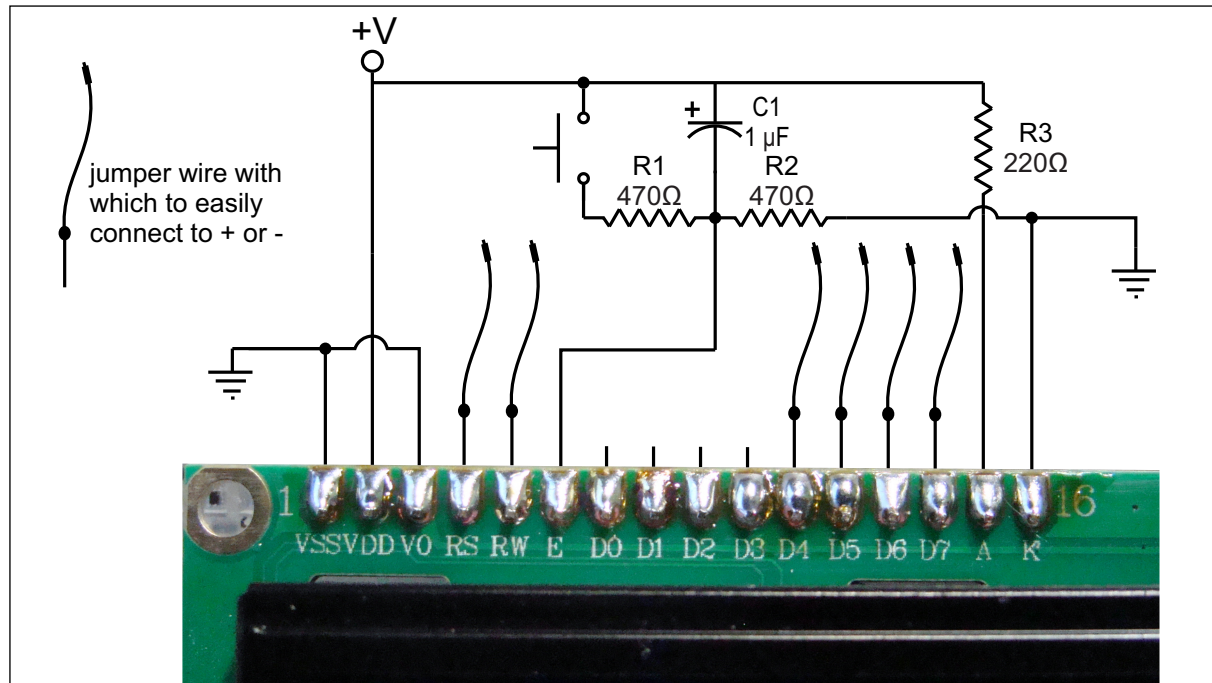


## LCD manual drive schematic



Optional: Putting a variable resistor from V0 to ground will allow you to control the contrast.

CGRAM address  
(cursor addresses)

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | 4E | 4F |

The address of the character block is set by sending a 1 byte command with bit 7 high and the lower 7 bits indicating the address for the cursor. For example, to put the cursor at the first location of row two, we have an address of H40 = B0100 0000. We need to set bit 7 high which turns it into a command, so sending a 1100 0000 to the display with the RS line 0 and RW line 0 will set the cursor to the first location of row two. Sending a 1100 1111 would set the cursor to the 16th position of row two.