PETER BRUCE.
G4WPB

RADIO

LIGHT

AMATEUR ASTRONOMY TODAY

EQUIPMENT - & WHAT YOU CAN SEE & IMAGE.

I JUST HAVE TO HAVE A DIG AT CROYDON

WHAT A WASTE OF ENERGY.

AND IT'S LEGAL

The next time you hear **"Energy Saving"** or **"Energy Tax"**

Remember the Croydon Skyline Scheme.

Paid for from Lottery money with no regard to saving energy or preventing light pollution.

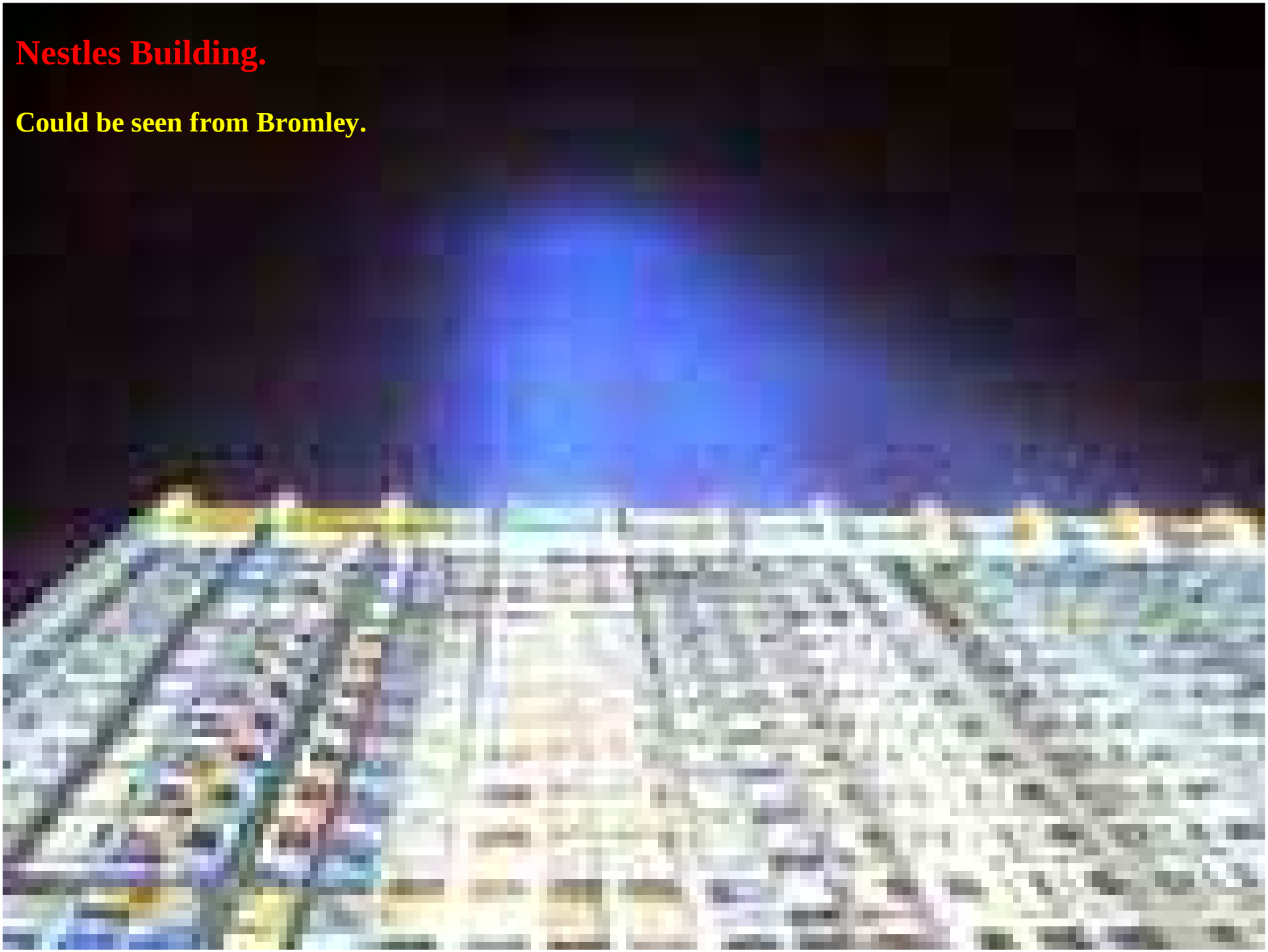
This beam could be see from Bromley 9 miles away…..

Your children will NOT see the night sky as you did as a child.


VIEW FROM MY GARDEN 2001
Mars 2001.


Luna House


Looney Lighting.


Nestles Building.
Could be seen from Bromley.

GET ON WITH IT PETER.

RESULTS. –GOT NESTLE'S TO FIT NEW PROJECTORS .

LUNA HOUSE HAD TO BE FITTED WITH NEW LIGHT FITTINGS TO CUT GLARE.

IT WILL GET RESULTS IF YOU MAKE WAVES

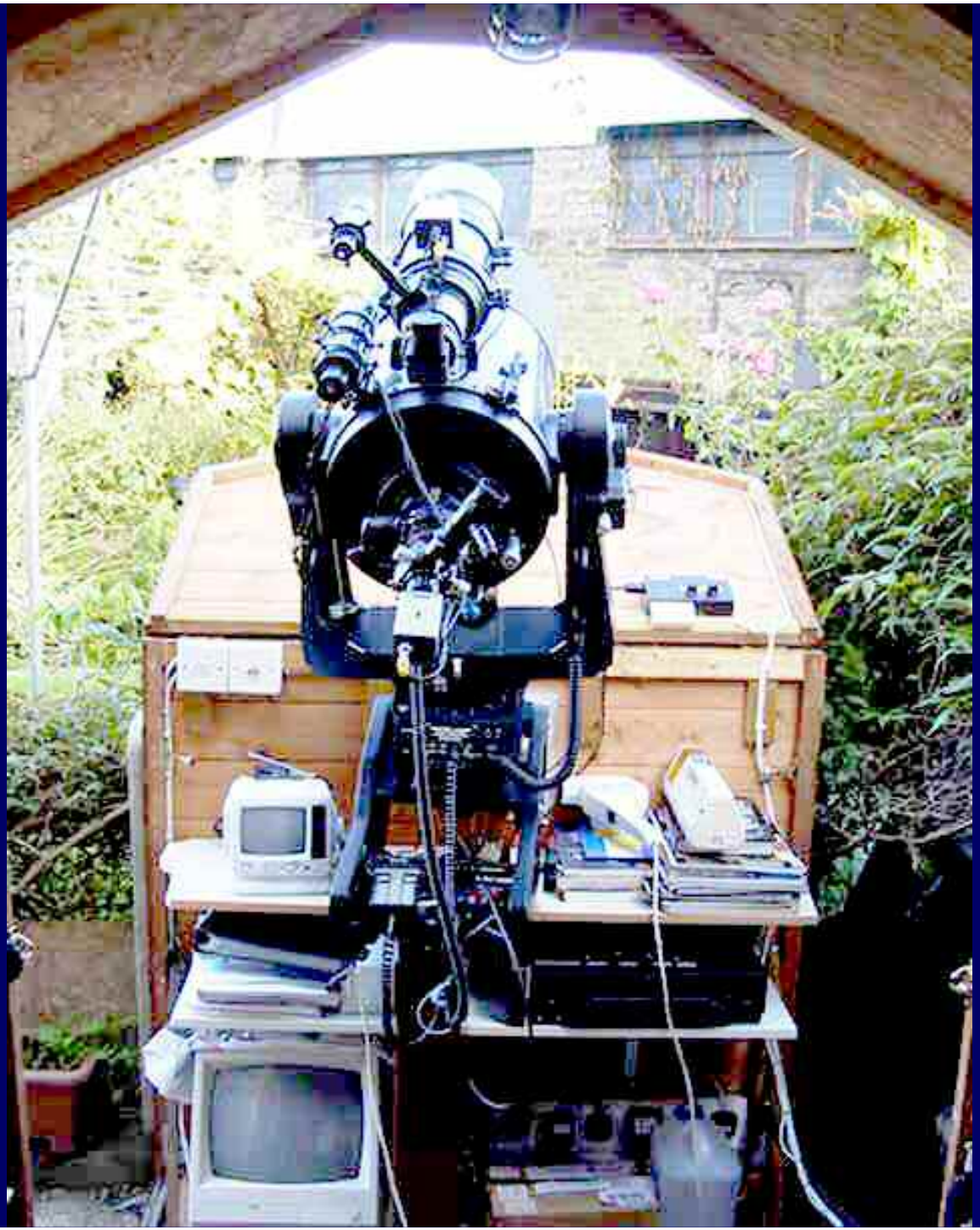
Sounds so bad with all that light…..

What in heavens name (no pun intended) can you see - let alone get a picture of.

Meade LX200.10 inch SCT

Home Observatory.


Shed (observatory) now open.



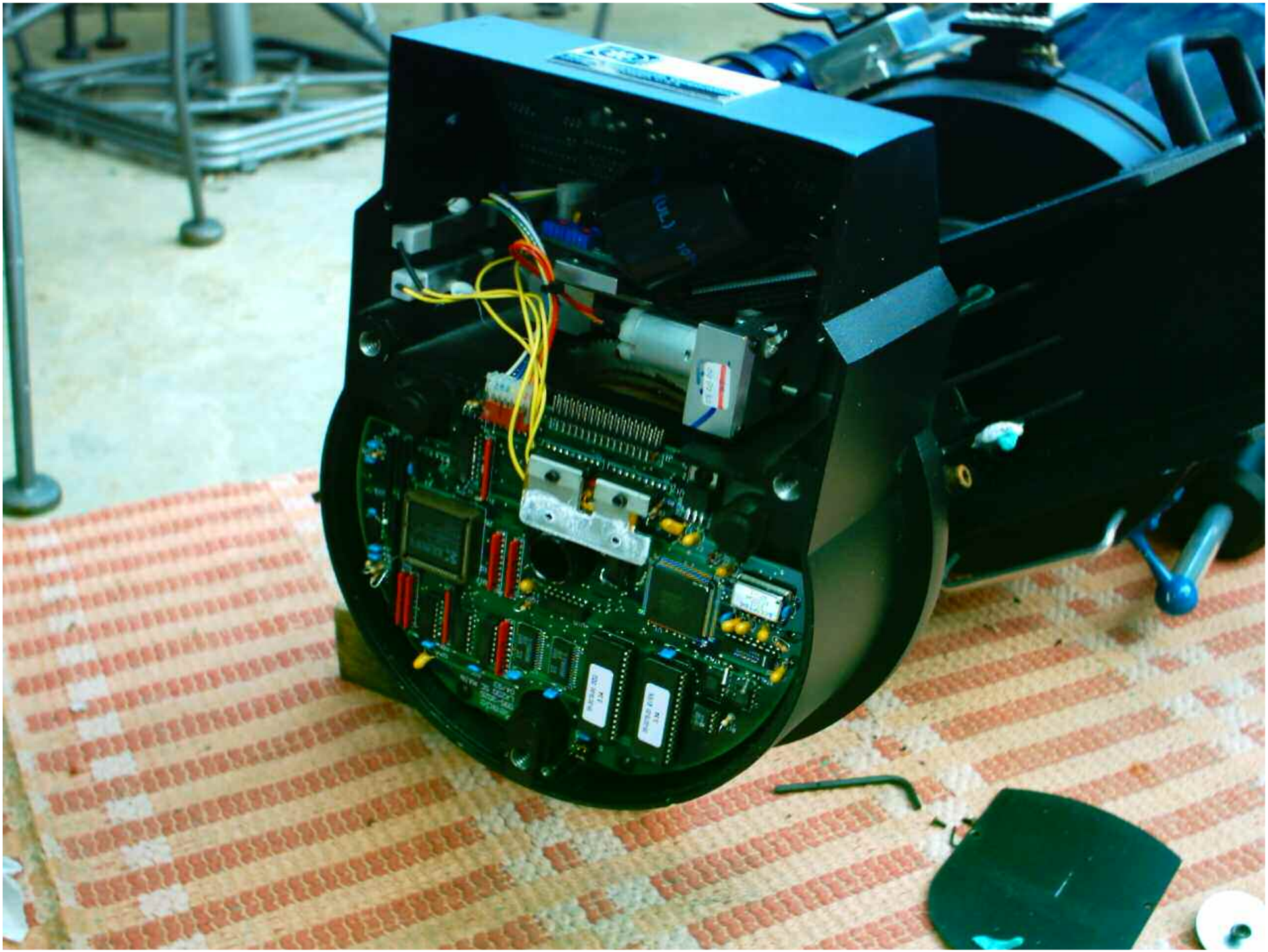
Meade LX200 10”.

Shows all the bits and bobs on the scope.

Telescope accessories together with my “other scopes” have been added over time. This is one of 5 main scopes I have.

My wife is great.


REAR OF MAIN SCOPE
SHOWING CRAYFORD
FOCUSER, FLIP MIRROR &
SPECIAL PELTIER COOLED
ASTRONOMICAL CCD
COLOUR CAMERA UNIT.




Meade
N
E
W
S

2nd home for 120+ days a year. I use a 10 inch rich field telescope + 6 inch refractor here for deep space objects.

The garden faces South. It's an ideal dark sky location.

JUST FOR FUN…

75 mm

Scope fitted

With colour

TV camera

To look at

Ships.

On a cold day when the seeing is good I can sit inside and pick out a ships name 10+ miles away….

SO WHATS BEST?

MAGNIFICATION

25mm Eyepiece fitted to each scope in turn.

ETX 90.	1250mm	/ 25=	x 50
10 Inch Celestron.	1200mm	/ 25=	x 48
10 Inch Meade.	1016mm	/ 25=	x 40.64
Helios 6 Inch.	750mm	/ 25=	x 30

So best Planet / Moon scope is, ETX 90 / Celestron

Best BRIGHT deep sky scope is, Helios 6 Inch.

Best BRIGHT AND FAINT deep sky scope is, Meade 10 Inch

Focal length of mirror / lens divided by focal length of eyepiece gives magnification.

ETX 90.

Beat this for size. Packs away into a pilot case and it’s a fully mobile go-to telescope…..


The most compact
ETX 90 telescope.

ETX sits onto a standard camera tripod.

Meade LXD55 SN10. 10 inch scope.


MEADE
LX200
Latitude scale.
GEM mount.

POLAR FINDER.

FAN IS MY OWN ADDITION TO HELP CUT DOWN COOLDOWN TIME.


6 inch Refractor – No frills -

CALESTRON

C10-NGT.

10 Inch Newtonian telescope.

GEM mount.

Full go to scope.

NOTE.

Stand has been modified by me (10 inches cut off legs)

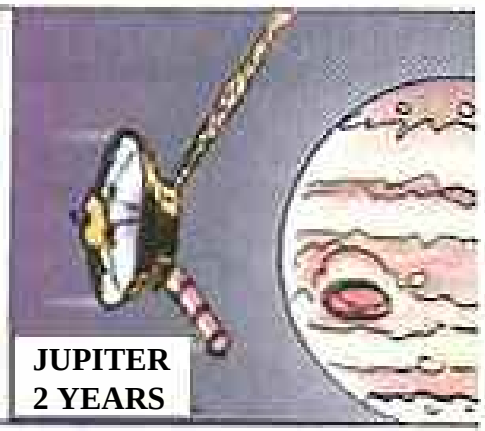
Could not see into eyepiece to see objects in the zenith…..

JANET LOOKS SO MUCH BETTER THAN ME…..

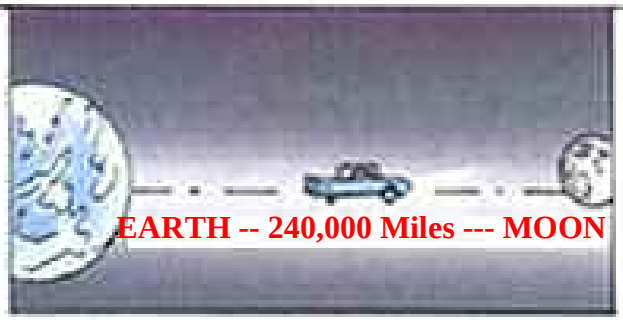
Needed with any telescope – Good eyepieces, don't skimp on them.


TIME TRAVEL
I SELL TICKETS

In our modern era of space flight, we've been able to reach other worlds relatively quickly. The Apollo missions reached the Moon in about 2. 1/2 days, the Voyager probes reached Jupiter in about 2 years but these space-craft moved at great speeds



Warp 9 in Star Trek – is a long long way off……



If we kept on driving another 35,000,000 miles at the same rate it would take 67 years to reach Mars at it's nearest.....

Travelling onto Jupiter would be a joyride of only 743 years. (see poor astronaut below). If you put the "pedal to the metal" you could shave off a couple of centuries.

If we kept on going at the same rate after 6,800 years you would reach the orbit of Pluto so the Planets aren't exactly "right round the corner".

HOW TO RECORD IMAGES.

SPECIAL COOLED COLOUR CCD CAMERA.

LOW LIGHT COLOUR / BW VIDEO CAMERA.

DRAW WHAT YOU SEE.

STANDARD DIGITAL CAMERA.

SO WHAT CAN YOU IMAGE


ANDROMEDA GALAXY
M31 2.3 MILLION LIGHT YEARS.


ANDROMEDA + COMPANION GALAXY.
M31 + M32

M41
M42
Orion
Nebula

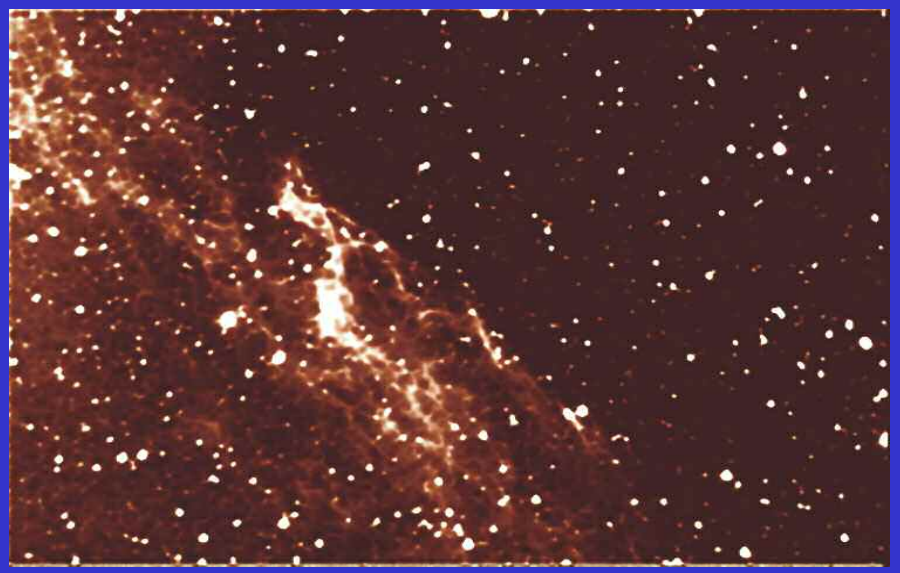
1500
LIGHT
YEARS.

M27 Dumbbell Nebula. 815 LIGHT YEARS.

15 MILLION LIGHT YEARS AWAY

1,140 LIGHT YEARS

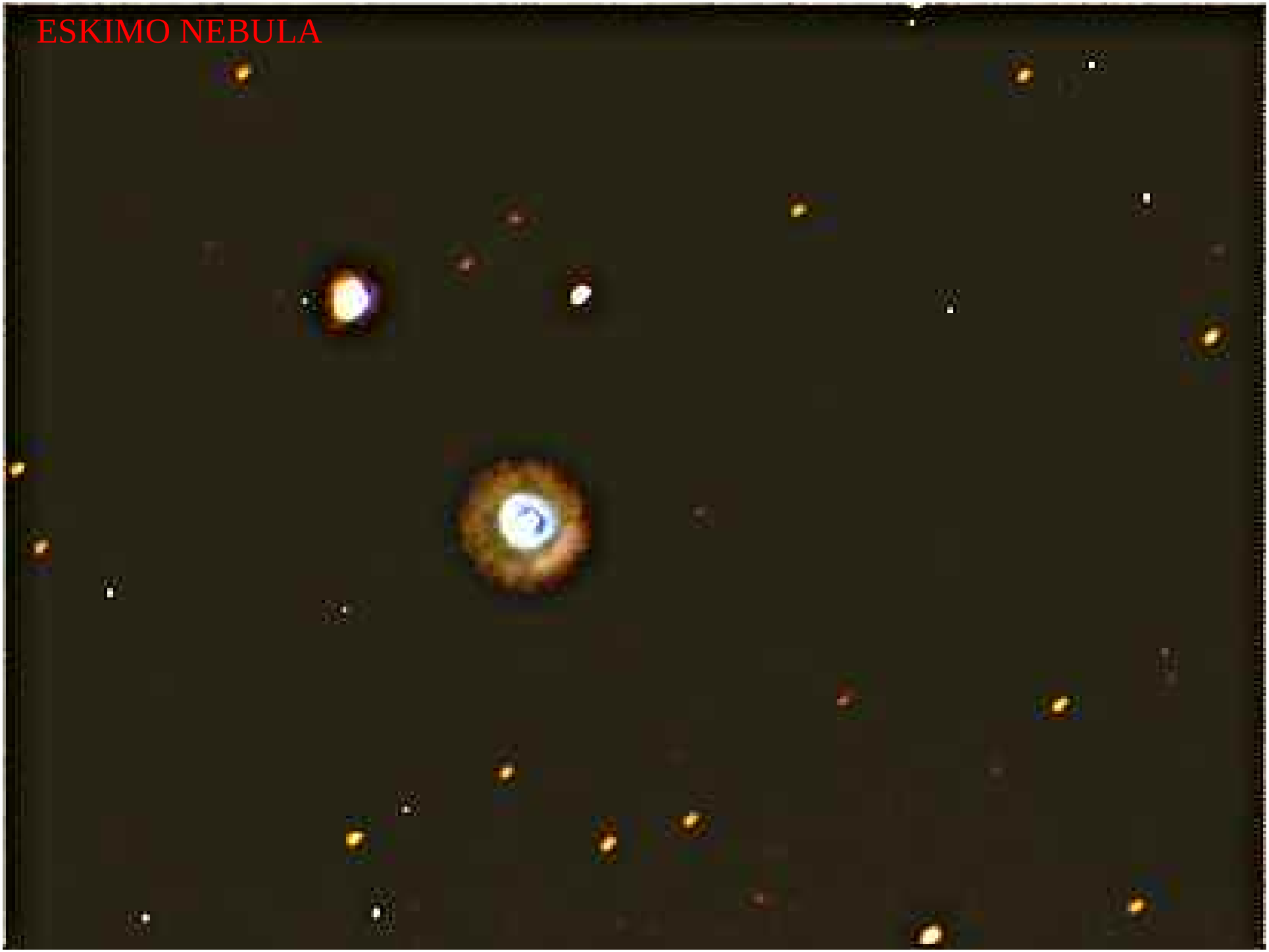
2..3 MILLION LIGHT YEARS.



VEIL NEBULA


M57. RING NEBULA
1,140 Light Years away.

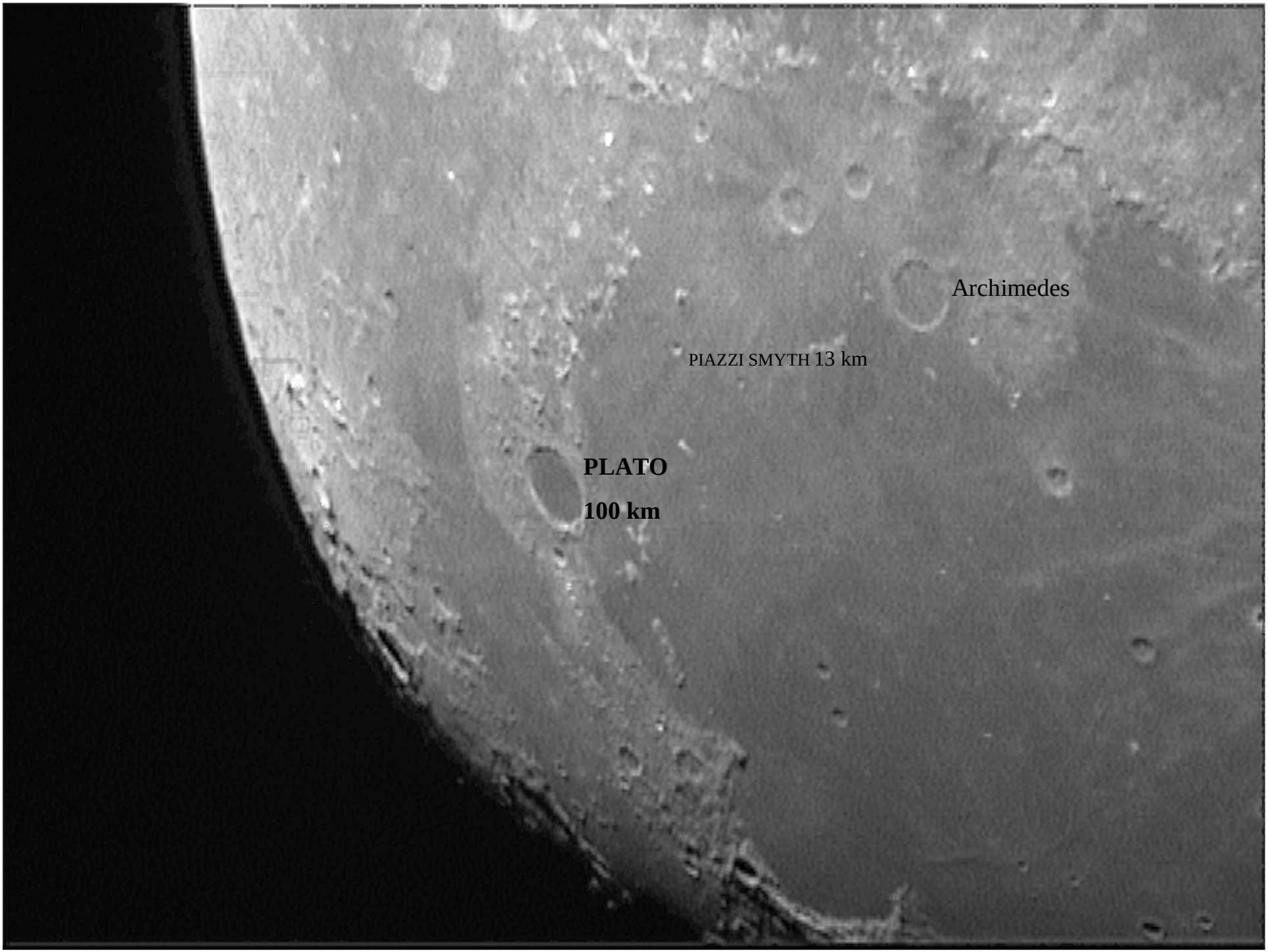

18 Miles /sec.
@ 1,140 Light Years…..

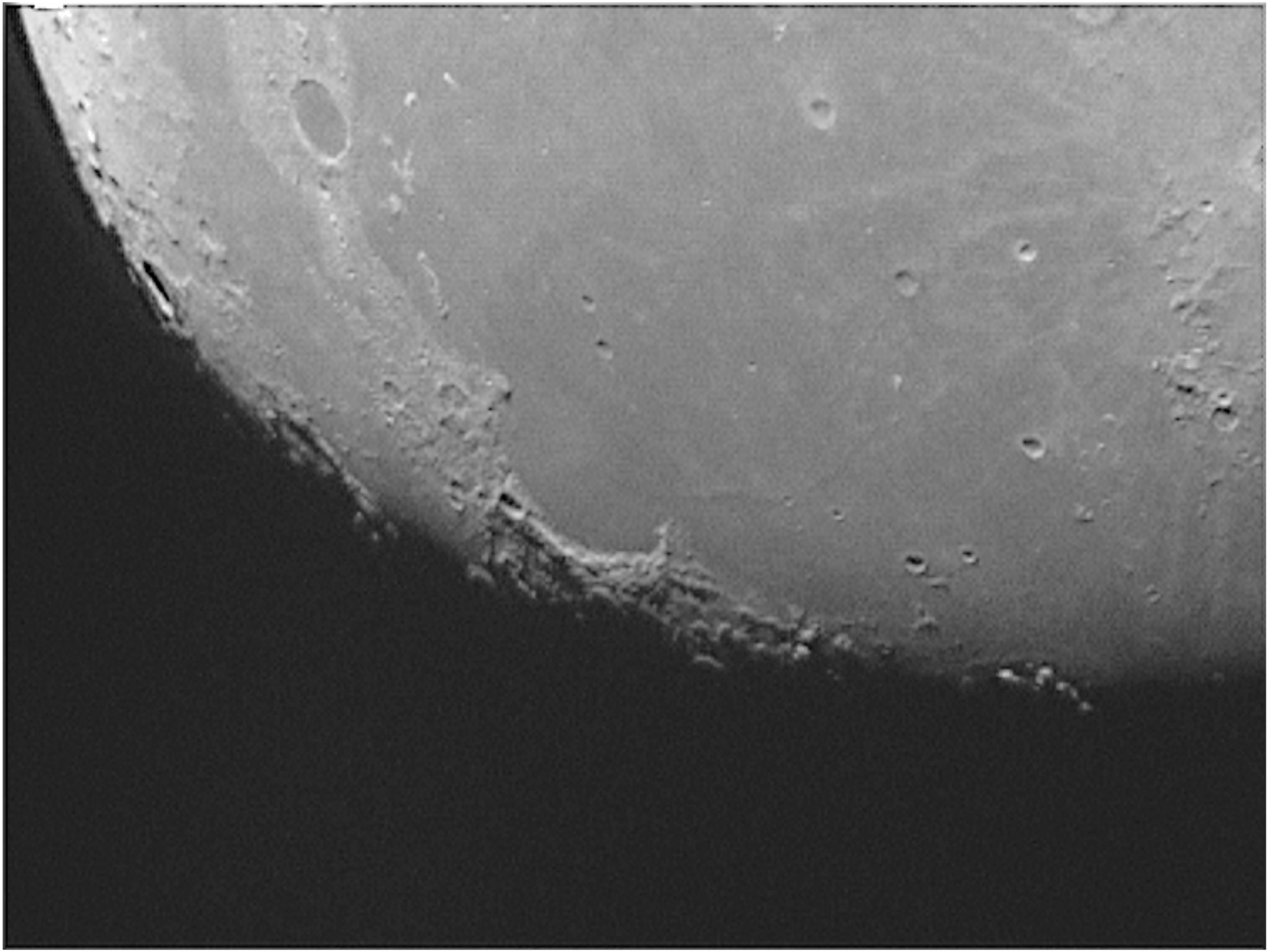

ESKIMO NEBULA


NGC 2357 - ONLY 127 MILLION LIGHT YEARS

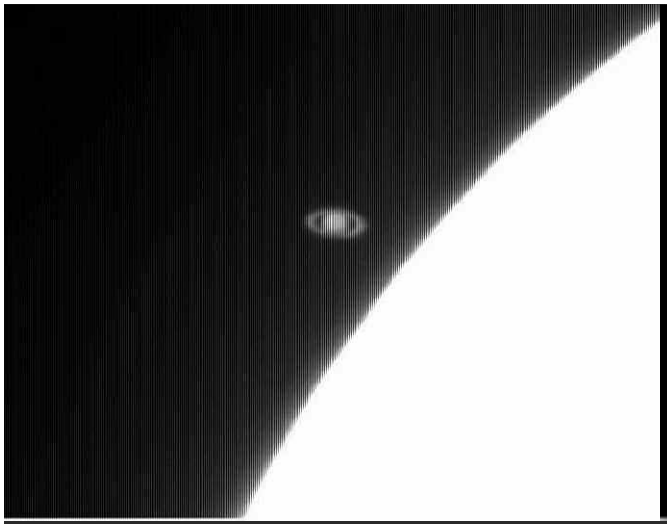

M13

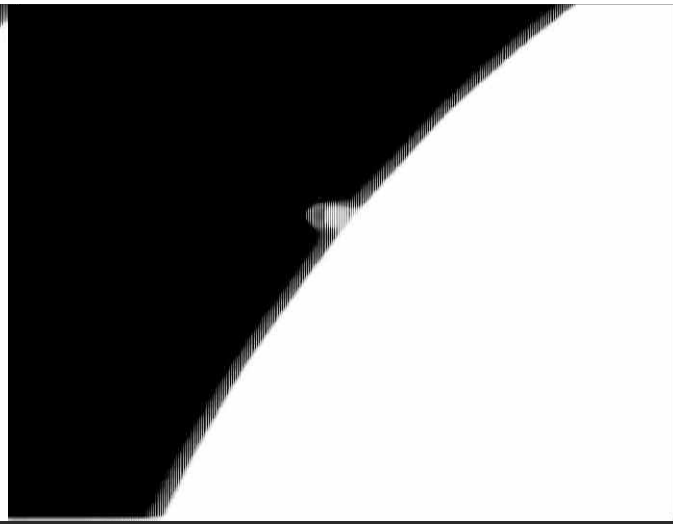

LIMB OF MOON
M82. 17M LIGHT YEARS.

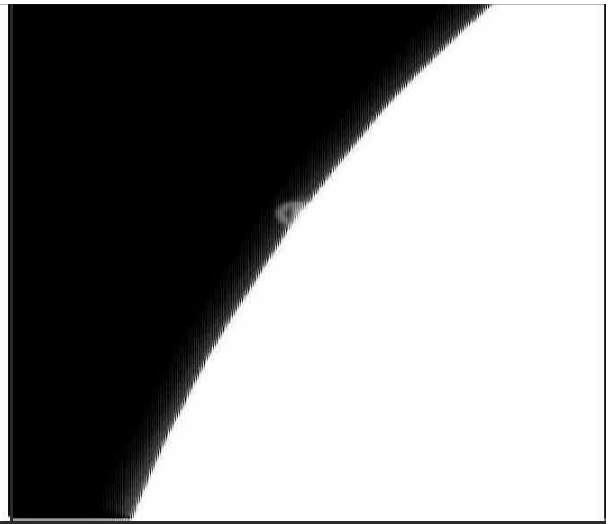

Archimedes
PIAZZI SMYTH 13 km
PLATO
100 km



SATURN. – An amateur image with this detail was not possible 8 years ago.







Sequence of images taken Nov 2001.

Saturn is occulted by the Moon The images above show the planets entry.

The last image on the left shows the planet Saturn as it just exits the Moons limb.

The images were hard to get. The exposure required was like trying to see a glow worm next to a searchlight…..

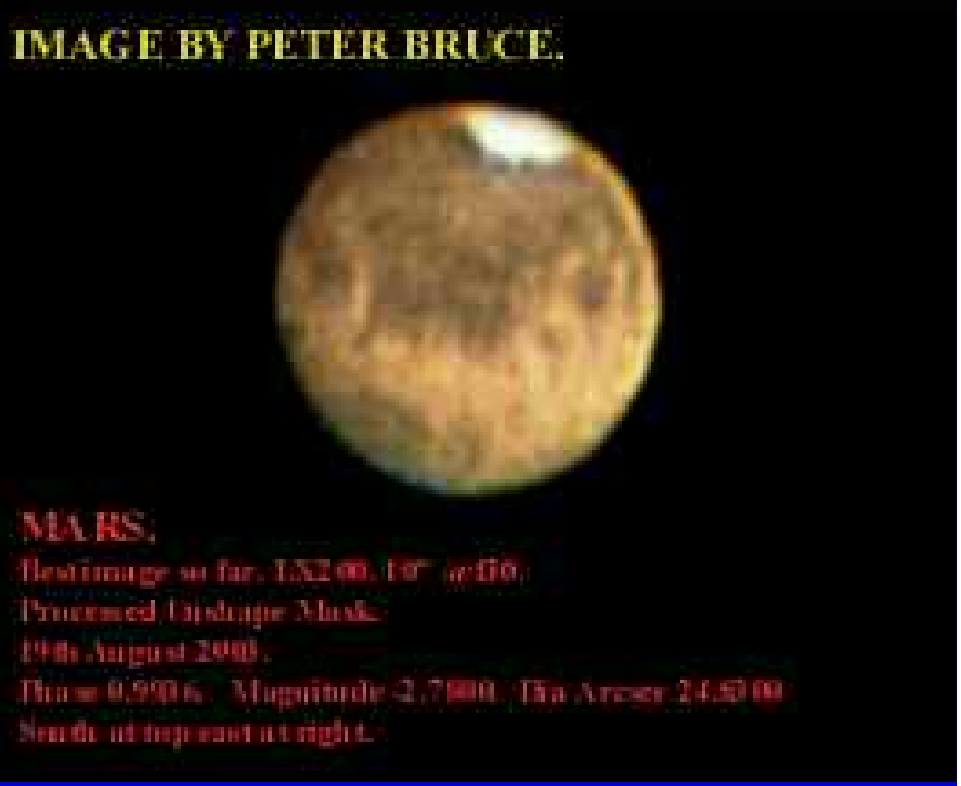
Jupiter 3 event.

Great Red Spot.

Shadow of Moon.

Transit of Moon over Jovian disk.

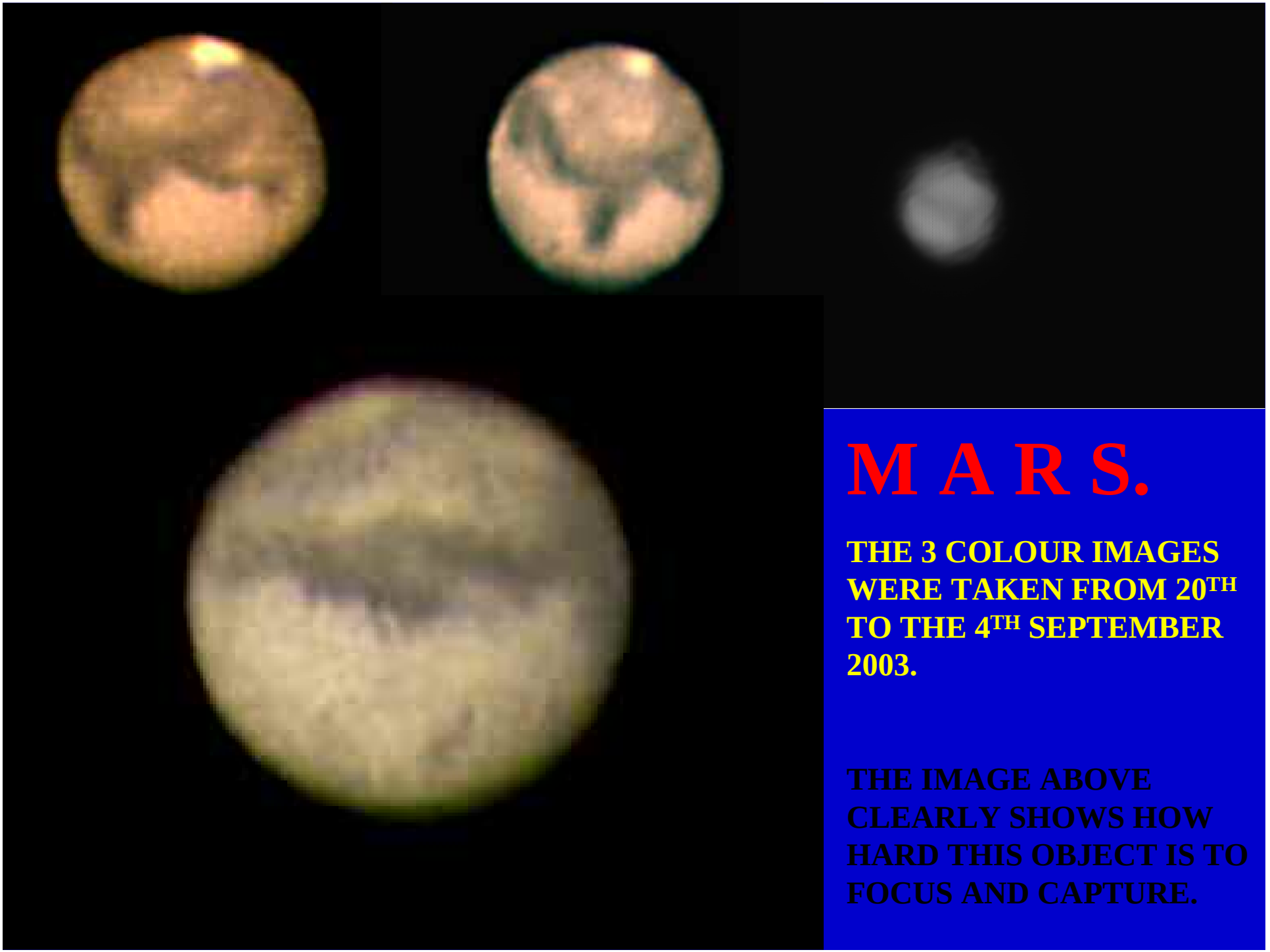
CD of Event.



M A R S.

SEQUENCE OF IMAGES FROM 5TH TO 19TH AUGUST 2003.

OPPOSITION 27TH AUGUST 2003.



M A R S.

THE 3 COLOUR IMAGES WERE TAKEN FROM 20TH TO THE 4TH SEPTEMBER 2003.

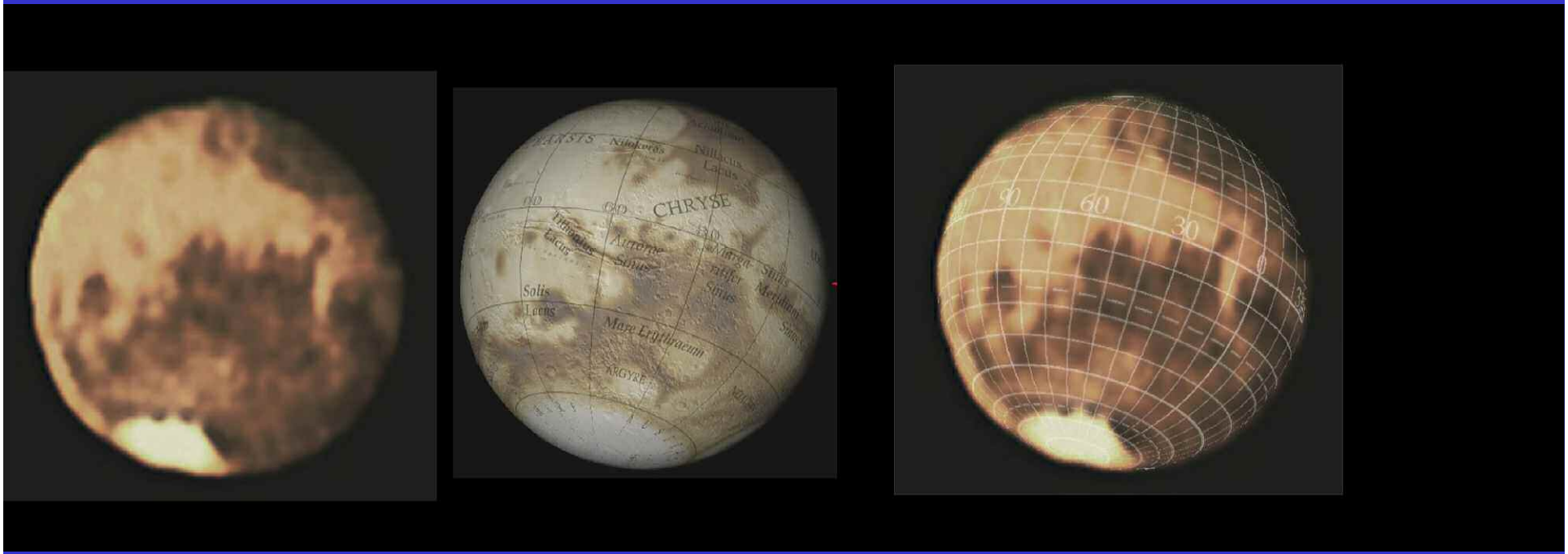
THE IMAGE ABOVE CLEARLY SHOWS HOW HARD THIS OBJECT IS TO FOCUS AND CAPTURE.

MARS – THE BEST IMAGE

This image is now in the final best 15 sent into the Sky at Night. I am pleased with that alone. Final results on 4th January 2004…..

Peter Bruce. West Croydon. Surrey.

MARS – South at bottom. Original image left compared to fly by space craft image of same scale.

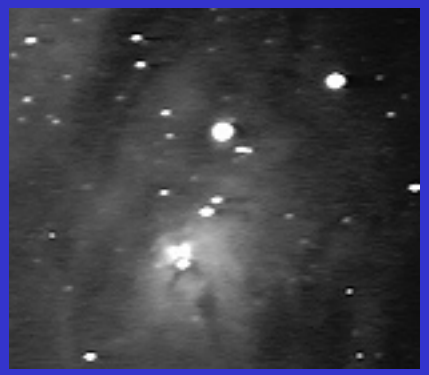


The difference in some features is due to the micro-fine Martian dust which is blown by the wind and covers / or exposes surface features. This changes the Martian features reflectivity.

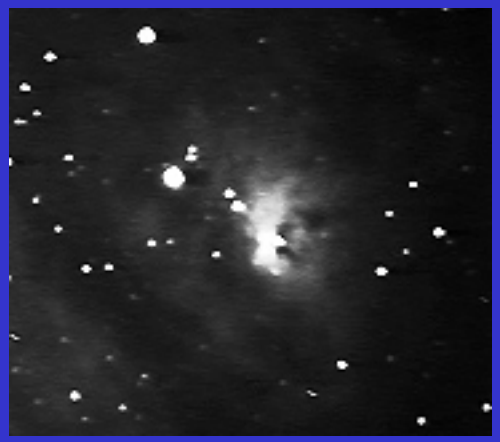
Since the NASSA fly-by space craft took the centre image things have changed.

The South polar ice cap is shrinking fast as the Martian summer takes hold and at this opposition of Mars no major dust storms took place. The 2001 opposition had a dust storm that obscured all of the planets surface feature – nothing at all could be seen over the whole planet…..

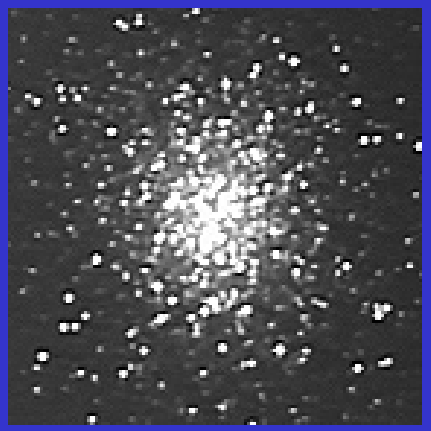
DEEP SPACE IMAGES – VERY SPECIAL VIDEO CAMERA – STACKS IMAGES.



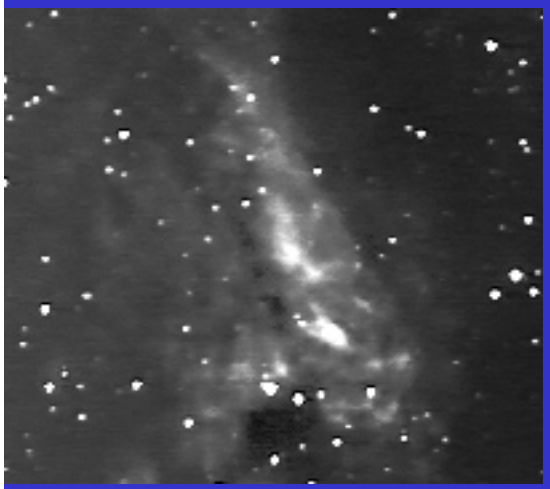
LAGOON NEBULA



TRIFFID NEBULA



HERCULES CLUSTER

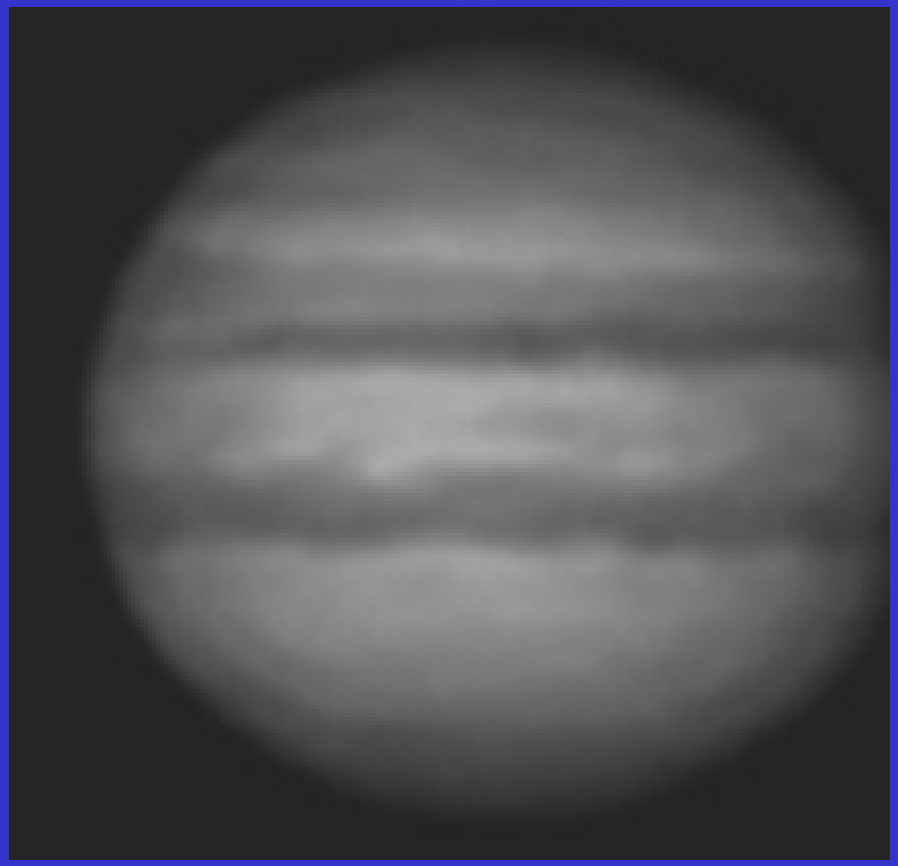


SWAN NEBULA

RING NEBULA.

VIDEO

PLANETS – SPECIAL VIDEO CAMERA. – STACKED FRAMES.



JUPITER

VIDEO

OK

So how easy is it to set up and use.