SPM

QUICK TIPS *VOLUME III*

Ten short articles on using features of the photo editing program StereoPhoto Maker created by Masuji Suto.

Inside This Booklet:

These articles originally published in The Stereo Window newsletter of the Detroit Stereographic Society
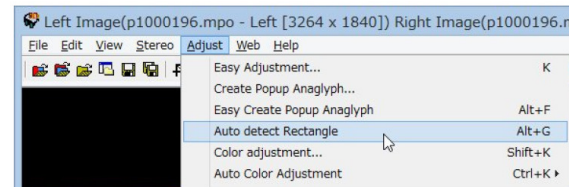
SPM Tip - Easy Phantograms

by Dennis Green

1. Take a picture of an object on a sheet of 8X10 paper from a 45 degree angle and open it in SPM.
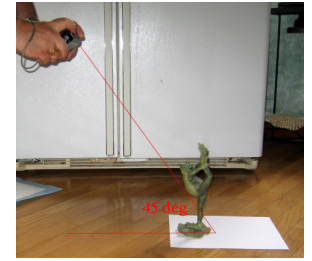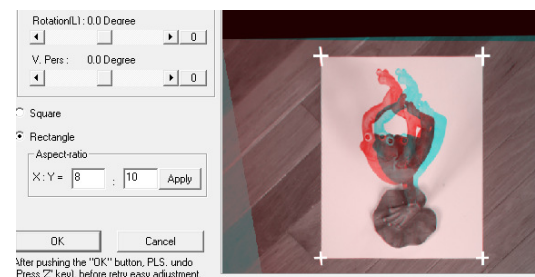

2. Select Adjust/Auto detect Rectangle or press [Alt+G] key.

3. After detecting the background 8X10 paper, the 'Easy Create Popup Anaglyph' Edit screen will be displayed:
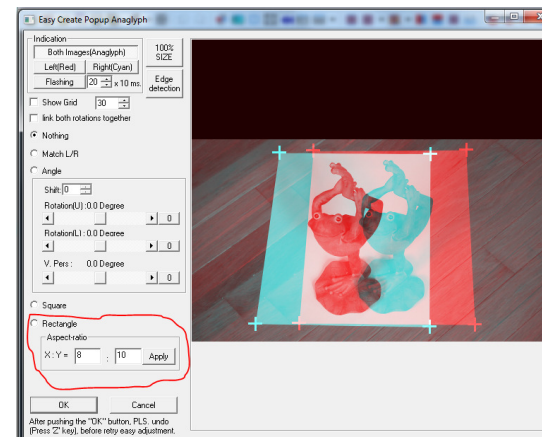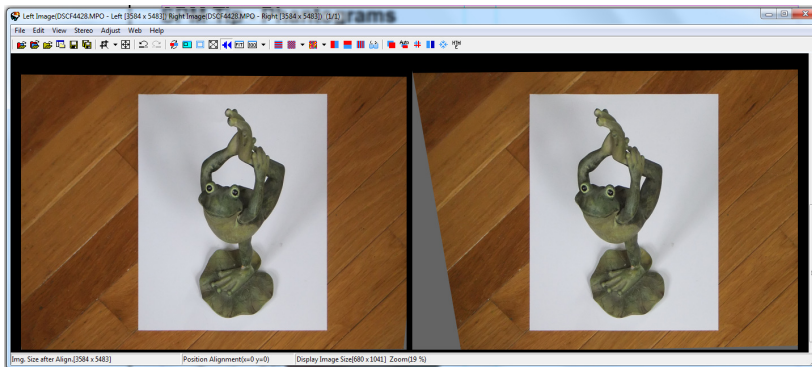

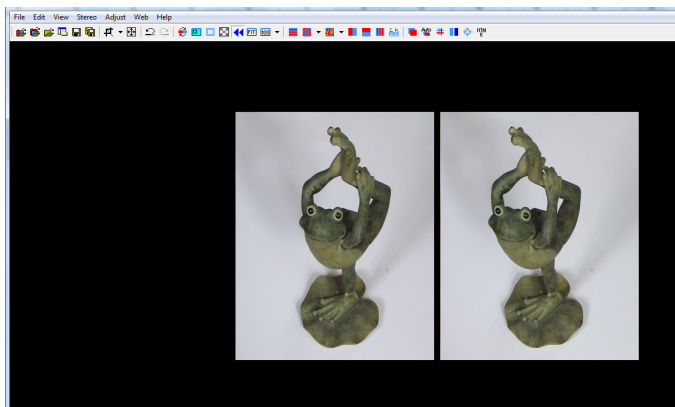4. Select the [rectangle] button and input your 8X10 aspect ratio.

The image will align the corners of the rectangle and apply the aspect ratio. Press "OK".
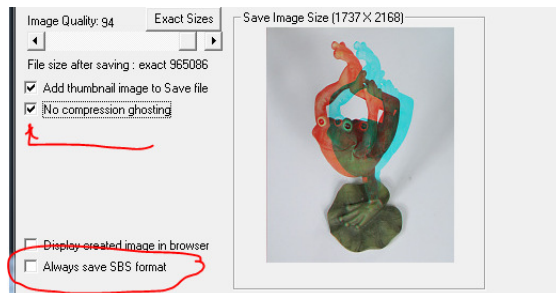
5. Using the Stereo options, display as side-by-side.

6. Crop the image to the edges of the background sheet.

7. Change to anaglyph viewing mode and save the image, checking the 'No compression ghosting' option. Be sure the "Always save SBS format" box is unchecked. You want to save this as an anaglyph to be able to print it. That's it!   [   ][   ]

SPM Quick Tip - EZ Stereo Cards
by Dennis Green

Stereo cards are the classic way to view 3D images. They make wonderful gifts, either as a single card or as a set to display an event like a wedding or family gathering. Here are the steps to do this easily in StereoPhoto Maker:

1) Select and crop an image.
        Start with an adjusted pair (see the SPM Tip on auto-alignment). Under the Crop tool's free cropping options, there are buttons for the various card types with different aspect ratios.
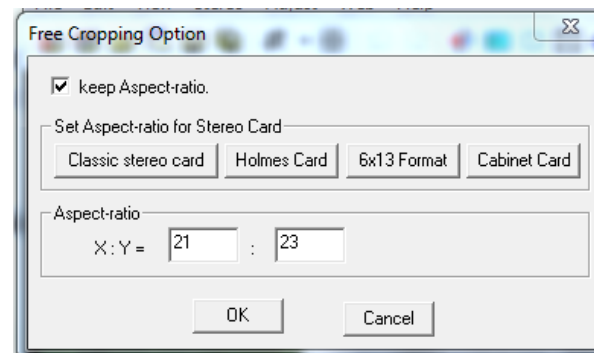
You can try them out to see which you like best. For this example, we will use the "Classic Stereo Card" option.

        Now use the Crop tool to select the amount of the image you want in your card.

Now select "File... Print Stereo Card", which will give you this dialog box where you make your choices for the colors and text:

At the top is the selection for the size card you want. The classic card is 7 X 3.5 inches. The "Holmes" selection is for a 4 X 6 inch print, which is convenient to print at the drug store. The box next to that top box i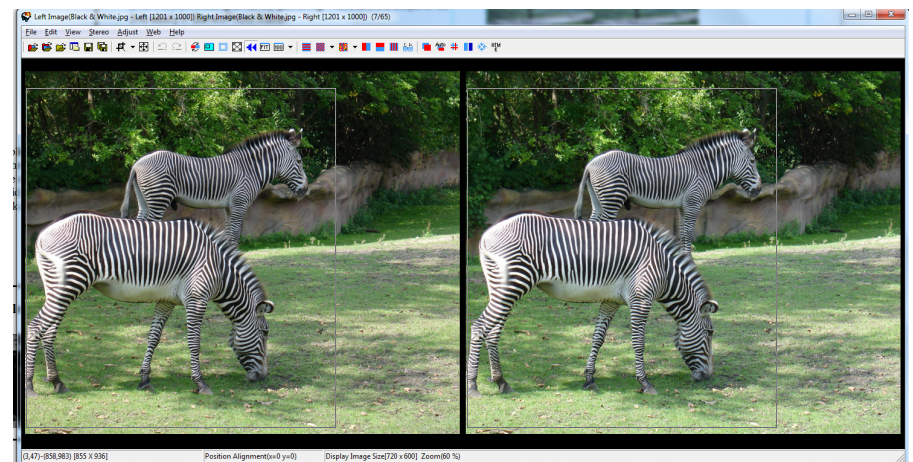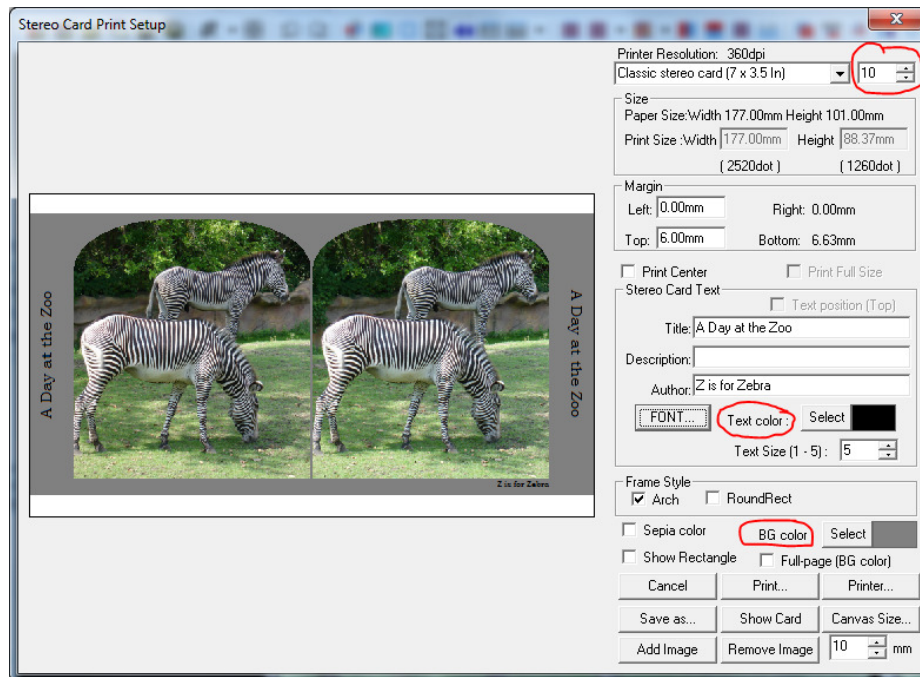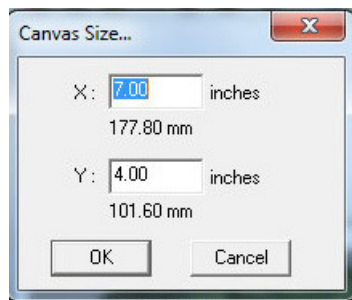s how far the image is from the top of the card. If you want a title under the image like the Keystone or U&U cards, you may have to reduce that distance to give space at the bottom.


Click on the "Canvas Size" button at the bottom and change the size to "7" in the "X" field and "4" in the "Y" field. This is the "APS-C Print" size, which many drug store printers will print for the same cost as the cheaper 4 X 6 size, yet it allows a full size card background.

Text in the "Title" field prints on the ends of the card. The "Author" field prints under the image, where the image title would normally be found. You can change the font using the font button, and the text size by changing the number in the box.

Try some different text colors and background colors until you get a combination that you like. Then click on the "Arch" box to get the rounded top. The RoundRect box will round the corners of the bottom of the image if you have "Arch" selected, or of all four corners if "Arch" is not selected.

Now click the "Show Card" button to see a mono image of what the card will look like:
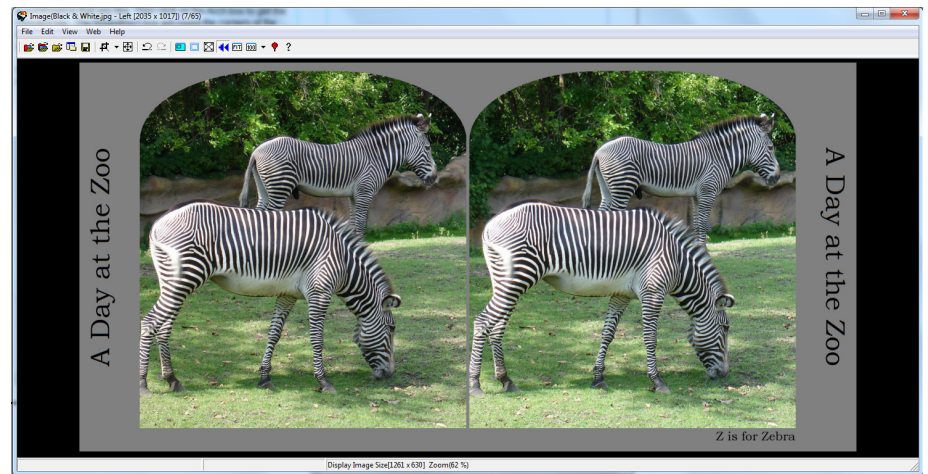
If you want to change something, just press the "Z" key to undo the "Show Card" action and select "File... Print Stereo Card" again. All of your settings will still be there, so just change the ones you want to modify, and press "Show Card" again to see the modifications.

When you are happy with the card, choose "Save as..." to create a file that you can take to Costco or CVS to have printed, or you can press the "Print" button to use your own printer. You can then paste the finished print on some matte board and trim it to size to give it a more authentic feel.   [ ][ ]

SPM Tip: Clone Tool - Part 2

by Dennis Green

In the January 2016 newsletter, we showed one use of the SPM Clone Tool - to clone out a finger blocking part of one image. In this tip we will show two more uses of this handy tool - repairing something that moved, and moving image elements.

1. Repairing objects (or people) that have moved during a cha-cha image.

Cha-cha shots can be used to do a hyper or close-up image using the advanced 3D program on the Fuji W3, or to capture a stereo image with a phone camera when you do not have a 3D camera with you. Often image elements will have moved in between taking the left and right images. For example, this image was taken with an extended (hyper) stereo base using my W3 this summer at Blarney Castle, in Ireland.


As you can see, there are many people who moved in the picture, which causes a lot of discrepancies between the left and right images, and does not look good.

To fix this, I just opened the image in SPM and decided which elements I wanted to keep and transfer to the other side. I started with some of the people at the bottom of the stairs, and adjusted the stereo pair so that the desired group and their immediate background were aligned, which meant that anything cloned from one side would appear at the same depth as the original. If I didn't do that, those people would appear "at the window" in the final image instead of back where the stairs are.

If the color balance or the exposure of the left and right images are not the same, you would first use the Auto Color Adjustment to fix this before proceeding. Otherwise your edits will be obvious, as they will not blend in.

To align the depth, just press the "K" key which is the shortcut for "Easy Alignment". Press the "100%" button and drag the image to the area you want to align. Use the horizontal arrows at the top to move the red and cyan versions on top of each other (in this case, I used the stair railing).
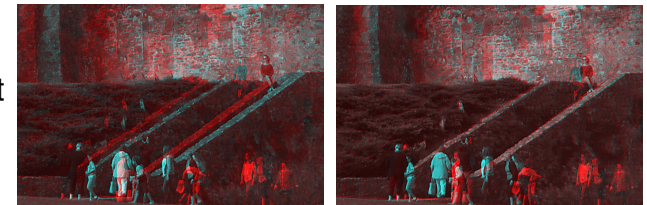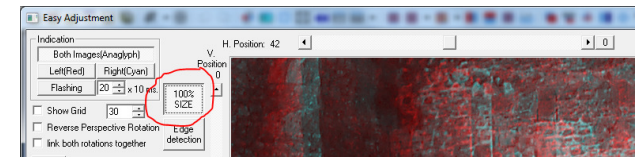
Before move   After move

Once the layers are aligned, switch back to side-by-side view. SPM always clones from the image on the left to the image on the right, so if you want to change the Left eye image, use the "X" key to swap sides and put it on the right side while you modify it.

To start cloning, place your cursor in the area to be affected, and press the Shift key and left mouse button at the same time. The cursor will change to the clone tool. You can change the size or shape of the tool by pressing [Ctrl-N] (or select "Clone Brush Setting" from the Edit menu). The choices are a thin horizontal, vertical or diagonal rectangle, or a circle. Changing the size will vary the length of the rectangle or the diameter of the circle. After cloning the people, realigning and saving it, here is my image:

2. Moving an image element.

Sometimes an image element causes either a window violation or excess deviation, making the image difficult or impossible to view. This can be corrected using the clone tool to change the depth location of that element. Here is an image of performers in a church, where the pew in front of me is much too close, causing both a window violation and excessive depth.

By using the clone tool and moving the pew in the right image farther to the right, it moves the depth location farther back. After moving the pew, the parts of the image that were blocked by the pew need to be cloned in at their proper depth. Fortunately, there were only a couple of depth layers that had to be cloned. The end of the piano and the accordion on the floor were at about the same depth, and the far background was at another. By aligning the piano first and cloning in it and the accordion, then changing the depth by aligning the vertical flag stand in the back and cloning the other background elements, I was able to save the image and make it viewable. Here is the image with the pew moved back:

A step-by-step instruction is on our web "How to..." page.   [   ][   ]

SPM Quick Tip: Google Camera Fun

by Dennis Green

StereoPhoto Maker has a function that can take advantage of an image captured with the Google Camera app using the "lens blur" option. This phone camera option is intended to allow you to create an image with the subject sharp, and the background blurred. This is done due to the app creating a depth map when the image is taken (you must move the camera vertically while taking the picture to create the depth map). SPM uses that depth map to create three different types of images:

1. A stereo pair
2. A multi-image view for making animated GIF images.
3. A lens blur image, which then can be converted to stereo.

Since you must move the camera while taking the image, you may wonder why not just take a pair of images? The lens blur image offers a few advantages:

1. When you create your stereo pair, you can adjust the depth of the final image, viewing it on screen to get the desired amount.
2. You can create your multi-image group with a variable number of images between your left and right image to make a smooth wiggle view instead of the more common jerky versions.
3. You can select your point of focus for the blurred lens image after taking the shot, getting multiple different images from the same original.

To create a 3D pair from the image, the **first step** is to open both the image and depth map in SPM. This is done by using the Depth Map option from the Edit menu.
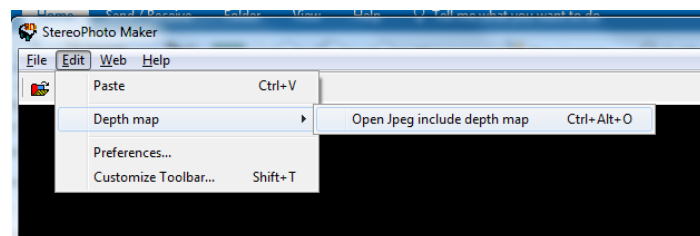
The image and its depth map will open in SPM.
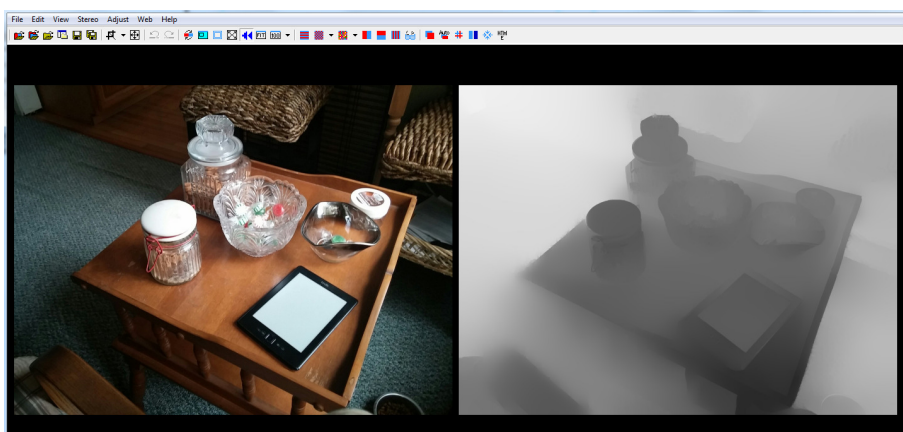
For the **second step**, use the option [Edit->Depth map->Create 3D image from 2D+Depth map] or [Alt+D]. This will bring up a dialog box with the initial deviation amount. A value of 30 is the default and will usually give you a good image. SPM will now generate a side-by-side stereo pair.
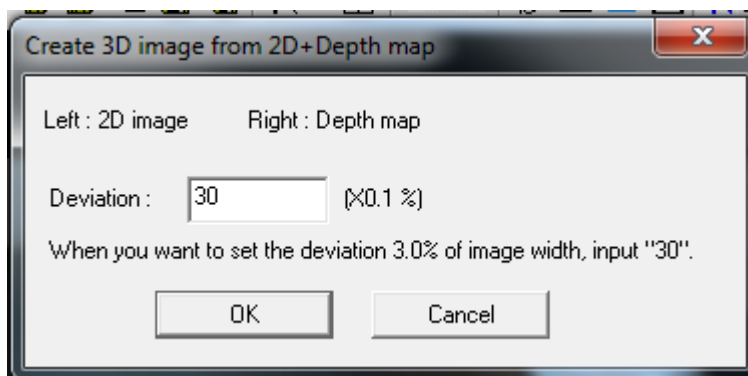
The **third step** is to view the image onscreen and try different deviation amounts by using [Ctrl+Page Up(Down)]. You can change the viewing method, just as you would with any stereo image. Increase and decrease the depth until you have an image that is neither too shallow (with little stereo depth) or too deep (to cause a viewer some eye strain to view the image).

The **last step** is to save the image.
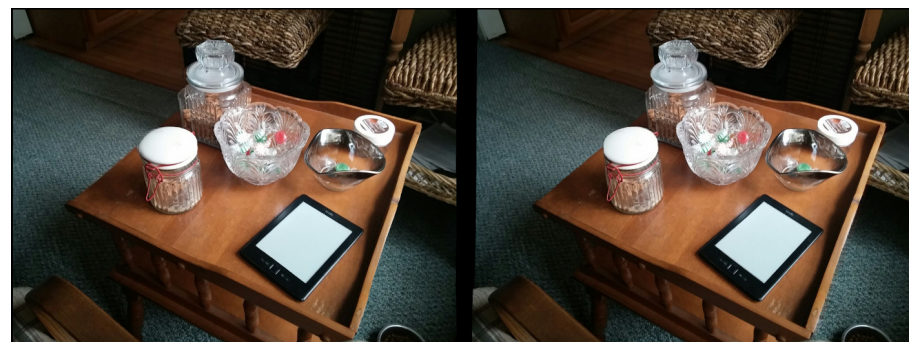
The final saved stereo image. Multiple versions can be saved with different depths.

Now you can continue with the other options of making a lens blur image or a multi-image set for making a lenticular print or an animation GIF (wiggle stereo) image.

If you would like to experiment with this creative tool, just download the "Google Camera" app (free) and select the "lens blur" option when you take the image.

This app and the SPM tool are not meant to be replacements for a stereo camera or even a cha-cha (single camera stereo) image, but they are extra tools for your stereographic toolbox.   [ ][ ]

SPM Quick Tip: Three Settings

by Dennis Green

This month's Quick Tip centers on some settings that you can check or uncheck in the Preferences area to make your use of StereoPhoto Maker more to your liking.

1. **Startup with its window maximized.** When you open SPM, either by double-clicking on the program or on an MPO file, the program comes up in a small window, which you have to maximize in order to have it fill the screen. There is a checkbox that gives the option of having SPM open maximized. I find this to be much faster when viewing images or using any of the other functions of the program.

To access this box, go to Edit>Preferences and click on the "General" tab (if it is not already selected). Then check the box near the bottom. Of course, you can always uncheck the box later if you find you prefer a small window more often that a maximized one.

2. **Two-stage cropping - define crop rectangle size, and then its position.** With this option, you can set the size of a crop first, then fine-tune the position of the crop rectangle to make the best image. Conversely, if you feel that your cropping is the way you want it all the time, and you are bothered by the fact that you have to click again to get the crop to "take", you can uncheck that option.

This checkbox can be found in the Preferences under the "Crop" tab.
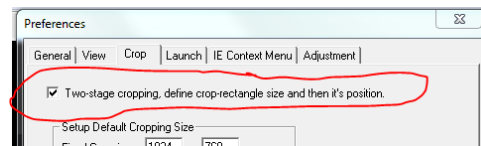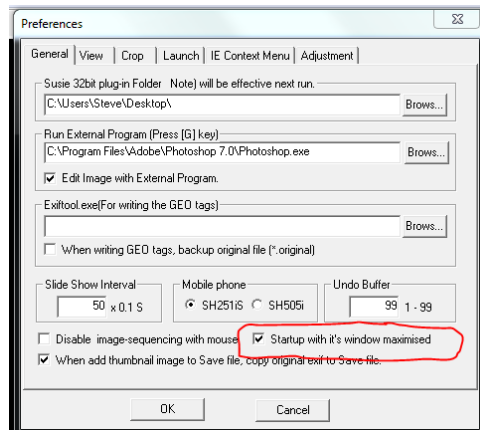
3. **View tab settings.** Under the "view" tab, you can set your background color to black, white, or any other color to make viewing easiest. The border can be set to increase the distance around the image to make it easier to view or to maximum size.
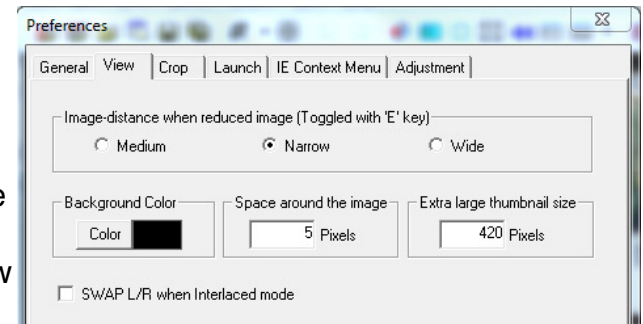
The distance between the images can be changed using the "e" key as a toggle between three choices:

Narrow is best for parallel free-viewing images, as it allows the window to be larger without making the images too far apart.

Medium is best for cross-eye free viewing or using a screen viewer. This centers the images in the available window.

Wide is best for viewing in mirror-mode using a small hand mirror (see "Mirror View Method for Stereo Images" in *SPM Quick Tips Volume I* found in the How-To area of our website).

Hopefully one or more of these settings will make SPM a little more enjoyable to use.

[   ][   ]
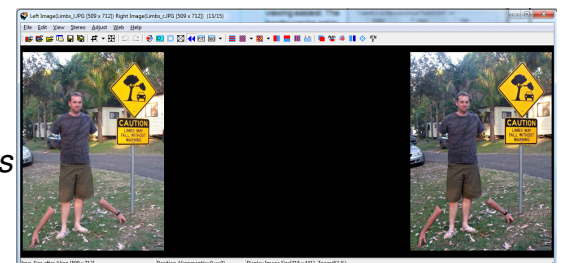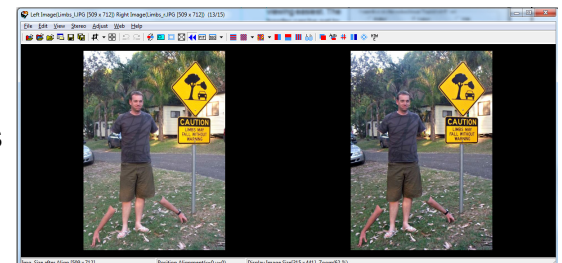
SPM Tip: Create a Floating Window

by Dennis Green

Some images may be plagued with "ghosting" (seeing a faint doubled image on part of your subject). This is most often seen in high-contrast subjects - having a bright object in front of a dark background - or in anaglyph images. The most common way to reduce "ghosting" is to position that object "at the window", i.e. to exactly overlap that object.

When you do that, you are usually bringing the scene forward in the stereo window (see "Setting the Stereo Window" in *SPM Quick Tips Volume II* in the club website "How to..." page). This can result in parts of the image on the side being in front of the window and colliding with the border, which causes a window violation. SPM's Floating Window option allows you to float a bordered window in front of the viewing surface in order to avoid the violation.

First, go to Edit->Floating window and choose "Floating window setting". You can specify the width of the boarder of your floating window either in a set number of pixels or as a percentage of the image width. You can also specify the colors for each border, and whether to have rounded corners for the middle border.

Once you set your default values, you can still adjust the window's location by using the left arrow key to move the window forward, or the right arrow key to move it backwards.

As with all SPM changes, if you do not like the result, you can undo the change (Edit->undo or press the "Z" key) and change your settings until you get one that you like.
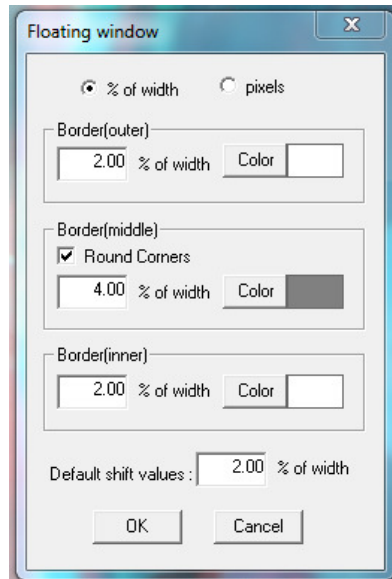
Of course, the "floating window" can also be used as a creative effect. In the image below, the middle seagull is actually in front of the surface of the paper, but the floating window boarder puts it at the same location as the gray border (view this image with anaglyph glasses to see the effect).

The above image shows the result of applying a single floating window. You can, if you wish, apply multiple windows as shown below.

Save the floating window image with a new name.   [ ][ ]
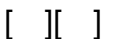
SPM Tip - Split/Create MPO File

by Dennis Green

When you take a picture with a true stereo camera like the Fuji W3, the image pair is saved in the .mpo format (multiple picture object). This format saves two (or more) .jpg images in a single file, and it is recognized by some 3D TVs as the format that identifies a 3D image. This turns on the TV's 3D function automatically.

But you may want to send or print the individual Left or Right image of a pair. Conversely, you may have two individual images from a twin camera rig or a cha-cha stereo image that you would like to convert to the .mpo format to use with a TV or other device. SPM has the ability to split the .mpo file into two .jpg images or make one MPO out of separate JPEG images. To **split** an MPO:

1. Create a folder for the group of images (example "Parade") and in that folder create sub-folders for "MPO", "Left" and "Right".

2. Copy your MPO images into the "MPO" folder.

3. Start SPM and choose File->Create/Split MPO File...

4. Click the down arrow next to the "Look in" box and browse to the "MPO" folder.

5. In "Files of type:", click the down arrow and select "MPO Multi-Picture Format". The dialog box title will change to "Split MPO File (MPO--->Jpeg)".

6. Click on each "Output Folder" browse button and select the "Left" and "Right" image folders.

7. Click on "Convert all files" to losslessly extract the images to the left and right folders.

To **create** an MPO file, change the "Files of type" selection to either "SBS (parallel)", "SBS (cross)" or "L/R JPEG Files", depending on the format you have. The dialog box title will change to "Create MPO File (Jpeg--->MPO)". Select your output folder, then click on "Convert all files", and in seconds you will have MPOs in your folder.

As always, it is best to work with copies of your files, leaving the originals in a safe place.   [ ][ ]

SPM Tip - Fuzzy Border / Sphere

by Dennis Green

There are a couple of ways to play with the way you format your images with SPM that can be creative tools, One is adding a fuzzy border. While this can be used to fix a minor window violation in the same way as using a floating window (see the SPM Tip from February), it can also be added just as a creative element.

To create the fuzzy border, open an image in SPM and then select Edit->Add Fuzzy Border (or use Shift-B).

You will get a dialog box similar to this one. You can set the border width in pixels, and the gradient in percentage (0% is a hard line, 100% is completely fuzzy). You can also choose to have rounded corners, or to have a color other than black, which can be another effect.

These settings will look different depending on the resolution of your image. Larger images will require a greater number of border pixels to get the same effect. You can play with these settings and try different variations. If you don't like the effect, just Undo (hit the "Z" key) and try something else.
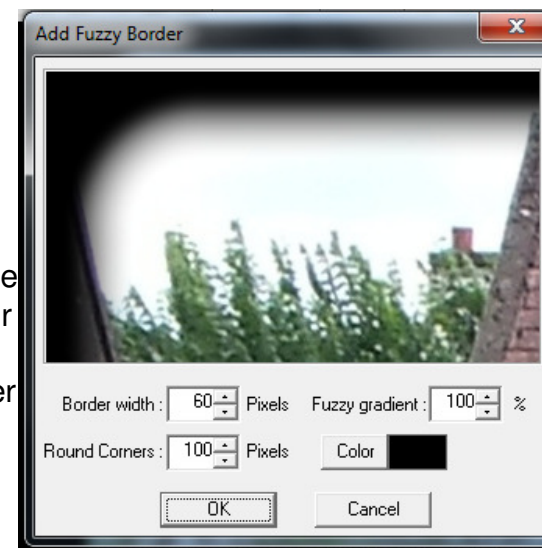
Another easy to create effect is one we have seen used for some of the recent DISE winners - that is projecting an image onto a sphere. This effect works best with an image whose main point of interest is at or very near the center of the image.

This is perhaps the easiest effect to achieve, as there are not any options when using it. Just open your image and select the menu item Edit->Spheric Deformation (or use the keys Ctrl + U), and your image will instantly be transformed. It either works, or it doesn't.

You could try this command on a whole folder of images, and only save those that work for you. I like to think of this modification as taking an object and encasing it in a glass ornament.

Don't be afraid to experiment with these tools, but always do your experiments on copies of your images, keeping the originals in another location. And most important - have fun!   [   ][   ]

SPM Tip: Multiple Images
by Dennis Green

StereoPhoto Maker is a great tool for aligning a pair of images (see "Auto-Alignment" in *SPM Quick Tips Volume II* on our website). But what if you need to align more than two images? Common types of multi-image formats would be lenticular images (you can make a lenticular print from two images, but they are much better when there are many in-between views are provided), bullet-time movie sequences, or object-rotation movies of large subjects. SPM can do the job! This is done in two stages. The first is *Auto rotation adjustment (One by one)* followed by *X/Y adjustment & Cropping*. Here are the steps:

1. **Capture the images:** The types of images above are actually made with a sequence of 2D images. When capturing the images, be careful that the change in viewpoint is not too large from one image to the next, as this makes accurate alignment difficult.
If you have taken a sufficiently large number of images, such that each adjacent pair can be viewed in stereo, then you can create a stereo movie from them, as well.
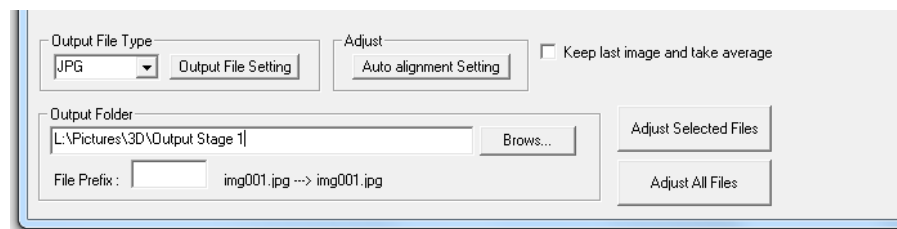
2. **Auto rotation adjustment** (One by one):
Select Menu->File->Multiple Images->Auto rotation adjustment (One by one)...

Choose options (Output File Type, etc...).
Enter Output folder name (if it does not exist, SPM can create it).

Press 'Auto alignment Setting', then check 'Better precision (Slow)' option. If your image sequence is captured by moving from left to right, then input-image arrangement is parallel. Then press 'Convert all files' from the previous dialog box (which will appear when you press OK on this one).
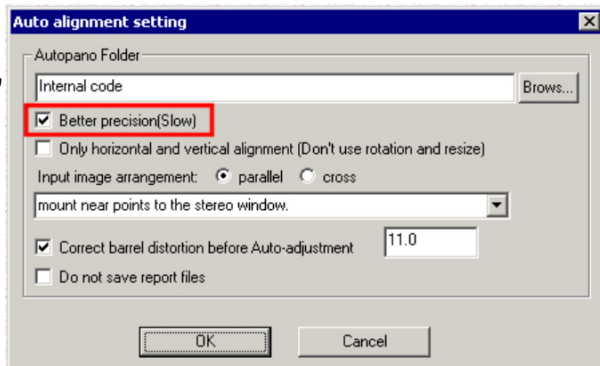
3. **Select X/Y adjustment & Cropping** (from first dialog box). Input the Output folder name as before. Make sure that you enter a different folder name than that used for your source or first-stage processed images to avoid overwriting them!

4. **X/Y Adjustment:** Select input files which were adjusted in the above process, then push the convert button.
Select a prominent, easily-recognized feature that is visible in all images to use as the common corresponding point.
Push 'Set Point' button, then click the mouse button on the common corresponding points when they are exactly under the cross-hair. After clicking the mouse button, SPM changes to the next image, so continue to specify common corresponding points for all images.

5. **Cropping:** Push the 'Mask' button to create the masks that define the area common to each image. Push the 'Crop' button and specify the cropping area with mouse-drag. If you make a mistake, just repeat the operation. The crop area will be outlined in red. Then, push 'OK' to save the resulting images. That's it!
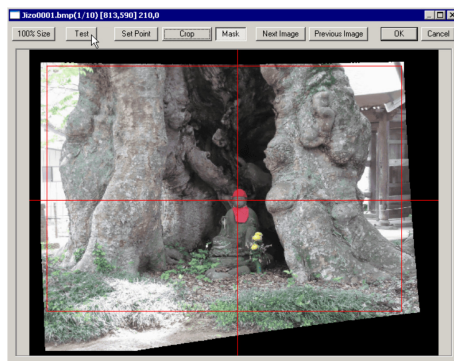
Full detailed instructions can be found on the help website: http://stereo.jpn.org/eng/stphmkr/help/index.htm. Select the first link in the 'Other Functions' area.
[ ][ ]

SPM Quick Tip: Associate SPM with IE
*By Dennis Green*

SPM may be associated with Internet Explorer to give you the option of right-clicking on an HTML document's images and having the dropdown option to 'Open with SPM'.

Why would you need this? It will allow you to view internet images in formats other than side-by-side (if you have a 3D monitor or want to view in anaglyph with red-cyan glasses, for example).

To activate this option in SPM, just go to the Edit menu and select Preferences-> IE Context Menu.
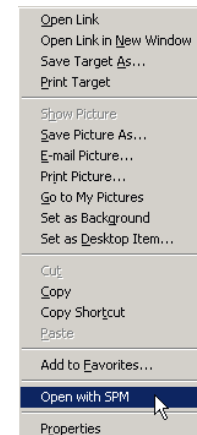
In this box, click on 'Enable IE Context Menu' and select whether you want a temporary version of the image (which will be saved in a 'Temp' folder and later deleted), or specify a folder for viewing later. This will allow you to view multiple images without opening SPM for each image you view.
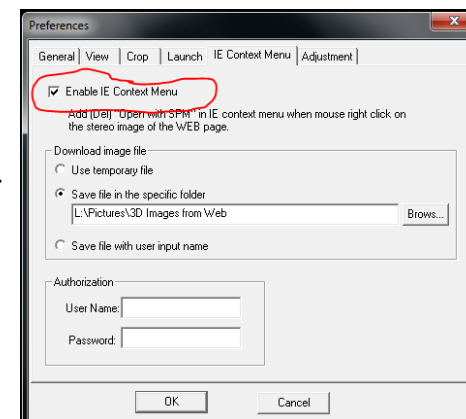
You can set the input and viewing options by going to Edit->Preferences->Launch. In addition to the input and viewing options, you can specify that the images are displayed in full screen mode, or swap the left and right images if need be.   [ ][ ]