



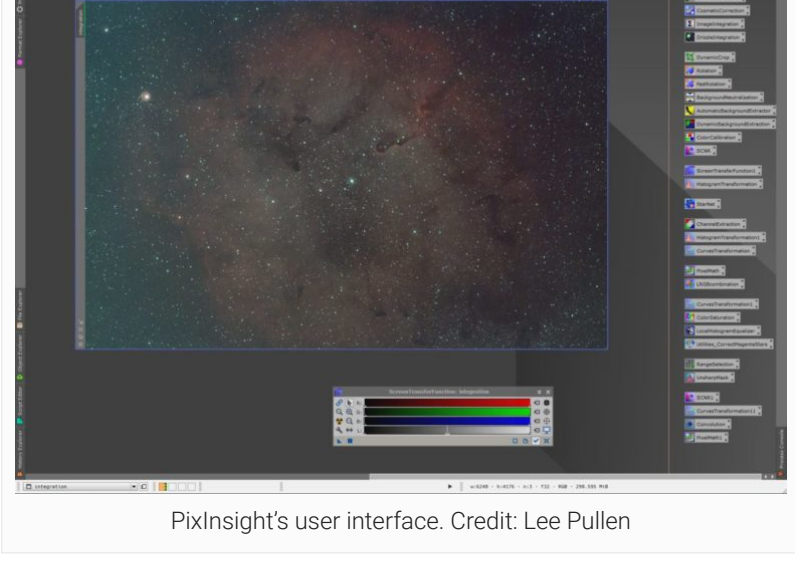
## PixInsight Review: A Professional Approach to Image Processing

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By: **Lee Pullen** Published: Feb 02, 2022



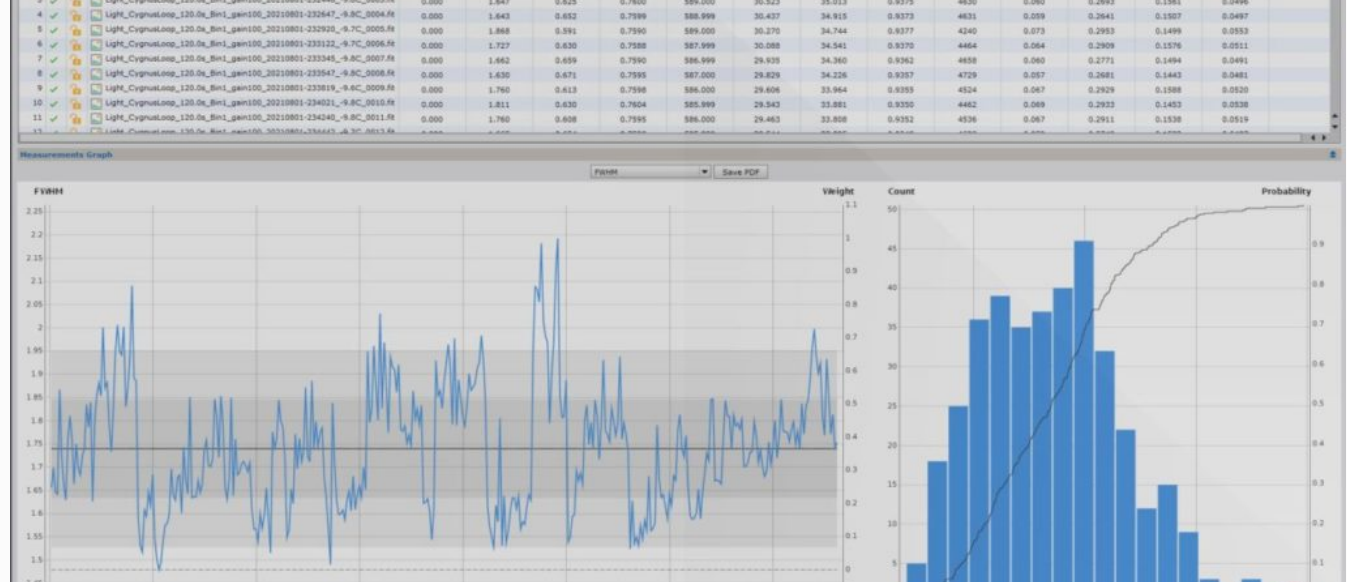
Image processing is key to successful astrophotography. Just as you need the right tools for taking pictures, such as a good telescope and camera, the same is true with processing software. Reviewed here is **Pleades Astrophot's PixInsight**, which is incredibly powerful, but difficult to learn.



PixInsight's user interface. Credit: Lee Pullen

### A complete package

PixInsight offers a complete package for editing your astrophotos. Its core approach could be described as methodical and mathematical. This is aptly demonstrated by SubframeSelector, one of the first functions used in a processing project. SubframeSelector analyzes the subframes you've taken and grades them based on criteria you select, such as star sharpness (FWHM measurements) or number of stars visible. In this way you can graph the quality of your data and be sure only the best goes into your stack – a much more reliable approach than making estimates by eye.



The SubframeSelector in action, graphing the quality of subframes prior to integration. Credit: Lee Pullen

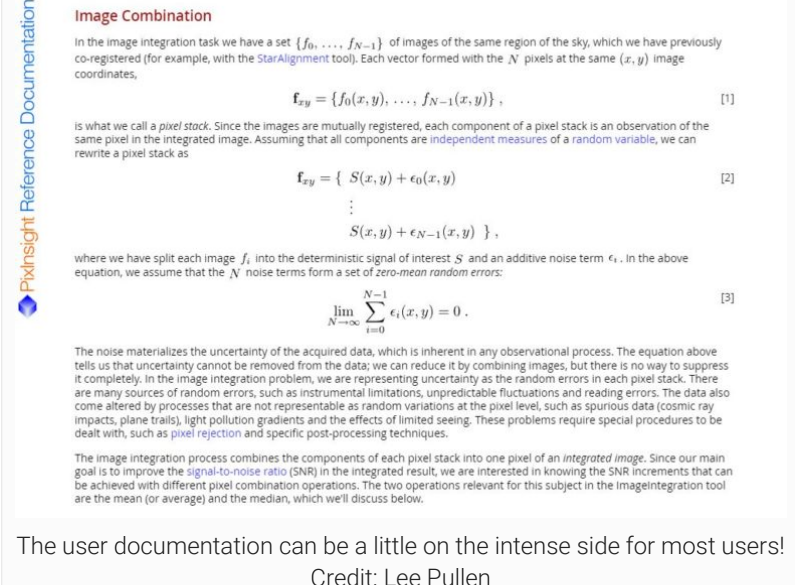
PixInsight has yet more excellent pre-processing steps, with its new NormalizeScaleGradient being worthy of particular praise. This is very effective at removing gradients from your images, meaning that, for example, a new lease on life is given to subframes shot under heavy moonlight.

Once you have used PixInsight to integrate your image, you can begin processing: slow and steady, one step at a time. There are so many functions available to edit your photos that it's dizzying, but my advice to newcomers is not to be put off. Most functions work very well using their default options, and you can produce stunning images using around a dozen or so steps. Thought of like that, it becomes much more manageable. You could spend a lifetime mastering PixInsight's intricacies, but you certainly don't need to.

Although every feature you need is available within PixInsight, it's possible to incorporate other software packages into your workflow to utilise their best aspects. For example, I like to use Adobe Photoshop's clone function, which I find better than PixInsight's equivalent. I also often use Topaz DeNoise AI for noise reduction, and Adobe Lightroom for final tweaks. The process of using other pieces of software is a little clunky though: save your PixInsight work-in-progress as a standalone image file, probably TIFF, then import into whatever other software you're using, essentially treating it as a new image. When you're done, save it again and reimport into PixInsight. Not exactly efficient, but it does work.

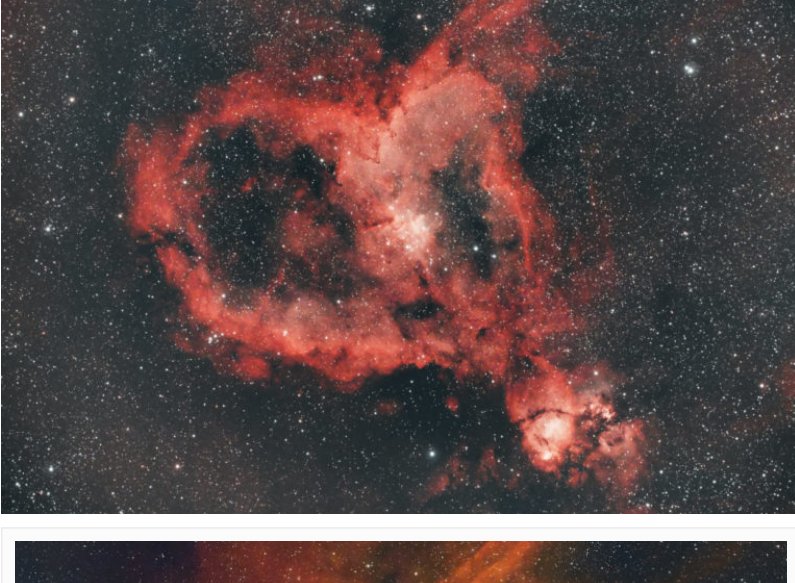
### Steep learning curve

The main criticism that can be levelled at PixInsight is that it's undeniably difficult for new users to get a grasp of. The initial learning curve is very steep, and at first it's a real scramble coming to grips with the basics just so you can produce a pleasing image. The reference documentation is intimidating, to say the least, aimed more at those who want detailed technical information than casual users. PixInsight is also regularly updated, which overall is good, but does mean that online tutorials are often out of date.



The user documentation can be a little on the intense side for most users! Credit: Lee Pullen

The good news is that if you can stick with that steep climb, the view at the top is worth it! With the basics under your belt, the real power of PixInsight becomes evident. Each time you process an image you learn a little more, and it's rewarding to reprocess old data using new skills, producing ever-better end results.



Same data, different result. The top image was the author's first attempt at using PixInsight. Below is another try a month later. Credit: Lee Pullen

### Alternatives

There's no shortage of processing software options. Each one takes a slightly different approach, and they're all capable of being used to produce excellent images. The trick is to try as many as possible and find which one best "clicks" with you. Many have free trials, including PixInsight. The following is not an exhaustive list, but may be useful as a starting point:

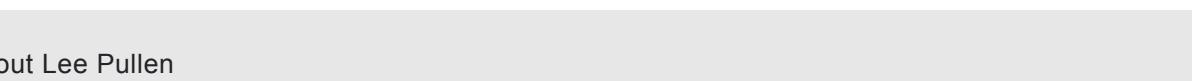
- **DeepSkyStacker** (free) is basic software for subframe grading and integration.
- **StarTools** (MSRP \$45-55) has a slick interface that aims to be user-friendly, while the software takes a mathematical approach in the background to preserve signal.
- **Adobe Photoshop** (MSRP \$9.99 per month as part of the Photography Plan) is ubiquitous software versatile enough that it can be used effectively for Astro-image processing.
- **Astro Pixel Processor** (MSRP \$81 for a one-year licence, or \$224 for perpetual) is a comprehensive package, complete with effective subframe stacking.
- **Siril** is free software that could be a good option for astrophotographers on a tight budget.

**Plus:**  
Very powerful  
Complete processing package

**Minus:**  
Steep learning curve  
More expensive than some alternatives

**MSRP:** \$260  
**Website:** <https://pixinsight.com/>

Read more in *Urban Astrophotography's PixInsight Review*.



**About Lee Pullen**

<http://urbanastrophotography.com>

Lee Pullen is a science writer and communicator from the city of Bristol, UK. He has a degree in Astronomy and a master's in Science Communication. He began his career writing for organisations including the Hubble European Space Agency Information Centre and the European Southern Observatory, as well as becoming Staff Writer for the International Year of Astronomy 2009, the world's largest ever science outreach initiative. Lee runs the website UrbanAstrophotography.com

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