Wiring diagram

Ext. Pwr – hooked to the battery. This is the power that activates the signals on the motor controllers.

The servos are powered by the usb port.

The toggle switch turns power on to the entire circuit, including external power to the motor shield and and the drive and steering motors.



M1 Signal 2
Ground Signal 1
Signal 1
Signal 2

Servo1 Servo2

Ext. Pwr + -

Signal 2
Signal 1
Ground
Signal 1
Signal 2

Left motor 1 2 right motor 1 2

Steer Motor 1 2

Battery + - Toggle Switch 1 - on

2 - off

Power Block

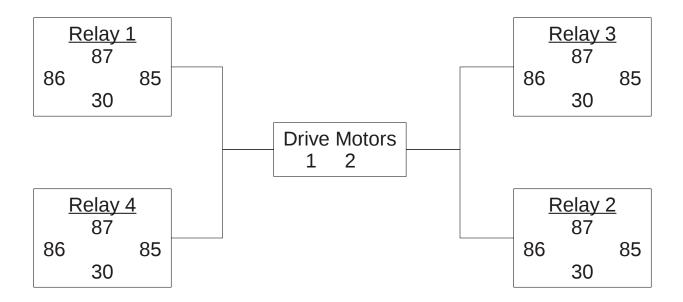
Ground Block

Driving H-Bridge

4 standard automotive relays Model yh185b 14v dc 60 amp Both motors run at the same time.

They are opposite of each other, so the top port on one motor is hooked to the bottom port on the other motor. And the bottom port of one motor is hooked to top port of other motor.

The motors run full blast with this circuit – there's no variation in speed, since a relay is either on or off.



1-30	Switch 2
1-30	3-30
1-86	M1 signal 1
1-86	2-86
1-87	Drive motors 1
1-85	M1 ground
1-85	2-85

3-30	1-30
3-86	M1 signal 2
3-86	4-86
3-87	Drive motors 2
3-85	2-85
3-85	4-85

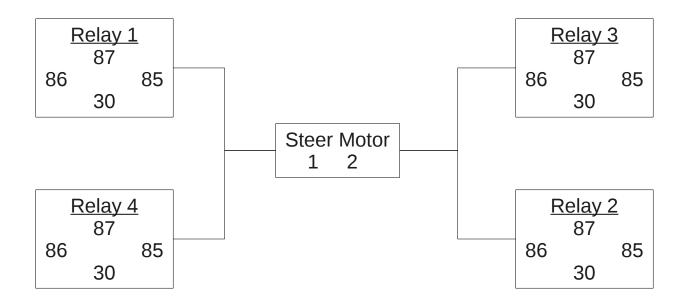
4-30	2-30
4-30	Bat -
4-86	3-86
4-87	Drive motors 1
4-85	3-85

2-30	4-30
2-86	1-86
2-87	Drive motors 2
2-85	1-85
2-85	3-85

Steering H-Bridge

4 standard automotive relays Model ld1a-12f 12v dc 40 amp The motor runs full blast. Relays are either on or off, so there's no speed control.

The application user will need to let off the steering once the wheels turn, or there will be damage to the steer motor mount.



1-30	Switch 2
1-30	3-30
1-86	M3 signal 1
1-86	2-86
1-87	Steer motor 1
1-85	M3 ground
1-85	2-85

3-30	1-30
3-86	M3 signal 2
3-86	4-86
3-87	Steer motor 2
3-85	2-85
3-85	4-85

4-30	2-30
4-30	Bat -
4-86	3-86
4-87	Steer motor 1
4-85	3-85

2-30	4-30
2-86	1-86
2-87	Steer motor 2
2-85	1-85
2-85	3-85

Drive

M1

signal 1 – drive h-bridge 1-86 signal 2 – drive h-bridge 3-86

Ground – drive h-bridge 1-85

Steer

M3

Signal 1 – steer h-bridge 1-86

Signal 2 – steer h-bridge 3-86

Ground – steer h-bridge 1-85

Fire

M4

Signal 2 - trigger

Ground – ground block

Servo 1 – turret left/right Servo 2 – turret up/down

Ext. Power

- + power block
- ground block