

未命名文件

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• Engine.v 顶层模块

input: clk, power_on(button), power_off(button), model_select(button), throttle, cl

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utch, brake, reverse, right(button), left(button), front_detector,back_detector, left_detector, right_detector
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• start.v 小车开关和模式切换模块

input: clk, power_on(button), power_off(button), model_select(button)//开机

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后默认重置为手动（01）状态，之后每按一次进行一次模式切换，半自动（10）状态，全自动（11）状态，未启动（00）状态

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output: model[1:0]
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• man.v (initial state is in not-starting state)

input: throttle, clutch, brake, reverse, right(button), left(button), state[1:0]

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output: state[1:0], move_forward, move_backward, clockwise, degree
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• semi (initial state is in moving state)

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• semi_state.v

input: state[1:0], front_detector,back_detector, left_detector, right_detecto

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r, clk(40ms)

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output: state[1:0]//turing转直行中间加cooldown

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• semi_command.v

input: state[1:0], turn_left(button), turn_right(button), go_straight(button)

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output: state[1:0], clockwise

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• auto.v (to UART)//待完善

input: front_detector,back_detector, left_detector, right_detector, clk(40ms),

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of barrier

output: state[1:0], turn_left_signal, turn_right_signal, move_forward_signal等ca

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r_simulation输入, # of barrier

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• output

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• car_motion.v 小车运动状态输出模块(to UART)

input: model[1:0], state[1:0]（默认00为静止，01为启动/等待指令，10为

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移动，11为自动转弯），move_forward, move_backward, clockwise(逆时针为左转0，顺时针为右转1), degree（默认0，自动转弯则为90），clk（自动转弯则为50Hz)

output: turn_left_signal, turn_right_signal, move_forward_signal等car_simu

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• car_LED.v 小车LED灯显示模块

input: state[1:0], clockwise, degree, clk

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output: led_left, led_right

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• car_mileage.v 小车型程计数模块(to 7 seg) 数码管输出

input: state[1:0], clk

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output: tube_switch[6:0]