

## Hints for Shooting Panoramas and Manual Digital Stitching

You can try to shoot a panorama just by holding your camera steady and turning as you shoot. However, the best way to do this is with a TRIPOD.

Make your camera level on the tripod. It is recommended to shoot vertically (camera sideways) but the other way is fine too. The degree of your panorama is up to you. You can make a panorama shot of waterfalls or buildings also. There are special tripod adapters for even more accurate panorama making.

Overlap your shots from 25–50 percent.

Use Manual Focus. Autofocus will make each image larger or smaller than the other.

Match Exposure. More than a two stop difference between exposures will make it harder to match images when you put them together. But Photoshop also has a command to match exposures in different images.

Film can be used if you have access to a good scanner. If you have film scanned with your prints, be aware that the scans that come that way are very low resolution. Ask for a professional quality scan.

Back home on the computer, You may have a dedicated panorama building software, or if you have Photoshop, you will open your first image and expand the canvas to allow room for the rest of the panorama. In the first case, follow their directions and you can ignore the rest of my directions.

In Photoshop, or other Layers capable software: Image/Canvas Size: Make the canvas the size you think your image will be. Better to make bigger, and crop afterwards.

Open the 2nd image of the series, Select all, and drag the selection into the first picture. Photoshop will create a new layer with this image on it. Using the white selection tool, you can drag this image anywhere around the frame. Before you do this, open the layers palette and reduce opacity to 50%. Then you have a “ghost” image you can move around until the common elements of both layers match.

Edit/Transform/Skew can be used to fine tune the alignment. Grab a corner and drag.

When close enough, return opacity to 100%. Inspect your image where the two sections meet. You will probably see a line. Take the eraser, and remove evidence of that line. If the line goes through a rock, erase the rock so that the new border is the edge of the rock (for example). Use a brush with feathering to help. You may also notice differences in exposure between the two images. Now is the time to match them, because you can adjust each layer independently. Make an Image/Adjustment/Levels or Curves whatever your taste to match the second image to the first. Or switch to the first (background) layer and adjust it. Your Levels Palette will show you which layer you are working on. Carry on with the remainder of the sections.

If your computer allows it, you can leave the image in layers until you have them all stitched together. This may well be a very large document. You can also go in steps, by merging layers as you lay them down. At the end, you will likely have some white space on the sides. Use the crop tool to clean up.

Finish your image as you would any other.

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