

# POSSUM OBSERVATORY

*An Overview of My Setup*

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[www.possumobservatory.co.nz](http://www.possumobservatory.co.nz)

# Where is Possum Observatory?



# Gisborne – the first city on Earth to see the Sun



Population = 32,000. Forestry, agri and horticulture

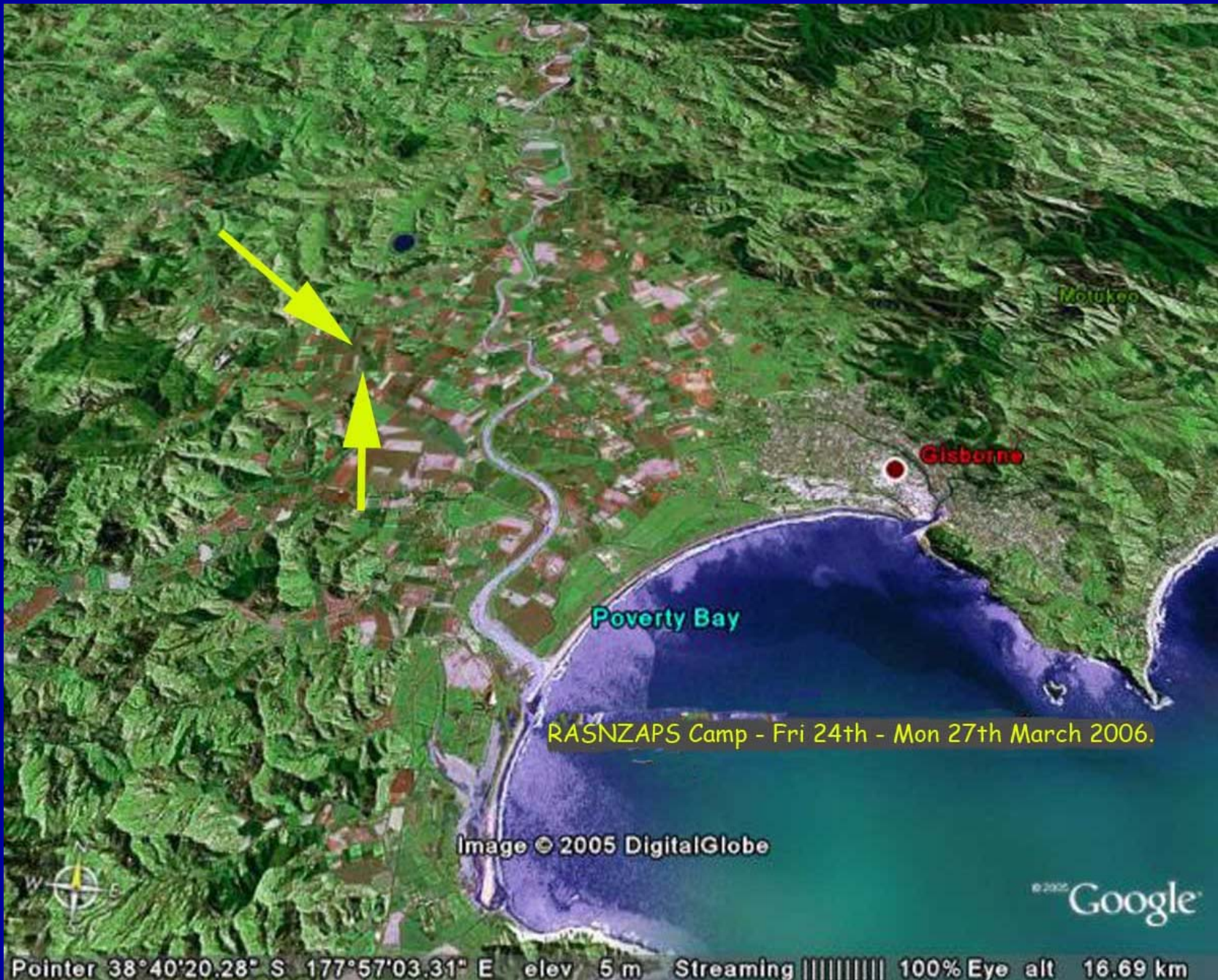


# Possum Observatory – the whole building rotates



Patutahi is about 15km to the west of Gisborne

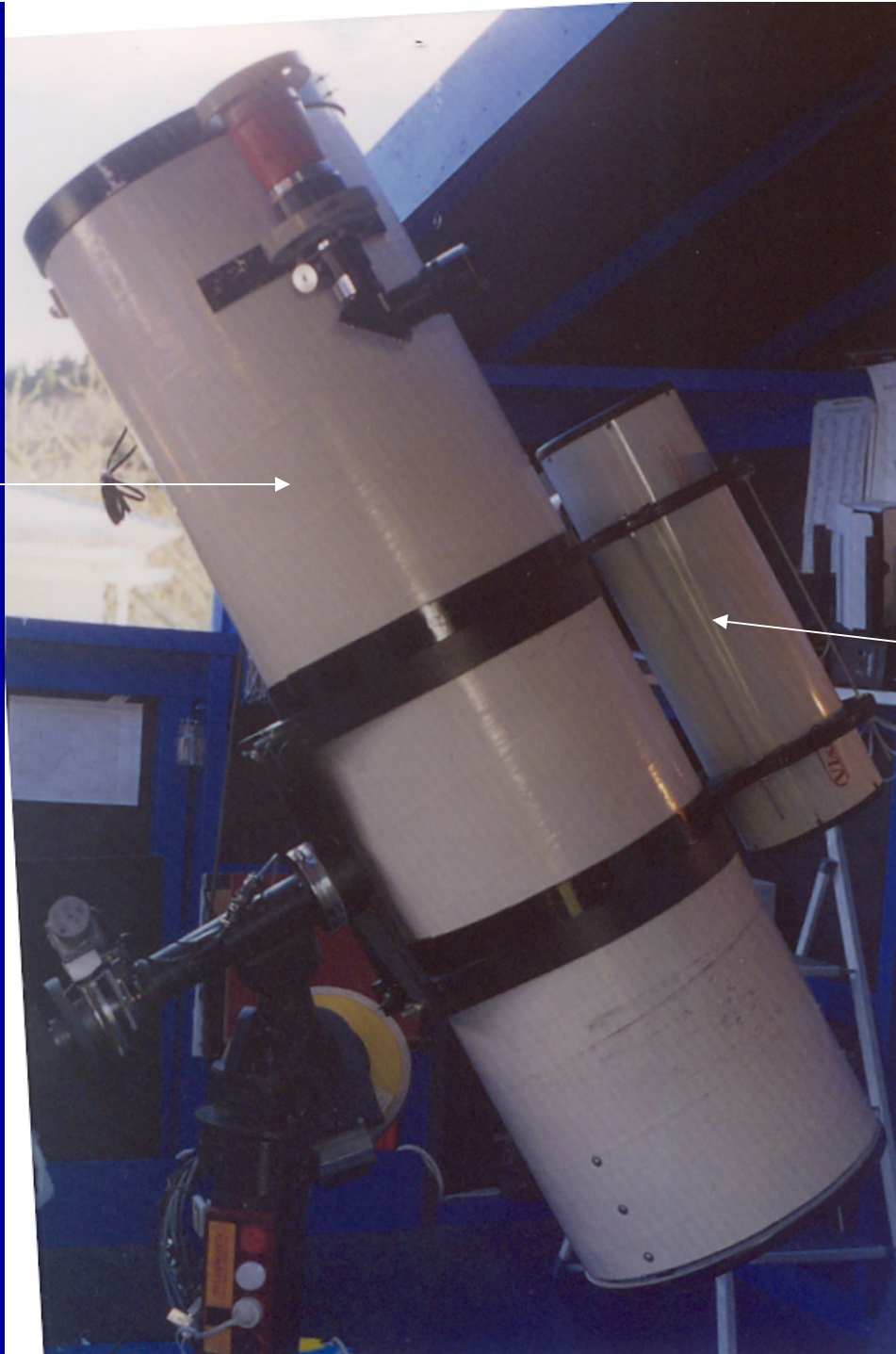
Vid



**My good buddy...**



41cm (16")  
f4.5 Meade  
Starfinder



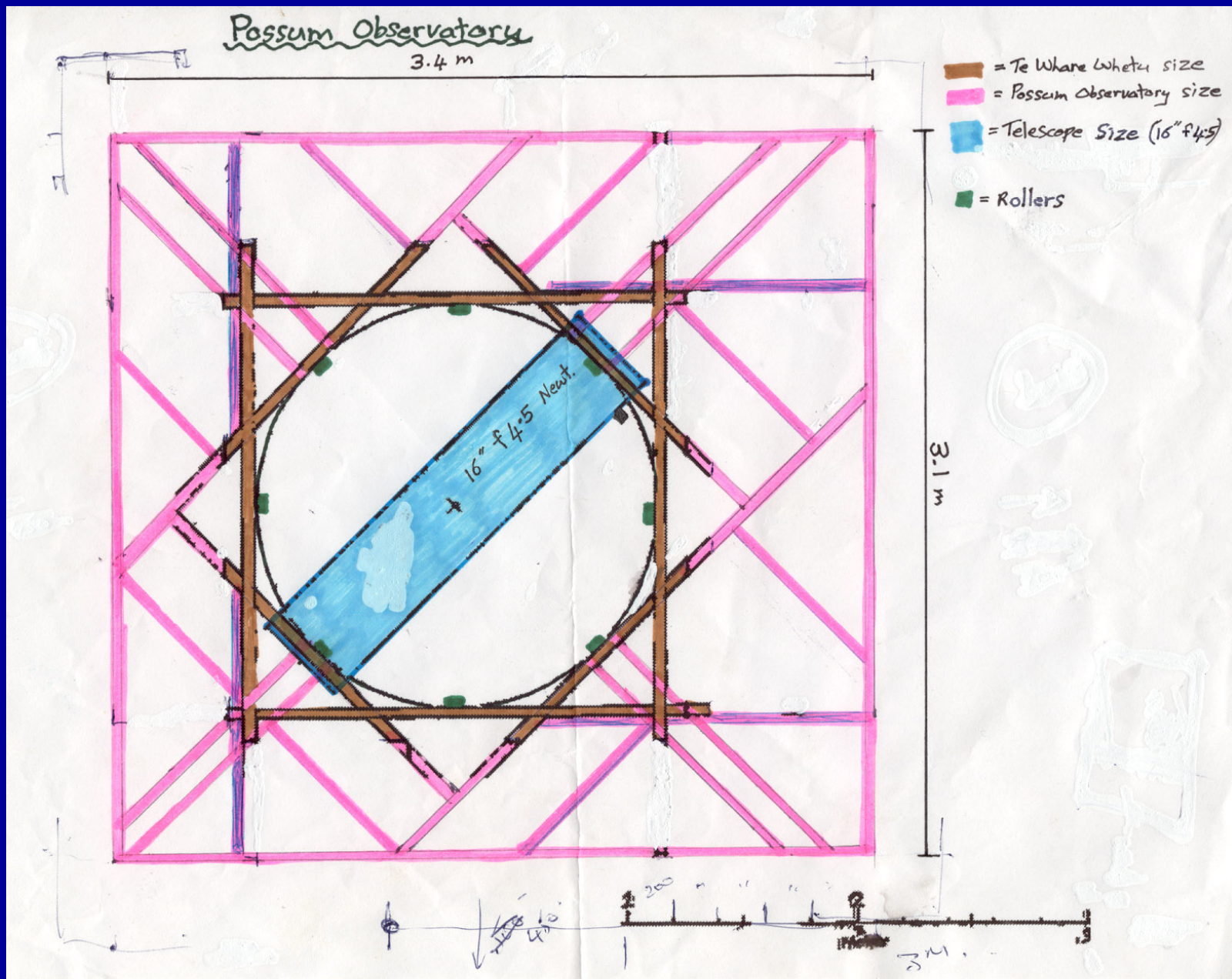
20cm (8") f4  
Vixen



**My observatory was originally built in 1981 by my friend Bill McLaughlin. It was known as 'Te Whare Whetu'- The Star House... Sadly Bill passed away in 1995 and left it to me. I enlarged it in all directions to house a 41cm scope and renamed it 'Possum Observatory'.**



# The old observatory size compared to the new



# The steel ring (hidden) – 1.8m diameter



My work begins...extending the floor joists, Dec 2000



Laying the ring and digging the pier hole...



# The rotating floor frame is completed



# Ma and the observatory shell...



My posing friends...





# Possum Observatory – finally I can use it, Dec 2001



Here it stayed from 2001 until I moved it to my new 'farm' in 2005...



Up, up, and away - boy was I nervous at this point!



# The second Hubble Space Telescope!



On to the truck – ready for the 15km trip to the west



“What the heck kind of a shed is that?”



John Burt about to get squashed...



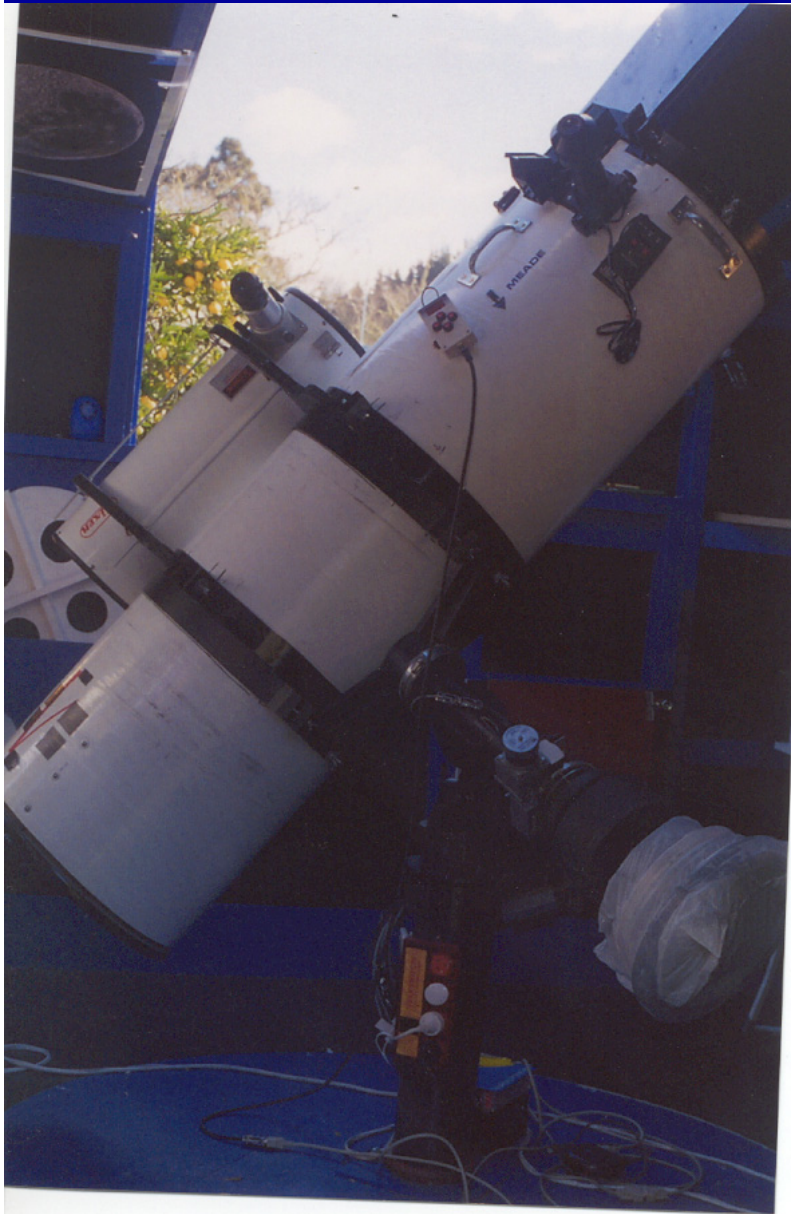
Finally, home – with dark skies above me...

Movie – Possum Observatory rotating

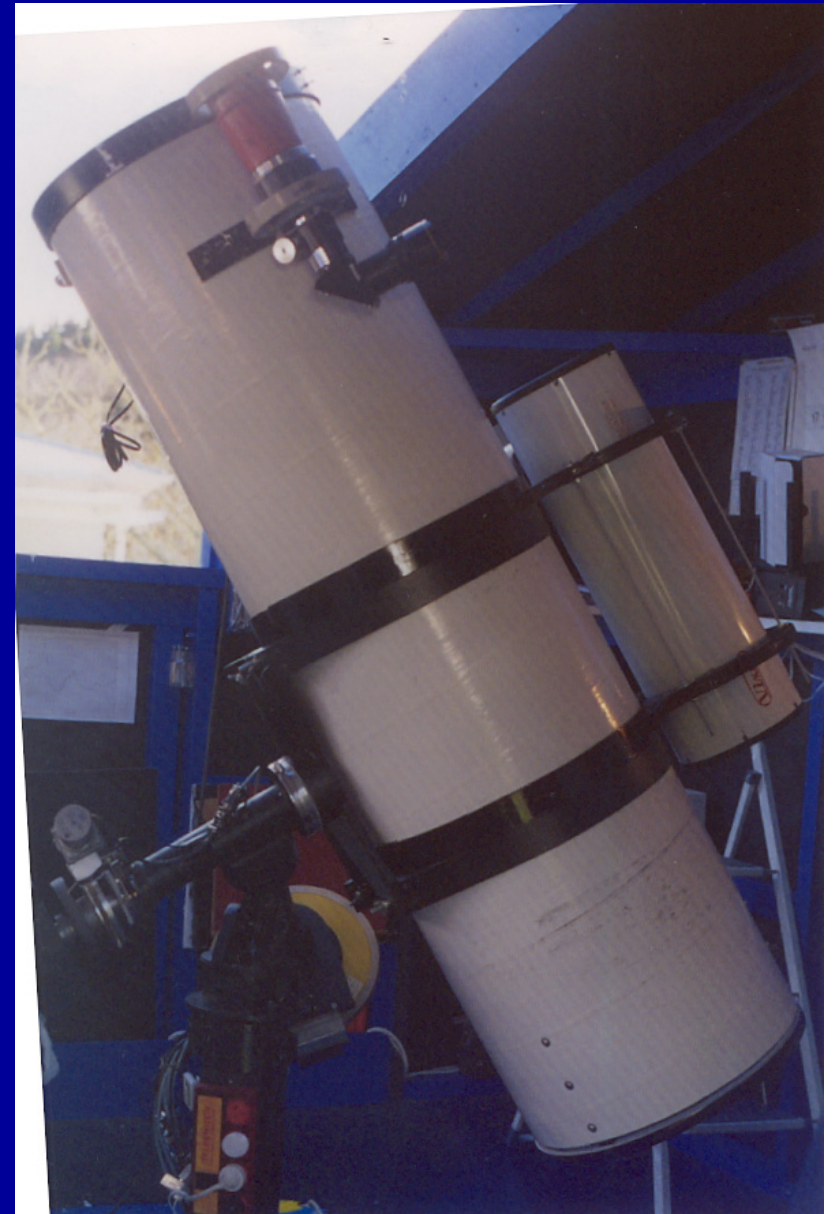




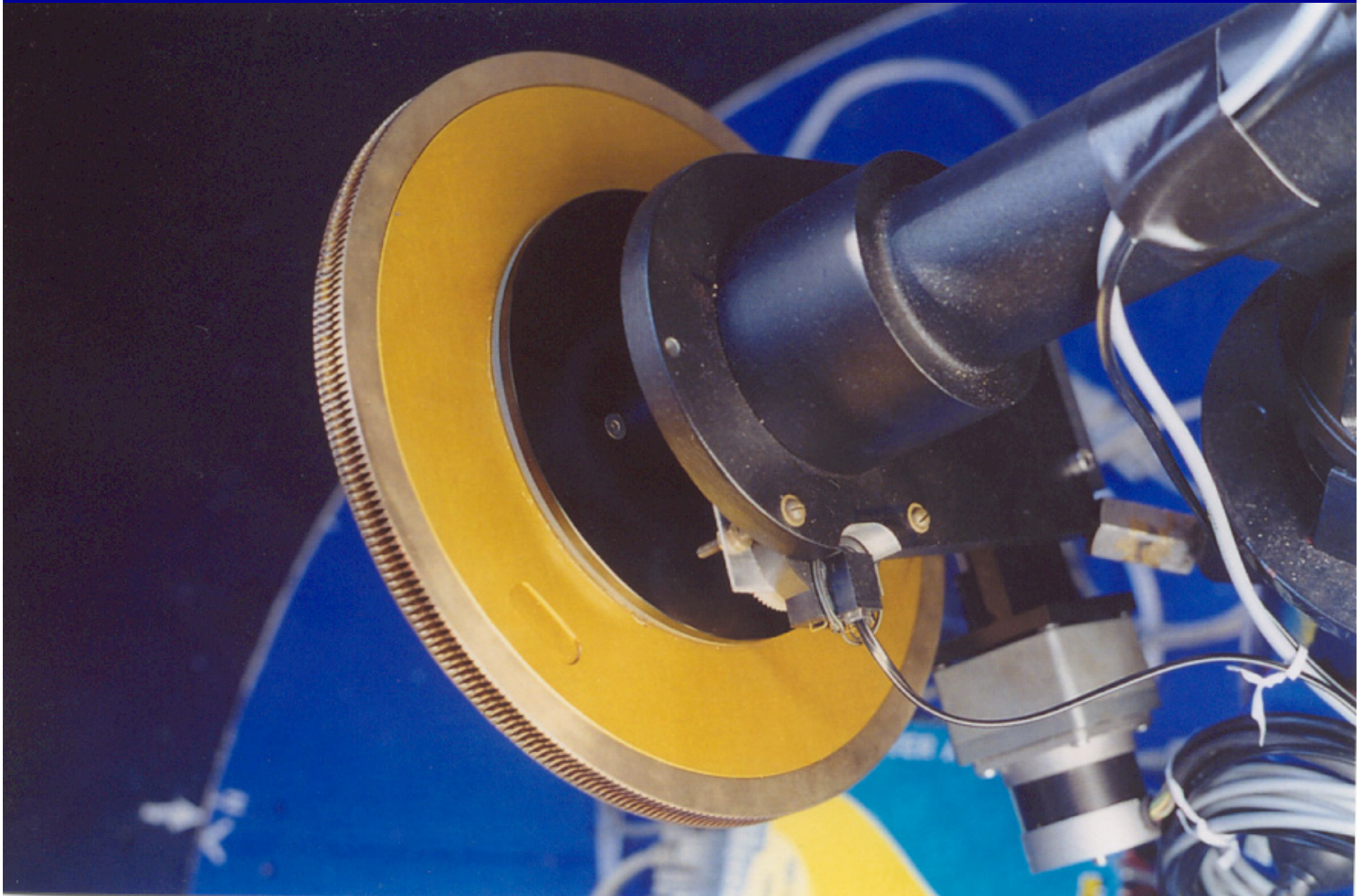
# The completed scope – 41cm (16”) f4.5 Newtonian Meade Starfinder with GoTo



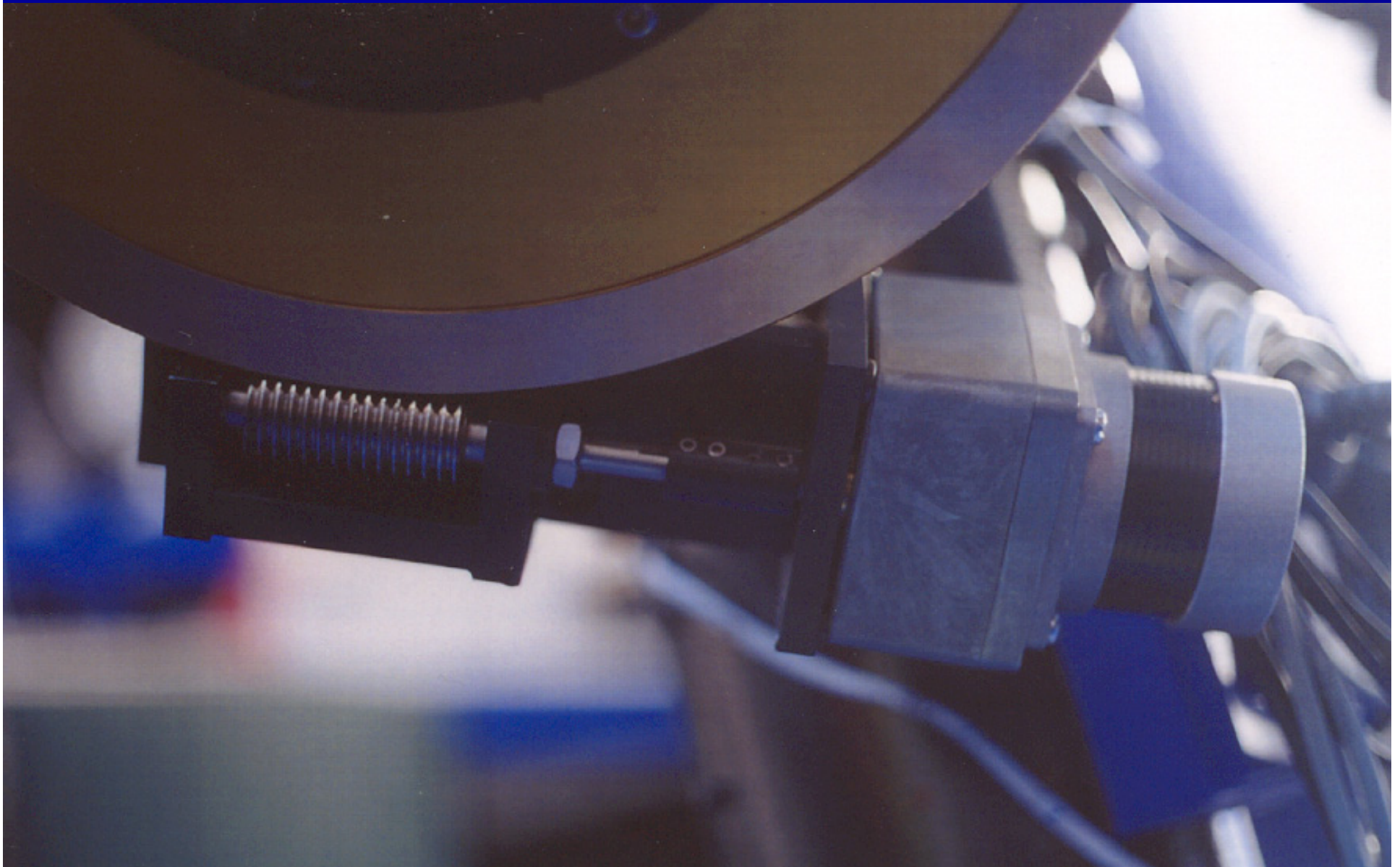
[Video](#)



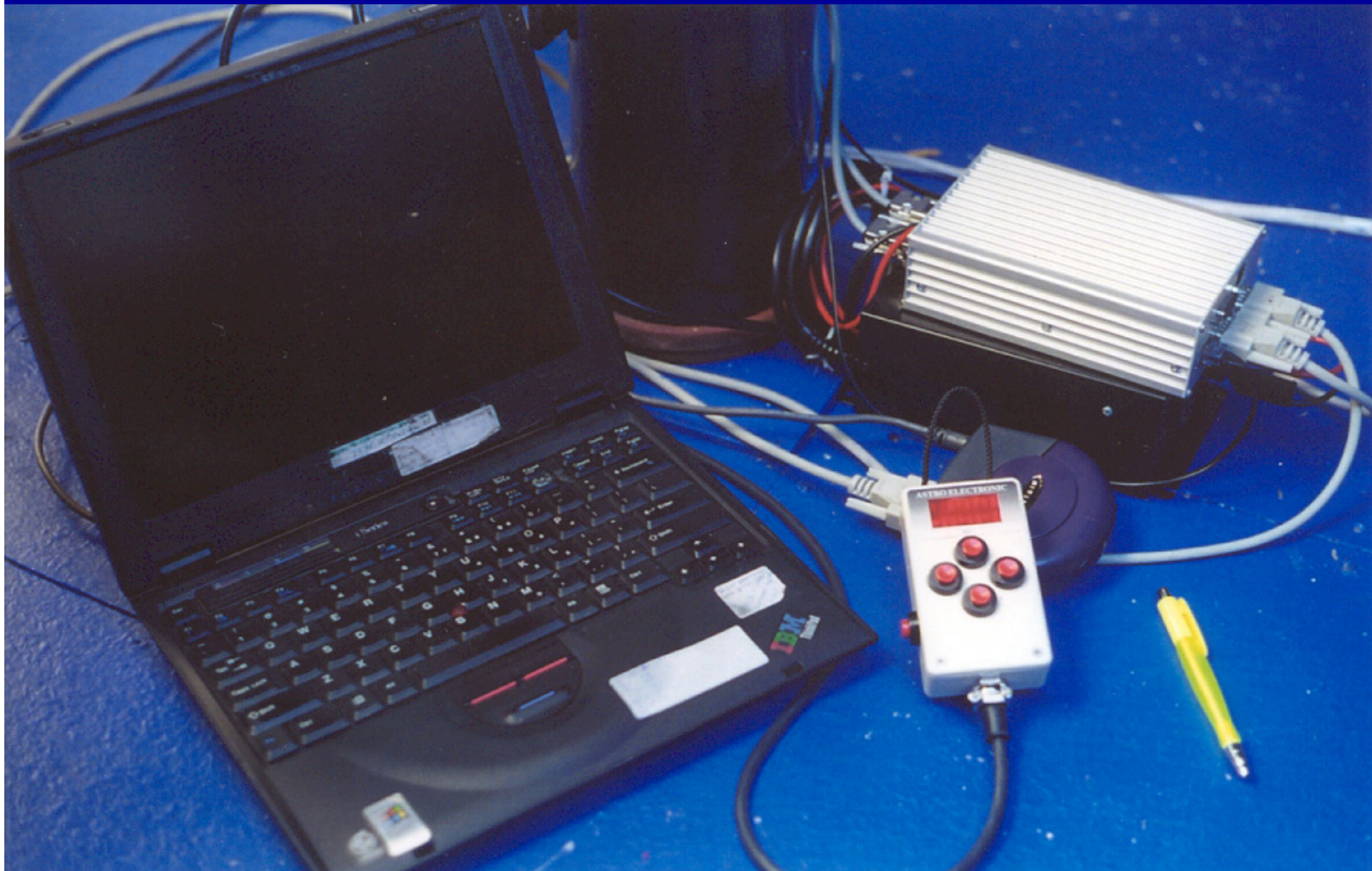
# Mount Upgrade – Anssen Technologies (Oz)



Mount Upgrade – 300mm bronze wheel – superb quality. 2 x 1.8\* 12v, 0.6 amp stepper motors



# Mount Upgrade – FS 2 GoTo system – stand alone or computer controlled.



I have mainly done astrophotography, cometography, comet observations and meteor work until recently...

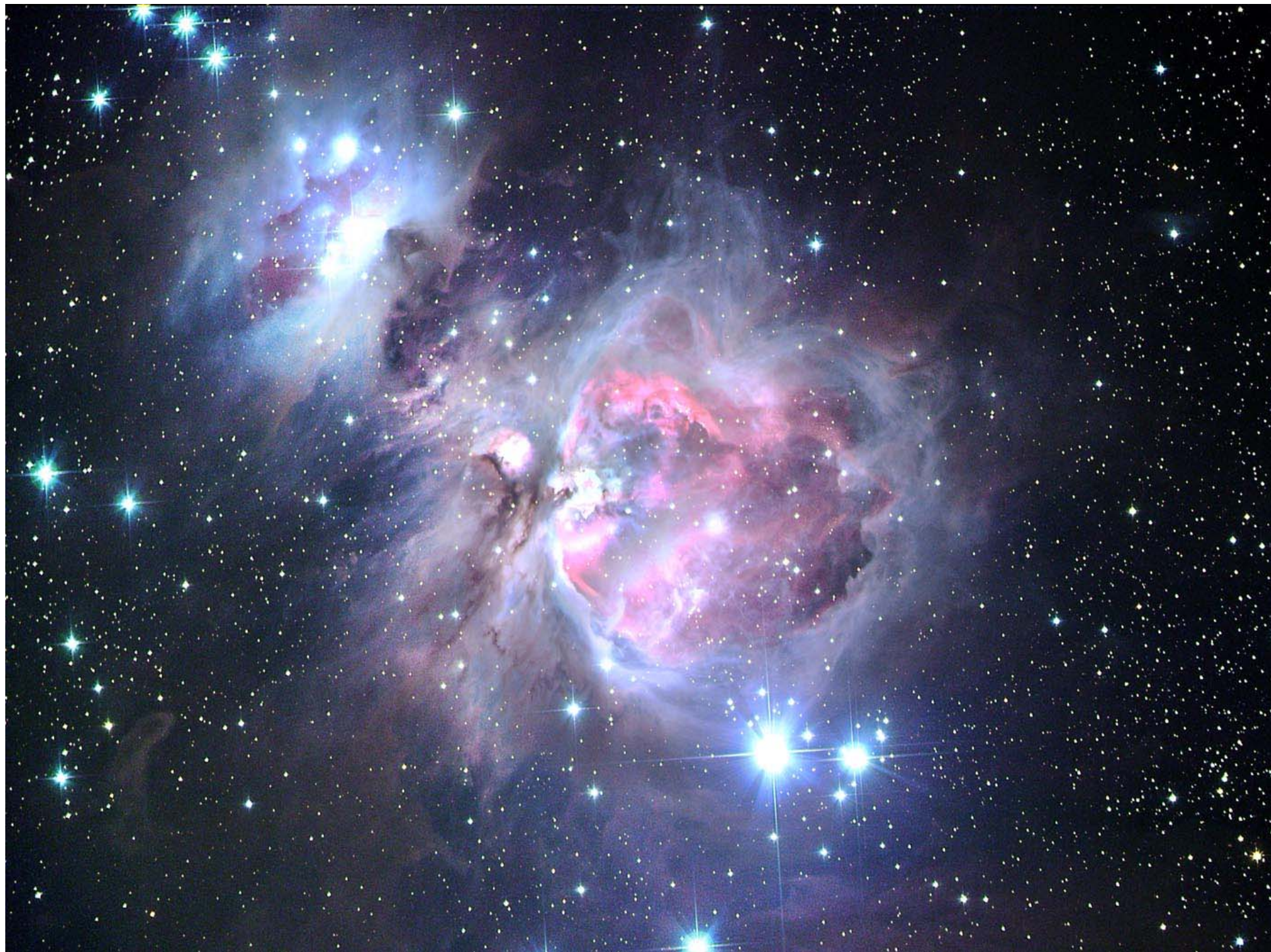


...in November 2006 I got an SBIG STL11000M CCD camera, my astrophotography went up ten pegs!

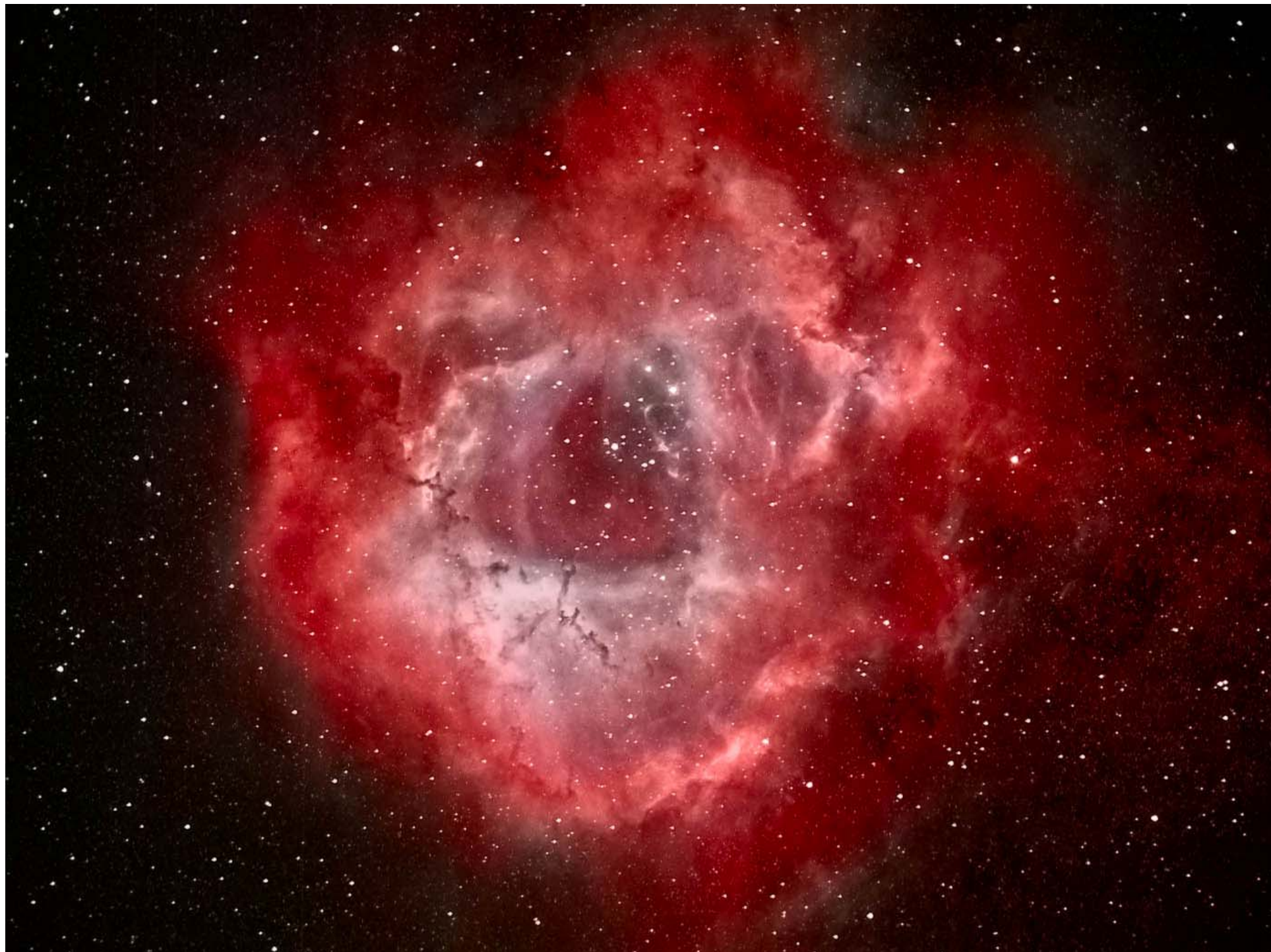
- Specifically aimed at astrophotography (cooled large CCD chip)
- 11 Megapixel
- 35mm format (36.0 x 22.7mm)
- 4008 x 2672 pixels
- 9 microns
- Anti-blooming
- Allows 1-2-3 binning
- Internal filter wheel
- Permits automated imaging – I don't even have to be in the observatory. So now I can do visual observing/observations from Cockroach Observatory (or sleep!) when Possum Observatory is taking the images...

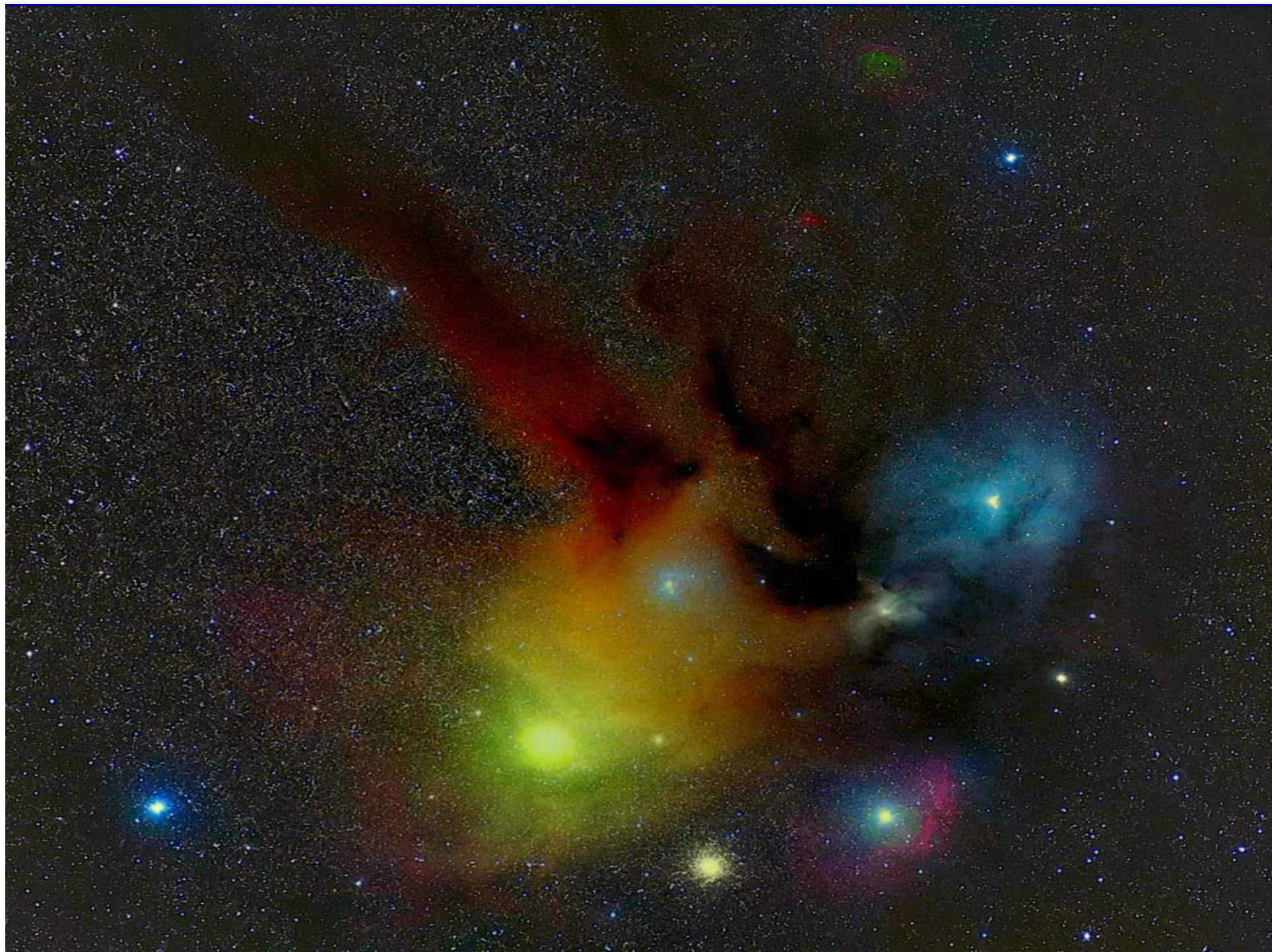
















# Cometography – photographing comets



When the 16" equatorial is imaging...



...I do visual observing with my 16" Dob. Lazyboy chair



But thanks to the direction of Grant  
Christie, I have begun doing comet  
astrometry and microlensing over the last  
year...



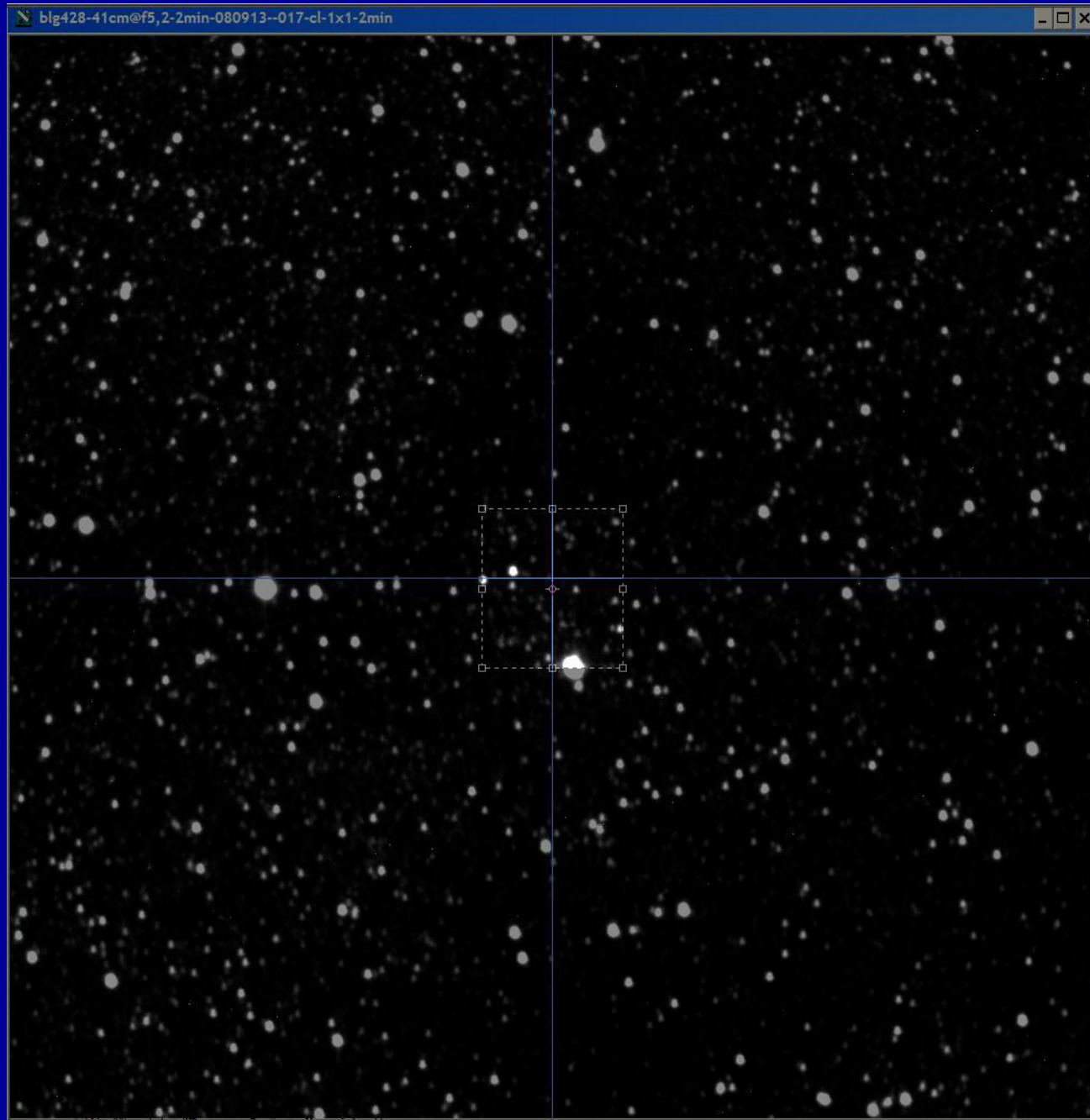
The galactic bulge passes right over head – note the ‘Kiwi’



Thanks to the Ohio State University I got an eight position 2" filter wheel earlier this year...



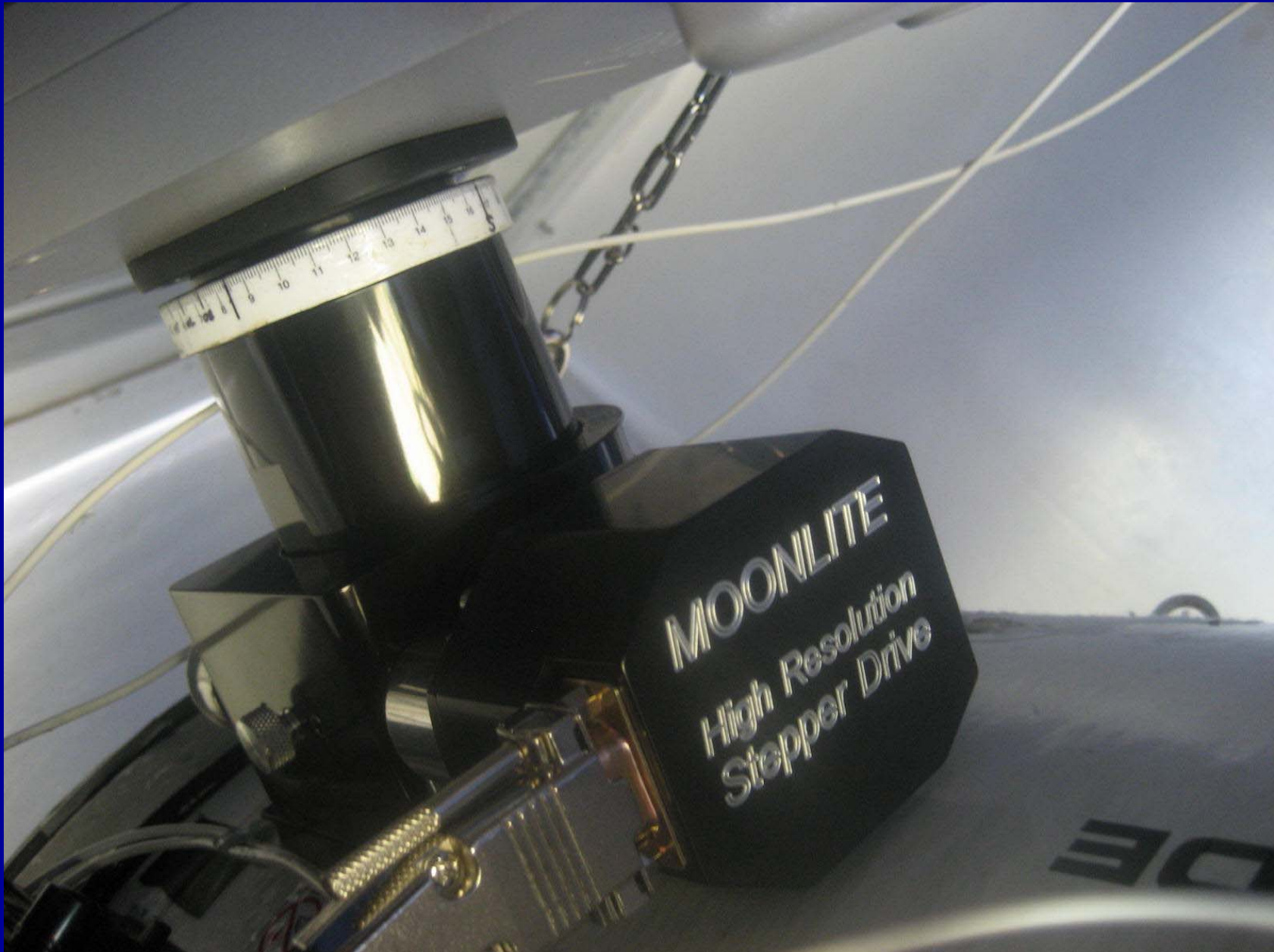
# 16" FOV (1000 x 1000 pixels) compared to BLG finder chart



But...my 16" five year old focuser died in May 2007...



After a year (long story) I got a temp compensating focuser from Moonlite Focusers – very nice. NZ\$1400 (6/08)



Moonlite focuser can be controlled by Maxim – autofocus.  
Focus is SOOO easy now!





## Summary:

- Possum Observatory has a black, rural sky
- Generally the weather is reasonably clear (40% cloudless)
- The seeing is about 1.5" – 2.5" (approx)
- Galactic bulge is a beautiful sight overhead

## **Challenges -**

- Many astro activities vying for telescope time
- Maintenance of the 16" seems to be increasing
- The GoTo mount never goes to precisely

## **Goals –**

- Would love to have a dedicated telescope (e.g. 14" Meade SCT) and CCD for research so that my 16" equatorial could be doing astroimaging at the same time...