

Horsepower 2008 Control System

Inputs	Physical Connection	#define name	Variable Type	Value	Variable alias.h to #define against	#define name	Variable alias.h to #define	Var Type	Value	RC Control Output	Control Device	Control Device / Purpose
Operator Inputs												
Port 1 auxiliary Switch	OI Port 1	swt_spatula	byte	0-127-254	p1_sw_aux1	pwm_RightWinchPower	pwm05	byte	0-254	PWM5	Speed Controller 5	right motor to raise and lower tower
Port 1 Trigger	OI Port 1	swt_fire	bit	1	p1_sw_trig	pwm_LeftWinchPower	pwm06	byte	0-254	PWM6	Speed Controller 6	left motor to raise and lower tower
	Auto Load Process will turn one when necessary			0		ry_ElectoMag	relay3_fwd	bit	0	RELAY3	Spike Relay Controller 3	Turn off The electro magnet
Port 1 top wheel	OI Port 1	pot_whack	byte	0-127-254	p1_wheel	ry_ElectoMag	relay3_fwd	bit	1	RELAY3	Spike Relay Controller 3	Turn on The electro magnet
Port 1 Y axis	OI Port 1	pot_winch	byte	0-127-254	p1_y							
	Winch operation is overridden in auto operation					ry_WhackUp	relay2_rev	bit	1	RELAY2	Spike Relay Controller 2	Raise the whacker when = to 255
						ry_WhackDown	relay2_fwd	bit	1	RELAY2	Spike Relay Controller 2	Lower the whacker when = to 150
						pwm_RightWinchPower	pwm05	byte	0-254	PWM5	Speed Controller 5	right motor to raise and lower slingshot
						pwm_LeftWinchPower	pwm06	byte	0-254	PWM6	Speed Controller 6	left motor to raise and lower slingshot
					Will fire when pot_winch is > 127 + 10	ry_WinchBrakeOn	relay4_fwd	bit	1	RELAY4	Spike Relay Controller 4	Winch Brake On actually retract piston
					Will fire when pot_winch is < 127 - 10	ry_WinchBrakeOff	relay4_rev	bit	1	RELAY4	Spike Relay Controller 4	Winch Brake Off actually deploys piston
Port 1 top switch	OI Port 1	swt_spatula_toggle	bit	0-1	p1_sw_top	ry_SpatulaDeploy	relay4_fwd	bit	1	RELAY5	Spike Relay Controller 5	Spatula pneumatic actuator deploy
						ry_SpatulaRetract	relay4_rev	bit	1	RELAY5	Spike Relay Controller 5	Spatula pneumatic actuator retract

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Digital Inputs												
Winch Cable Slack Switch 1	RC Digital Input - 1	dig_WinchCableSlack	dig bit	0-1	rc_dig_in01							Signal sent when cable goes slack
IR Input 1	RC Digital Input - 2	dig_IRInput1	dig bit	0-1	rc_dig_in02							Signal sent from ROBO Coach
IR Input 2	RC Digital Input - 3	dig_IRInput2	dig bit	0-1	rc_dig_in03							Signal sent from ROBO Coach
IR Input 3	RC Digital Input - 4	dig_IRInput3	dig bit	0-1	rc_dig_in04							Signal sent from ROBO Coach
IR Input 4	RC Digital Input - 5	dig_IRInput4	dig bit	0-1	rc_dig_in05							Signal sent from ROBO Coach
Pressure Sensor	RC Digital Input - Pin 12	dig_SensorPressure	dig bit	1-0	rc_dig_in12	rcly_PumpPower	relay8_fwd	bit	0-1	RELAY8 Controller 8	Spike Relay	Pneumatics Pump (30 Amp Fuse)

"RC" refers to the Robot Controller. "OI" refers to the Operator Interface.

This will shut off winch payout when set to dig_low

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Additional Analog Inputs												
Gyro Chip	Analog Input - Pin 1	int_GyroChip	int	65000	Analog1							
Left Sonar	Analog Input - Pin 2	int_LeftSonar	int	65000	Analog2							
Right Sonar	Analog Input - Pin 3	int_RightSonar	int	65000	Analog3							
Top Sonar	Analog Input - Pin 4	int_TopSonar	int	65000	Analog4							
Left Winch Current Sensor	Analog Input - Pin 5	int_LeftWinchCurrent	int	65000	Analog5							
Right Winch Current Sensor	Analog Input - Pin 6	int_RightWinchCurrent	int	65000	Analog6							
Ball IR Proximity Sense	Analog Input - Pin 7	int_BallDistance	int	65000	Analog7							
LED Outputs (In Normal Mode)												
Top Sonar						led_LadderIsNotClose	PWM1_Red	bit	0/1			Dashboard indicator that the top sensor does not see something close like the ball.
						led_LadderIsClose	PWM1_Green	bit	0/1			Dashboard indicator that the top sensor sees something close like the ball.
Pump Power		dig_SensorPressure				led_SensorPressure	LED_Switch3	bit	0/1			Dashboard indicator that pump is on or
Additional Outputs												
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