ByteRider

Version

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ByteRider documentation

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INTRODUCTION

HOW DOES IT WORK?

The BitByteRider RC car is powered by ESP32-C3 Breadboard & Power adapter developmemt board.

Reserver Pins & GPIOs

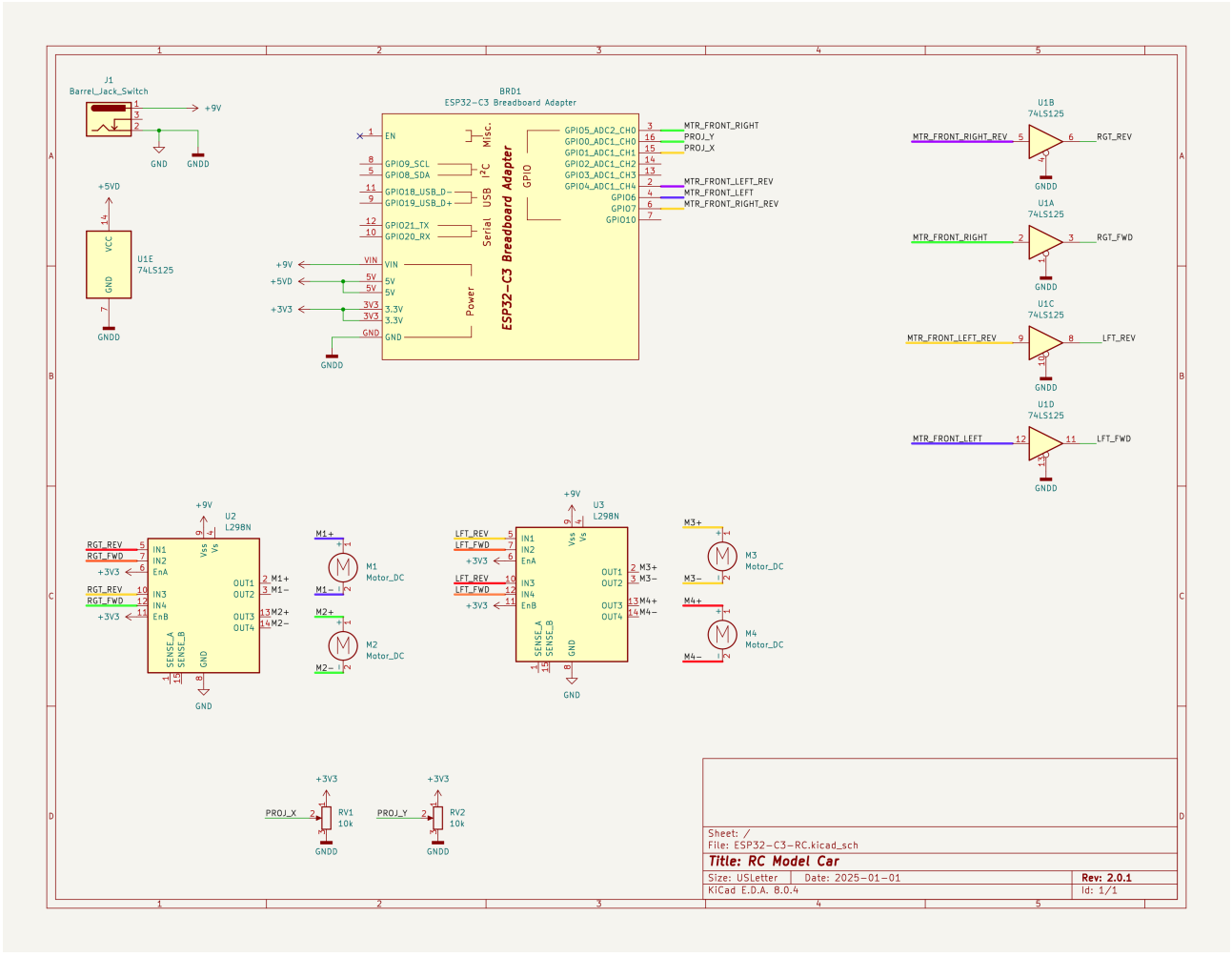
The table below summarizes GPIOs and pins reserved for operations purposes.

GPIO number corresponds to that on the ESP32-C3 WROOM microcontroller. The Pin number corresponds to the pin on the Breadboard and Power adapter development board. The GPIO0 and GPIO1 assigned to measuring the voltage of x- and y- axis of the Joystick. Lastly, there is a group of GPIO pairs responsible for PWM for DC motors. The two DC motors on the left side are wired to the same PWM channel, as well as the two DC motors on the right side. Consequently, only four PWM channels are required for controlling the direction of the RC car. A pair of PWM channels are required for defining rotation speed and direction of the DC motors on each side. In particular, GPIO6 and GPIO5 provide PWM to the left- and right- side DC motors to rotate in a clockwise direction. Similarly, GPIO4 and GPIO7 provide PWM to the left- and right- side DC motors to rotate in a counter-clockwise direction. Changing PWM on each channel determines the speed and direction of the RC car.

GPIO	Pin	Function	Notes
0	16	Joystick x-axis	ADC1_CH0
1	15	Joystick y-axis	ADC1_CH1
8	5	Joystick push button	
6	4	PWM for clockwise rotation of left-side motors	LEDC_CHANNEL_1
5	3	PWM for clockwise rotation of right-side motors	LEDC_CHANNEL_0
4	2	PWM for counter-clockwise rotation of right-side motors	LEDC_CHANNEL_2

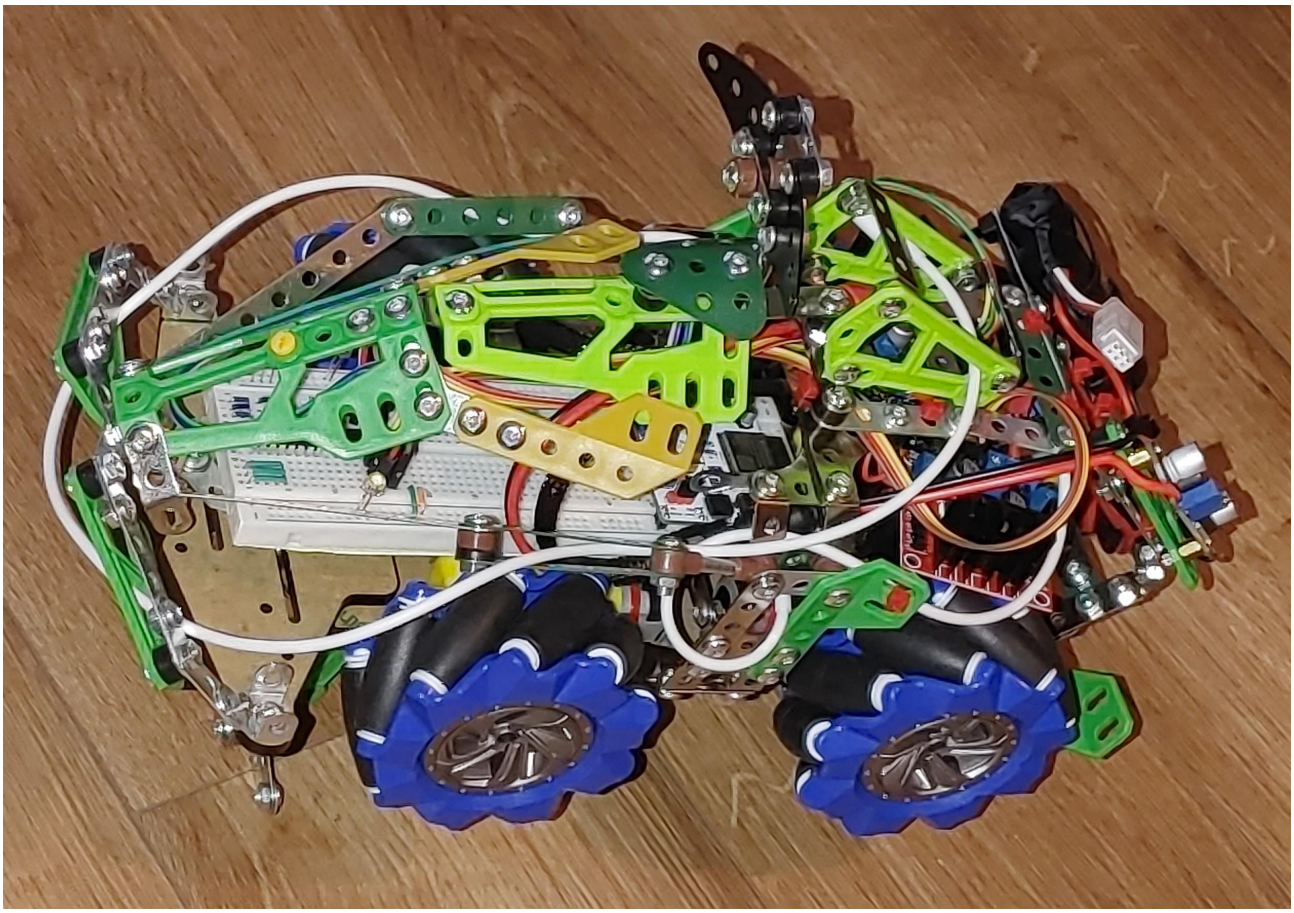
GPIO	Pin	Function	Notes
7	6	PWM for counter-clockwise rotation of left-side motors	LEDC_CHANNEL_3

Schematic

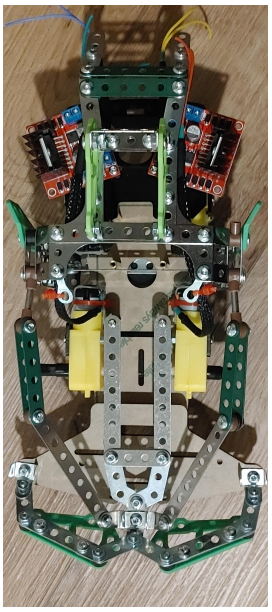


WORK-IN-PROGRESS WALK THROUGH

Finished Work

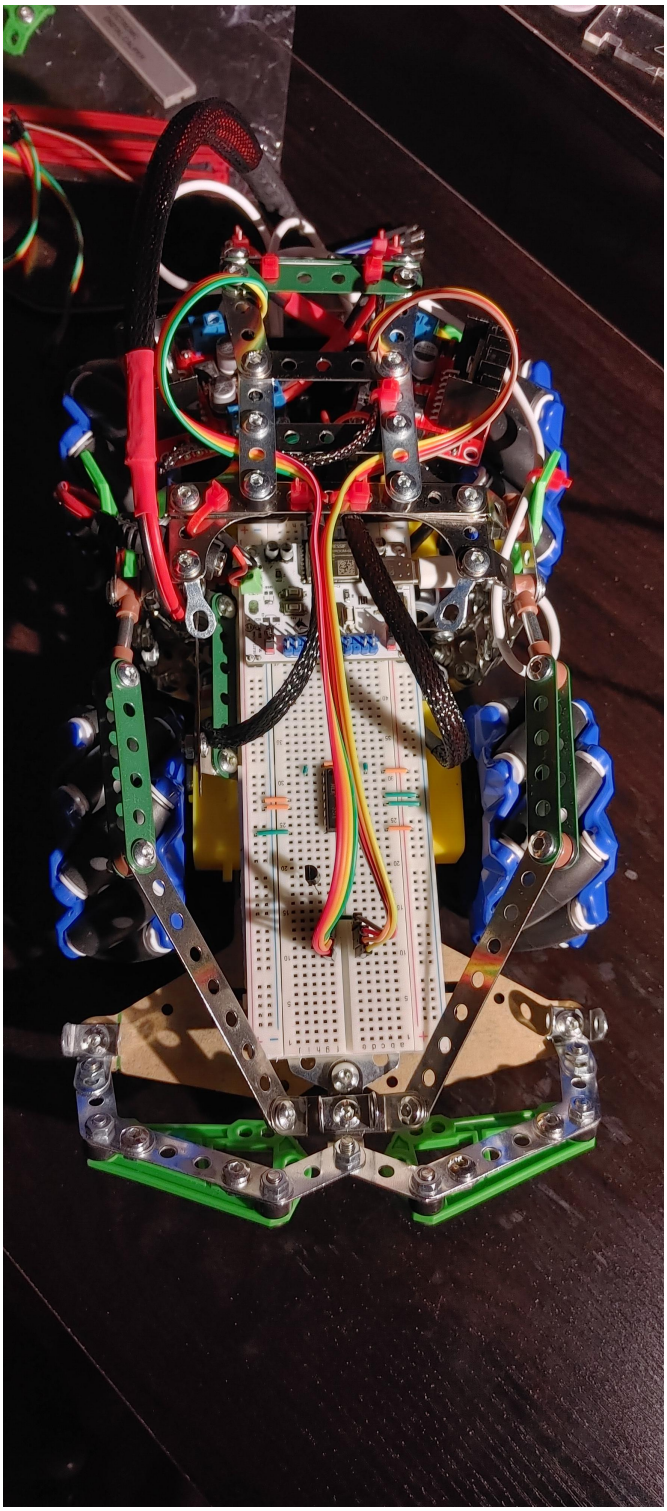


Chassis



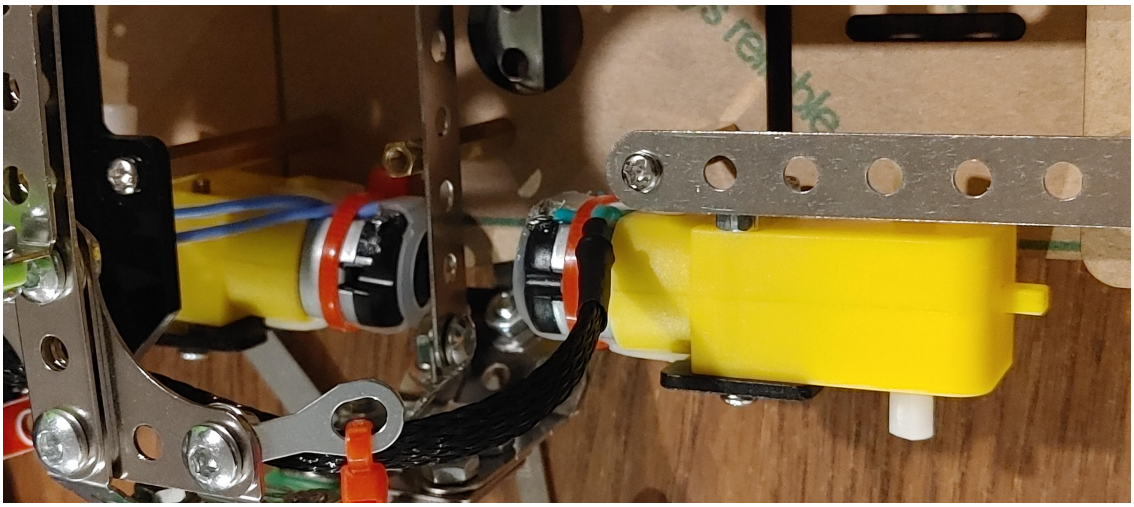
Completed chassis with only DC motor controllers installed.

Wiring



Completed wiring.

Motor Wires Harness



DC Motors wires secured inside harnes.

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