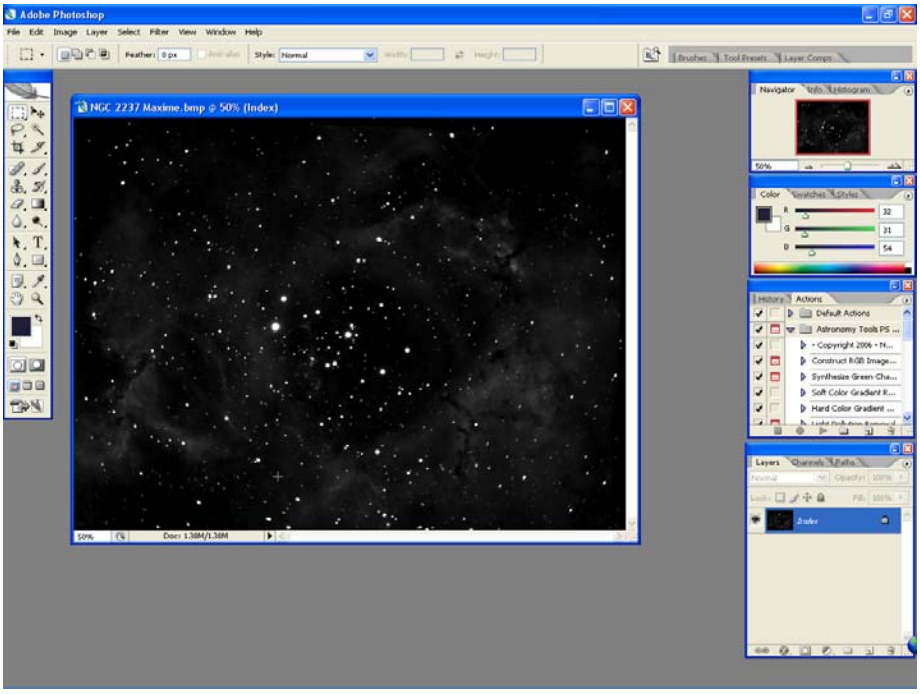
USING PHOTOSHOP IS ASTROPHOTOGRAPHY

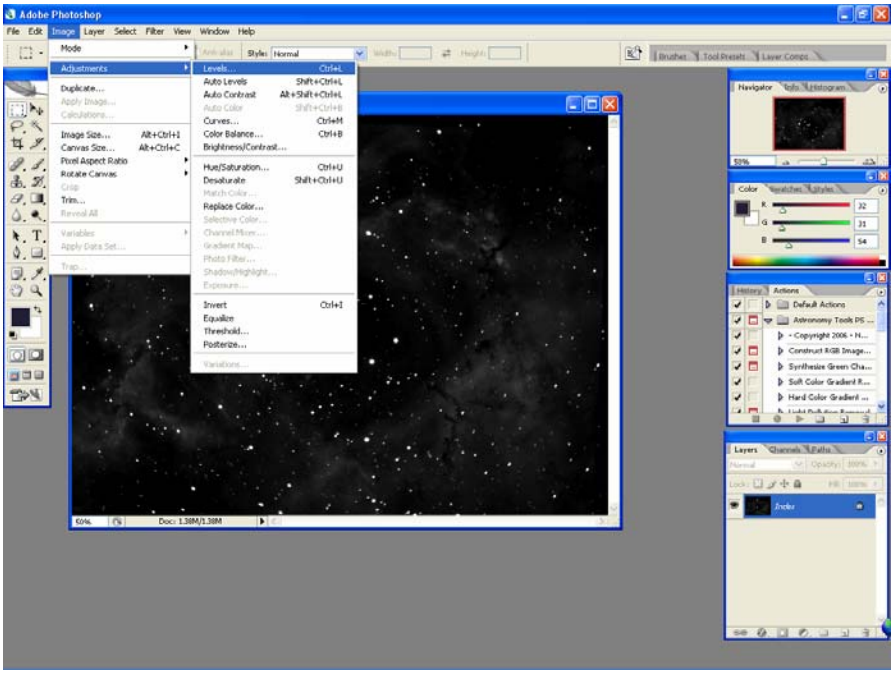
Here is a quick guide for the processing of my astro photos. I am by no means and expert but this process since to work fine for me.

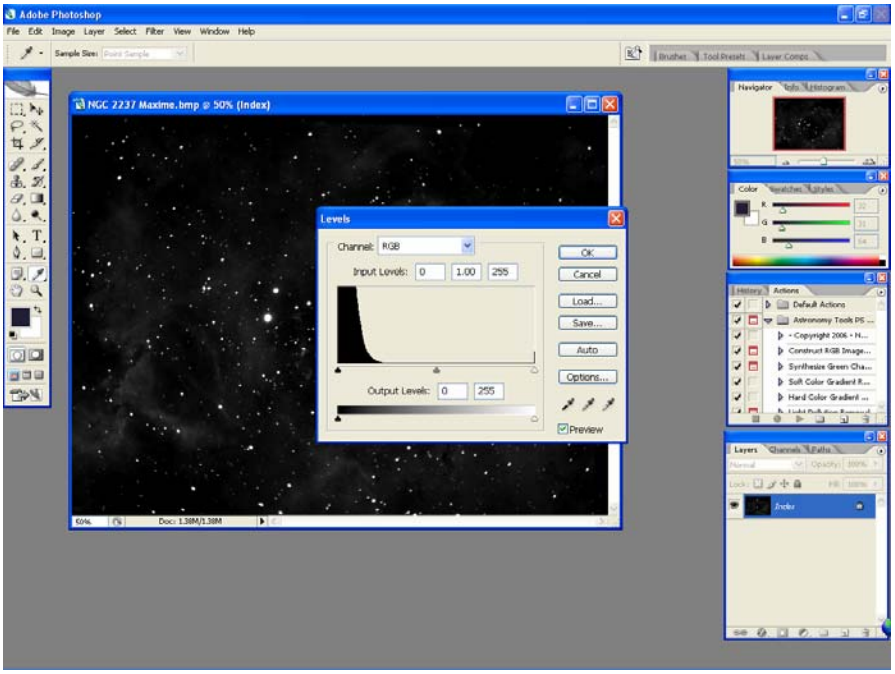
Importing the picture in Photoshop.
To stack my pictures I use Maxim DL or Registax depending of what pictures I have taken. I always use Registax for my planetary or lunar work and Maxim for deep sky object.
When using Registax to save my planetary or lunar work I use BMP file.
When using Maxim to save deep sky object I use FITS file format. For Photoshop to open FITS files I downloaded FITS LIBERATOR from NASA.
http://www.spacetelescope.org/projects/fits_liberator/download_v21.html Follow the instructions to install the software. Once installed Photoshop will be able to open FITS file. It is worth noting that once the files have been open in Photoshop they cannot be save in the FITS format and you must use one of the format offered in Photoshop according to your preference.

First Step. Levels
This is a picture of NGC 2237 (Rosette nebula) imported from Maxim. Very little detail is visible in the picture.

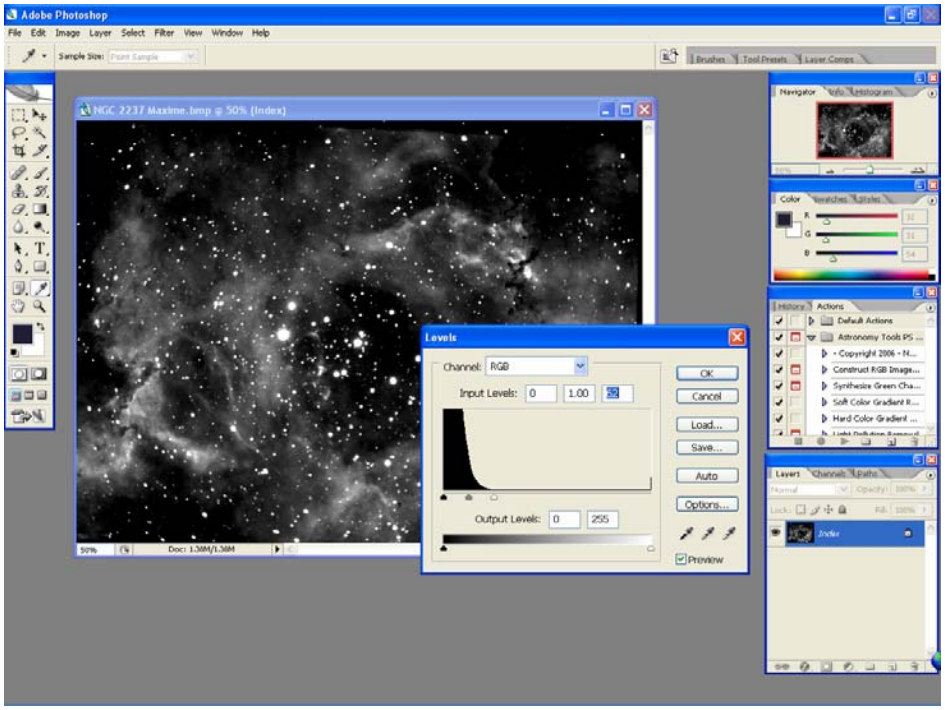


In order to bring some more details out the levels needs to be adjusted.



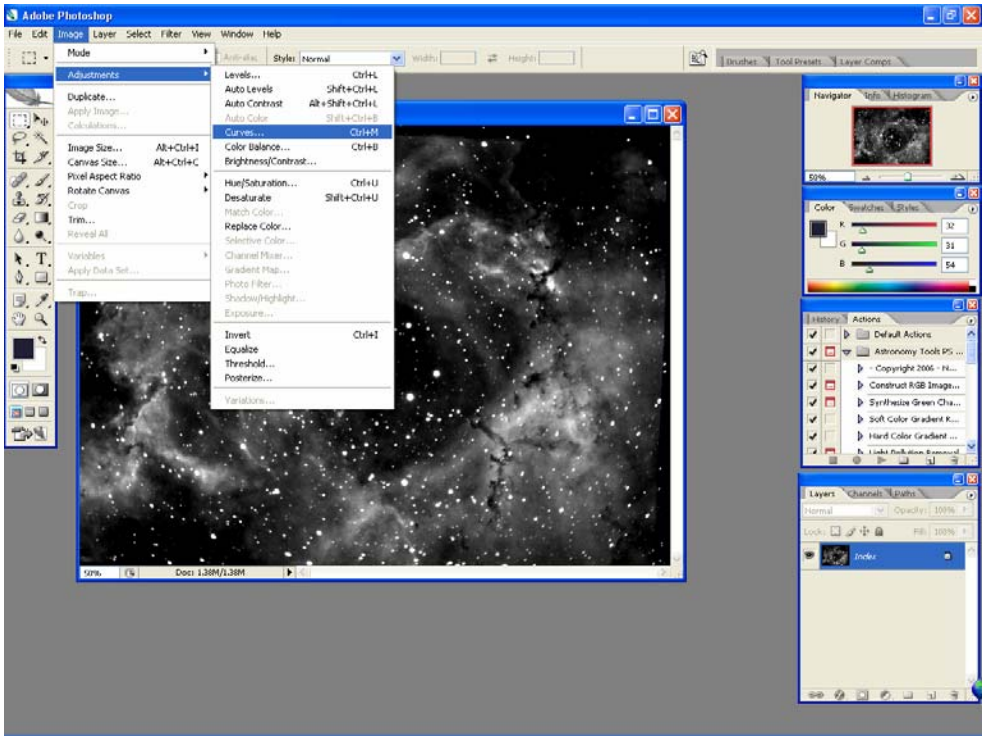


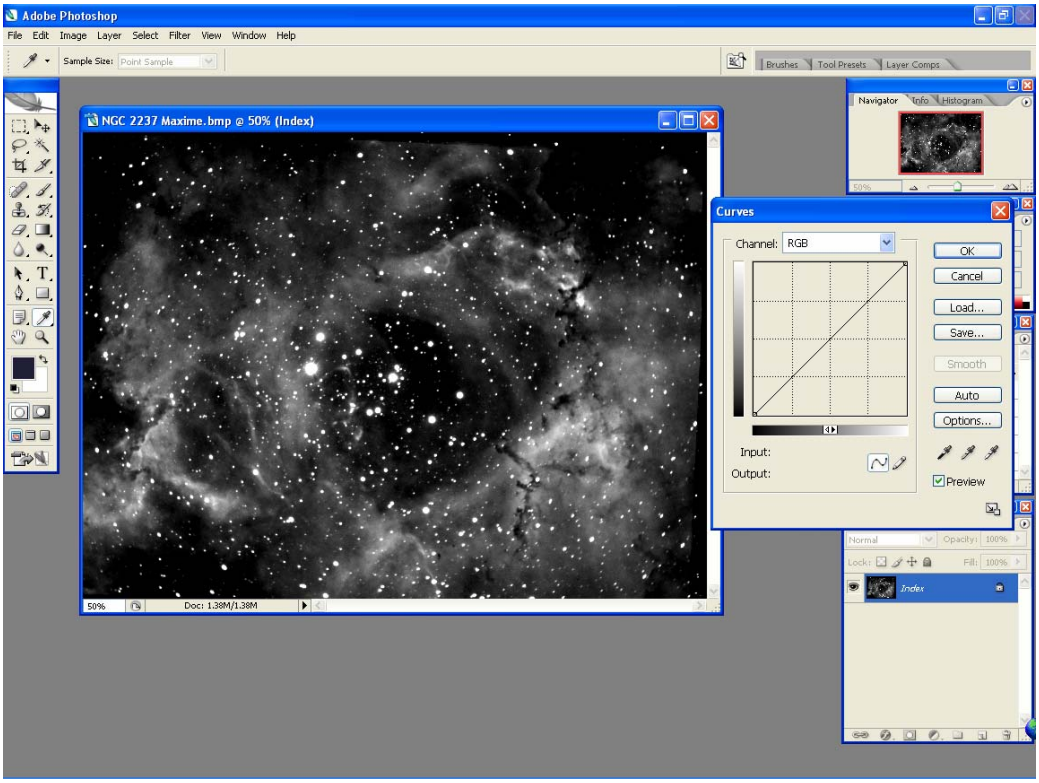
You will notice that the input level is concentrated on the right hand side of the graph. To bring more details out the right hand slider need to be move to the left of the graph but beware of not clipping out any of the details.
The picture will brighten and a whole lot of details will become visible. And once you are satisfied with the result you need to OK the change. For my part I save my work after each steps so that if something goes wrong I haven't lost my work.



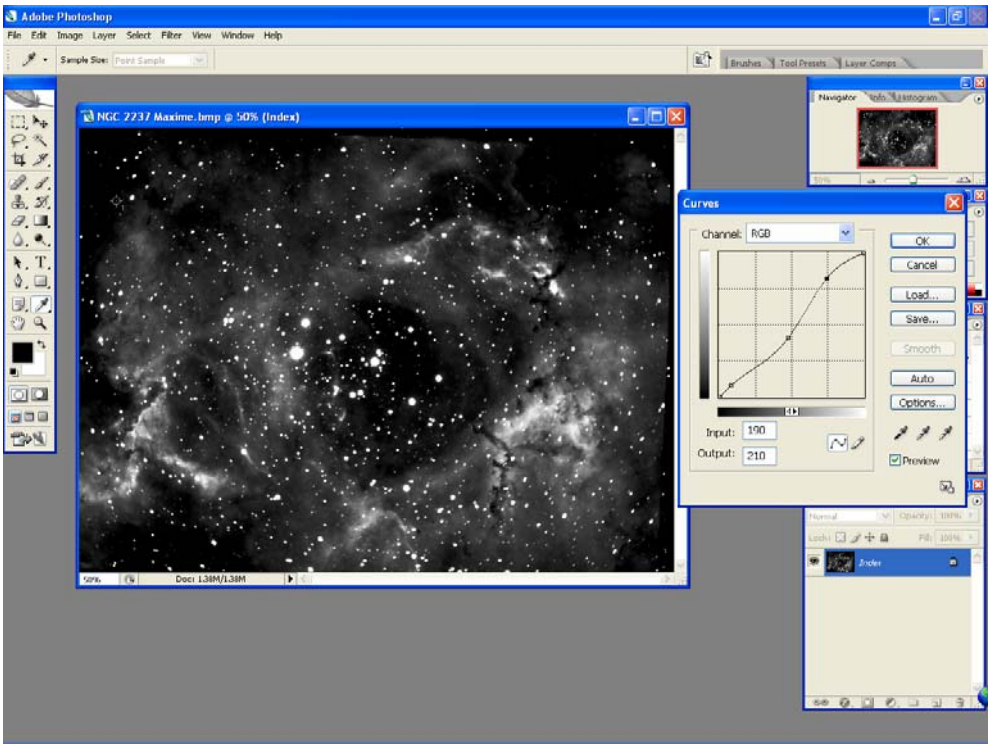
Second Step. Curves

The curves process is ideal to bring details out in a part of the picture whilst maintaining the brightness / darkness level in another part of the picture. It is easy to over process the picture so I tend to make small changes at any one time.





Once the Curves window is open you can mark the points on the graph which you want to modify by pressing down Control on the keyboard and clicking with the mouse the area on the picture you want to modified or keep exactly as it is.

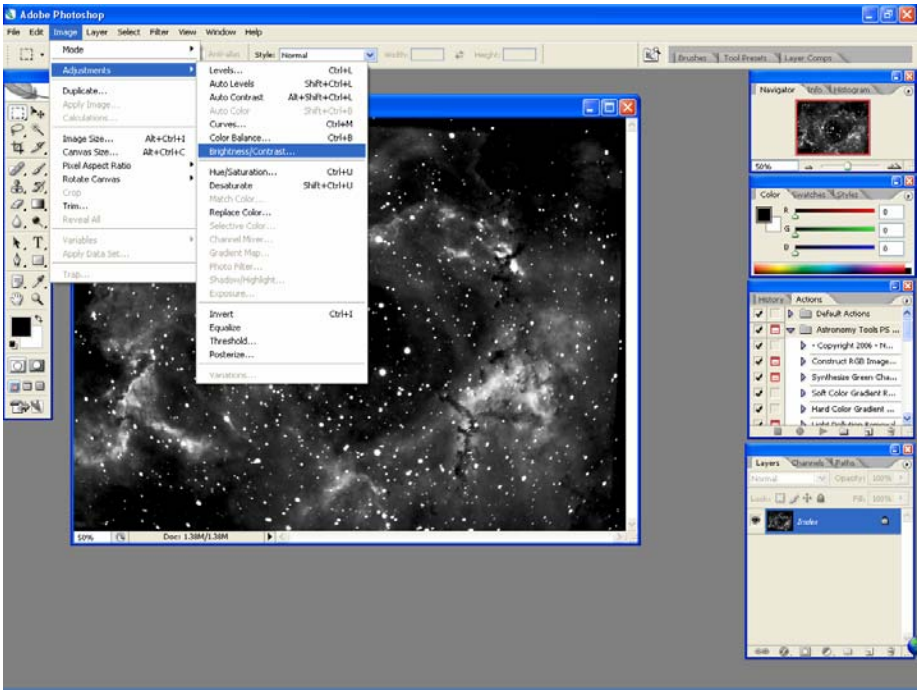


Remember it is very powerful and over processing makes the picture look unnatural and detract from the beauty of the object you captured. You can go back to the curves as many times as you like taking small modification at the time.

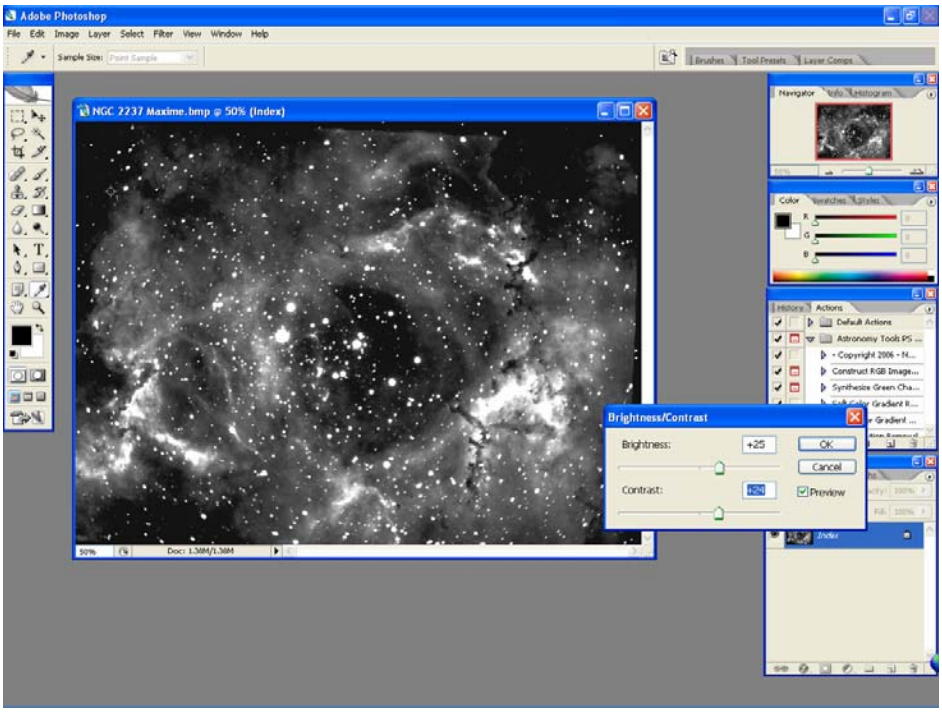
There is no substitution for capturing the right amount of data.
Whence I am satisfied with the changes I have made to the curves I again save the file.

Third Step. Brightness / Contrast

The brightness and the contrast do exactly what it says. Again don't over do it.



Move the sliders to increase or reduce the brightness and the contrast.

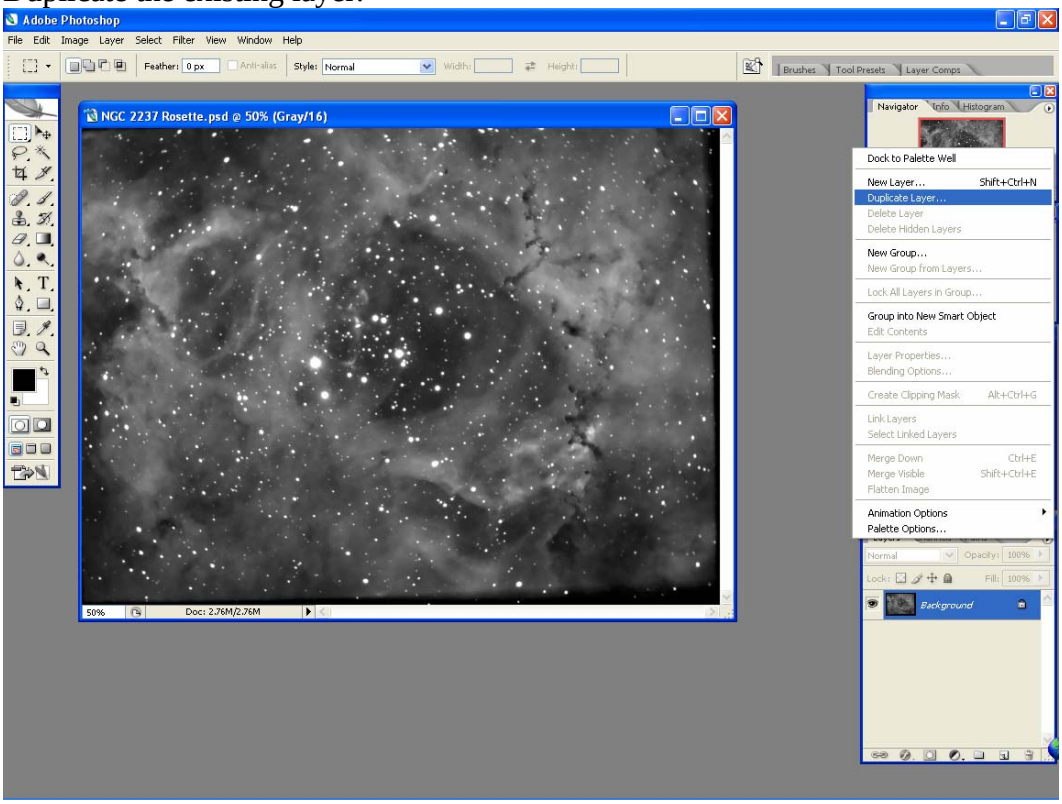


As previously stated when satisfied with the change OK the modification and save.

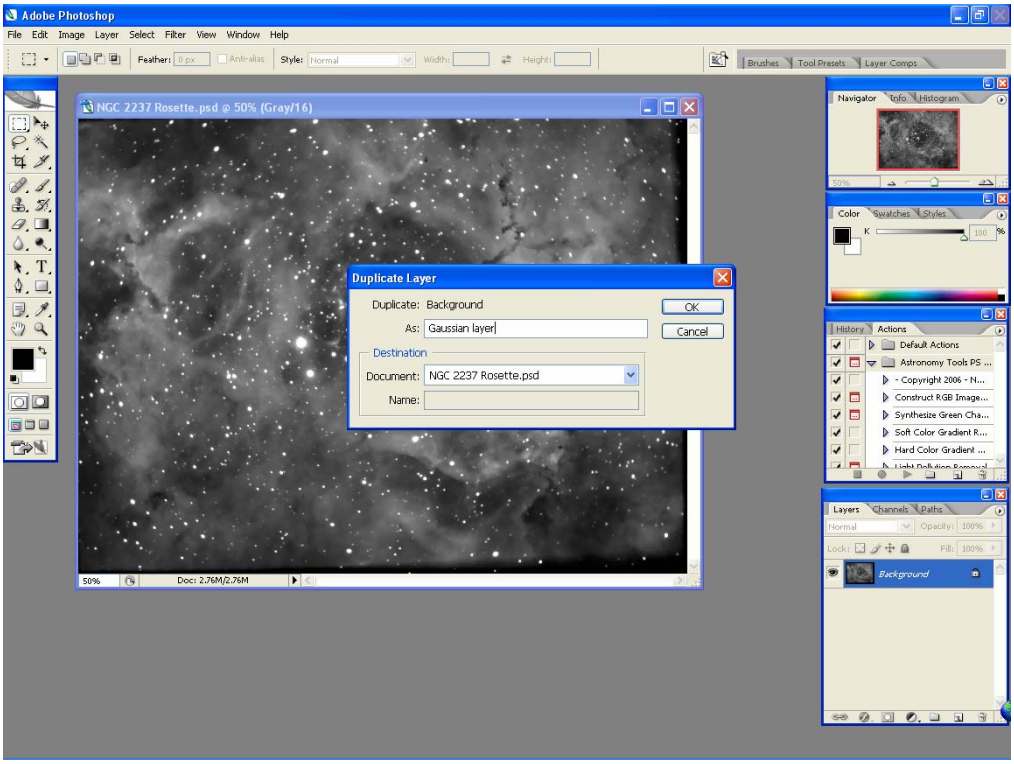
Now you can apply Noel Carboni's actions. Those actions can be found on the website
http://actions.home.att.net/Astronomy_Tools.html

GAUSSIAN BLUR

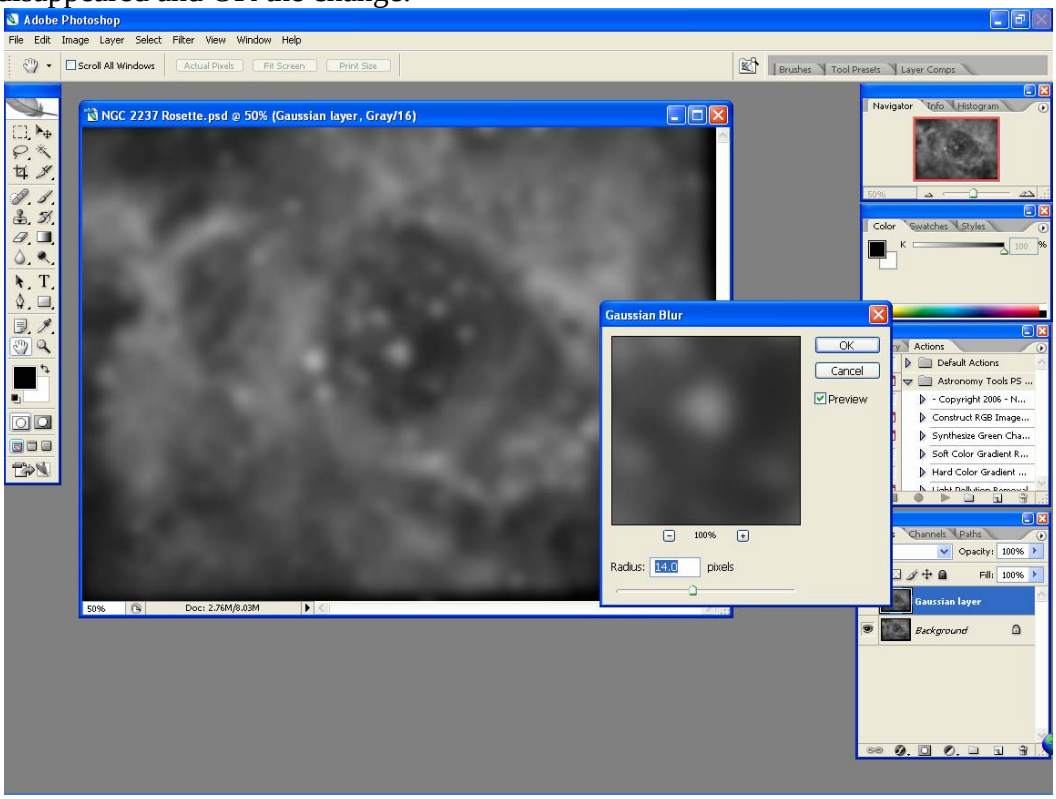
The Gaussian blur can sometime be useful in processing Astro images. As like any other processing it must be used carefully and in moderation.
Duplicate the existing layer.



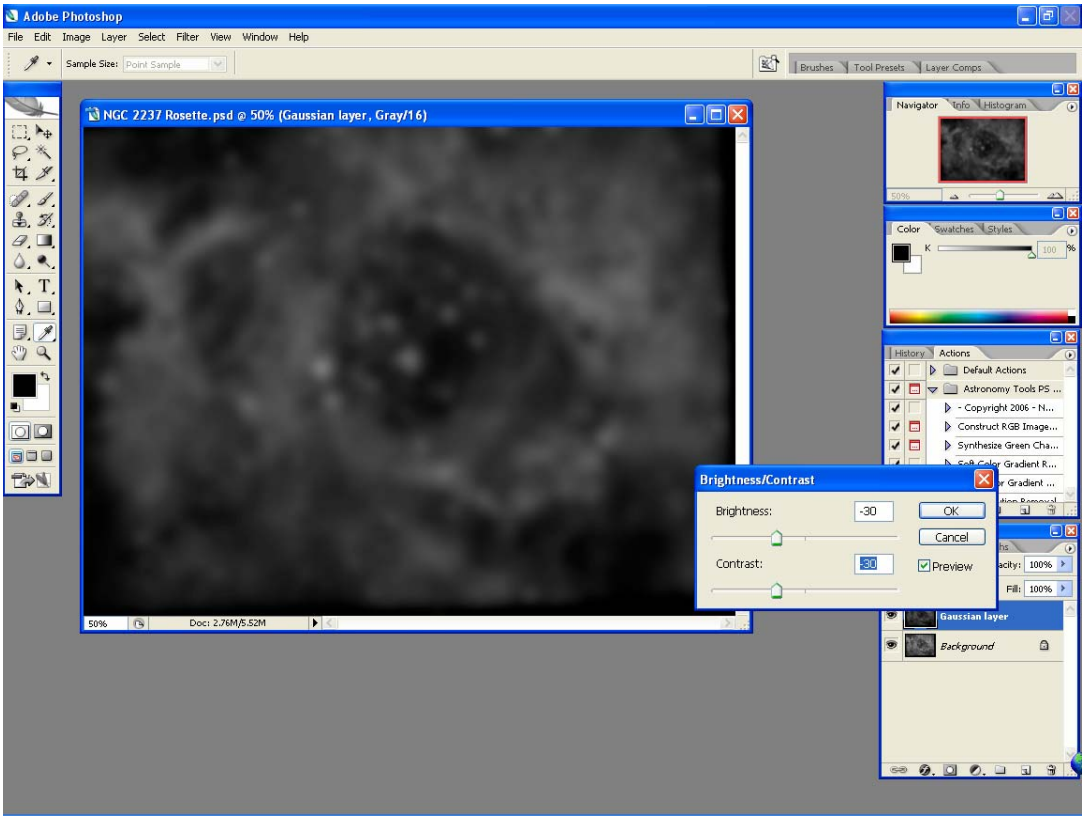
Rename new layer as "Gaussian layer".



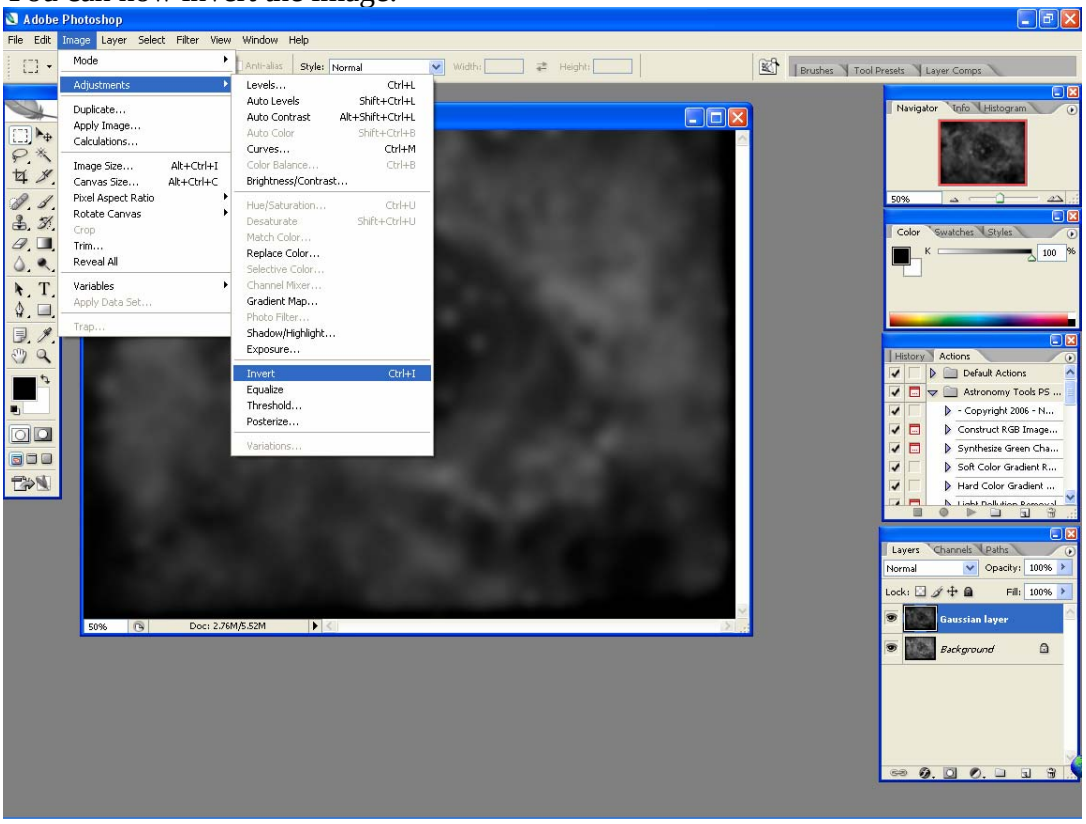
Select the Gaussian layer and apply the Gaussian filter. Move the radius slider until all stars have disappeared and OK the change.



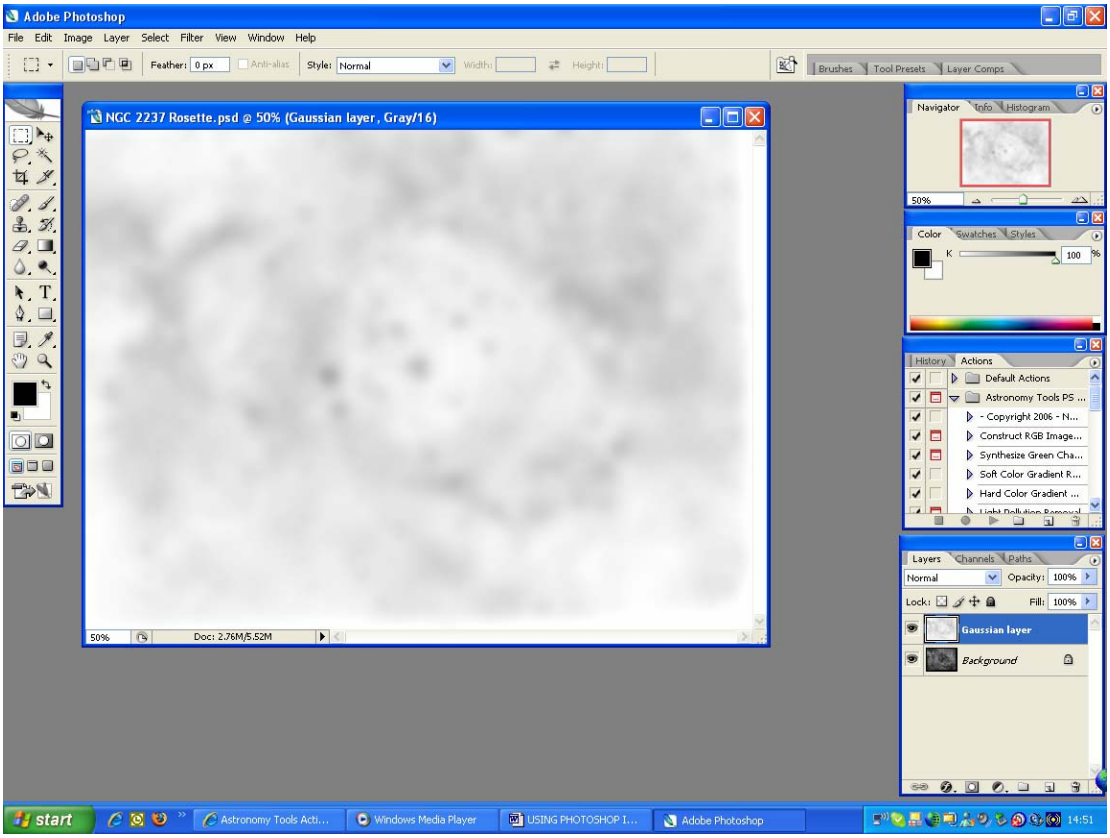
Go to Image, Adjustment, Brightness / Contrast and reduce the brightness and contrast by 30 and ok the change.



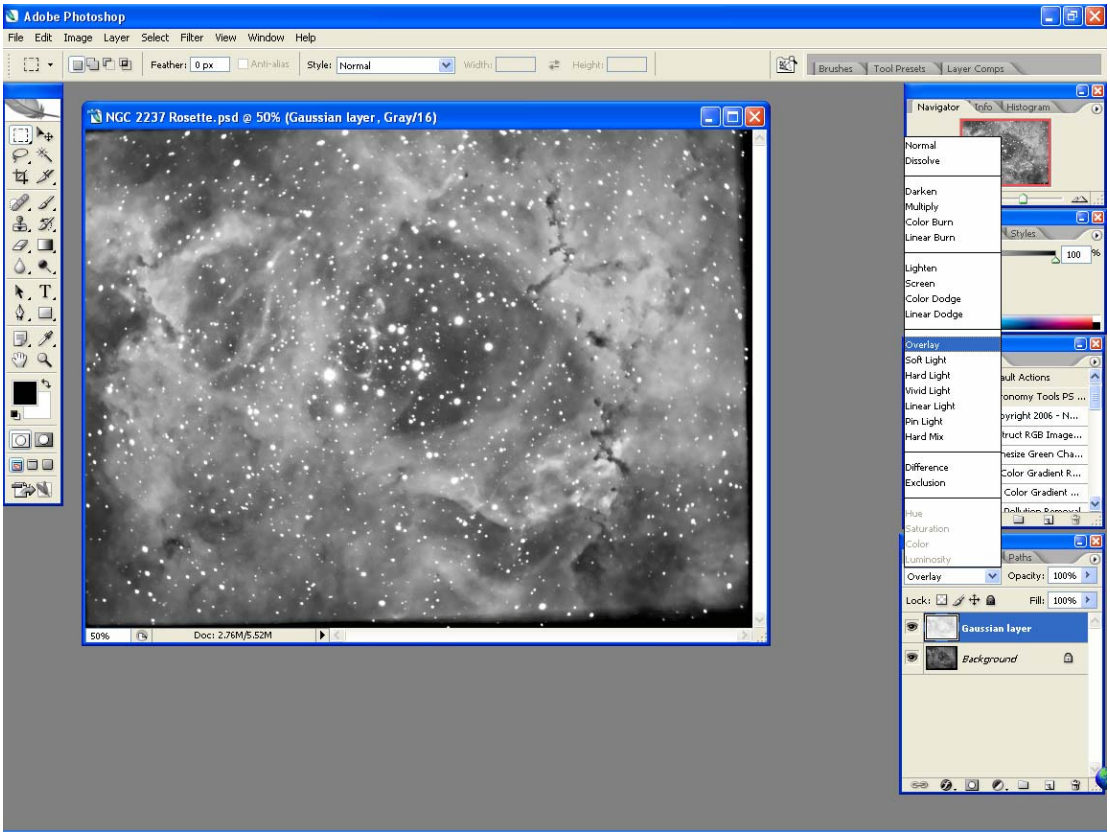
You can now invert the image.



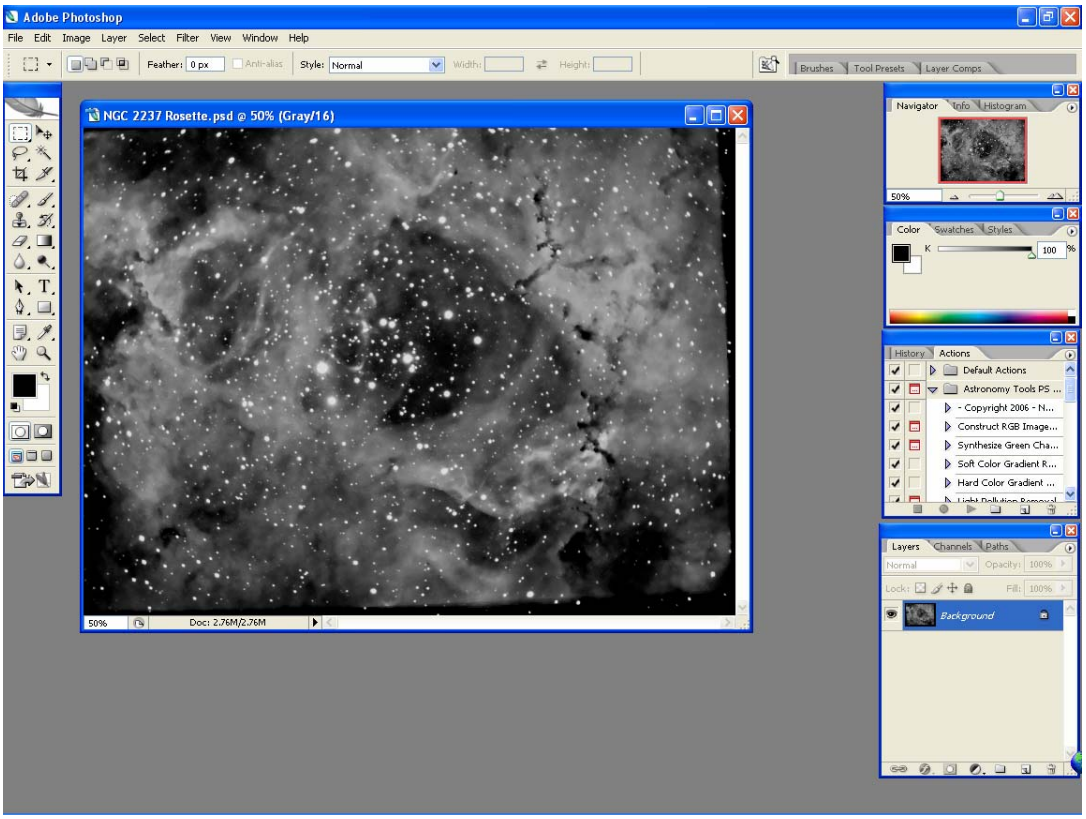
The inverted image will be very light with little contrast.



You can now overlay the image and adjust the contrast and brightness to your liking.



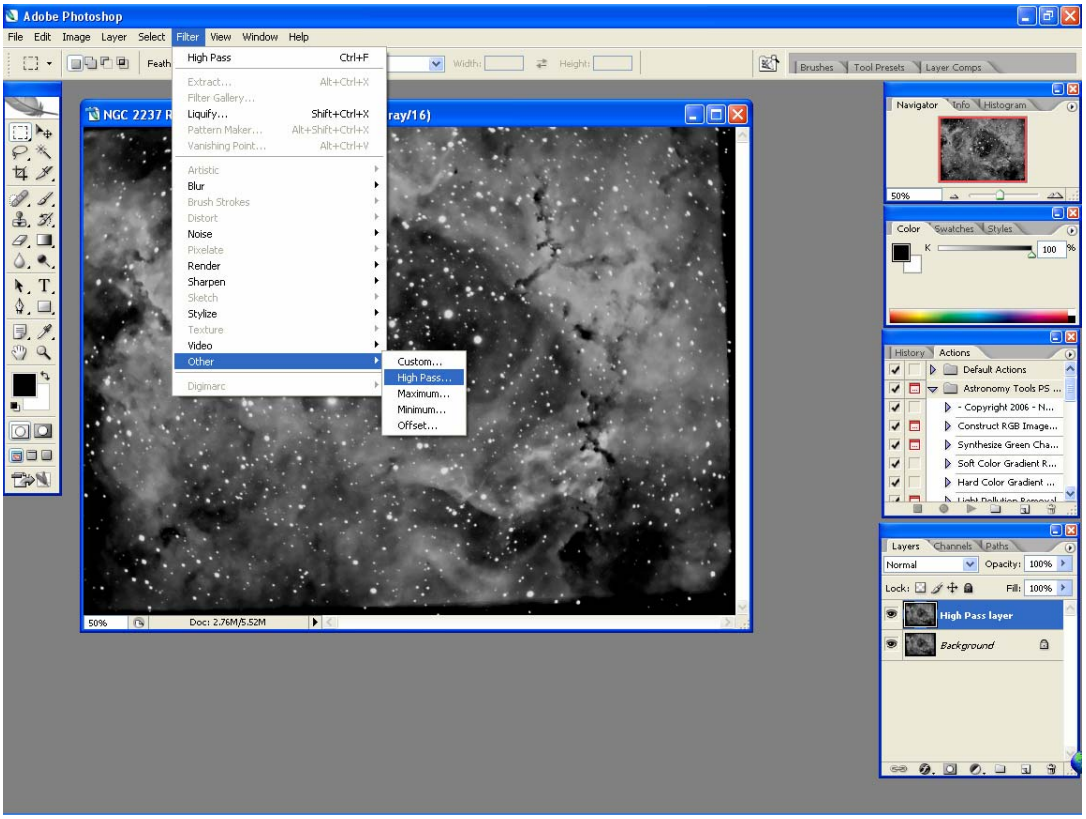
When you satisfied with the image you need to select Layer and Flatten the image.



it is worth noting that not all images benefit for this treatment and that over processing does not improve a picture but detract from your hard work.

HIGH PASS FILTER.

This will sharpen your image but use it sparingly.
As with the Gaussian filter duplicate your image and rename it High Pass Layer.
Apply the High Pass filter and experiment with the Radius. A golden rule for me is to make small adjustment at a time and save the file after any amendment I am happy with.



And again as for the Gaussian filter select Layer and Flatten the image. A tip is that you can click on and off the eyeball on the side of the layer named High Pass Level to see the effect of your modification. If unhappy with it you can delete the layer and restart and change the value of the radius. Once you are happy with the result you need to flatten the image.