CHARLIEPLEXED CLOCK DIGIT DECODER

10Ω

LATCH | D0 D1 D2 D3 D4 D5 D6 D7

DI
CLOCK | Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 | DO

DO chains to next
shift register's DI
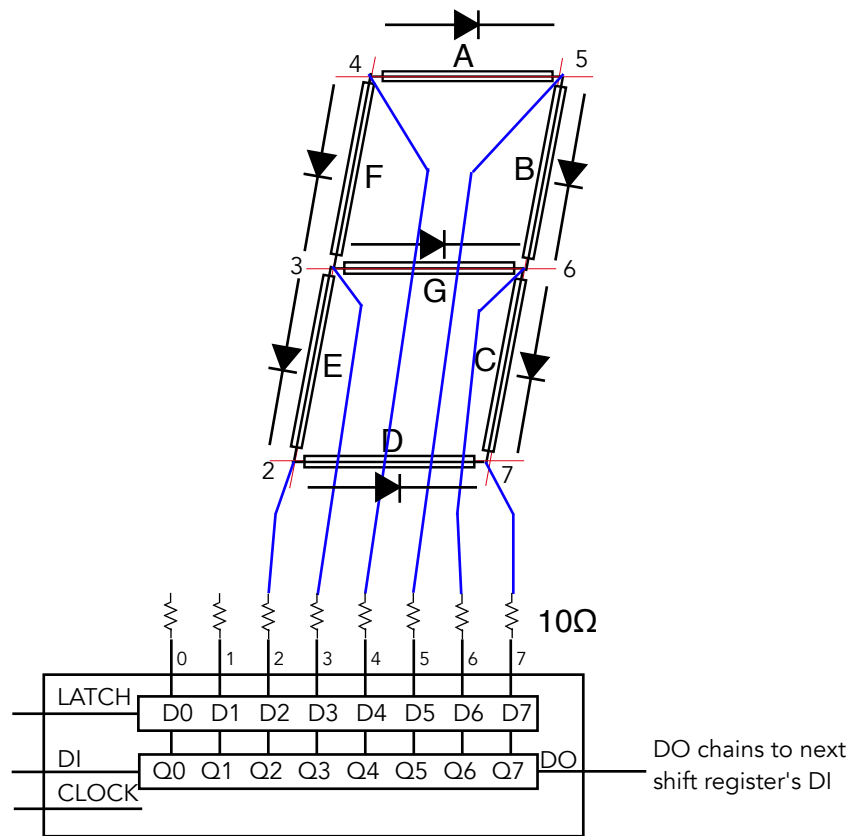
NOTES: 1-SPI SENDS MSB FIRST
2- LSB IS D0, MSB IS D7
3- DATA OUTPUTS ON RISING EDGE OF LATCH

SEND THESE BYTES TO TURN ON SEGMENT

SEGMENT	BINARY	HEX
	D7 D6 D5 D4 D3 D2 D1 D0	
A	1,1,0,1,1,1,0,0	0xDC
B	0,0,1,0,0,0,0,0	0x20
C	0,1,1,0,0,0,0,0	0x60
D	0,0,0,0,0,1,0,0	0x04
E	1,1,1,1,1,0,0,0	0xF8
F	1,1,1,1,0,0,0,0	0xF0
G	1,0,0,0,1,1,0,0	0x8C
OFF	1,1,1,1,1,1,0,0	0xFC

SHOWN WITH MSB (D7) ON THE LEFT!

SEVEN SEGMENT ENCODER
Maps number to segments ON
Segment A is bit 0, segement G is bit 6

NUMBER	BINARY	HEX
0	0 0 1 1 1 1 1 1	0x3F
1	0 0 0 0 0 1 1 0	0x06
2	0 1 0 1 1 0 1 1	0x5B
3	0 1 0 0 1 1 1 1	0x4F
4	0 1 1 0 0 1 1 0	0x66
5	0 1 1 0 1 1 0 1	0x6D
6	0 1 1 1 1 1 0 1	0x7D
7	0 0 0 0 0 1 1 1	0x07
8	0 1 1 1 1 1 1 1	0x7F
9	0 1 1 0 0 1 1 1	0x67
A	0 1 1 1 0 1 1 1	0x77
B	0 1 1 1 1 1 0 0	0x7C
C	0 0 1 1 1 0 0 1	0x39
D	0 1 0 1 1 1 1 0	0x5E
E	0 1 1 1 1 0 0 1	0x79
F	0 1 1 1 0 0 0 1	0x71