

Celestron's Advanced VX

Can cutting edge technology on Celestron's top-of-the-range telescopes get the inexperienced imager off to the best possible start? **Damian Peach** finds out.

The 200mm (eight inches) Schmidt–Cassegrain telescope (SCT) has long been a mainstay of amateur astronomy. Its compact and versatile design has made it popular the world over and telescope manufacturer Celestron have been one of the pioneers in making the SCT design so popular. The Advanced VX 200mm EdgeHD reviewed here is marketed as “the ultimate entry-level astro-imaging package.” So how does it live up to its impressive billing?

Vital stats and initial set-up

The C8 Edge HD is part of Celestron's ‘top end’ Schmidt–Cassegrain telescopes. Unlike the standard design, these offer a much larger diffraction-limited field-of-view than normal SCTs, meaning nice sharp stars across the large CCD chips found in many modern cameras. This flat field is achieved through a lens system contained within the telescope baffle tube and apertures up to 360mm (14 inches) are available.

The VX mount is a new to the market, mid-range German equatorial mounting that is also fully computerised. Amongst its many features it offers features such as auto guiding capability, periodic error correction and a wide-ranging database of objects to name but a few.

The telescope was delivered in a few large, well-padded boxes. Unpacking and set-up was fairly straightforward and took around 20 minutes. Overall my first impressions were good. The mount itself seemed very solid and the OTA (optical telescope assembly; i.e. the telescope tube) well made. The mount certainly looked far from overloaded with the small 200mm OTA attached and, as luck would have it, skies were clear for a few nights shortly following delivery allowing me to thoroughly test the telescope on a wide range of targets.

▼ The telescope set-up and ready to go. The whole telescope only weighs around 27 kilograms, meaning it is very easy to move around if need be. This is also good news if you want to use the telescope on a portable basis. **All images: Damian Peach.**

One thing that became immediately apparent is that only a 12v cigarette lighter cable is supplied to power the mount. Luckily I happened to have a spare 12v mains power adapter to hand that I used to power the telescope from my back garden. I left the telescope outside cooling during the early evening before venturing out to see how the system performed under the night sky.

Under the stars

I had roughly positioned the mount to point at Polaris during the day (using a compass) so I was quickly able to begin. Upon powering up the mount you have to enter various details such as date, time, latitude and longitude. Once completed you can select your alignment method, with my preference being to polar-align the mount. This involved slewing to a few stars and then manually adjusting the mount itself to centre the stars. This took around 10 minutes and yielded a pretty accurate level of polar alignment. The system works well and was easily accurate enough to achieve unguided

30 second exposures using a DSLR attached to the telescope.

Once alignment was completed I then carefully collimated the C8 Edge HD. The secondary mirror is the only means of adjustment, as is normally the case with SCTs. A small screwdriver is used to tweak the screws to achieve alignment. Ten minutes later and the telescope was ready for me to begin using.

I was really impressed with the C8 Edge HD optical tube. Star testing with it was very good indeed with only a slight under correction, a facet typical of most SCTs, but the optics were very smooth with lovely, well-defined diffraction patterns on either side of focus. Stars at high power appeared as textbook-perfect airy discs with no detectable astigmatism or other optical problems. In fact, optically this tube assembly is among the best SCTs I have looked through – and I have looked through a lot!

Jupiter displayed a wealth of fine detail within its cloud belts during periods of good seeing. The Jovian moons all appearing as distinctly

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▼ Jupiter obtained using the telescope. A wealth of detail can be seen across the planet despite only average seeing conditions.



EdgeHD telescope



▲ NGC 891 in Andromeda, using the telescope at f/7 via a focal reducer. No flat-field or dark frames have been applied. Exposures were 30 x 30 seconds at ISO 1600 using a Canon 1100D camera.

different sized discs and of differing colours. I also viewed several challenging double stars and various deep sky objects. Visually it performed beautifully on all subjects. The mount also slewed to and centred all objects easily, but this system is marketed as an astro-imaging package, so how would it fair in this context?

I decided to test the system out first while imaging a bright deep sky target. I attached a Canon 1100D camera to the back of the telescope and also used an f/7 focal reducer, similarly supplied by Celestron, to achieve a slightly larger field-of-view. I decided to shoot the edge-on spiral galaxy NGC 891 in Andromeda, which was located almost overhead, using unguided 30 second exposures. It is also worth noting that these telescopes can also be used as an f/2 astrograph by removing the

secondary mirror assembly, but I did not attempt to do this.

During the 15 minutes total exposure time nearly all the frames were sharp with only a couple discarded because of tracking errors. This is pretty impressive really for only a rough polar alignment and no guiding at all. I should also mention that the mount itself slewed to and placed NGC 891 close to the centre of the camera chip.

Next up I switched configurations and imaged Jupiter, high in the east. For this task I employed my typical RGB filter system that I use on my own large telescope and my ASI120MM camera. Seeing was fairly reasonable and plenty of detail could be seen on screen. Most notable however was that I focused the telescope manually using the focus knob. Only a very slight wobble was

induced while focusing, which is a real testament to how stable it was on the VX mount.

Thoughts and conclusions

I was very impressed with this system. The C8 Edge HD is a superb optical tube if this sample is typical of the series and optically it was very good indeed. Grips with the OTA are minor. The lens cap has a rather frustrating interlocking design that can be a bit of a nightmare when trying to replace in the dark. I had to use a torch every time to do this. The standard slip on design is far superior.

The VX mount is also impressive and really nicely put together. It is easy to get to grips with and far more sturdy and robust than it looks. With the C8 Edge HD onboard it was an extremely stable system and I suspect this mount would easily carry a larger 235mm (9.25 inch) OTA with ease. Again, niggles were minor, the main one without question being a 12v mains adapter not being supplied as standard – only the cigarette lighter plug. Given most people will want to use their telescope in the comfort of their own garden this is quite an unfathomable oversight.

Overall though this is a really nice system that could provide many years of both viewing and imaging pleasure. It is also incredibly user-friendly and I actually found myself constantly going back to it, despite having a much larger telescope on hand to use. Be your interest planets or deep sky, you will not go far wrong with the VX Edge HD.

Damian Peach is a world-renowned astrophotographer. Visit his website at www.damianpeach.com.



At a glance

OTA

Aperture:	203mm (eight inches)
Focal length:	2,032mm
Focal ratio:	f/10
Weight:	5.9kg (13lbs)
Accessories:	9 x 50 finderscope, 40mm, 51x eyepiece, counterweight
Features:	Fastar compatible

VX mount

Weight:	7.71kg (17lbs) plus 8.16kg (18lbs) tripod
Features:	Hand controller database of 40,000+ objects
Power:	12v power supply
Price:	£1,479
Details:	www.celestron.uk.com