

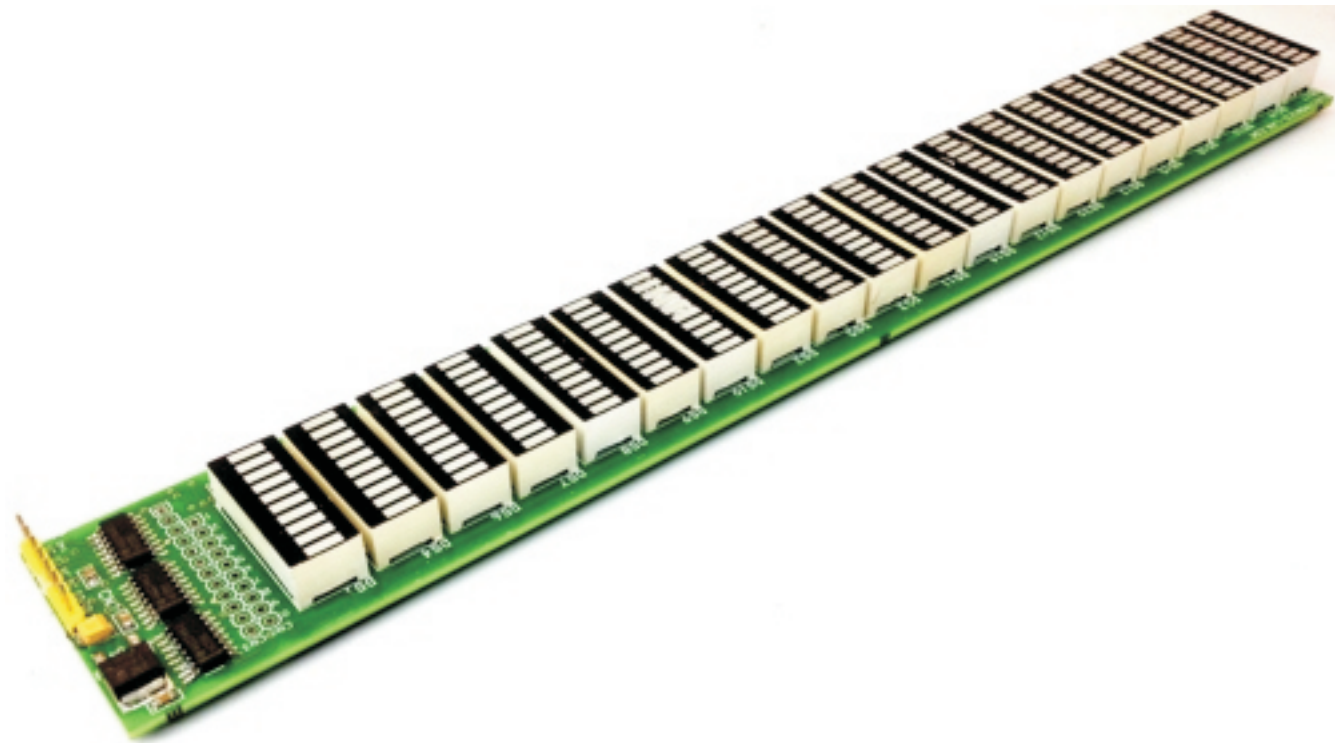
## 20 Segment Jumbo Size SPI ( Serial) In Bar-Graph Display Using 74HC595

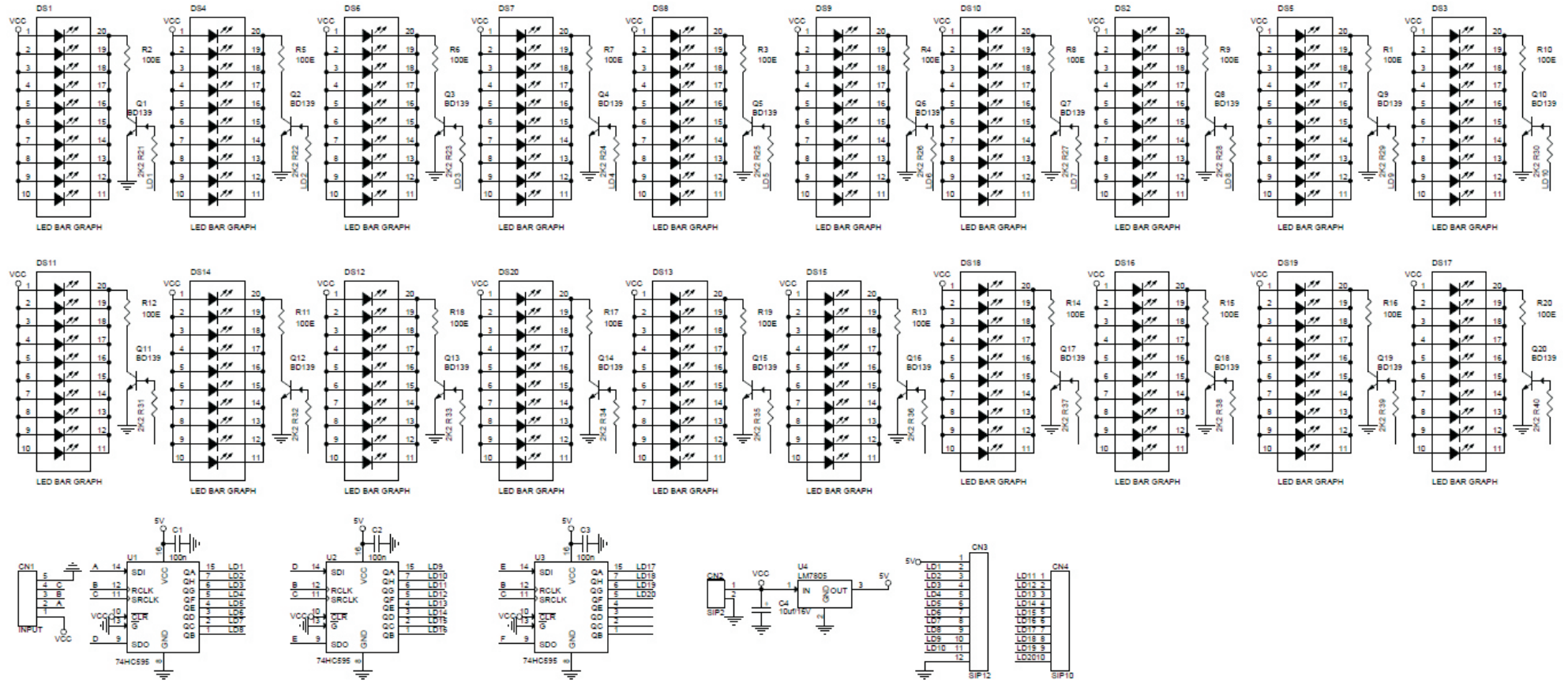
Jumbo 20 Segment SPI (Serial) bar graph driver using 74HC595 serial to parallel converter IC and BC635 display driver transistor. This project is useful for application like Amusement machines, arcade gaming, voltage display, current display, pressure sensor display, temperature sensor display , process control equipment, battery condition monitor and many more. Each segment of display consist 10 LED Barograph display. It is easy to view from long distance, and easy to control by Micro-Controller.

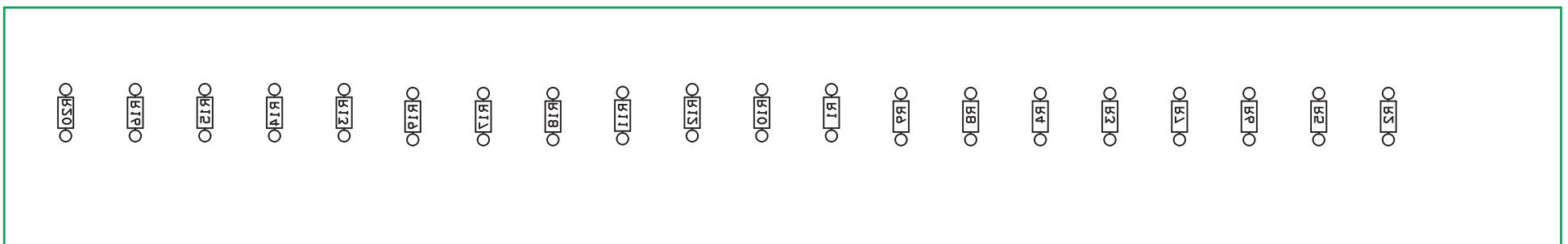
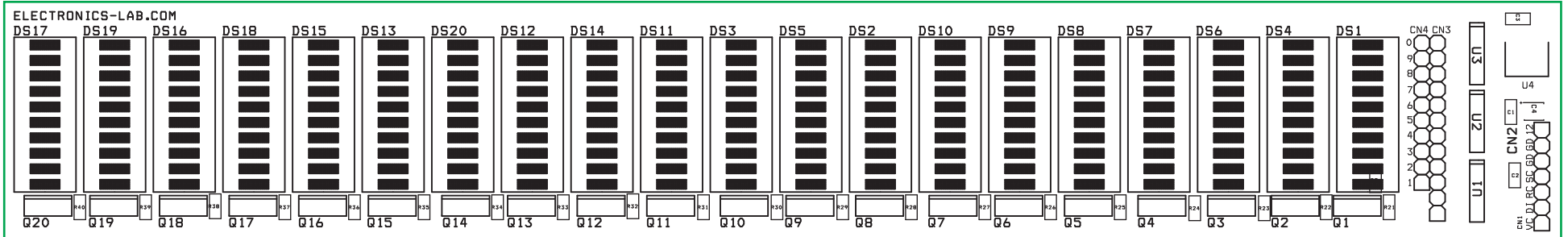
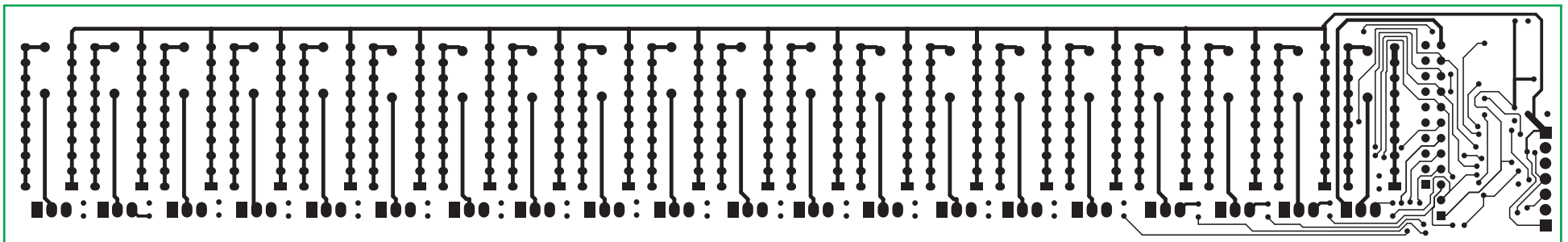
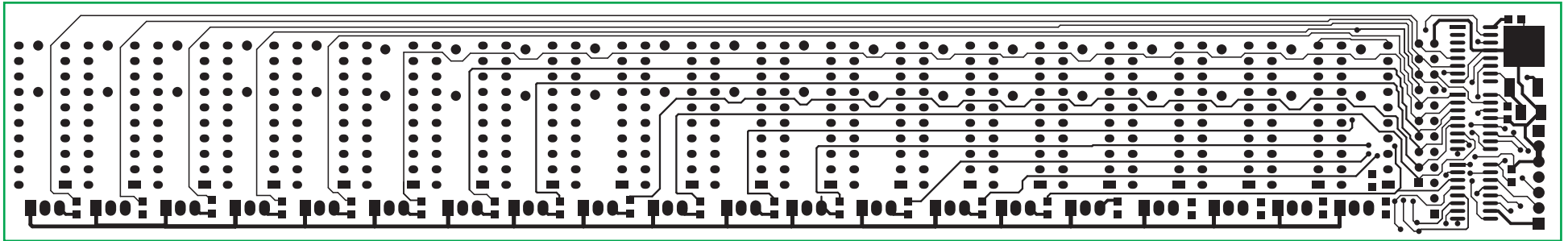
Project built around 74HC595, the 74HC595 devices contain an 8-bit serial-in, parallel-out shift register that feeds an 8-bit D-type storage register. The storage register has parallel 3-state outputs. Separate clocks are provided for both the shift and storage register. The shift register has a direct overriding clear (SRCLR) input, serial (SER) input, and serial outputs for cascading. When the output-enable (OE) input is high, the outputs are in the high-impedance state. Both the shift register clock (SRCLK) and storage register clock (RCLK) are positive-edge triggered. If both clocks are connected together, the shift register always is one clock pulse ahead of the storage register. All 8 parallel output are connected to inputs of BC635 Transistor which drive the display segment. Resistor used in series of the display for current control, each display draw 90mA current. The project works with 12V DC supply, onboard regulator helps to provide 5V to 74HC595. CN1 SPI data input and CN2 12V DC supply in.

### Specifications

- Supply 12V 2A









<b>BOM</b>			
<b>SR.</b>	<b>QNTY.</b>	<b>REF</b>	<b>DESC.</b>
1	1	CN1	5 PIN HEADER CONNECTOR
2	1	CN2	2 HEADER CONNECTOR
3	1	CN3	12 PIN HEADER CONNECTOR
4	1	CN4	10 PIN HEADER CONNECTOR
5	3	C1,C2,C3	100n SMD 0805
6	1	C4	10/16V SMD 1210
7	20	DS1,DS2,DS3,DS4,DS5,DS6,DS7,DS8,DS9,DS10,DS11,DS12,DS13,DS14,DS15,DS16,DS17,DS18,DS19,DS20	10 SEGMENT BARGRAPH DISPLAY
8	20	Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q8,Q9,Q10,Q11,Q12,Q13,Q14,Q15,Q16,Q17,Q18,Q19,Q20	BC635 TO92
9	20	R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15,R16,R17,R18,R19,R20	100E 1/2W
10	20	R21,R22,R23,R24,R25,R26,R27,R28,R29,R30,R31,R32,R33,R34,R35,R36,R37,R38,R39,R40	2K2 SMD 0805
11	3	U1,U2,U3	74HC595 SMD
12	1	U4	LM78M05 SMD DPAK

