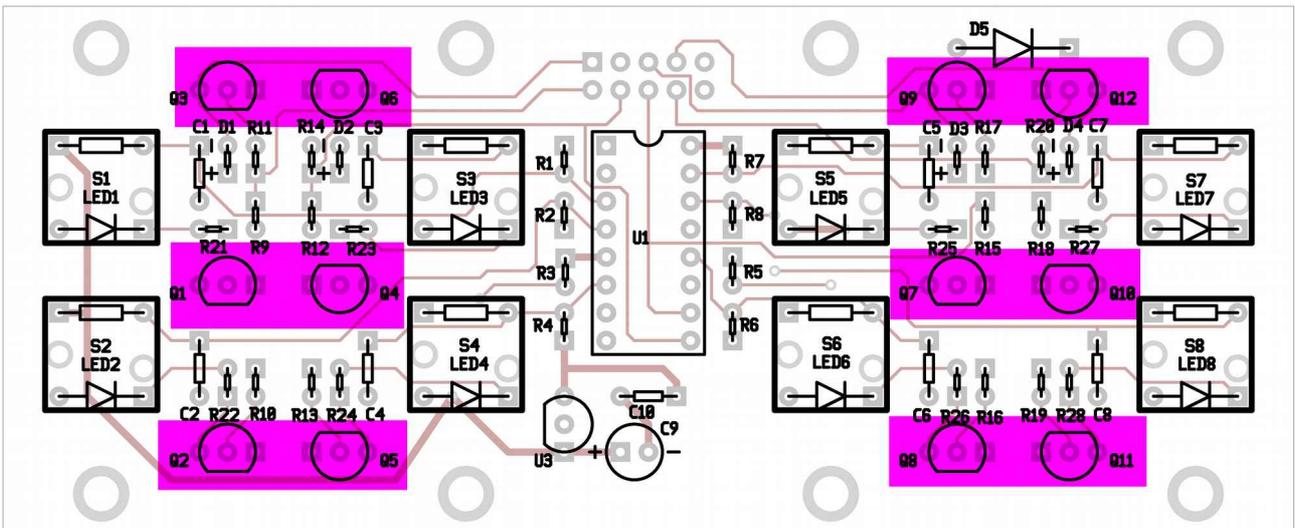
Note polarity! The stripe is the “cathode”, matches the bar on the schematic, and the “-” end on the layout. Bend the leads so the stripe is up. Install so the body is at the “+” end.

8. (1) power (1N4007) diode

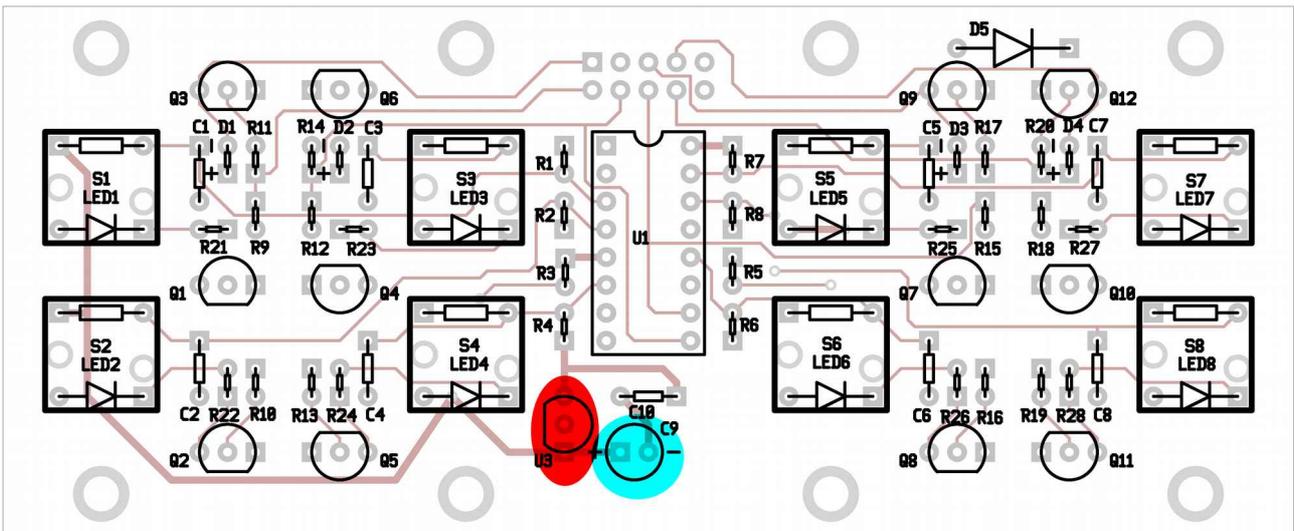
Note polarity! Install flat, so the stripe matches the bar on the layout.



9. (12) BC550C transistor – note orientation

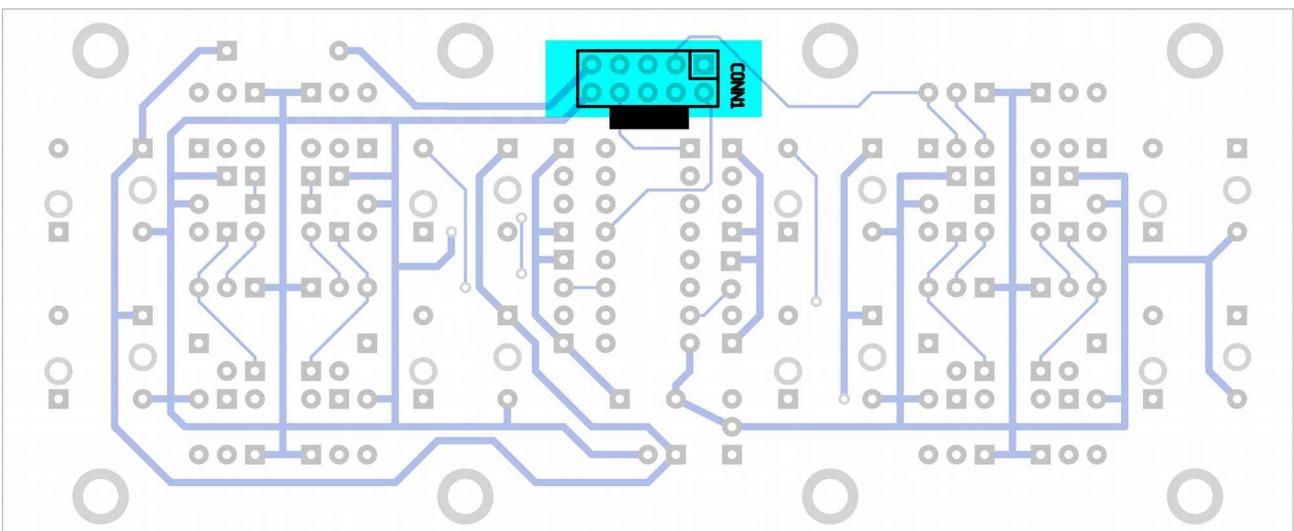


10. (1) 78L05 voltage regulator. – note orientation.
11. (1) 47 uf electrolytic capacitor.



The front side of the board is mostly complete. Only the buttons and IC need to be installed. Before doing that, turn the board over and install the connector on the back.

12. (1) 10 pin rectangular connector.
Be sure it is oriented correctly. The cutout should face the bottom of the board.



Turn the board back to the front.

13. (8) Buttons

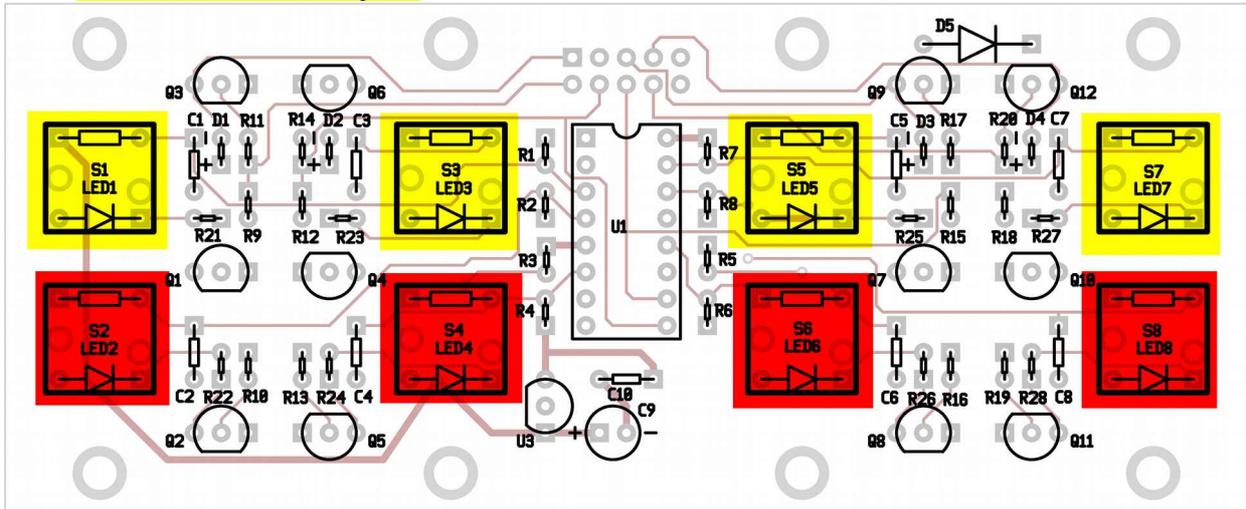
(4) Red buttons for stop/off

(4) Yellow buttons for start/on

Be sure the buttons are seated properly to line up with the panel.

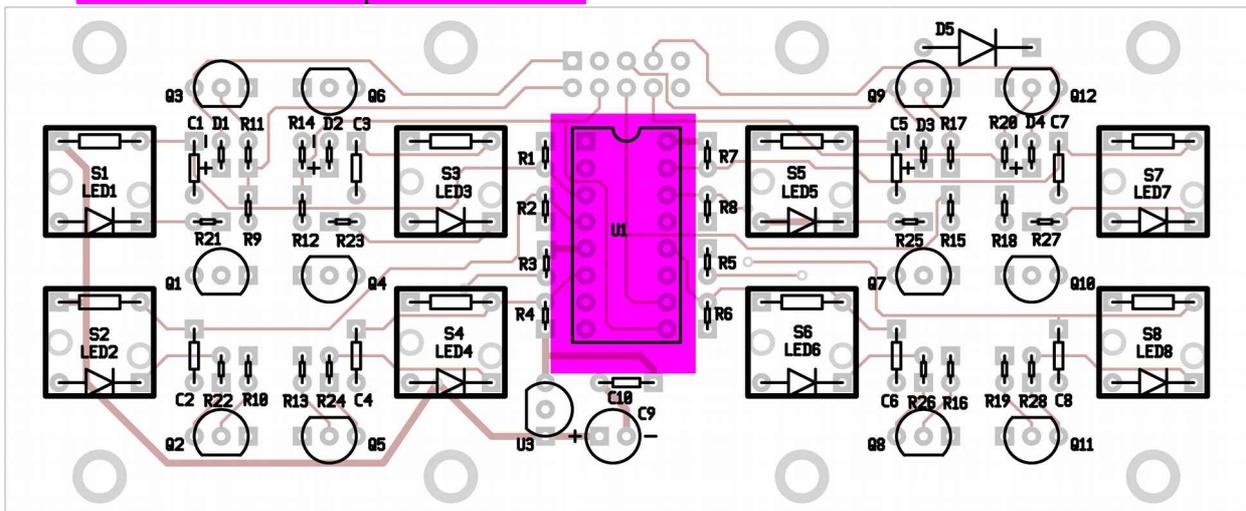
To make sure it is seated, solder one pin then check. Reheat if necessary.

Then solder the other pins.



13. (1) 4044 IC.

The notch should be up as viewed here.



The board is now complete, ready to mount on the panel.