

LED CUBE (Cost \$20)

The objective of this project is to create a three-dimensional graphical display. These displays called LED cubes are best demonstrated by a video, the link to which is given below.

<https://www.youtube.com/watch?v=yst4eL0-Eco>

There is also a LED cube construction video, similar to the way we will be making ours.

<http://www.instructables.com/id/4x4x4-LED-Cube-Arduino-Uno/?ALLSTEPS>

https://www.youtube.com/watch?v=vf_IpviMiFU

Be aware that we will be programming ours differently, but the construction of the cube will be much the same. Now to that point the following is the circuit diagram for the circuit board that will be in the kit.

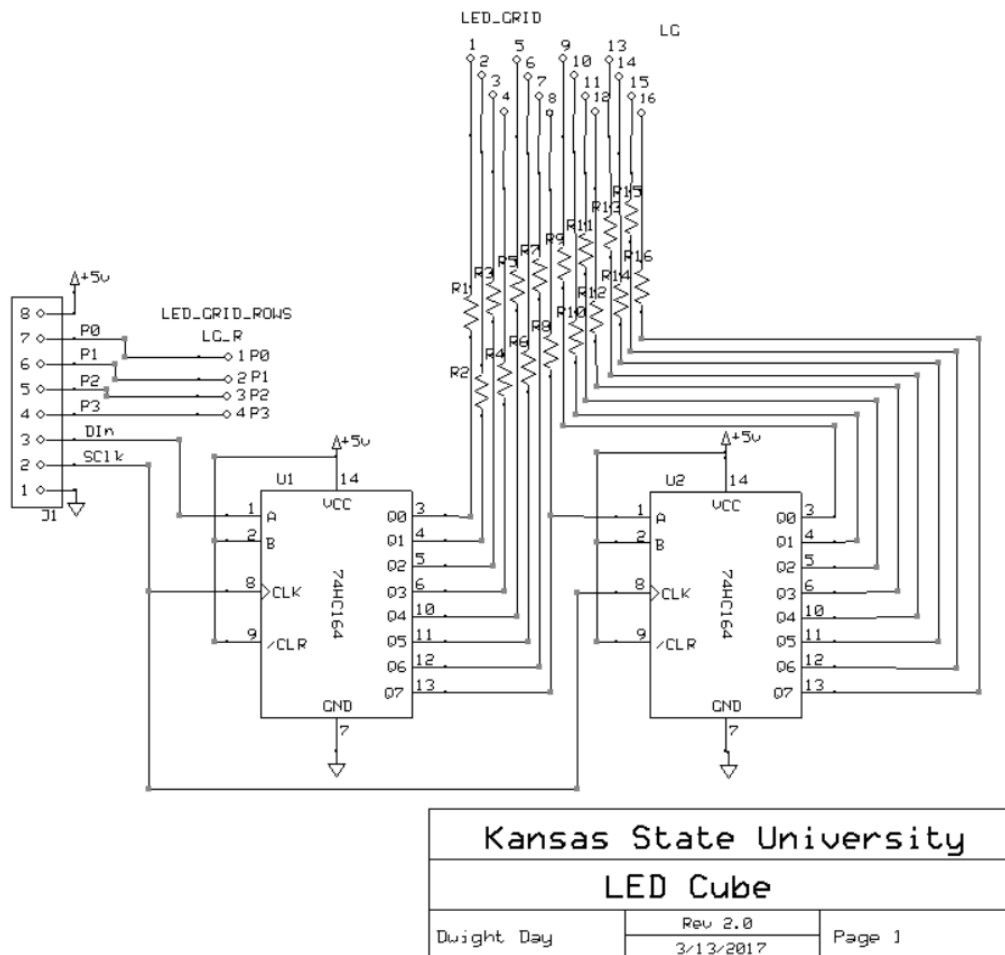


Figure Proj-4A. Driver Circuit for LED Cube PCB.

A complete description of this circuit and setup can be found under “Files->Course Notes->Hardware Documentation->E_LED_Interface.pdf”

Features and Their Weighting

- 1) At least three separate modes of operation (flash pattern) for the cube.
One of the patterns needs to demonstrate and test that each LED is addressable. (7)
- 2) Mode change should be changed by pressing a button, which is properly debounced. (5)
- 3) Presentation skills (3 points)