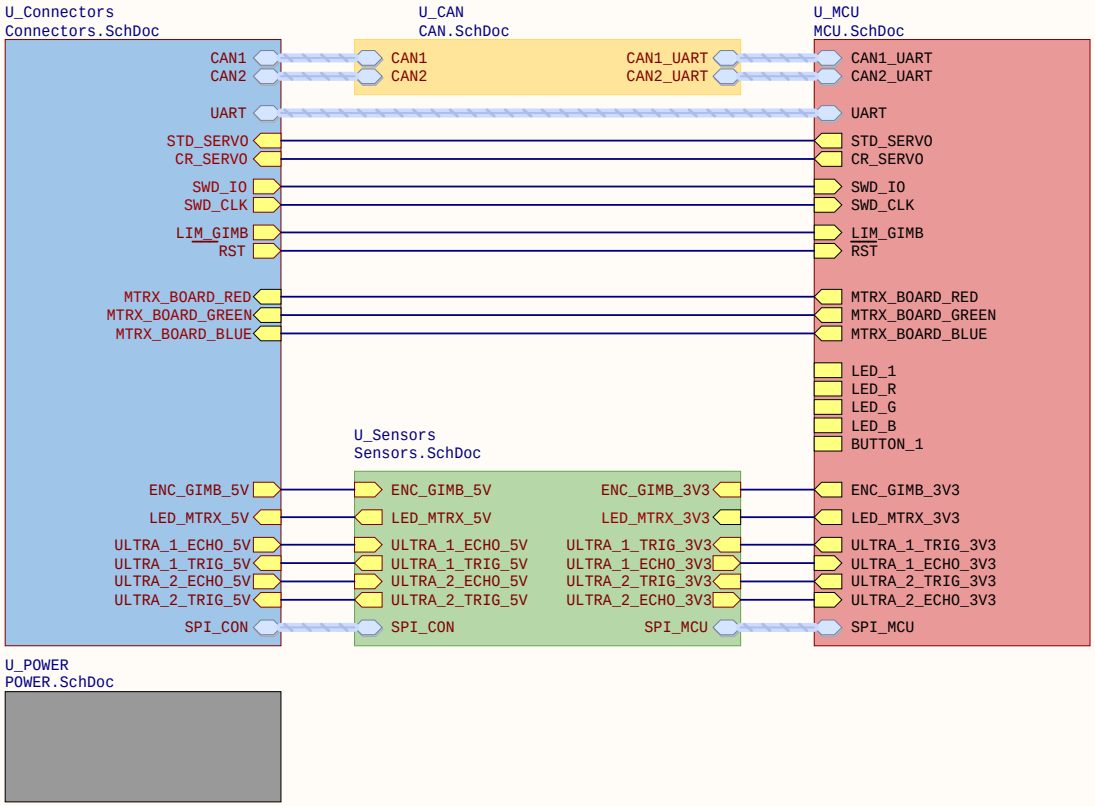

Title Gimbal - Block Diagram		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: Aidan Gratton	
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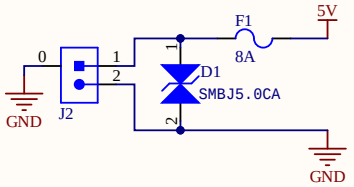
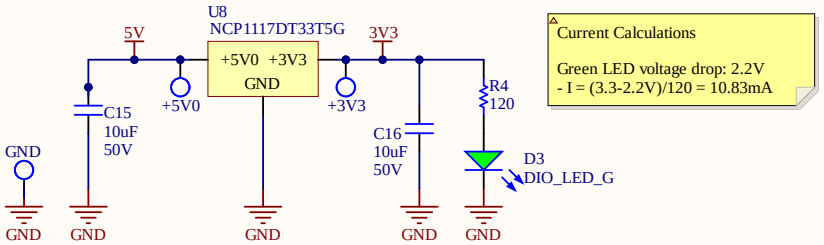
5V to 3V3 LDO

Power In





Current Calculations

Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA

Title Gimbal - Power		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
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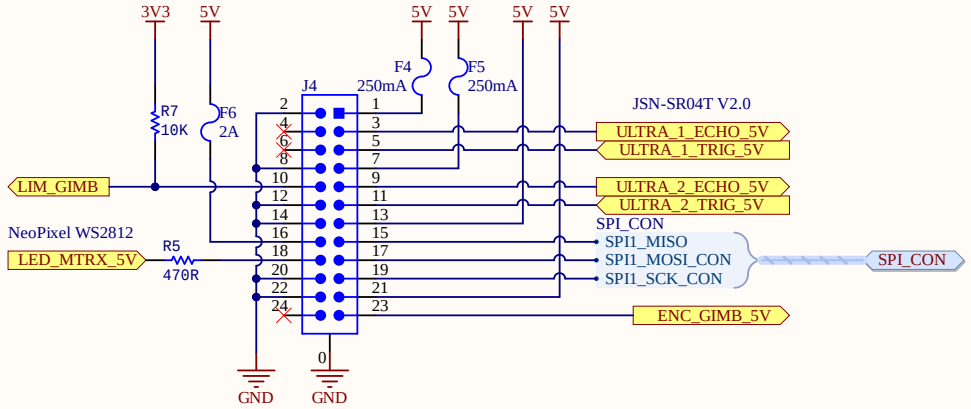
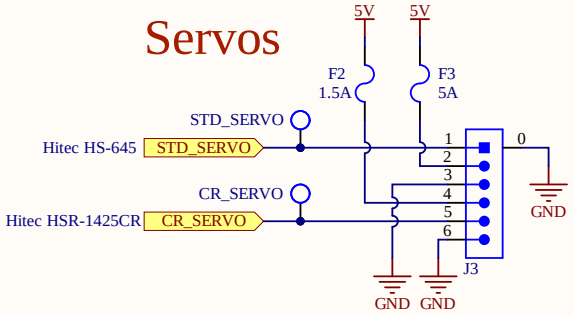
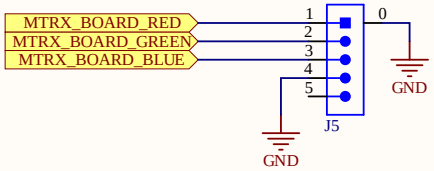
Sensors/Limit Switch/LED Matrix



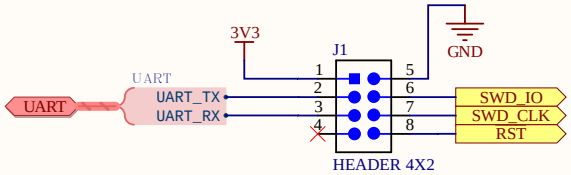
Servos



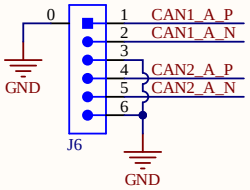
LED Matrix PCB



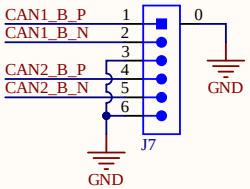
Debug/Programming



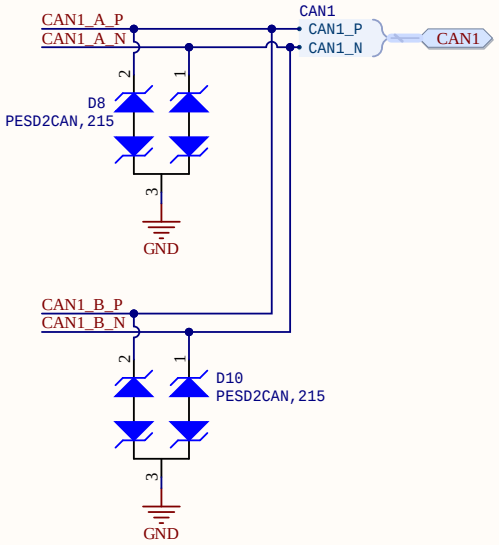
CAN In

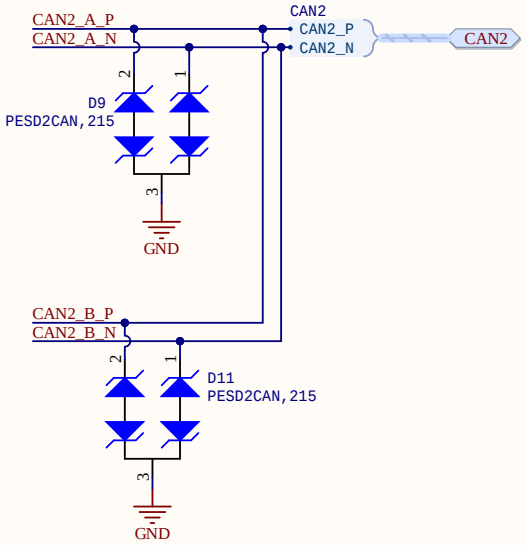


CAN Out



CAN Protection





Title Gimbal - Connectors		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
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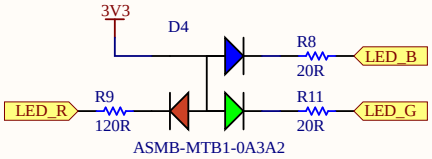
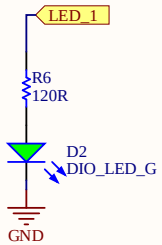
Test LEDs



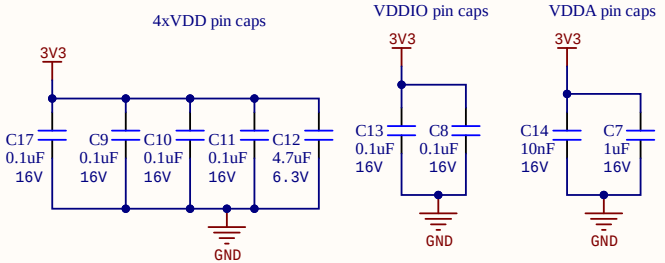


Current Calculations

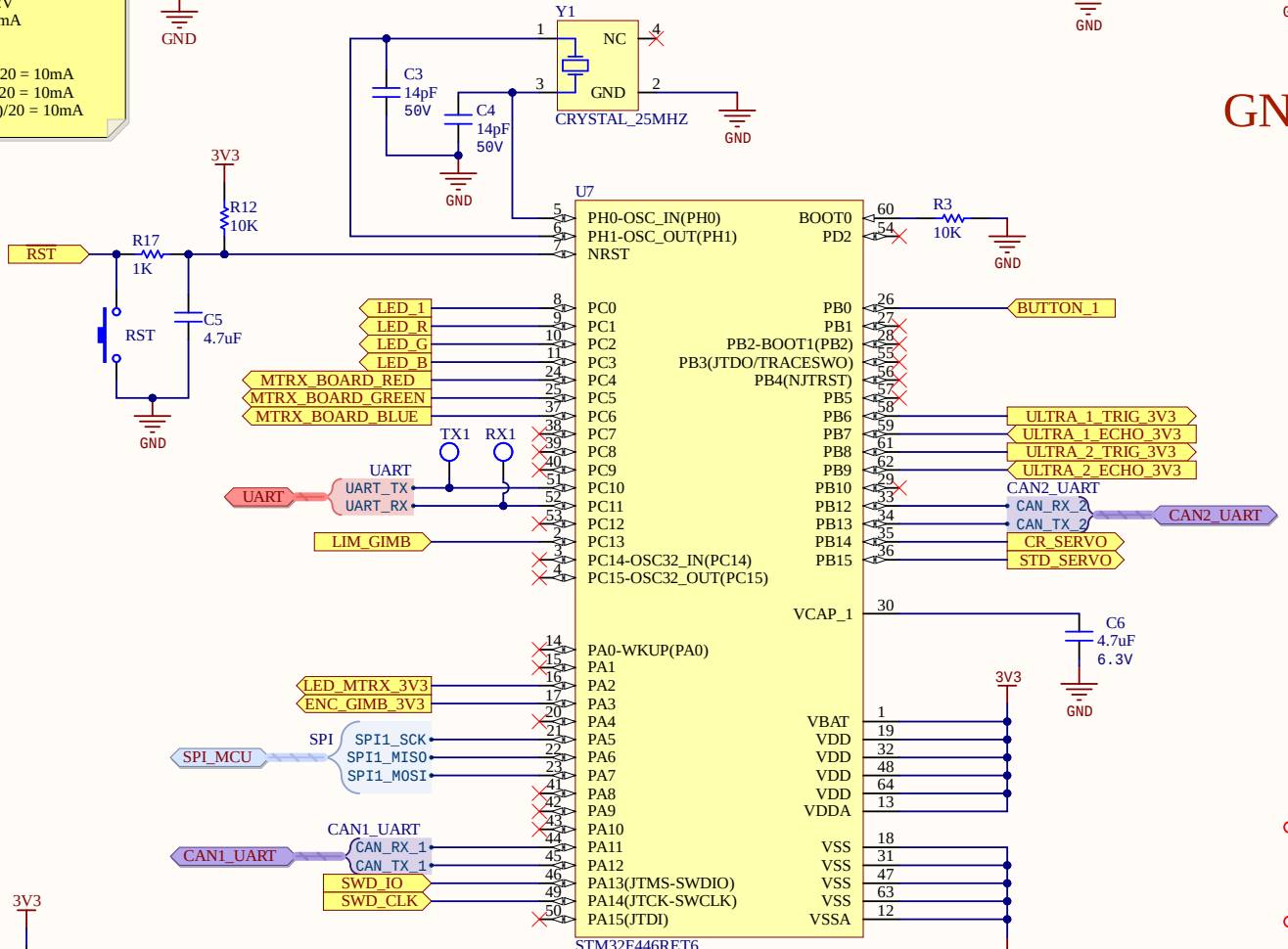
Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA

RGB LED voltage drops:
- Red: 2.1V: I = (3.3-2.1V)/120 = 10mA
- Blue: 3.1V: I = (3.3-3.1V)/20 = 10mA
- Green: 3.1V: I = (3.3-3.1V)/20 = 10mA

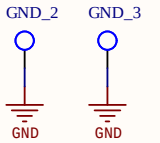
Decoupling Caps



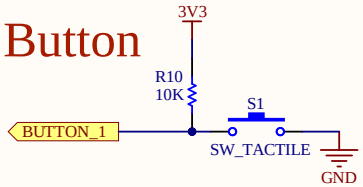
STM32F446RET6



GND Test Points



Test Button



MOUNTING_HOLES

Title Gimbal - Microcontroller		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
Size: Letter	Drawn By: Aidan Gratton	
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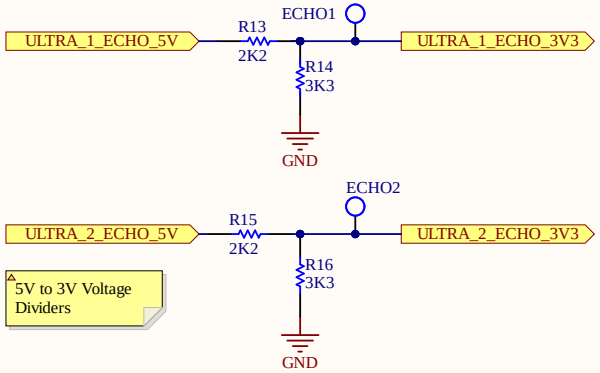
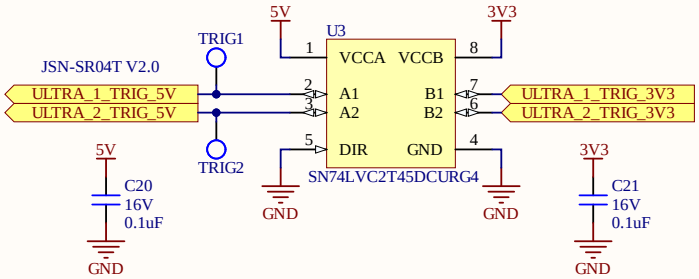
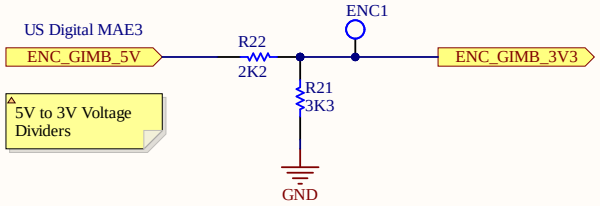
Ultrasonic Voltage Dividers



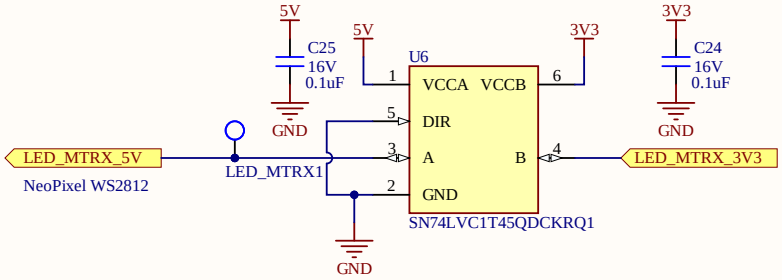
Ultrasonic Level Shifters



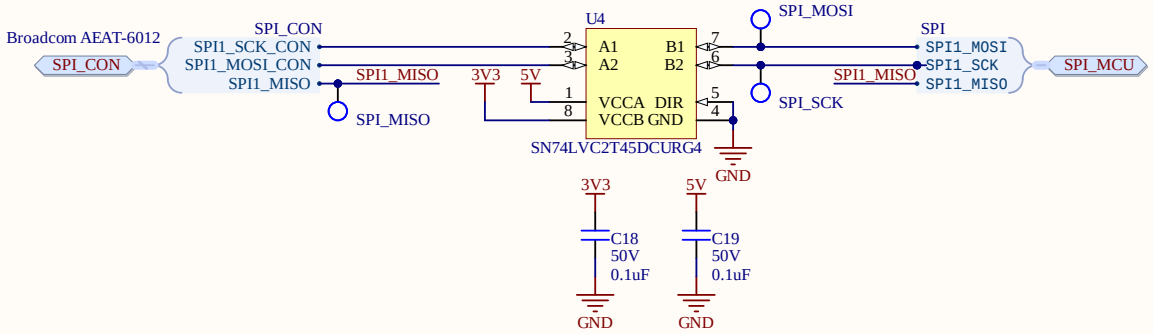
PWM Encoder Voltage Divider



LED Matrix Level Shifter



SPI Encoder Level Shifter



Title Gimbal - Sensors		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6
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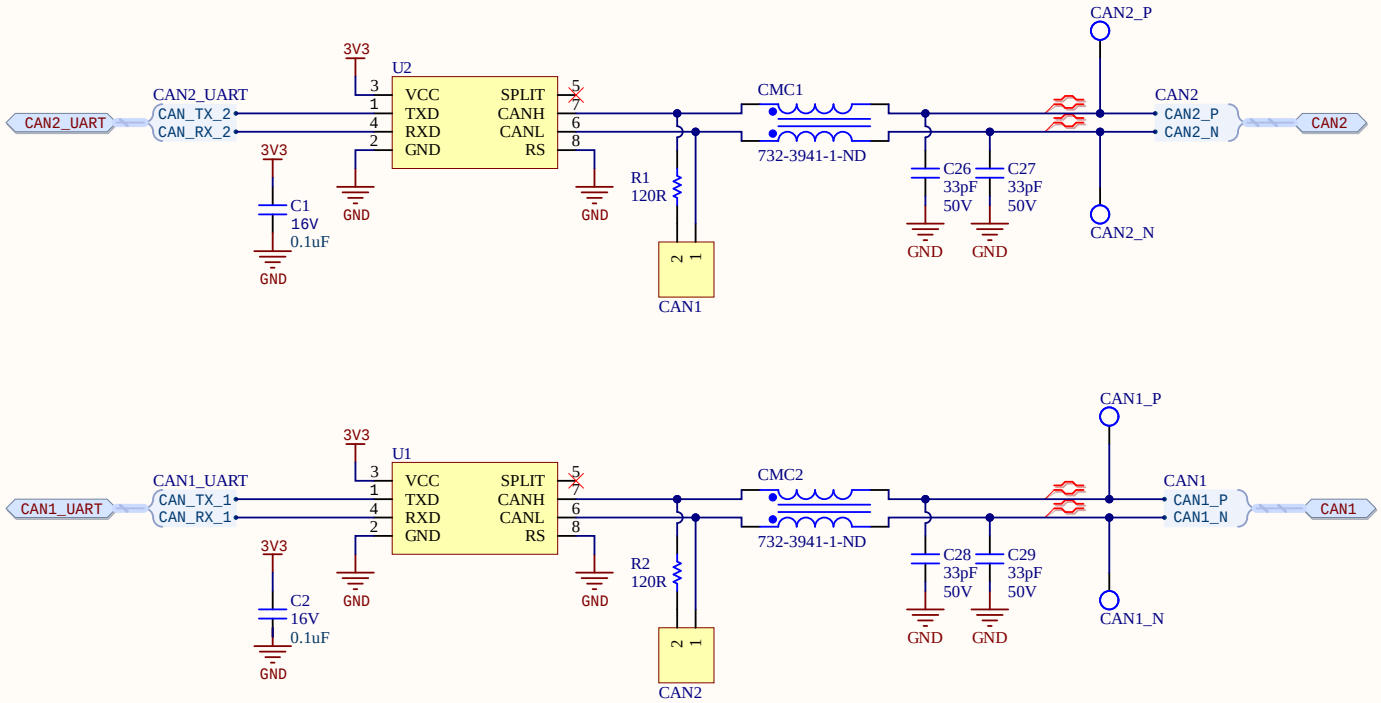
CAN Transceivers



Title Gimbal - CAN		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6	UW ROBOTICS TEAM
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File: C:\Users\gratt\Documents\University\Design Teams\UW Mars Rover\2020 Electrical Repo\MarsRover2020-PCB\P			