



Cubby Bear Project

Ursa Majors Science club
Phoenix college
Honeywell Hometown Solutions N.U.R.C Competitions



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Abstract

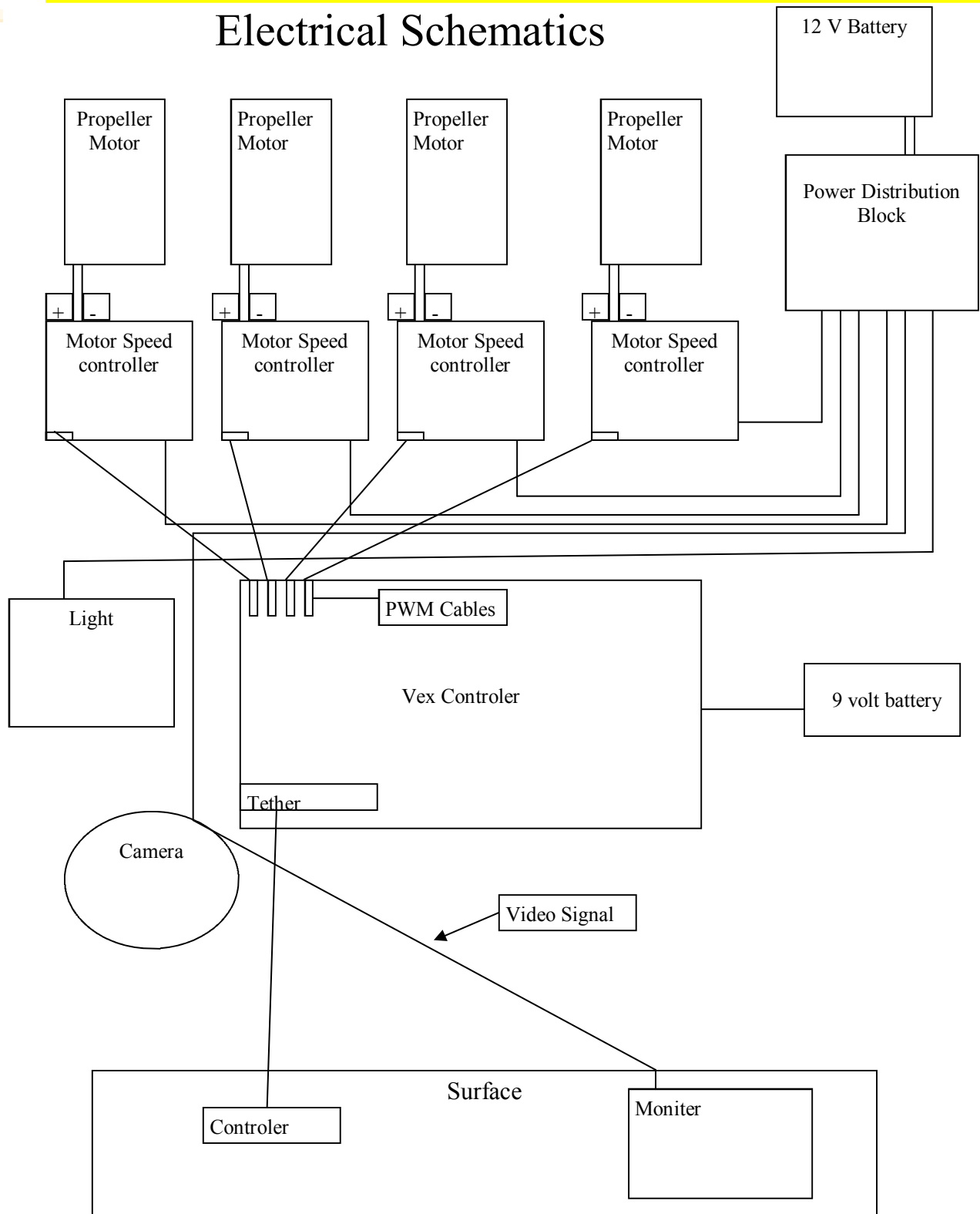
As a team it was decided to compete in an underwater competition. Through the year many team members just stopped showing up or had schedule changes in work or school. It became reduced to a single student, although it was put off for so long my determination was more than enough to finish this robot named cubby Bear.

Using some bought building material and many parts donated or borrowed or bought in very little time The R.O.V was completed. It has four Seabotix motors and are powered at 12v but can be ran at 24 volts. One camera with 225 lines of resolution with the falcon housing which is a basic pvc end with a clear glass. It also has one led cluster light it draws very little power from the battery and small milli amps for current. The frame itself is made out of fiberglass although it is slightly negative it has many benefits. I used two other boxes one for my electronic components and one for my battery. I used a vex micro controller for my system it is much simpler and easy to program. With basic knowledge and time I'd be able to do it but my friend helped me out with that part.

I decided to name my R.O.V Cubby Bear, it has multiple meanings, since I was a freshman in college we had cub cards, cubby also means small so or small space and those are the two other reasons my robot is small and simple.



Electrical Schematics





Lead Acid Rechargeable Battery

Since we had a very small R.O.V the team decided to have the most inexpensive yet effective battery. We chose a 12 volt 9 amp hour battery this means that the battery runs a 12 volt system at 9 amps per hour. Due to the limited financial resources the battery was the only available power source.



Control System

Using the resources available we used the vex system which is very user friendly along with the program which can be simply done with a little Practice. We used a 7 inch flat screen monitor to run the one camera we have. The programmer basically creates a process of instructions for the micro controller to send out to the motors, claws, etc. the way the vex controller was set up was simple and unique. We incorporated a 12 v lead acid battery that takes signals from the vex controller which is power by a smaller battery which is 9 volts

