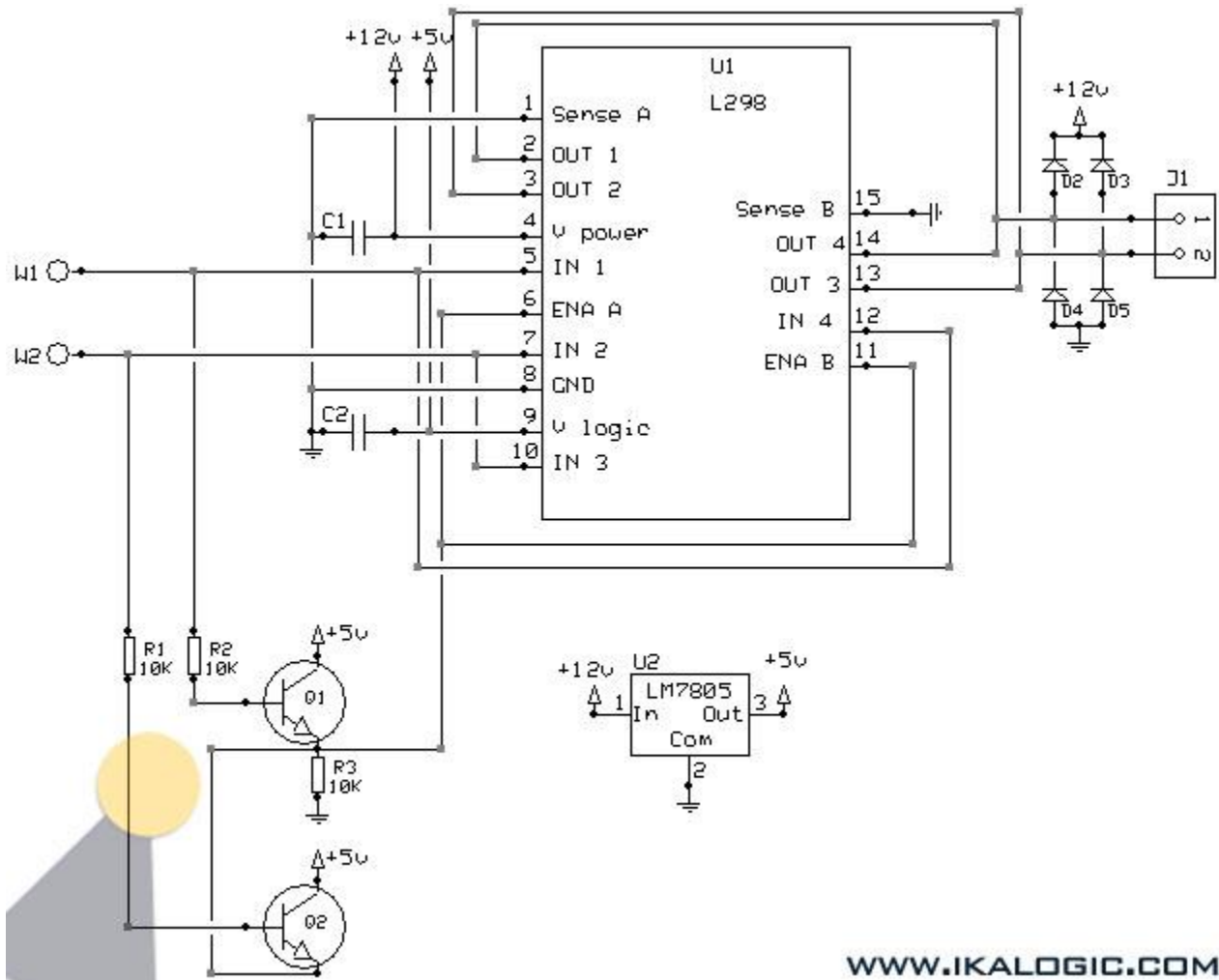


4A H-bridge motor driver using the L298 IC Schematic

Posted on February 28, 2008, by Ibrahim KAMAL, in Motor Control, tagged

This is an implementation of the L298 to drive motors and inductive loads up to 4A continuously. Initially the L298 contains two separate channels, each one capable of driving 2A loads. Connecting them in parallel as in the schematic makes a single 4A driver.



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The two wire connections W_1 and W_2 are to control the direction of the motor according to that table:

Signal on W1 and W2	result/action
10	Motor turns clockwise
01	Motor turns anticlockwise
11	Motor breaks
00	Motor is free

The two transistors Q_1 and Q_2 act as an **OR** gate enabling the L298 if any of the two signals W_1 or W_2 are high. If both W_1 and W_2 are low (logic 0), the driver is disabled and provides a high impedance on its output, causing an eventually connected motor to move freely with its inertia.

C_1 and C_2 are 10 nF decoupling capacitors. D_1 to D_4 are flyback diodes. Their forward current should correspond with the the expected load. The two leads of the motor are directly connected to J_1 . The circuit can be powered with 9V to 35V

Here **figure 1**, is an implementation of this circuit on a PCB. This an actual picture of the motor drivers we used in the ROBOCON 2007 competition. Notice how the heat sink is firmly attached to the driver. This protects the IC from eventually burning-up from stall currents.

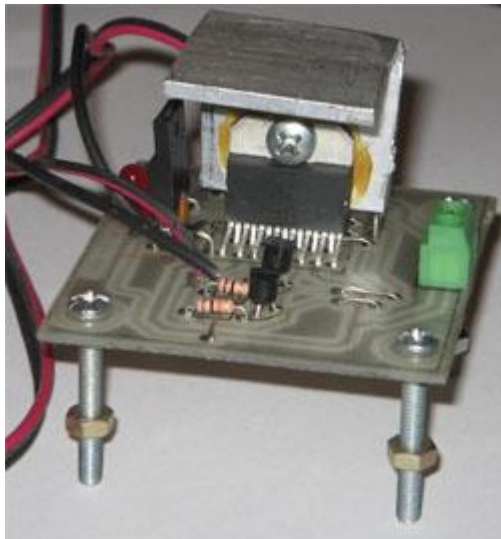


figure 1

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