

# APM's

# doublet

**Damian Peach** reviews an imaging c

■ The smooth-operating focuser.

**T**he refracting telescope has long been held in high regard among amateur astronomers. Its simple and often maintenance-free design coupled with high contrast views has always made the refractor a popular choice among observers both novice and veteran. One major stumbling block however has always been their cost, especially in larger sizes of the apochromatic design that offers the ultimate in colour correction and image contrast. The APM 152mm ED apochromat seeks to provide a more affordable quality alternative by offering a top quality telescope at a price around half of what you would normally pay for such a telescope.

### In the box and initial set-up

The telescope comes supplied in a solid aluminium, foam-lined, transport case. This is solid and well-made and provides ample protection to the optical tube assembly. The telescope itself is a 152mm (six-inch)  $f/7.9$  apochromat with a doublet lens (not to be confused with the Super-ED doublet reviewed in the January issue and costing twice as much) using an ED glass element equivalent to FPL-51, complimented by a lanthanum-coated element. The telescope is also

supplied with a 2.5-inch focuser (which can be upgraded to a three-inch focuser as an option, and is solid and smooth with tension adjustments), CNC tube rings incorporating a carrying handle, a 330mm Losmandy mount dovetail plate and a 50mm finderscope and bracket. Two-inch and 1.25-inch eyepiece adapters are also supplied.

Because the telescope is supplied with a Losmandy-style dovetail plate you will need an adapter if you want to use it on mounts such as the popular EQ5, and for testing I used a HEQ-5 mount with a universal clamp fitting. This worked okay but the vibrations when focusing and during gusts of wind were rather excessive. For more serious observing and astrophotography you would really want a larger mount that could adequately support the telescope.

### Under the night sky

During the first night out under the stars I decided to spend some time testing the telescope from a purely visual perspective. Observations of test stars at high power revealed very similar diffraction patterns either side of focus, and stars focus sharply into small, textbook airy discs. False colour was very minimal and even on the brilliant blue/white star Vega (which is a tough test for any refractor in how well it corrects colour) only the very slightest hint of blue/violet was observed. I also tested the telescope on several double stars and it resolved all of them beautifully.

Jupiter was well placed in the evening skies so I spent a good while observing it. The view at 250 $\times$  was very sharp and well contrasted with plenty of fine structure visible within the belts and zones of the planet. The Jovian moons all appear as tiny discs of different sizes. The Moon was also present on a few evenings and the views of this were excellent; deep dark shadows along the lunar terminator were a testament to the telescope's high contrast and good baffling. The telescope also worked surprisingly well from a deep sky perspective. The lovely spiral galaxy NGC 2903 in Leo showed hints of structure and was contrasted against a lovely deep black sky with pinpoint stars.

During the time I had the telescope I also tested it as a platform for imaging. Alas weather thwarted any attempt on Jupiter but I wanted to get some idea of how well the telescope worked for high resolution imaging, since many will no doubt use it for this purpose. The Moon was well placed on one particular evening and I decided to test the APM 152 on it using a Lumenera SKYnyx CCD camera. I also used the telescope's 2.5-inch manual focuser to focus (which proved very challenging on the HEQ5) but its smooth motion helped. This would not be such an issue with the telescope placed on a sturdier mount.

Images delivered by the telescope were very crisp and the resolution

■ The APM152 ED set-up ready for observing.

# that doesn't cost the Earth

doublet from APM that is just half the price of APM's usual refractors, but delivers almost as much bang for your buck.

was good. I would usually consider six inches of aperture rather limiting as a telescope for high resolution work but the APM did a fine job and features such as small craterlets in Plato could be glimpsed during capture.

The Pierro Astro dispersion corrector and the APM coma-correcting 2.7× Barlow were also used throughout many of the observations. Both perform very well and a dispersion corrector is a worthwhile piece of equipment for both the visual and CCD observer. It was especially useful during an early morning view of Saturn where it completely corrected the colour fringing of dispersion to leave a lovely clean view at the eyepiece. Correction is fully adjustable and it works well once you get used to it.

This dispersion corrector, quite unlike competing units, is not supplied with any nosepiece; it is just threaded with T2 male/female threads at either end offering the user great flexibility in how to incorporate the device into their system. This is perhaps not the most convenient choice though since the vast majority of observers will simply want to slot the corrector into a 1.25-inch eyepiece holder. The design does offer greater flexibility of where and how you can mount the corrector in the imaging train but it should be noted that some will likely require additional 1.25-inch adapters to use it.

## Excellent Barlow

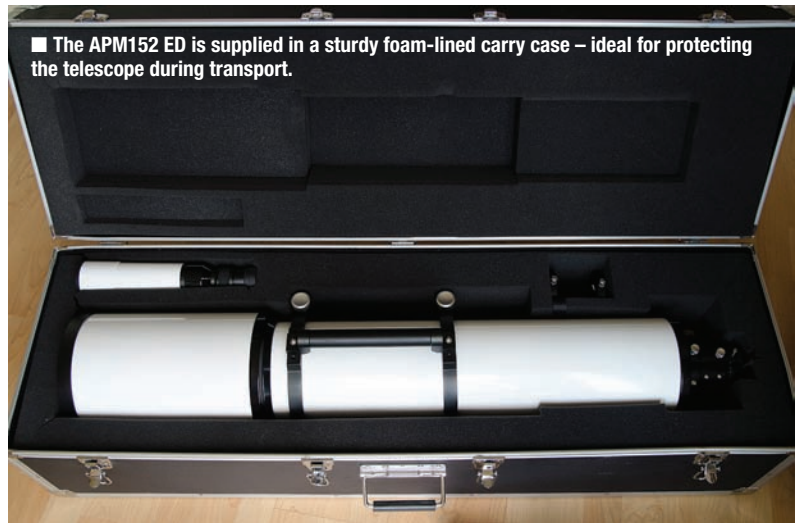
The 2.7× APM Barlow lens priced at £129 works extremely well. This is quite a flexible Barlow in that you can unscrew it and thread T2 accessories directly onto the back. Images through it were excellent and did not degrade the excellent performance of the telescope at all. This Barlow is actually designed to correct coma in Newtonians so I was wary that it could introduce coma into the field. This wasn't the case at all and stars remained sharp to almost the very edge of the field. It also offers a nice flat field image of 26mm which is great for APS-C size camera chips, should you wish to use a digital SLR with this Barlow.

## At a glance:

### APM 152ED apochromat

Aperture:	152mm (six inches)
Focal ratio:	f/7.9
Focal length:	1,200mm
Accessories:	2.5-inch focuser, retractable dew shield, CNC tune rings with Losmandy-style dovetail, 50mm finderscope, 2-inch and 1.25-inch eyepiece adapters and aluminium case
Tube weight:	7.5kg
Tube length:	1,075mm
Resolution:	0.76 arcseconds
Price:	£3,149
Details:	<a href="http://www.apm-telescopes.co.uk">www.apm-telescopes.co.uk</a>

Also see the January 2013 issue of *Astronomy Now* for a review of the APM 152 Super-ED doublet apo.



Overall the entire system worked really well. Any niggles are fairly minor. The telescope itself is excellent and is worth a serious look by anyone searching for a high quality six-inch refractor or a telescope to serve as a great all-round instrument. At £3,149 it is expensive, but you get 95 percent of the performance of a refractor costing twice this price. Although I did not test the telescope for deep sky imaging a reducer is available to take the focal length down to just 900mm, which would make for a great deep sky instrument.

The Pierro Astro Dispersion corrector works really well but I can't help feel that the choice of simply supplying it with threads will please some and not others. Given competing models are useable straight out of the box, possibly needing to purchase additional adapters could prove frustrating, but these are of course widely and easily available.

*Damian Peach is a world renowned astrophotographer. See his work at [www.damianpeach.com](http://www.damianpeach.com).*

▼ Craters Clavius and Maginus captured on an evening of pretty good conditions using the APM152. Many minor features are resolved and the telescope performed extremely well for imaging such targets. Image: Damian Peach.

