

Imaging Issues

Question:

(A member setting up an imaging facility involving a small, short focal ratio refractor on an EQ6 mount wrote as follows)

My first problem is tracking. I am attempting to use Software Bisque's The Sky X to control my EQ6 mount. Whereas before I used the handset to do this, I am attempting to align the scope with the handset in PC Direct mode, which theoretically links it to the laptop as well. I am aligning the mount as Software Bisque suggests by aligning the alignment star with the handset then synchronising the same star in The Sky. This has turned out to be a very hit and miss affair and the star invariably drifts out of the FOV. The problem doesn't exist at Holmbury because just the handset is used, I think. Is there a better method that you can suggest?

My other problem is focusing. It's the first time that I have attempted to focus using the SXH694. In anticipation of the 'can of worms' I was going to meet I bought Focus Max, but should have got a PhD first. Again, any suggestions that will make the process just a bit easier.

Reply:

I think...no, I'm absolutely sure, that you're over-complicating things. Here's what I'd advise.

For the time being, forget about hooking the scope to the computer and controlling it through The Sky. Also, for the time being, forget about electronic focusing. Both of these are non-essentials and, for what it's worth, I've never bothered with either. Among my very experienced imaging friends, some use one, other or both but plenty don't use either. When you're starting out imaging with a small refractor from the 'backyard', they're just an unnecessary complication.

Pointing

The pointing behaviour you describe is strongly suggestive of poor polar alignment. So, that's the first thing to check and sort out. You should carry out a 'drift alignment' on the EQ. There are plenty of resources online telling you how. It's a little tedious, but it's essential and well worth the hour or two it will take.

Even with OK polar alignment, you're asking too much of the EQ to point accurately to different parts of the sky using just a 1-star procedure (unless that star is really close to the object you want to point at e.g. Vega and M57, etc). So, use the 3-star option.

Even then (since it's an EQ not a Paramount) you'll need to tweak the target's position on the chip more often than not. Do this by steering using the handset on a low speed setting while watching the movement of the object (or more likely brighter stars in the field) on screen while in focus mode in MaxIm. In focus mode because this gives you a real time string of short exposures, so you can watch progress as you steer. Brighter stars because with the short exposures used in focus mode you might not be able to see the object itself. (The reference in this context to 'focus mode' has nothing at all to do with the actual focusing, by the way.)

Focusing

With a small scope like the one you're using there is no point at this stage in using electronic focusing - unless you just like technology for its own sake ;>) Use the focusing field in Maxim and simply watch the FWHM figures as you twiddle the fine focus on the scope. The figures will fluctuate, reflecting the seeing. Settle for the lowest FWHM figure that you can achieve. As the temperature and seeing change through the night or whenever you swap filters (even though they may be sold as par-focal), you should repeat this. I am very fussy about sharpness etc and have never had any trouble getting sharp focus by this method. No skill is involved, just a little bit of practice. And it doesn't depend on eyesight - you're not evaluating an image, you're just watching the figures.

I hope this helps. The mantra is: 'Simplify, simplify ...' :)

John Evans FRAS

GAS Ask an Astronomer