Stitching Together Parts of Images to Create One Image

When working with large images, it may be necessary to scan the image in parts and then digitally stitch it together to yield one large image. You may also find that this technique helps you when working with other images that are not necessarily oversize. The following steps have been written with Adobe Photoshop CS3 in mind and may vary depending on the version of the program being used. Please feel free to supplement this guide with on-line tutorials or the knowledge of other people who work with graphic arts in the Library (DCC is a good source).

1: Scanning the image

When scanning an image to be stitched together, it should be scanned to allow a good amount of overlap. This gives the Photoshop program some wiggle room when it uses its auto align capabilities. There is not necessarily a standard, but it seems that at least 1 inch of overlap should be afforded, if not more. Another thing to consider is the color profile of the partial images. To make blending of the partials as easy as possible, it is best to use the same color profile for each partial image scanned. Be aware of the auto tone adjust of the Epson Scan software and it ay be necessary to open the histogram to manually adjust the color profile to ensure uniform scanning of the partial images.

Be sure to save all of the images to one directory with names that will be recognizable to you. Often times using the next sequential numbers available in the ER Working Folder/Numbered Scans directory is an easy way to title the files. If using this method, be sure to delete the partial scans after the stitching process is complete.

2: Loading the stack (importing the partial scans into Photoshop)

After all of the partial scans are complete, it is now time to use the power of Adobe Photoshop to stitch together the partial images to create one large image. There are multiple steps to be done to ensure that this process is completed successfully.

1 - Open the Adobe Photoshop program
2 - In the top menu bar, select File –> Scripts –> Load Files into Stack...
3 - When the "Load Layers" pop-up window appears, select "Browse" and then choose all of the files that you would like to load into the stack via the ctrl+click or shift+click methods and then select "Open"
4 - When returned to the "Load Layers" pop-up window, make sure that the "Attempt to Automatically Align Source Images" box is checked and click "OK" - Photoshop will now a second or two to load all of the images as layers in one canvas. If the Auto-Align box is not checked, you will not have the desired result and will need to delete the project and start over.

3: Confirming alignment and blending the layers

After Photoshop runs the operation, you should have one large image made up of layers of the different original partial scans and it should more or less be aligned. Check the edges of the image and any very defined areas of the image to see how the alignment was handled. If the alignment was horribly off, make sure that the original partials are all rotated to the same orientation. If this is okay, then it may be necessary to re-scan the images and attempt to keep the orientation more consistent. Many times problems can arise in the auto-alignment because of the edge of the scanner bed and how it bends the scanned medium away from the scanned plate. To remedy this, only scan sections that are at least a ½ inch from the edge of the scanner bed.

If you are more or less satisfied with the alignment, it is time to blend the image to adjust for the differences in the tone of the images that occurs whether the color profiles are uniform or not (see step 1). To blend the layers:

> 1 - Use the ctrl+click method to select all of the layers in the "layer" window in the bottom-right of the Photoshop workspace (when set-up with the default workspace). If you cannot find this window, click "Window" in the top menu and select "Layers" - it will then appear.
> 2 - With all of the layers to be blended selected, click "Edit" in the top menu bar, then select "Auto Blend Layers." Photoshop will do all of the work to find areas where the color profiles of neighboring pixels are the most similar and then use the most similar pixels from each of the layer to create the best single image possible. To see the result, look at the white / black areas of each layer, or for a more dramatic result, select any layer and then select a "fill" of zero (located in the top of the "Layer" window - remember to go back to 100% after seeing the result).
> 3 - If satisfied with the blending, it is now time to flatten the image and then save it. Select "layer" in the top menu bar and the choose "flatten image." The image is now one single layer. From here select "Save as" and name the image the desired result (if it is for the numbered scan repository, be sure to name it with the appropriate number).

4: Deleting partial scans

Now that all of that is done and you have a large image made from partials, it is time to delete the partials. That is the end of the process.