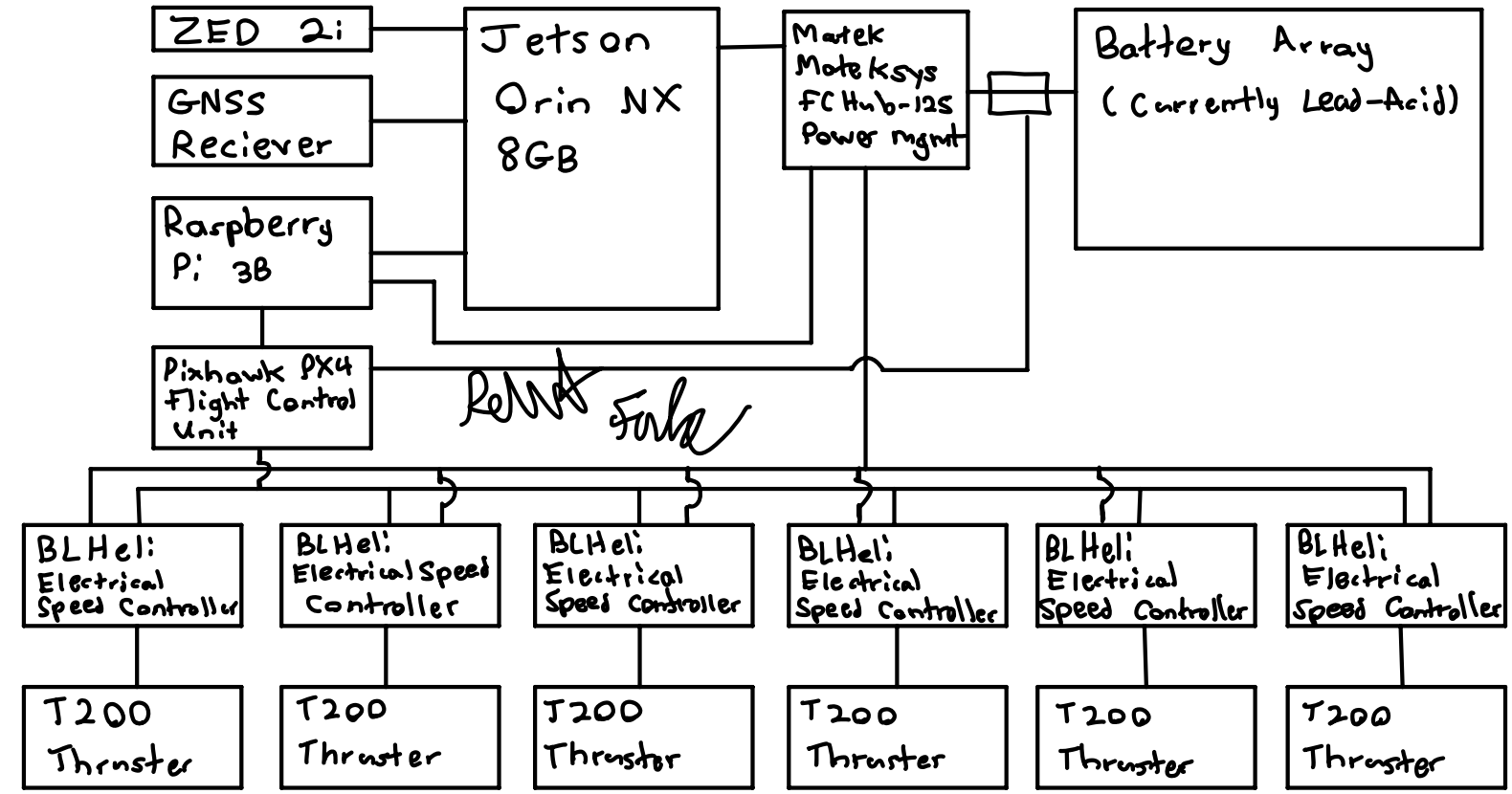
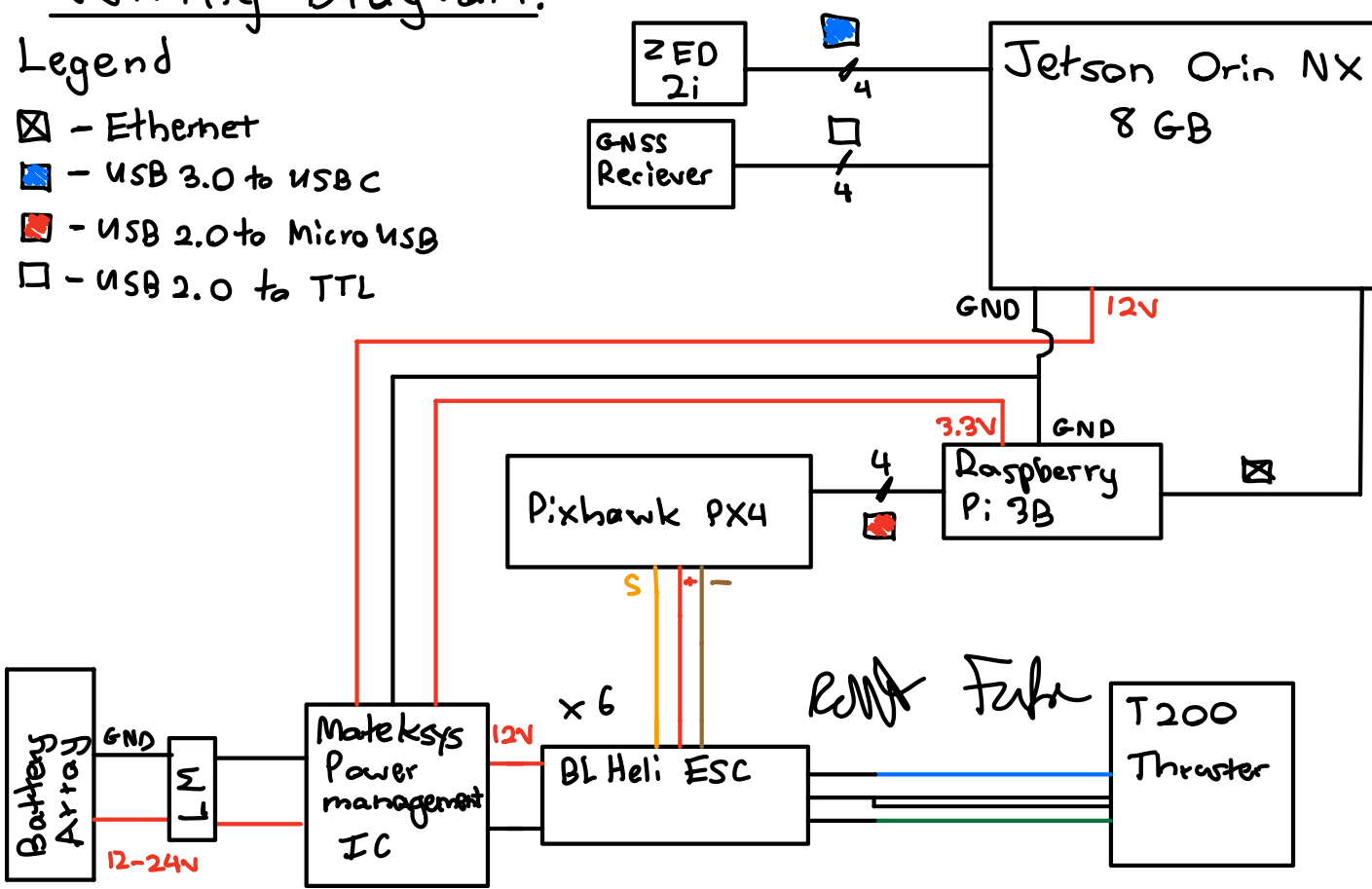
Initial Design: (May - Aug 2024)

Block Diagram:

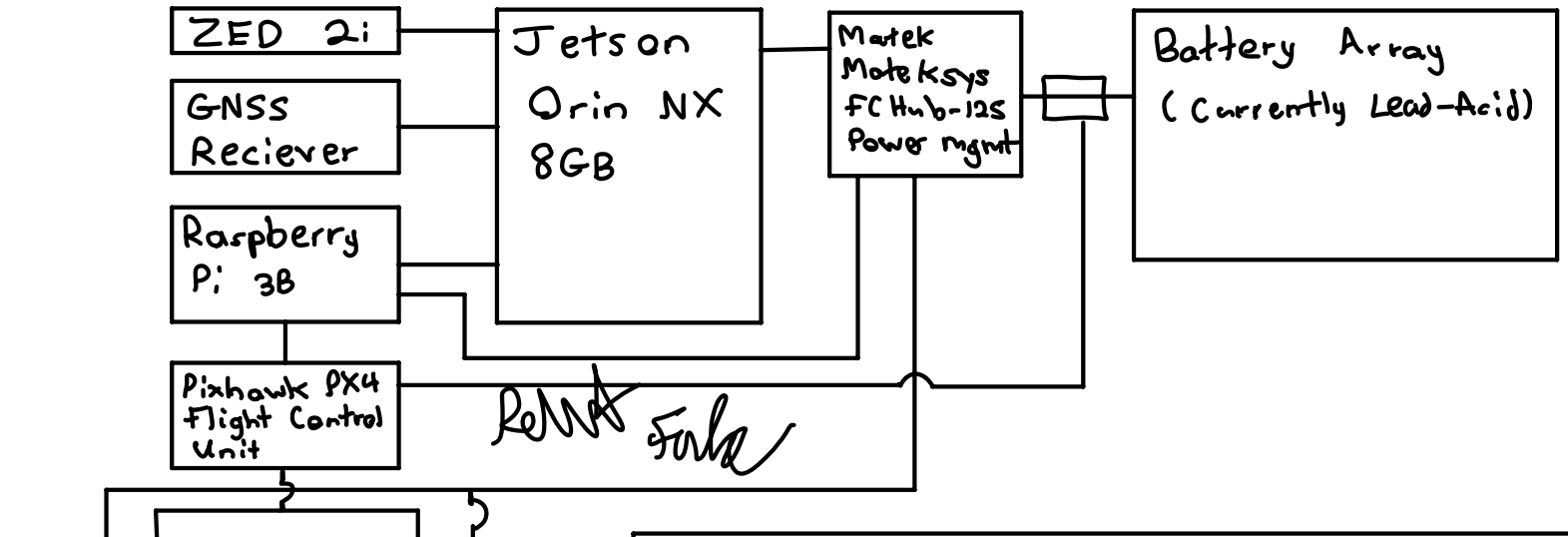


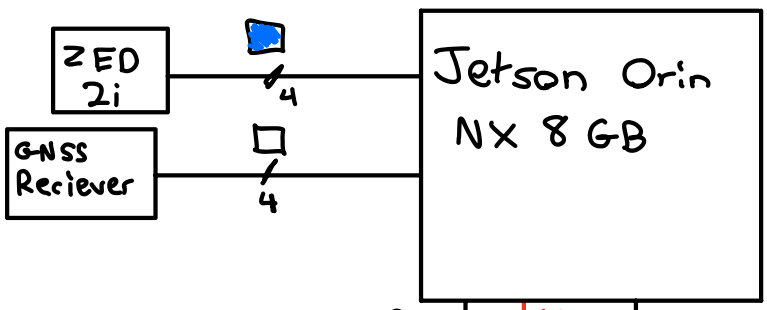
Wiring Diagram:



Prototype Iteration / Revision (Sept - Dec 2024)

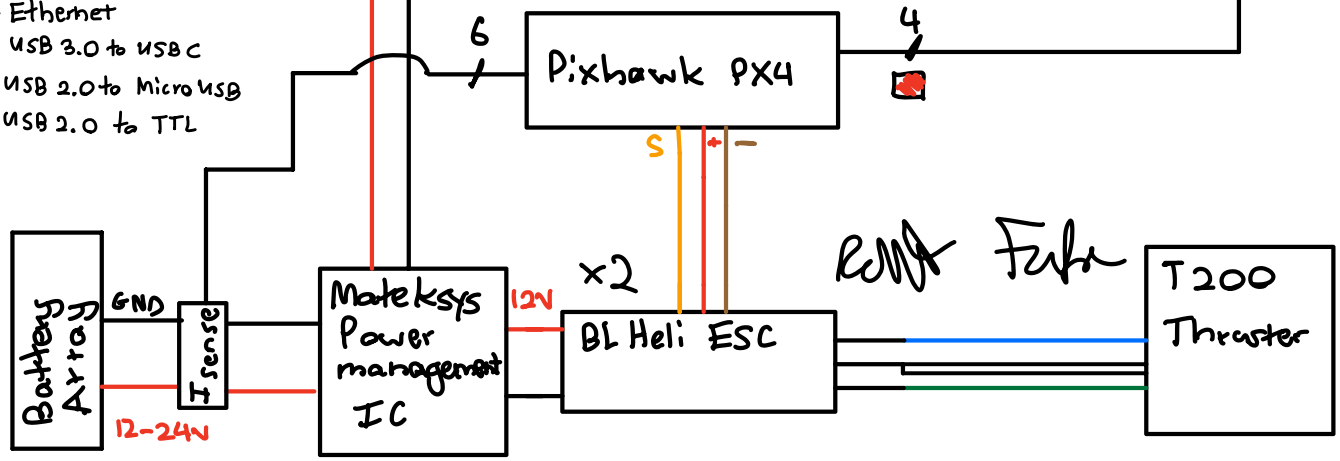
Block Diagram:



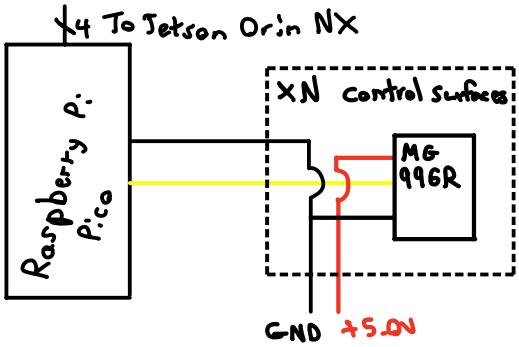


Wiring Diagram:

Legend
- ⊠ – Ethernet
- ■ – USB 3.0 to USB C
- ■ – USB 2.0 to Micro USB
- □ – USB 2.0 to TTL



Potential Improvements:



- Would continue with hull design, FEA to optimize physical parameters
- Could perform ROS2 integration, Gazebo for simulation, etc...

- Pico is powered by USB VDD on Jetson.
- Use + 5.0V from Mateksys FCHUB. for servo actuation VDD, PWM from Orin.
- Example servos: MG996R (4.8-6.0V, 13kg) (0°-180°, Pulse length 500μs-2500μs)
- GPIO pin used for PWM generation shouldn't matter, consider PWM clock scaling in signal generation (1.25MHz)