

Main MPU & Serial convert



The diagram illustrates a 7-segment display driver circuit. It consists of two 74HC595 shift registers (U1 and U2) and two OSL10326-LX LEDs (U7 and U8). The shift registers are connected to a +5V supply and ground. The LEDs are connected to the outputs of the shift registers (QA-GH) and a common ground (DP8). The circuit is powered by a +5V supply and includes decoupling capacitors C16 and C17.

U1: 74HC595

- VCC (16) to +5V
- GND (8) to GND
- QA (15) to A (1) of U7
- QB (1) to B (2) of U7
- QC (2) to C (3) of U7
- QD (3) to D (4) of U7
- QE (4) to E (5) of U7
- QF (5) to F (6) of U7
- QG (6) to G (7) of U7
- QH (9) to GND (DP8) of U7

U2: 74HC595

- VCC (16) to +5V
- GND (8) to GND
- QA (15) to A (1) of U8
- QB (1) to B (2) of U8
- QC (2) to C (3) of U8
- QD (3) to D (4) of U8
- QE (4) to E (5) of U8
- QF (5) to F (6) of U8
- QG (6) to G (7) of U8
- QH (9) to GND (DP8) of U8

U7: OSL10326-LX

- A (1) to QA (15) of U1
- B (2) to QB (1) of U1
- C (3) to QC (2) of U1
- D (4) to QD (3) of U1
- E (5) to QE (4) of U1
- F (6) to QF (5) of U1
- G (7) to QG (6) of U1
- GND (DP8) (8) to GND

U8: OSL10326-LX

- A (1) to QA (15) of U2
- B (2) to QB (1) of U2
- C (3) to QC (2) of U2
- D (4) to QD (3) of U2
- E (5) to QE (4) of U2
- F (6) to QF (5) of U2
- G (7) to QG (6) of U2
- GND (DP8) (8) to GND

Control Signals:

- Master_Out_Slave_in:** Connected to SER (14) of U1 and SER (14) of U2.
- Serial_Clock:** Connected to SRCLK (11) of U1 and SRCLK (11) of U2.
- Latch_7seg_Driver:** Connected to RCLK (12) of U1 and RCLK (12) of U2.

Power and Decoupling:

- +5V:** Connected to VCC (16) of U1 and U2.
- GND:** Connected to GND (8) of U1 and U2.
- C16:** 100nF capacitor connected between +5V and GND.
- C17:** 100nF capacitor connected between +5V and GND.

J2 1 Software_Reset

J2 1 Serial_Rx

J2 1 Latch_7seg_Driver

J2 1 Input_Mode_Detect

J2 1 Slave_Select

J2 1 Serial_Clock

J2 1 Master_In_Slave_Out

J2 1 Master_Out_Slave_In

J2 1 Motor-PWM_2

J2 1 Motor-PWM_1

J2 1 Neo_Pixel

