

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 10 to April 16

Last Week’s Goals

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

Summary of Accomplishments

- Ordered RC equipment.
- Tried multiple strategies for coupling motor and table.
- Received client approval for RC system.

This Week’s Goals

- Set up RC equipment if it arrives.
- Couple motor to table.
- Work on mounting motors.

Project Difficulties

- none

Activities

- 4/14 – Work on coupling motor to table. ~1 hr. each
- Research and ordering of RC equipment. ~1 hr. Will

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. |
| Apr. 10 – Apr. 16 | Ordered RC equipment. |

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