

H-bridge modification for the OE5JFL controller

(by Walter Crauwels ON4BCB January 2016)

Introduction:

Many of us are using the well known OE5JFL antenna controller.

Some of us are struggling with the limited motor current of the L6203 H-bridge from SGS Thomson.

Following the datasheet 5A max peak current .

I worked out a solution using a double high power motor driver based on two BTS7960 chips.

Those are available from various ebay vendors as they are used for many arduino projects:

IBT-2 H-bridge.



Input port

1	2	1、RPWM	: Forward level or PWM signal input, active high
		2、LPWM	: Inversion level or PWM signal input, active high
		3、R_EN	: Forward drive enable input , high enable , low close
		4、L_EN	: Reverse drive enable input , high enable , low close
		5、R_IS	: Forward drive -side current alarm output
		6、L_IS	: Reverse drive -side current alarm output
		7、VCC	: +5 V power input,connected to the microcontroller 5V power supply
7	8	8、GND	: Signal common ground terminal

Usage one:

VCC pick MCU 5V power supply, GND connected microcontroller GND

R_EN and L_EN shorted and connected to 5V level, the drive to work.

L_PWM, input PWM signal or high motor forward

R_PWM, input PWM signal or high motor reversal

Usage two:

VCC pick MCU 5V power supply , GND connected microcontroller GND

R_EN and L_EN short circuit and PWM signal input connected to high-speed

L_PWM, pin input 5V level motor is transferred

R_PWM, pin input 5V level motor reversal

Modification:

Following the OE5JFL original schematic:

- 1) Remove the L6203 for Azimuth IC1, and IC2 for Elevation carefully
- 2) Connect the following wires between the pads where the L6203 was and the IBT2 H-bridge:

Azimuth:

IC1 Pin5 (CW) ➔ IBT-2 azimuth Pin 1 (R_PWM)

IC1 Pin7 (CCW) ➔ IBT-2 azimuth Pin 2 (L_PWM)

IC1 Pin11 (PWM) ➔ IBT-2 azimuth Pin 3+4 (R_EN + L_EN)

IC1 Pin6 (GND) ➔ IBT-2 azimuth Pin 8 (GND)

R15 & R16 junction (+5V) ➔ IBT-2 azimuth Pin 7 (VCC)

Elevation:

IC2 Pin5 (UP) ➔ IBT-2 elevation Pin 1 (R_PWM)

IC2 Pin7 (DOWN) ➔ IBT-2 elevation Pin 2 (L_PWM)

IC2 Pin11 (PWM) ➔ IBT-2 elevation Pin 3+4 (R_EN + L_EN)

IC2 Pin6 (GND) ➔ IBT-2 elevation Pin 8 (GND)

R15 & R16 junction (+5V) ➔ IBT-2 elevation Pin 7 (VCC)

The L6203 Pinout:





