

L298N Motor Driver

The circuit diagram illustrates the L298N Motor Driver, which is a dual-channel motor driver IC. It is powered by a 12V supply (J8) and a 5V supply (J1). The 12V supply is connected to the VS pin (pin 4) and the 12V input of the 7805 voltage regulator (U2). The 5V supply is connected to the VCC pin (pin 9) and the 5V output of the 7805 regulator. The 7805 regulator is connected to the 12V input (pin 1), GND (pin 2), and 5V output (pin 3). The L298N IC is connected to the motor (J6) and the LEDs (J7). The motor is connected to the VS pin (pin 4) and the 12V input of the 7805 regulator (pin 1). The LEDs are connected to the VS pin (pin 4) and the 12V input of the 7805 regulator (pin 1).

Components and Connections:

- U1 (L298N):** Motor driver IC. Pins: 1 (1E), 2 (2E), 3 (1Y1), 4 (VS), 5 (1A1), 6 (1EN), 7 (1A2), 8 (GND), 9 (VCC), 10 (2A1), 11 (2EN), 12 (2A2), 13 (1Y2), 14 (2Y2), 15 (1E).
- U2 (7805):** Voltage regulator. Pins: 1 (VIN), 2 (GND), 3 (VOUT).
- J1 (5V):** 5V supply input.
- J6 (Motor):** Motor output.
- J7 (LEDs):** LED output.
- J8 (12V):** 12V supply input.
- Resistors:** R1 (10k), R2 (10k), R3 (560E).
- Capacitors:** C1 (100uF), C2 (100uF), C3 (.01uF), C4 (.01uF).
- Diodes:** D1, D2, D3, D4, D5, D6, D7, D8 (1N4007), D9, D10, D11, D12 (LED), D13 (LED).

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