



SCORPIUS

THE JOURNAL OF THE
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

Volume XXI, No 3 (May / June) 2012

The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study and understanding of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general community at all levels.

The Society holds a focused general meeting each month for the exchange of ideas and information. Regular public and private observing nights are arranged to observe currently available celestial objects and phenomena. In addition, the society encourages the services of its members for educational presentations and observing nights for schools and community groups.



Star trail with red aurora left of centre photo from Blow Hole track Flinders made with Deep Sky Stacker. By Greg Walton

PUBLIC NIGHT THANK-YOU

Recent public viewing nights and school viewing nights have continue to be very well received by the attendees. It is no coincidence that this is due to the efforts put in by the members that help out at these events. To everyone that has helped out over the past few months, a very big thank-you goes to you all. Your efforts are very much appreciated, and are being very well received.

THANK YOU

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Newsletter Disclaimer

The Scorpius Newsletter is published online, once every two months for its membership, by the Mornington Peninsula Astronomical Society, for Educational Purposes Only

As a newsletter, this publication presents news spanning a spectrum of activities, reports, and publications in order to keep society members abreast of a variety of events and views pertaining to astronomy. While

prudent, reasonable effort has been utilized to verify factual statements made by authors, inclusion in this newsletter does not constitute or imply official MPAS endorsement. All materials (except previously published material, where credited) are subject to copyright protection © 2011, Mornington Peninsula Astronomical Society.

May / 2012

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-----------------------------------|----------------|---------------------|--------------------------------|----------|--------------------------|--------------------------------|
| | | 1 | 2 | 3 | 4 Public Night 8pm | 5 |
| 6 Full Moon | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 Last Quarter Mothers Day | 14 | 15 | 16 General Meeting 8pm | 17 | 18 | 19 Members Night BBQ 6pm |
| 20 | 21 New Moon | 22 | 23 Committee meeting 8pm | 24 | 25 | 26 |
| 27 | 28 | 29 First Quarter | 30 | 31 | | |

Monthly Events & High Lights.

Members Night BBQ 6pm at the Briars - Watch out for Auroras.

June / 2012

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|----------------|--|---------|---|----------|--------------------------|--------------------------------|
| | | | | | 1 Public Night 8pm | 2 |
| 3 | 4 Full Moon Partial eclipse | 5 | 6 Transit Venus | 7 | 8 | 9 |
| 10 | 11 Last Quarter Queen's Birthday | 12 | 13 | 14 | 15 | 16 Members Night BBQ 6pm |
| 17 New Moon | 18 | 19 | 20 General Meeting 8pm | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 First Quarter Committee meeting 8pm | 28 | 29 | 30 |

Monthly Events & High Lights.

Transit Venus Wednesday 6th starts 8:15am end 3:00pm

Transit Venus Break fast at the Briars for members starts 7am.

Members Night BBQ 6pm at the Briars - Watch out for Auroras.

SOCIETY FEES REMINDER

The ticking over of the new year also means that society fees are now due to be paid. The society has worked hard to ensure that 2012 fees are still the same as last years prices. So to assist the society in maintaining the facilities and services we provide, we appreciate your prompt payment for the 2012 year ahead.

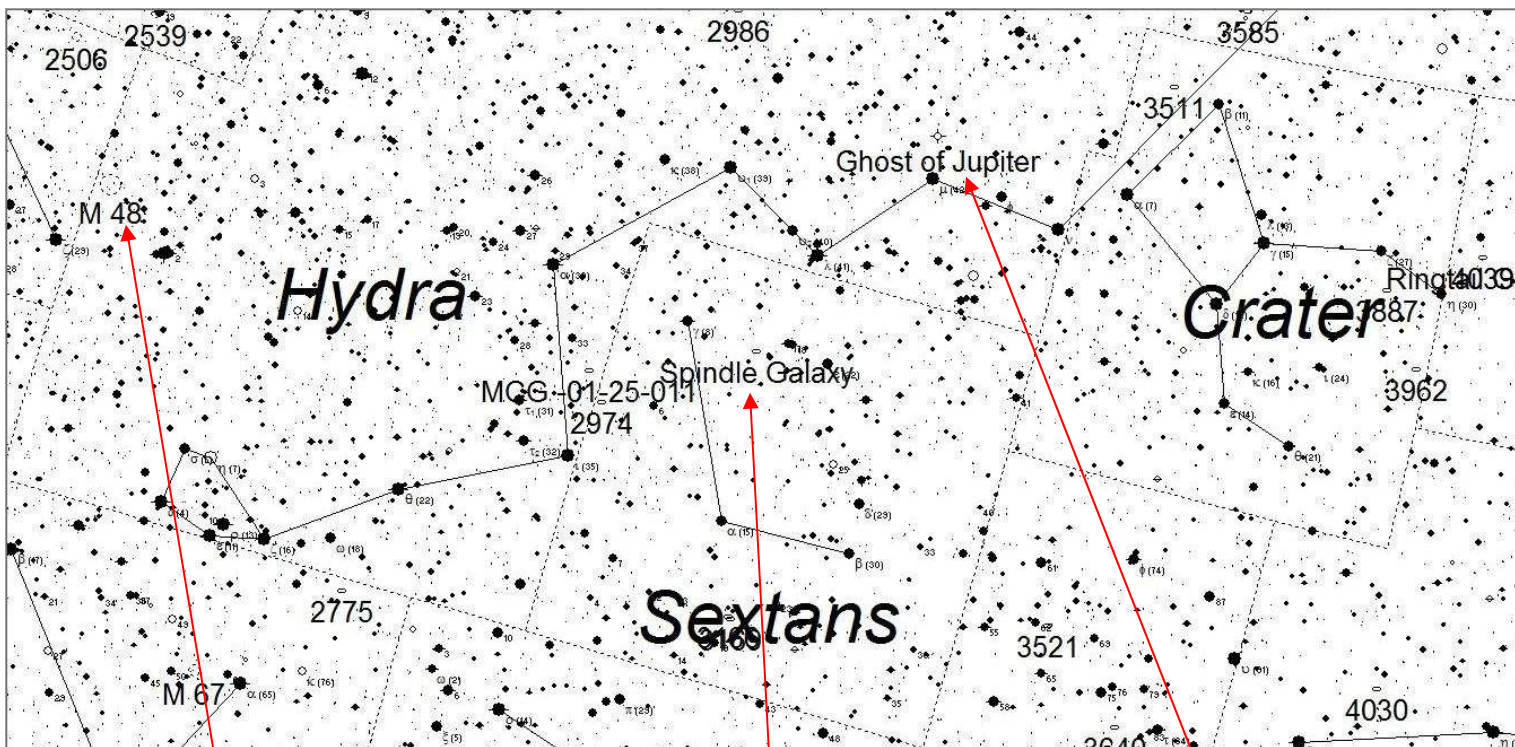
As a reminder, the following structure of the fees are: \$50 - Full Member
\$45 - Pensioner Member
\$65 - Family Membership
\$60 - Family Pensioner Membership

As an alternative, multi-year memberships are available upon request, and can save you some money over the long term. Please see a committee member about these options.

Sky for the May / June we look at Hydra / Sextans.

In Hydra you will find a large open cluster M48 which can be seen with binoculars also you will find one of the brightest planetary nebulas in the sky the Ghost of Jupiter which can also be seen with binoculars.

In Sextans you will find one of the best edge on galaxies NGC3115 the Spindle Galaxy. Produced on Sky Map.



Looking North the Moon, Mars and Saturn at 8pm on the 30 May 2012 note the position of Sextans.



We had another successful night under the star with only light cloud, at the Briars on 14Apr12. Tony at right was imaging with his 10 inch GSO astrograph on an EQ6 mount. Big blue was product fantastic views of Saturn. Paul was in sky tour mode. Alex was pointing out his favourite objects.

MPAS went to scout camp at Mt Martha, about 100 scouts and 30 parents attended under streaky moon lite sky and we all had a good time.



History of MPAS

Back around July 1969, four Frankston residents got together following the Apollo 11's landing on the Moon, and set about creating the Astronomical Society of Frankston (ASF). In January 2004, it changed its name to the Mornington Peninsula Astronomical Society (MPAS).

Now, more than 30 years later, the Society has over 150 members, making it the second-largest in Victoria. Most of the members still come from Frankston or the Mornington Peninsula.

When the MPAS was formed, the members initially held the meetings in the Jubilee Park Hall. Not long after, the location moved to Frankston High School. In 1976, the meeting venue moved again, this time to the Teachers College (now the Frankston Campus of Monash Uni). Eventually, when Monash took over the College, the location for the meetings became the Peninsula School at Mt Eliza, where it continues today.

Like the meeting venues, there have been a few observatories (located with our meeting sites), and that to be built at the Briars will be our fourth. The first was a fibreglass dome for the Frankston High School, around 1972, but this was burnt down. The second, a metal roll off roof observatory, containing the B.J.Smith 12.5-inch telescope, was built at the Teachers College, but was dismantled when Monash took over. The third was at the Peninsula School, but was later removed to make way for a footy oval. The result of all this was that we went into the "Astronomy on the Move" concept. The first astronomical society to go mobile in Australia.

Around the time that I joined in 1990, the Society began viewing from the Moorooduc Airfield (the result of an MPAS member also being in the Moorooduc Flying Club). However, the airfield was later closed, and about 1994 the MPAS started viewing at The Briars. Initially, we just observed from grass, and later, a gravel area. More recently, three concrete slabs were laid, with a storage shed being constructed on the smallest slab. Of the other two, one is used for observing, while the first stage of the observatory building has been constructed on the other. A number of native trees have also been planted around the site to act as windbreaks and block light. Both water and power have now been connected to the site. Plans have also been drawn up for extensions to the observatory building.

The 2001 Christmas BBQ also saw a time capsule being placed beneath the bottom slab, to be reopened in 50 years time. Who knows what the site will look like then?

The MPAS also has a long term commitment to the local education system, and public displays. This consists of an active program of holding viewing nights for both the public and schools.

Many of the public nights were originally at Ballam Park at Frankston, but they are now at The Briars. Others have also been held at Braeside Park in the north, and at Rosebud and Arthurs Seat in the south. The school nights have been held all around the Mornington Peninsula and southeast suburbs, from Rosebud in the south to Dandenong in the north.

More recent features for members include "E-Scorpius", a members-only email list, and an Aurora Network, allowing members who sight aurorae to pass the news on to other members in the network.

The Telescope Learning Days ("TLDs") which were started earlier this year, have proved quite successful at encouraging newer members to get to know their telescopes, and also increasing the number of members coming to the Briars site.

The completion of a large shed at the Briars in late 2005 will allow more to be done at the Briars site.

Over Easter 2006, the MPAS hosted NACAA again in Frankston, this time by itself (in 1990, it had hosted NACAA in conjunction with the ASV).

Provided by *John Cleverdon*



ASF Observatory

The Astronomical Society of Frankston has had 2 observatories in the past, the one showed in the photo below was location at Frankston Tafe. But was removed to make way for a new building. An earlier observatory was destroyed by fire.



Right - From the ASF Scorpio news letter in March 1994 - Hopefully this time we will get our much awaited observatory.



Work on the observatory at The Briars has started. The site was surveyed during late January in preparation for a the development of working drawingsto be submitted to The Brairs management and Mornington Council. The submission accepted by the council last year requires us to develop a one year lease. After this we would negotiate a longer term lease prior to construction of a more substantial observatory. The photo below shows Peter and Ros .Skilton with D.Leggert discussing the site survey.

{ I think they were trying to find North !! }

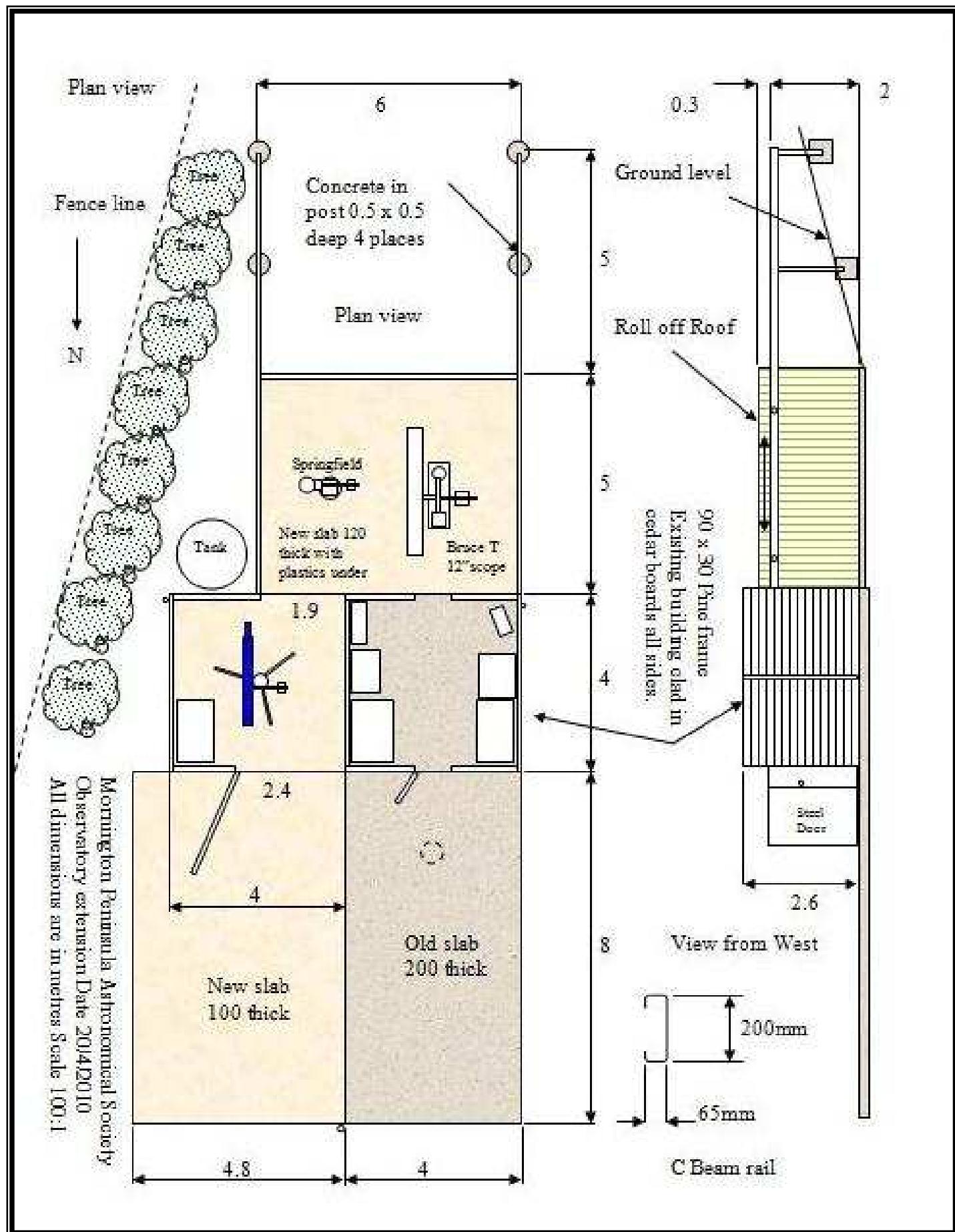
In 1998 a concrete slab was pored for the observatory, but the project stalled & in 2000 a 4 metre square timber shed was constructed on this slab, which is still used & was extended to the east in 2010 which doubled the size of the shed. This was done to house the growing number of telescopes owned by the society.

Right - Photo by *Peter Lowe*

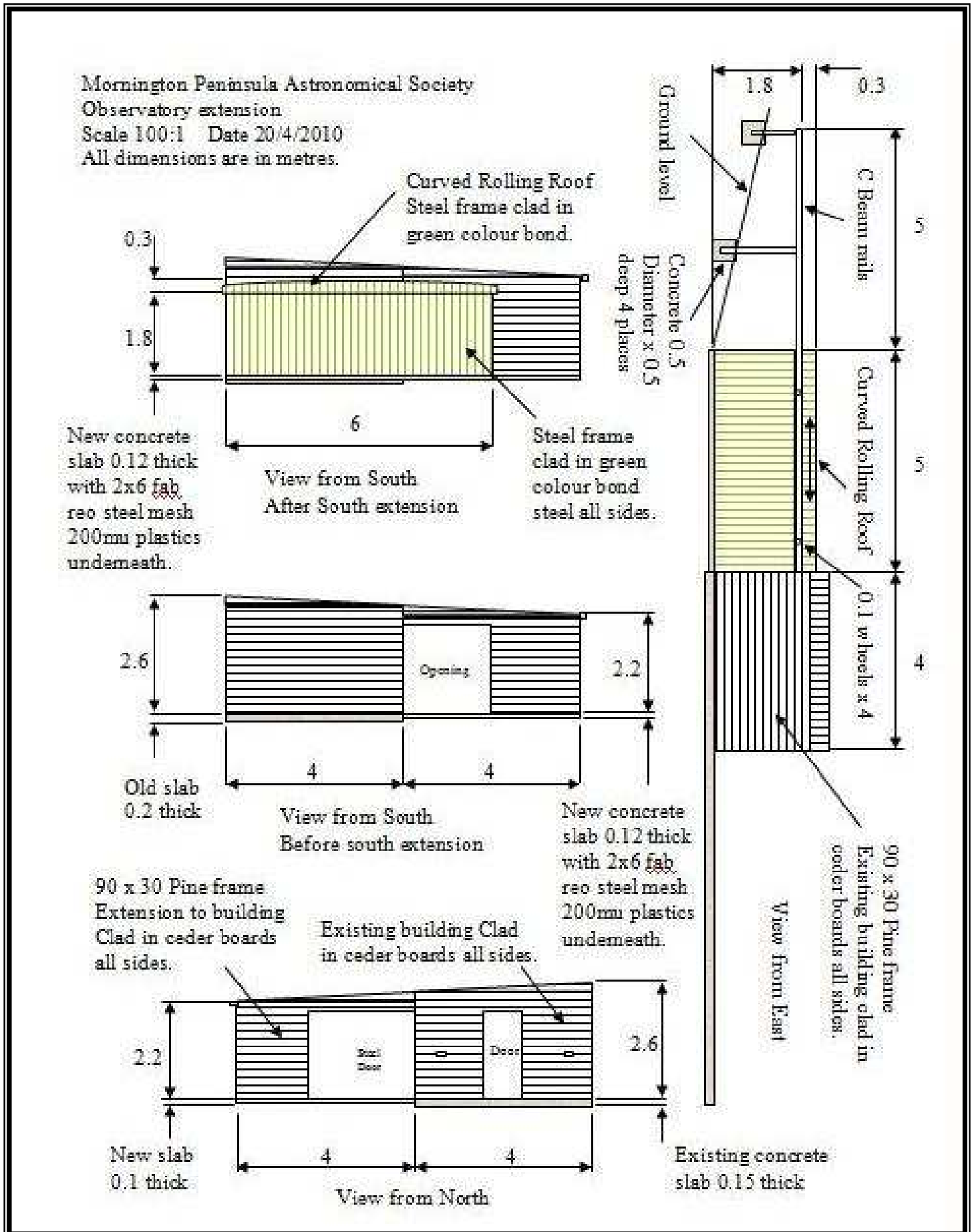


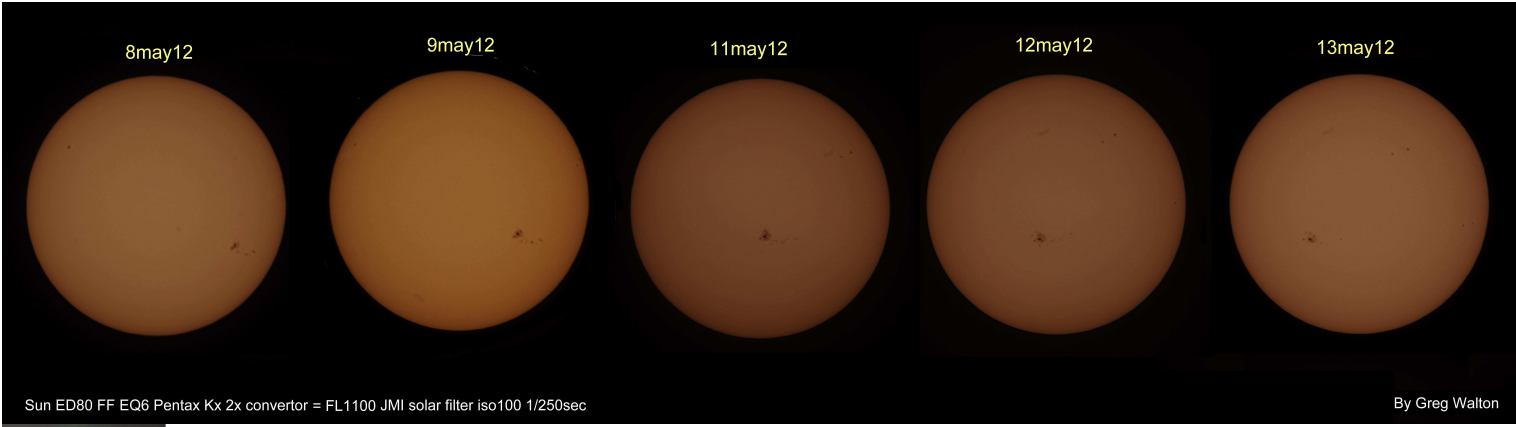
MPAS Observatory

Plans have been made to build the long awaited observatory. As you can see on the floor plans below, it will be on the south side of the lower shed. It will house some of the societies telescopes, most likely the 10 inch spring field & Bruce Tegaskis's (Past president) 12 inch F8 equatorial mounted Newtonian.



We will also repair the existing part of the building, which would include replacing the old weather boards with colour bond steel & replacing the rotten timbers in the west side wall, also will replace the external door & paint the inside.





Sun ED80 FF EQ6 Pentax Kx 2x convertor = FL1100 JMI solar filter iso100 1/250sec

By Greg Walton

Above Sun spots over a 6 day period by Greg Walton taken with ED80 with 2 times convertor and a JMI solar filter.

ASTRO NEWS



Zodical light LMDSS Pentax Kx 18mmLens 30sec iso6400 by Greg Walton MPAS/ASV 21apr12 4am East

Left photo is a Zodiacal light from Heathcote by Greg Walton. The Sun is lighting up dust in the plane of the solar system just before dawn.



M51 LMDSS 8" Newton AG CC1 EQ6 Pentax Kr 46x30sec iso12800 By Greg Walton MPAS/ASV 27apr12

The whirlpool galaxy M52 is only visible for 2 hours in the northern sky. It only gets to about 6 degrees above the horizon from Heathcote and only 4 degrees above the horizon at the Briars photo by Greg Walton



We visited Mark at Morningside; to look at his new 2.3 metre domed observatory where he houses his 14 inch Meade LX200. He has mounted it on a steel pier; the observatory has a carpeted timber floor which makes it very cozy. It is mounted on a very solid concrete slab which is some distance from the tree.

The photo below was taken at night under a large moon.



Filters slider, *by Greg Walton*

I must admit, most of the time I do not use filters, only when my back is to the wall and I can't see what I am looking for, do I resort to using a filter. A good example is the horse head nebula, which needs the Hydrogen Beta filter to see it at all.

I found most people do bother with filters either, too much screwing and unscrewing in the dark, have I got the right filter or not? Bugger I have dropped it, were did it go; it will be coated in dust now.

The answer was to make a filter slider. I only own 1 1/4" nebula filters as they are less than half the cost of the 2" nebula filters at \$400.00 each. Not cheap 4 filters would be \$1,600.00 which is a lot of money for something that does not get much use.

So I came up with a design that uses the Televue coma corrector. I discarded the part that holds to eyepiece and made a new part with a slot that I can slide my filter through, just in front of the barrel of the eyepiece. I made 2 sliders each with 5 holes, one for nebula filters and one for coloured filters. A spring loaded ball locates the filters. Now with this new toy I use my filters all the time, and happily slide them back and forth testing which one gives me to best view, in the order below.

- 1 LPR or Light pollution Reduction - removes yellow sky glow produced by street sodium lighting.
- 2 UHC or Ultra High Contract – Best all round nebula filter.
- 3 Oxygen 3 or O3 or Ozone – Good for nebulas that only emit light at that frequency.
- 4 H-Beta or Hydrogen Beta – Limited use mainly the Horse head nebula.

The coloured filters are mainly for the planets and can bring out features that would not be seen. I found it was a very personal choice as to which colour to use on want planet. Note that Imaging with filters is usually done with Black and White cameras.

Photo top right is the Televue 2 inch 2X Big Barlow this I have modified to suit my filter sliders. An aluminium sleeve slides down over the slot when the filters are not being used.

Photo right is the Televue type 1 Coma corrector which I have modified to suit my filter sliders. An aluminium sleeve slides down over the slot when the filters are not being used.

Note the plastic screws to hold the eyepiece. Televue please get this into production.



T-Ring adaptor, *by Greg Walton*

You can buy for 30 dollars a T-Ring adaptor which has a thread inside which fits most old threaded camera lens, some of which are excellent quality like the Russian Helios brand. But some do not come into focus, so it is best to take your camera with you when buying lens, though on some lens this can be adjusted by losing the 3 small screws on the out side of the focusing ring, then you can turn the ring until it comes into focus and then retighten the 3 screws. I have found there are 2 standard threads, one metric and one imperial, that have the same diameter and look the same, but they do not screw together so watch out for this. I have reworked these threads on an old lathe, if I ready like a particular lens. The thread in most T Ring adaptors can be removed and the T Ring can be clamped strait onto just about any old lens with the 3 screws, you can also add new longer screws if there are too short.

You can also use the T-Ring to join the camera to a telescope, by threading it to a 2inch or 1 1/4" tube, which would slide into the focuser on a telescope, this method is called prime focus. Most telescopes work well with this method, except some Dobsonian focusers do not have enough travel to achieve focus. This can be fixed by installing a low profile focuser but these rarely work well because the weight of the camera hangs out a far way. The primary mirror could be move up the tube closer to the secondary mirror but you may find your eyepieces will not come into focus and may need to buy an extension tube. The old type Televue coma corrector can be threaded into the T-Ring this gives a 15% increase in magnification and brings the focal point farther out of the focuser so there is no need to change the focuser or move the mirror. See photo below.



Warning, always make certain to line the dots up, as some T ring can go in the wrong way and once this happens you may need too saw the T ring up to get it out. The Pentax has a spring clip inside the camera body that will stop the T ring from coming off; you will need to hold the spring clip down and turn the ring to get it off. This has happen to me twice now. If it happens with a lens you will need to smash the lens so you can get at the spring clip inside the camera, which is very bad.

How wide is my lens? *By Greg Walton*

You may want to capture a whole constellation and cannot decide which lens to use. Most planetarium software can give you the field of view in degrees for a part of the sky you wish to photograph. I like SkyMap but Starry night or Stellarium will do.

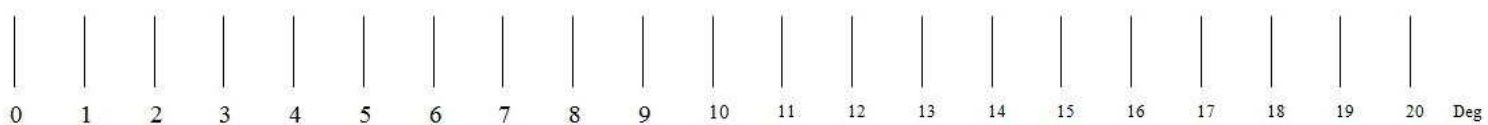
My Pentax K-x and Pentax ist has a 2/3 sensor that's about 22mm x 15mm in size. Were as the top end Digital SLR cameras have full frame sensors that are the same size as the old 35mm film cameras with a sensor that is 35mm x 22mm. Both have there advantages, the full frame DSLR take a bigger picture or wider field but are much heavier and will need a stronger mount and will tend to throw telescopes off balance. Were as the smaller Pentax K-x is much lighter and causes less strain on mount and telescopes, it has a 2/3 sensor that crops the picture, which gives a 1/3 magnifying effect. That is a 100mm lens would work like a 150mm lens. This is not all bad when using wide angle lens the corners of the image often suffer from coma. That is the stars are distorted out of shape or elongated and can also look like seagulls. The cropping effect would cut some of this away give a more pleasing picture. You can reduce the coma by stopping down the lens to a larger F ratio and increasing the exposure time. When using film I suspected that when you get your photos prints back from the camera shop, they have had some degree of cropping. So I think the Full frame digital prints are slightly bigger.

When viewing my night sky shots the lens length is often stated on them and can be used as a guide.

In the table below the length and width are in degrees.

| Which lens to use? | Pentax K-x 2/3 sensor Pentax K-r 2/3 sensor Pentax ist 2/3 sensor 22mm x 15mm sensor | | 35mm Film Full frame DSLR 35mm x 22mm sensor | | In this table the length and width are in degrees. | Mount |
|--------------------|---|------------|--|------------|--|--------|
| | Lens | Length | Width | Length | | |
| 18 | 80 | 50 | 100 | 70 | Many constellations | Tripod |
| 28 | 45 | 30 | 60 | 40 | Large constellation | Tripod |
| 50 | 27 | 18 | 37 | 24 | Medium constellation | Tripod |
| 80 | 16 | 11 | 22 | 17 | Small constellation | Barn |
| 135 | 10 | 7 | 14 | 10 | Very small constellation | Barn |
| 200 | 7 | 5 | 10 | 7 | Large Star clusters | Barn |
| 300 | 5 | 3.2 | 7 | 5 | Pleiades M45 | Barn |
| 400 | 3.5 | 2.5 | 5 | 3 | Eta Carina nebula | EQ6 |
| 500 | 3 | 2 | 4 | 3 | | EQ6 |
| 800 | 2.3 | 1.2 | 3 | 2 | Orion nebula | EQ6 |
| 1000 | 1.5 | 1 | 2 | 1.5 | Globular clusters | EQ6 |
| 2000 | 0.7 | 0.5 | 1 | 0.7 | Full diameter of the Moon | EQ6 |
| 12000 | Very small | Very small | Very small | Very small | Planets | EQ6 |

Note these are my old fixed length lens and I have roughly measured the degrees from my picture.

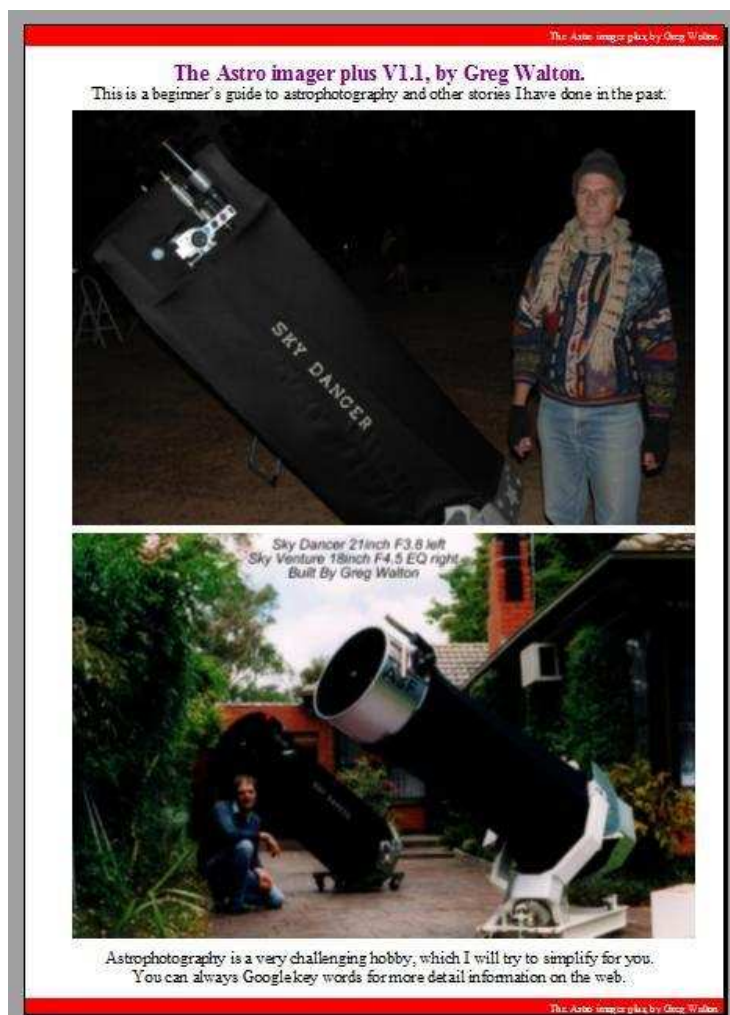


By hold this scale at arms length it will give you a rough measurement in degrees.

I have been writing a book on Astrophotography, The Astro imager plus V1.6, by Greg Walton
I have also added other story I have done in the past see index below.

1. Cover. Astro image Plus on face book <https://www.facebook.com/Astro-imager-Plus-621176208029929/timeline>
2. Index.
3. Were to begin?
4. How to use a DSLR for Astrophotography in brief.
5. How to use the DSLR camera with a telescope Part 1.
6. How to use the DSLR camera with a telescope part 2.
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8. Finding the South Pole constellation Octans.
9. To stack or not to stack.
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12. Editing your stacked images before saving them with DSS.
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15. Make your Video, Pictures and Audio files smaller with Medi-converter 2.5
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17. Editing photos with Actions and Batching in Photoshop, Part 2.
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30. What's gone wrong this time? Part 3
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34. Ice rings around the moon
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36. Taking photos of the Sun.
37. Solar Eclipse.
38. Taking photos of the sun with a DSLR and a PST.
39. The elusive Aurora.
40. Aurora part 2
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42. Comet Mc Naught.
43. Star trails with film.
44. Star trails with the DSLR.
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47. Bino-Chair.
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49. Drawing the Planets.
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51. The Barn door mounts. Part 2
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59. Sky Drover 18" Dobsonian Telescope. Part 2
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61. Sky Dancer 21" Dobsonian Telescope. Part 2
62. Sky Venture 18" Fork mount equatorial telescope.
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64. Sky Transformer.
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67. Video imaging part 2.
68. Video imaging part 3.
69. How to fitting a focal reduce field flattener and DSLR to an ED80.
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71. Regi-Stax.
72. Filters slider.
73. Microscope.
74. Which telescope should I buy?
75. How big and old is the universe?
76. Gravity to Gravifuel.

This is a beginner's guide to
astrophotography and other
stories I have done in the past.



The purpose of the book is to help people get into astrophotography, the book has evolved as I have solved problems, which I have in counted along the way, and then I write them down so others can get the benefit from this.

You can down load your free copy now. Just click on the link below.

Astro image plus - <https://gwmpas.wixsite.com/astroimagerplus>

Comparing an 8" & 12" telescope on the same object NGC5189

NGC5189 LMDSS 8"Newton AG Pentax K-x 8x30sec 6400iso By Greg Walton MPAS/ASV 13jun10 No editing



NGC5189 SPSP 12" Newton CC1 Pentax K-x 37x30sec iso12800 By Greg Walton MPAS/ASV 1apr11 edit

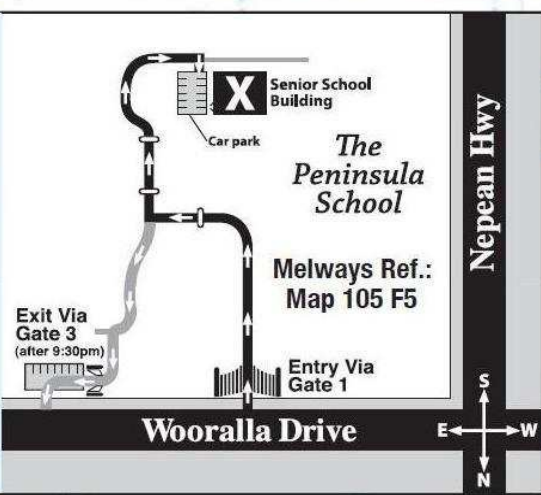
OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY

| | |
|---|--|
| <p>President: Peter Lowe Vice President: Brett Bajada Committee: Ian Sullivan, Trevor Hand, David Rolfe, Tony Coventry, Fiona Murray, Greg Walton. Phone Contact: Peter Skilton - 0419 253 252</p> | <p>Secretary: Peter Skilton Treasurer: Marty Rudd Public Officer: Rhonda Sawosz Web Master: Steven Mohr Scorpius Editor: Brett Bajada</p> |
|---|--|

GENERAL MEETINGS

Meeting Venue: The Peninsula School, Wooralla Drive, Mt. Eliza, (Melways ref. 105/F5) in the Senior School at 8pm, on the 3rd Wednesday of each month (except December).
 Entry is via the main gates or Gate 3, off Wooralla Drive. Exit is via Gate 3 Only after 9:30pm (see map).

For additional details:
 Internet: <http://www.mpas.asn.au>
 email: welcome@mpas.asn.au
 Phone: 0419 253 252
 Mail: P.O. Box 596, Frankston 3199, Victoria, Australia.



LIBRARY

The Society also has books and videos for loan from it's library, made available on most members nights at The Briars site, contact Fiona Murray.

E-SCORPIUS NEWSGROUP

M.P.A.S. main line of communication is the online newsgroup called E-Scorpius. Here you will be kept up to date with the latest M.P.A.S. news and event information as well as being able to join in discussions and ask questions with other members.

To join, go to: <http://groups.yahoo.com/group/e-scorpius> and sign up to Yahoo groups - You require to sign up to Yahoo groups to join E-Scorpius. Once you have signed up at Yahoo groups, email welcome@mpas.asn.au saying that you want to join E-Scorpius and you will be added to the E-Scorpius list.

VIEWING NIGHTS - MEMBERS ONLY

Any night, at The Briars, Nepean Hwy, Mt. Martha, starting at dusk.

Members visiting The Briars for the first time must contact Greg Walton on either 9773 0098 or 0415 172 503 if they need help in getting to the site. Upon arrival at the site, remember to sign the attendance book in the observatory building.

For additional details:
 Internet: <http://www.mpas.asn.au>
 email: welcome@mpas.asn.au
 Phone: 0419 253 252
 Mail: P.O. Box 596, Frankston 3199, Victoria, Australia.

