

SharpCap Planetary Livestack Demo

hi all,

This winter I have begun utilizing SharpCap's "Planetary Livestack" tool, with decent results that I've been sharing. During my last observing session, I took screenshots of the SharpCap planetary livestack process to show how fairly easy it is to use. (if you have experience using RegiStax, the SharpCap tool is similar).

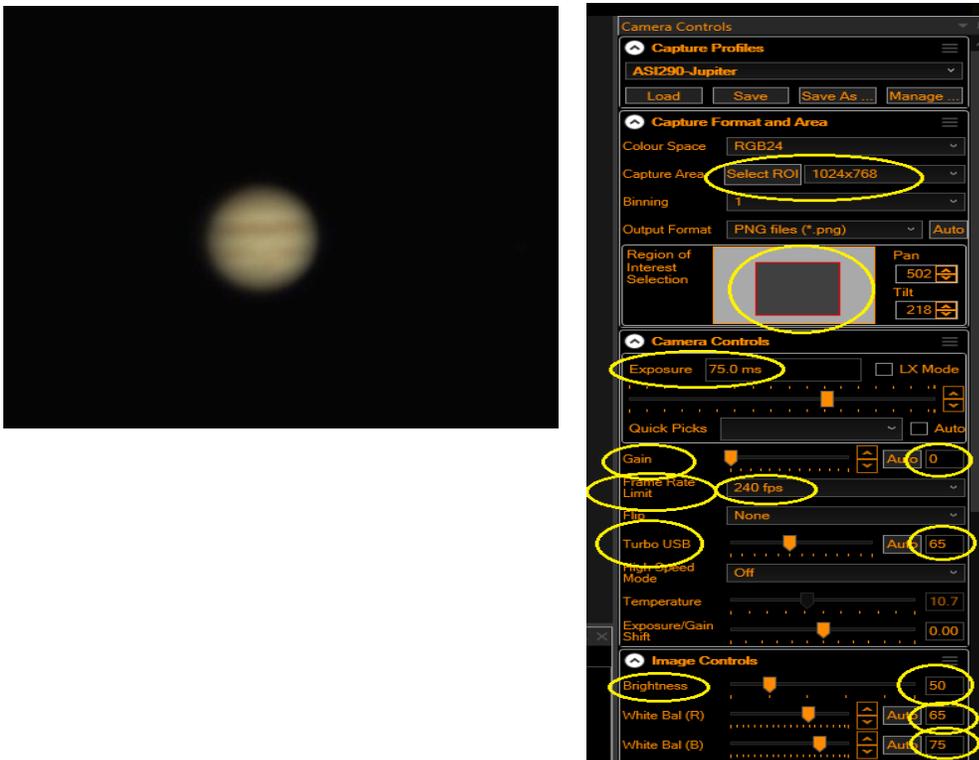
This isn't meant to be a general use SharpCap tutorial, so I am assuming that those reading this already know how to utilize SharpCap with their camera in doing imaging or EAA.

The first step in planetary livestacking is achieving as fine of camera focus that you possibly can.

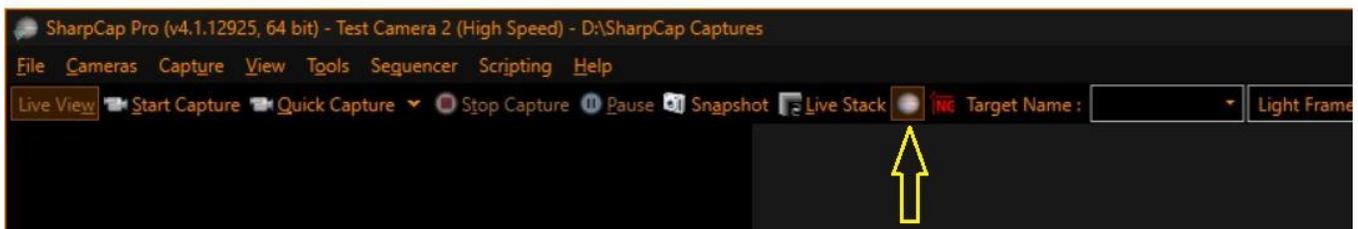
I would recommend slewing to a bright star near the planet and using a focus mask. Then slew to the target planet and center.

Step 2 is to Adjust the camera exposure, gain, brightness balances to display the best image possible. Also reduce the camera ROI to minimize black space and try different frame rate and Turbo USB settings. This helps reduce the CPU/memory effort that will be required for stacking frames and help prevent dropped frames.

The resulting display will look something like this:



Step 3 is to then activate the Planetary Livestack function. You do this by clicking the 'planet' icon on the command bar. This is where the fun begins!



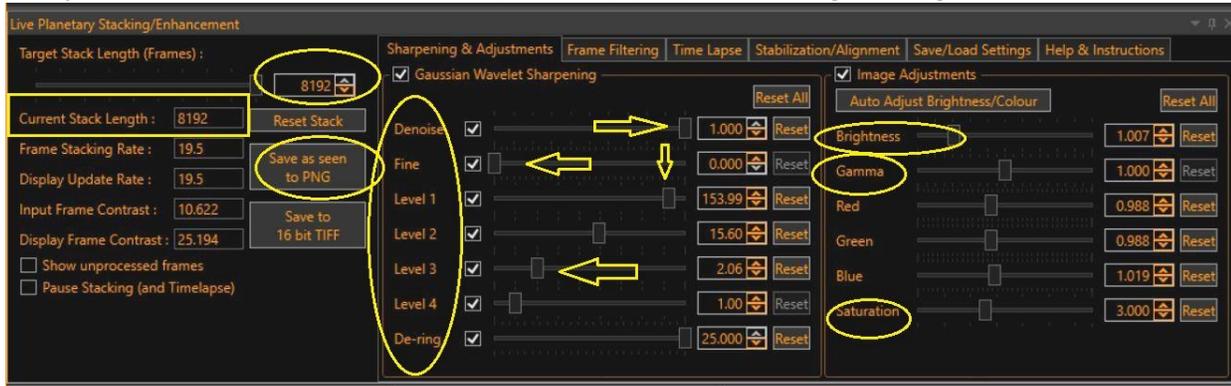
The tool will immediately open in the bottom of the window and begin livestacking.

Here's an example screenshot of how it would look:



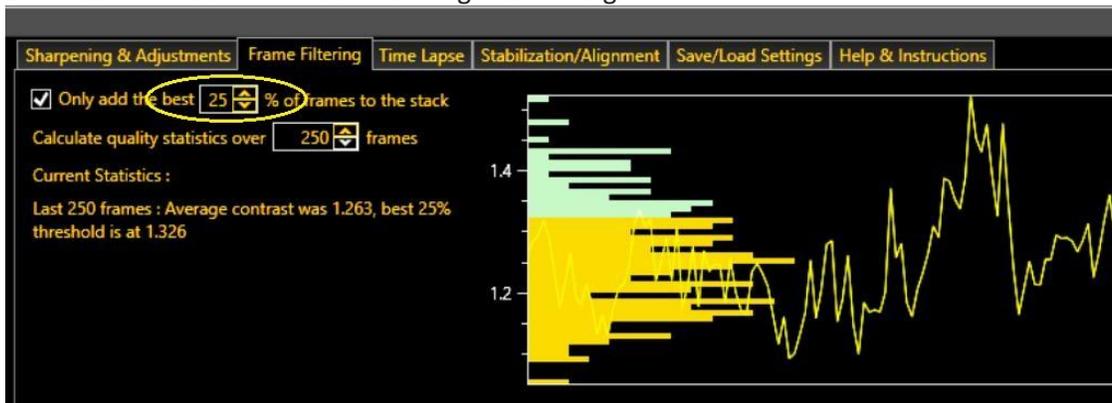
Now this is more of a 'finished' view, initially starting off it will look rougher. You will need to tweak the various tab settings to enhance and improve the image:

Starting with the first tab – “Sharpening & Adjustments, set the target stack to how many you want. Then begin to adjust the various sliders: denoise, fine, level 1,2,3, etc, and the brightness, gamma, saturation sliders.



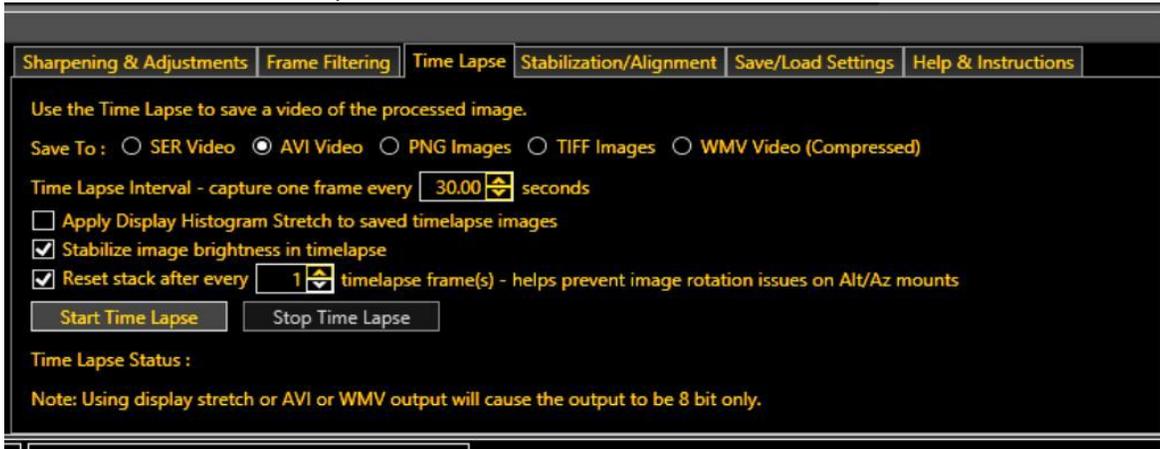
If you don't like the results, hit the individual reset buttons or the reset all. You can also reset the entire stack. Once you have stacked the desired number of frames (I'd recommend starting off with 500 to 800, then increasing as the sky seeing allows up to 8192 max), just click the “Save as seen” button and you are done.

Let's take a look at the “Frame Filtering” tab settings:



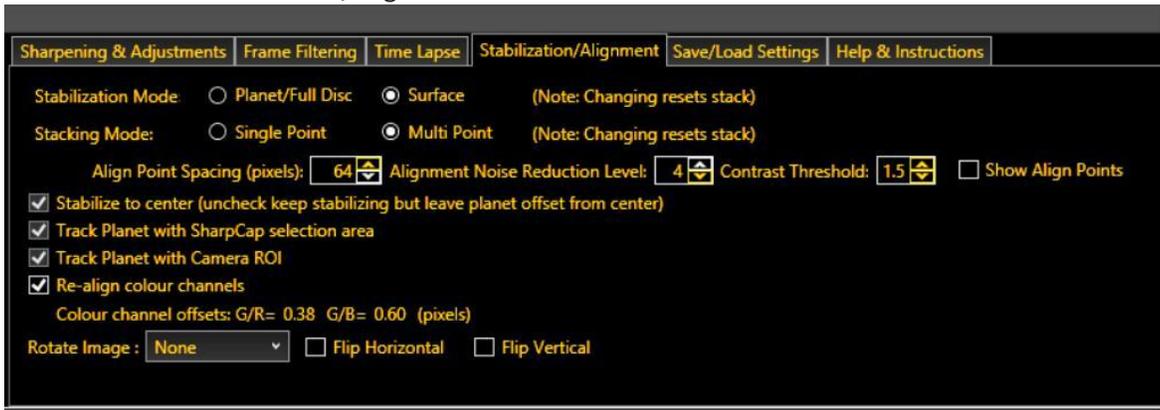
Your main setting here is the 'best % of frames to stack'. The lower the number, the better the quality.

The next tab is the “Time Lapse”:



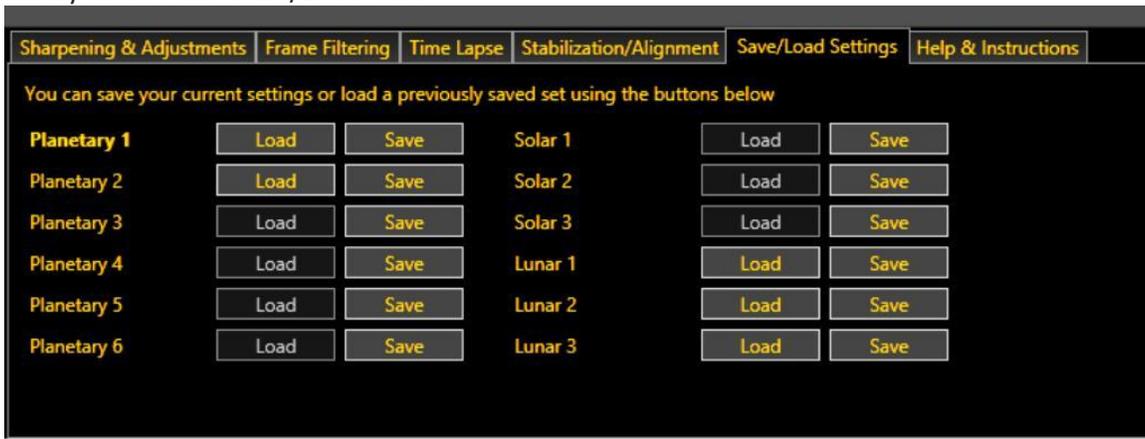
I tried using this function, but the Meade 8” SCT is slightly off in polar alignment so it doesn’t track very well, plus I currently don’t have a guider installed on that scope. This led to a jumpy video, which I ended up not keeping. But it was a good test session as I can see how easy it would be to make a timelapse showing planetary rotation, if you can keep the planet centered.

The next tab is “Stabilization/Alignment”:



Lots of options here, I suggest taking time to try them all.

Finally there’s the “Save/Load” tab:



This lets you save your stacking settings for reuse. I just wish the app allowed you to name them.

And there’s the “Help & instructions” tab that’s always good to review.

Again, while you can get pretty awesome looking results right from the get-go, you should expect to spend multiple sessions experimenting with the various stacking settings. Then you’ll start to achieve really interesting results like these below Jupiter and Mars planetary livestacks:



75 millisecond exposure, ~800 frames stacked, Camera ROI = 1024x768, cropped. Using my backyard observatory's Meade 8" LX200GPS SCT @ f10 on a fork wedge mount & pier with an ASI290MC camera & IR filter.



16 millisecond exposure, ~800 frames stacked, Camera ROI = 320x240, cropped. Using my backyard observatory's Meade 8" LX200GPS SCT @ f10 on a fork wedge mount & pier with an ASI290MC camera & IR filter.

Or the Moon:



So if you already use Sharpcap, why not give Planetary Livestacking a try?
I think you'll love it!
Larry