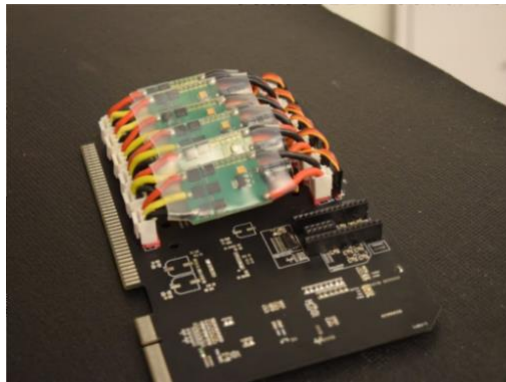
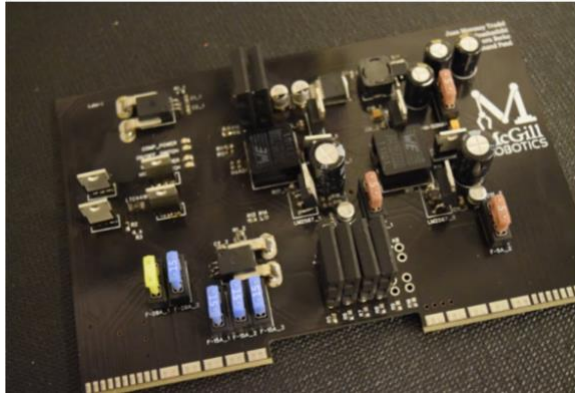


# Update

Alev Orfi

June 7, 2017

# Electrical Components



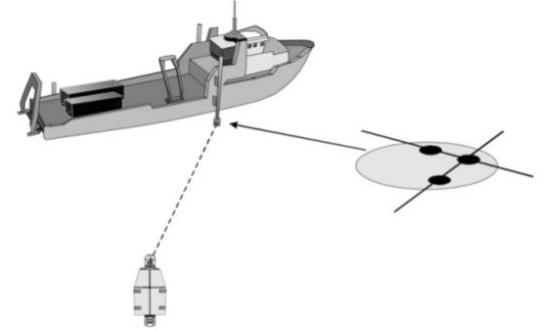
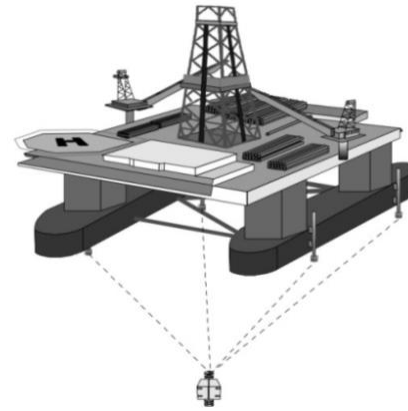
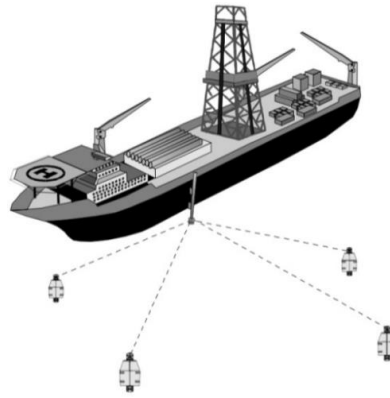
- Power Distribution
  - Battery management board
  - Power distribution board
  - Two voltage rails to separate noisy components
- Computer and Input/Output Systems
  - Communications with sensors and actuators pass through the I/O board
  - RS-232, RS-485 or CAN bus is used depending on system
  - Motor controllers
  - Sensor boards
- Acoustic
  - Signal processing board
  - Signal is amplified, filtered and sampled

# Positioning

- Combination of sensors and acoustic system
- Sensors
  - Pressure sensor
  - Inertial Measurement Unit
  - Camera
- Accuracy
- Processing power
- Update time
- Size

# Acoustic Systems

- Long Baseline
- Short Baseline
- Ultra-Short Baseline
  - Phase measurement
  - Time of flight
- Inverted Ultra-Short Baseline
- Other possible advancements
  - One way travel
  - USBL and LBL combination



# Controls

- McGill Robotics

- ROV modeling

