Pneumatics

Project Lead: Andrew Feistner

Overview

The pneumatics system will provide a means for controlling actuators within the submarine such as the claw, torpedos, and marker droppers. Pneumatics are controlled via simple on-off commands to the pneumatic in the form of high and low voltages.

Timeline

1. Schematic Completed (October 5th)
2. Parts Selected and Footprints Associated (October 12th)
3. PCB Schematic and Component Review (October 17th)
4. PCB Routing Completed (November 7th)
5. PCB Design Review (November 10th)
6. PCB Ordered (November 21st)
7. Firmware Completed (December 10th)
8. Board Populated (January 8th)

Design

A microcontroller will be utilized as a GPIO expander and will be implemented as a ROS node on the microcontroller itself. This node will subscribe to a topic to control actuators based on boolean values.

Resources

Resource	Description
Arduino Tutorials	Code tutorials for programming Arduino devices.
ATMega1284P Arduino Core	Arduino Core for the ATMega1284P
RosSerial Documentation	RosSerial is the communication protocol that allows implementation of a ROS node on a microcontroller.
ATMega1284P	Microcontroller to be used on the project.