

Positioning device for ophthalmic scanning laser systems

Team: “Ocular Imaging” Team

Client: Carol Rasmussen

Advisor: Professor Tom Yen

Team Members: Daniel Frost (Team Leader, BWIG)

William Stanford (Communicator, BSAC)

April 3 to April 9

Last Week’s Goals

- Purchase converter circuits and possibly joystick.
- Couple the motor and table.
- Brainstorming on how to mount motors.

Summary of Accomplishments

- Made circuit to convert voltage to frequency.
- Looked into RC controlling of the motors.
- Obtained materials for mounting motors.
- Planned mounting method.

This Week’s Goals

- Decide on joystick or RC control and order parts.
- Mount and couple motors.
- Finalize circuit for voltage to frequency.

Project Difficulties

- none

Activities

- 4/8 – Research on joysticks/RC and work on circuit. ~1 hr. each

- 4/9 – More research, circuit work, and planning for mounting. ~1.5 hr. each

Project Schedule

Preliminary Project Schedule	
Dates	Activities
Jan. 23-30	Form team roles and contact client. Individual research on mechanizing design.
Jan. 31 – Feb. 5	Client meeting. Contacted McMaster-Carr about motor/joystick and planned experiment.
Feb. 6 – Feb. 12	Got information on joystick and came up with initial plan for rotating mechanism.
Feb. 13-Feb. 19	Found more suitable motors and joystick.
Feb. 20-Feb. 26	Found motors powerful enough to work and ordered them. Also ordered motor controllers and mounting brackets.
Feb. 27-Mar. 5	Decided to wait on joystick until motors are working. Midsemester preparation.
Mar. 6 – Mar. 12	Midsemester presentation and paper.
Mar. 13 – Mar. 26	Motor assembly and troubleshooting.
Mar. 27 – Apr. 2	Motor/controller configuration, research on voltage to frequency conversion circuit.
Apr. 3 – Apr. 9	Voltage to frequency circuit, mounting materials

Expenses

- **Motors Trossen Robotics MP-36016-385 \$37.50 x3 - \$112.50**
- **Motor Mounts Trossen Robotics M-800-PB-S3751-BB \$10.00 x3 - \$30.00**
- **Motor Controllers Trossen Robotics C-100-DC-BB-0518 \$46.50 x3 - \$139.50**

Total - \$282.00