

Re: Serious camera question – what it boils down to?

Source: <http://sci.tech–archive.net/Archive/sci.astro.amateur/2005–10/msg00753.html>

- *From:* "David Nakamoto" <res07oeg@xxxxxxxxxxxx>
 - *Date:* Sun, 09 Oct 2005 18:55:47 GMT
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Hi everyone !

In my opinion, it boils down to three things. The first thing is that at the current time one still needs a steady, rock–solid mount with minimum periodic error that's visible in the telescope/camera setup you're using, learning to accurately align everything, and a lot of patience. Learning image processing is a must also, but since this can be done in the "safety" of one's heated office in a comfortable chair, I don't count this part of the business (haha!) but it is necessary.

The second thing it boils down to is that you need to learn, through this newsgroup, web sits, and books, how to do imaging. It's more than just the equipment, although that's important, because as far as planets are concerned you still need reasonably good tracking coupled with high magnifications, and as far as deep sky is concerned you need rock–steady tracking and lots of sensitivity on your pixels, among other things. But learning how to process images is just as important, so you learn what you need to do when you take the original images, and learn what you can and can't get away with. among other things.

The third thing it boils down to is that right now there seems (to me) to be three things developing; (1) webcams for planets, and high resolution images of the Moon and Sun, (2) dedicated cooled CCD cameras for deep sky, and (3) DSLRs that act as good introduction to imaging, takes great wide field images, and prove good on the brighter DSOs.

Part of the DSI technology might make things easier in the future, especially that feature that gets rid of tracking errors. I'm certainly keeping my fingers crossed ! I think the DSI is certainly worth checking into; it should generate great webcam type images, and good images of most DSOs amateurs think about. I'm not sure about the Pro; those expose filters make me cringe. Didn't Meade do their research, or were they simply "going their own way for its own sake?"

Sincerely,
--- Dave
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Pinprick holes in a colorless sky

Re: Serious camera question – what it boils down to?

Let inspired figures of light pass by
The Mighty Light of ten thousand suns
Challenges infinity, and is soon gone

david.nakamoto@xxxxxxxxxxx

"Stephen Paul" <smarshallpaul@xxxxxxxxxxx> wrote in message

news:T5adnbOIOsySttTeRVn-iO@xxxxxxxxxxxxxxxxxxx

- > If you're just experimenting, the 300D can be had for around \$500 on Astromart
- > if you keep your eyes peeled.
- >
- > This is how I got started on the road to a G-11 setup, but the Vixen GP with
- > beefed up tripod. the Vixen GP-DX, the GM-8, or the Advanced Series CG-5 with
- > an F4 or F5 scope can give good 30 second to one minute frames for stacking.
- >
- > In general, and in my limited experience, if the mount is tracking challenged,
- > then you want to first consider F-speed to keep the exposure times to a
- > minimum, then get the aperture you need to make the focal length you want.
- >
- > If your mount is not tracking challenged, or you have an auto-guider, then you
- > want to first consider the focal length to get the image scale/resolution that
- > you want, then increase the F-speed to minimize exposure time, while not
- > taxing the mount with an overly large OTA.
- >
- > For the DSLR, there is no doubt that short bursts (under 5 minute subframes)
- > of 10 to 20 frames, is better than one long exposure, because there's no
- > cooling of the CMOS sensor, (F4 to F5 seems best).
- >
- > IMO, an excellent inexpensive beginning imagers setup, is the Celestron
- > Advanced Series 8N with a 300D Rebel. Without Bulb mode, the camera is limited
- > to a 30second exposure. This turns out to be plenty for subframes of M42 in
- > the 8" F5 scope, and should avoid the PE of the mount for at least several
- > frames.
- >
- > The latter point is important to keep in mind. PE is not necessarily a
- > constantly changing animal, but rather comes in bursts. This means that some
- > frames may be useless, but not all of them. Thanks to the technology, you
- > simply toss the ones that you don't want, and keep the rest.
- >
- > What I do is use a modified TC-80N3 controller for the Rebel. This allows me
- > to program the camera to take as many images as I want, with a timed interval
- > using bulb mode (timed) exposures for as long as I want them to be. I get all
- > setup, take a few 1 minute images to check for gross tracking error (which at
- > this timing is most likely polar alignment error), and then once satisfied,
- > program the controller to take 10 to 20 images with a 30 second sleep between.
- >
- > As Uncle Bob points out, the real challenge in the beginning is drift
- > alignment. And, as William Mattil pointed out, this is about an hour long
- > process to get it exact. Fortunately, for those 30 second frames of M42, drift
- > alignment may not be necessary, provided you have aligned your polar alignment

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> scope, and learn how to use it.
>
> Of the three PAS's I've used to date (Celestron, Vixen, and Losmandy), the
> Vixen has proven to be the most accurate, once properly aligned, and the
> process of using it understood.
>
> I've yet to master the G-11 PAS, and I've begun to suspect that it's out of
> alignment. The Vixen on the other hand was so snug in the bore, that it seems
> it is cemented in there, and once aligned, it held seemingly forever, with
> excellent results.
>
> To align the PAS, you aim it at a distant object and then rotate the RA axis
> while making adjustments to keep the object dead center in the scope. I have
> to do this with the G-11, and in fact, there's no time like the present (I
> think I'll do it today). I'm not a big fan of spending an hour to drift align
> the scope, and objects such as globs, opens, and the four brightest nebula I
> know of (M42, M8, M20, and M17) don't require super long exposures in a fast
> scope.
>
> Enjoy the experience of learning. Whether you succeed, fail, or simply don't
> want to make the committment (and it takes committment) in the long run, it is
> still a blast to try.
>
>
> "Doink" <skyman102a@xxxxxxx> wrote in message
> news:14-dnRkJ08BbNNXeRVn-gQ@xxxxxxxxxxxxxxxx
>> Thanks Dave.
>>
>> Mostly I want good lunar shots. I have an LPI and it works. It's not been a
>> great planetary camera though---but I haven't given it a fair chance. I want
>> to shoot some DSOs---not super difficult stuff but maybe Orion Nebula,
>> Andromeda---top 10 stuff. I don't want to get into 3 hour exposures.
>>
>> Doink
>>
>>
>> "David Nakamoto" <res07oeg@xxxxxxxxxxxx> wrote in message
>> [news:xM12f.16039\\$A52.13022@xxxxxxxxxxxx](mailto:news:xM12f.16039$A52.13022@xxxxxxxxxxxx)
>>> Depends on what you want to do.
>>>
>>> Deep sky ability I'll leave to others to discuss. My personal preference is
>>> a dedicated cooled CCD camera.
>>>
>>> Planets I prefer webcam technology, and the DSI certainly fits the bill.
>>> Hundreds of images have to be collected, selected, stacked, and filtered in
>>> order to get decent results. Webcameras generating AVIs and running them
>>> through Registax or similar software does this nicely. Hard to replicate
>>> this using DSLR technology.
>>>
>>> If tracking is an issue then the IDS might cure some of your scope's ills. A
>>> DSLR won't.

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◇ *From:* David Nakamoto

◆ ***Re: Serious camera question***

◇ *From:* Doink

◆ ***Re: Serious camera question***

◇ *From:* Stephen Paul

- Prev by Date: ***Re: Scopes that I have owned. Add your list after mine!***
- Next by Date: ***Re: GEM Questions***
- Previous by thread: ***Re: Serious camera question***
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