# PRINCE GEORGE ASTRONOMICAL SOCIETY **ROYAL ASTRONOMICAL SOCIETY OF CANADA** PRINCE GEORGE CENTRE

7365 Tedford Road **Prince George, BC** V2N 6S2

### **Robotic Telescope Project (RTP) Minutes**

**December 2, 2021** 

Meeting Number: RTP005 Date: December 2, 2021 Location: Zoom Meeting

Chairperson: Malhar Kendurkar Recording Secretary: Glen Harris Committee Members present: Bob, Malhar, Glen

Meeting Called to Order at 7:00 p.m.

### 1. Approval of Minutes of RTP004

Motion: To accept the meeting minutes of RTP004 November 19, 2021. Moved: Malhar Seconded: Glen Carried

### 2. Old Business

- Telus fiber installation deferred to December 1.

- 1.5" x 10' thin wall conduit purchased at Home Depot.

- Maurice will have his dad bend the dome slot wiring conduit in the next couple of weeks.

- Estimate drawn up for lower dome slot electric actuators. This cost was not factored into the gaming fund request. Based on my calculations we require:

2 - PA17 Heavy Duty Actuators @ \$429CAD ea. = \$858CAD

The Actuators come with adjustable limit switches.

4 – BRK-17 Heavy Duty Mounting Brackets @ \$30CAD ea. = \$120 CAD

1 – (120VAC to 24VDC 30A) RA39 Controller @ \$152USD = \$192CAD Total = ~\$1200CAD.

- 12" step ladder purchased through Home Hardware. Delivery in two weeks.

- Dan Gray of Sidereal Technologies provided a solution for restarting a stalled telescope remotely. All you have to do is click on the bottom button in the SiTech virtual hand pad window.

- Homing sensors purchased through Amazon. 4-6 weeks delivery.

- Sensor ring fabricated and test mounted on RA axis.

Actionable items:

- AC-DC adapter available to replace DSLR battery.

- Update Alcyone dome control update via Teamviewer – Establish time.

- Mirror cover plans from Dave Lane Malhar - Automatic shutter closure in bad weather. Malhar - Polar alignment. **Bob.** Malhar - Accurate method of parking the telescope. **Bob**, Malhar Gil

- Sensors

# 3. New Business

# Malhar's report

- Emailed Ajai about connecting weather station with Website.

- Setting up time with Jean-Bruno to resolve the FTP issue.

- Infrared Camera for inside dome - Link attached.

- Dave Lane zoom meeting with the committee conducted. Lots of insight as to the complexity of our task.

# **Glen's report**

- Joined the SiTech user group which/that/who confirmed our existing controller supports the homing function. There is no need to purchase the expensive alternative.

- Waiting for Maurice's dad to bend the 1.25" sky hook conduit.

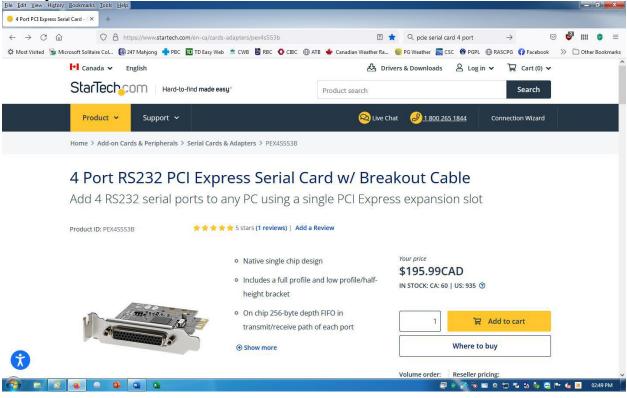
- 12' step ladder is on site and stable when tied off to the dome bearing supports.

- Dave Lane's software includes a reservation/user schedule program so I don't have to work on that.

- I will create a new user profile on Alcyone for telescope control users as time allows.

- Telus fiber installation was completed on Dec 1. Average download speed is 750 mB/sec, average upload speed is 200 mB/sec.

- Additional <u>serial ports</u> for dome shutter control are required. See below. All existing serial ports on Alcyone are in use.



- Parts for the electronic shutter controller will cost ~\$350. Cabling, split loom tubing, and magnetic limit switches is another \$200.

- Investigating the possibility of attaching a portion of the lower dome shutter to the upper dome shutter.

- Magnetic limit switches are in transit from Amazon.
- Postpone construction of mirror covers.
- Postpone automation of lower slot door.

### **Current actionable items**

Malhar:

- Polar alignment with Bob.
- TPoint alignment with Bob.
- Follow up with Ajai and Jean-Bruno.

### Glen:

- Telescope user profile on Alcyone.
- Complete dome skyhook wiring.

### Gil:

- Homing sensors (work with Bob).

### Bob:

- Homing sensors (work with Gil).
- Continue fabricating sensor mounting hardware and cowlings.
- Polar alignment with Malhar.
- TPoint alignment with Malhar.

## **Task Priority:**

- TPoint alignment
- Polar alignment
- Guiding
- Slot motor wiring
- Telescope homing
- Dome rotation limit switches
- FTP for weather station, AllSky camera and infrared camera
- Build dome slot motor controller
- Software update
- DSLR camera operation
- Flip mirror automation
- Mirror cover mechanism

## **Outstanding items:**

- If shutter plans are provided, build it ourselves. Bob
- DSLR image link to website.
  All Sky weather camera link to website
  Weather station link to website.
- Infrared camera link to website. Glen

## 4. Date, Time, and Location of the next Robotic Telescope Project committee meeting

- The next committee meeting (RTP006) will be held on Thursday, December 16 starting at 7:00 pm using Zoom.

## 5. Adjournment: Meeting adjourned at 8:45pm.