

# Components

#	Type
5	Talon Motor Controllers (Drive Motors)
7	Black Jaguar Motor Controllers (4x Steering, Shooter Tilt, 2x Climber Winch)
1	Pneumatics compressor Spike Relay
1	Pneumatics compressor pressure switch
3	Double Solenoids (Magazine Trigger, Magazine Lifter, Camera Lifter)
2	Servos (Camera Gimbal)
4	US Digital E4P Optical Encoders (Drive RPM)
4	Avagotech Hall Effect Absolute Encoders (Steering Angle)
1	Sharp IR Proximity Sensor, Short Range (Magazine Frisbee Counter) [NOT INSTALLED]
1	Sharp IR Proximity Sensors, Medium Range (Shooter Tilt Distance Sensor)
1	Pandaboard computer
1	IMU

# Wiring

## DIO on Digital Sidecar 1

#	Sensor
1	Shooter encoder Channel A
2	Shooter encoder Channel B
3	Pneumatics compressor Pressure Switch
4	
5	SwerveDriveSystem left_back_rpm_sensor Channel B

- 6 SwerveDriveSystem left\_back\_rpm\_sensor Channel A
- 7 SwerveDriveSystem\_left\_back\_angle\_sensor data
- 8 SwerveDriveSystem left\_back\_angle\_sensor clock
- 9 SwerveDriveSystem left\_back\_angle\_sensor chip select
- 10 SwerveDriveSystem left\_front\_rpm\_sensor Channel B
- 11 SwerveDriveSystem left\_front\_rpm\_sensor Channel A
- 12 SwerveDriveSystem left\_front\_angle\_sensor data
- 13 SwerveDriveSystem left\_front\_angle\_sensor clock
- 14 SwerveDriveSystem left\_front\_angle\_sensor chip select

## DIO on Digital Sidecar 2

- | #  | Sensor   |
|----|--|
| 1  | Compressor Pressure Switch                             |
| 2  |  |
| 3  |  |
| 4  |  |
| 5  | SwerveDriveSystem right_front_rpm_sensor Channel B     |
| 6  | SwerveDriveSystem right_front_rpm_sensor Channel A     |
| 7  | SwerveDriveSystem right_front_angle_sensor data        |
| 8  | SwerveDriveSystem right_front_angle_sensor clock       |
| 9  | SwerveDriveSystem right_front_angle_sensor chip select |
| 10 | SwerveDriveSystem right_back_rpm_sensor Channel B      |
| 11 | SwerveDriveSystem right_back_rpm_sensor Channel A      |
| 12 | SwerveDriveSystem right_back_angle_sensor data         |

- 13 SwerveDriveSystem right\_back\_angle\_sensor clock
- 14 SwerveDriveSystem right\_back\_angle\_sensor chip select

## PWMs on Digital Sidecar 1

#	Motor
1	
2	
3	
4	
5	Camera Azimuth Servo
6	Camera Elevation Servo
7	SwerveDriveSystem left_back_steer_motor Output
8	SwerveDriveSystem left_back_drive_motor Output
9	SwerveDriveSystem left_front_steer_motor Output
10	SwerveDriveSystem left_front_drive_motor Output

## PWMs on Digital Sidecar 2

#	Motor
1	Shooter motor Output
2	Climber front_winch_motor Output
3	Climber rear_winch_motor Output
4	Tilter motor Output
5	
6	

- 7 SwerveDriveSystem right\_front\_steer\_motor Output
- 8 SwerveDriveSystem right\_front\_drive\_motor Output
- 9 SwerveDriveSystem\_right\_back\_steer\_motor Output
- 10 SwerveDriveSystem right\_back\_drive\_motor Output

## Relays on Digital Sidecar 2

#	Relay
1	Pneumatics compressor Spike

## Analog Module 1

#	Sensor
1	Tilter height_sensor Input
2	Magazine frisbee_counter Input [NOT INSTALLED]

## Solenoid Module 1

#	Solenoid
1	Magazine trigger Forward
2	Magazine trigger Reverse
3	Magazine lifter Forward
4	Magazine lifter Reverse
5	Front Climber Forward
6	Front Climber Reverse

## RS-232 on CRio

#	Device
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1	IMU
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## **Ethernet on CRio**

#	Device
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1	D-Link Access Point
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2	
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## **Ethernet on D-Link Access Point**

#	Device
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1	CRio Ethernet
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2	Axis Camera Ethernet
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3	Pandaboard Ethernet
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