

Lenticular 101



A Quick Introduction

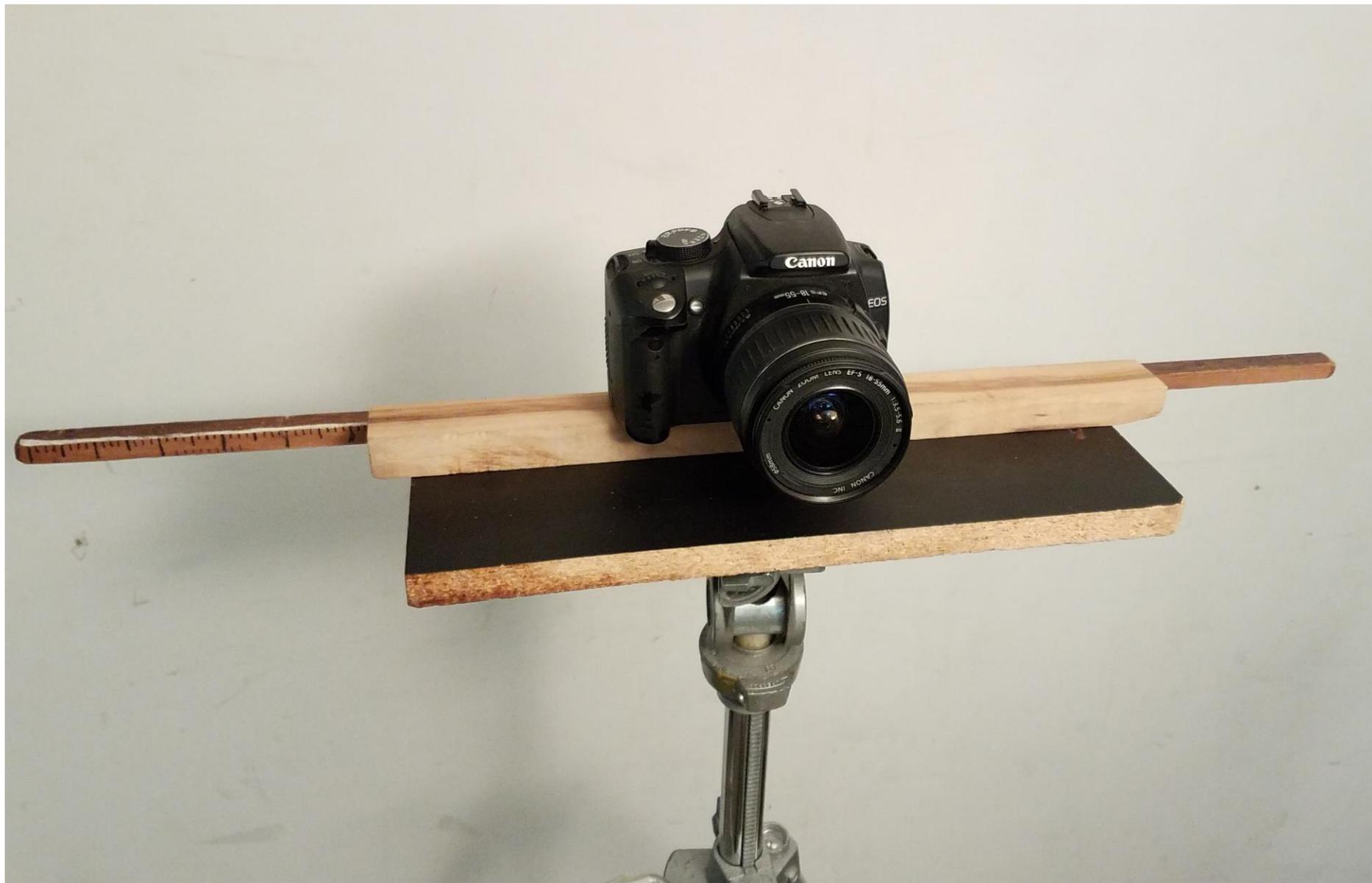
Lenticular Images using Stereo Photo Maker

<https://stereo.jp/eng/stphmkr/>

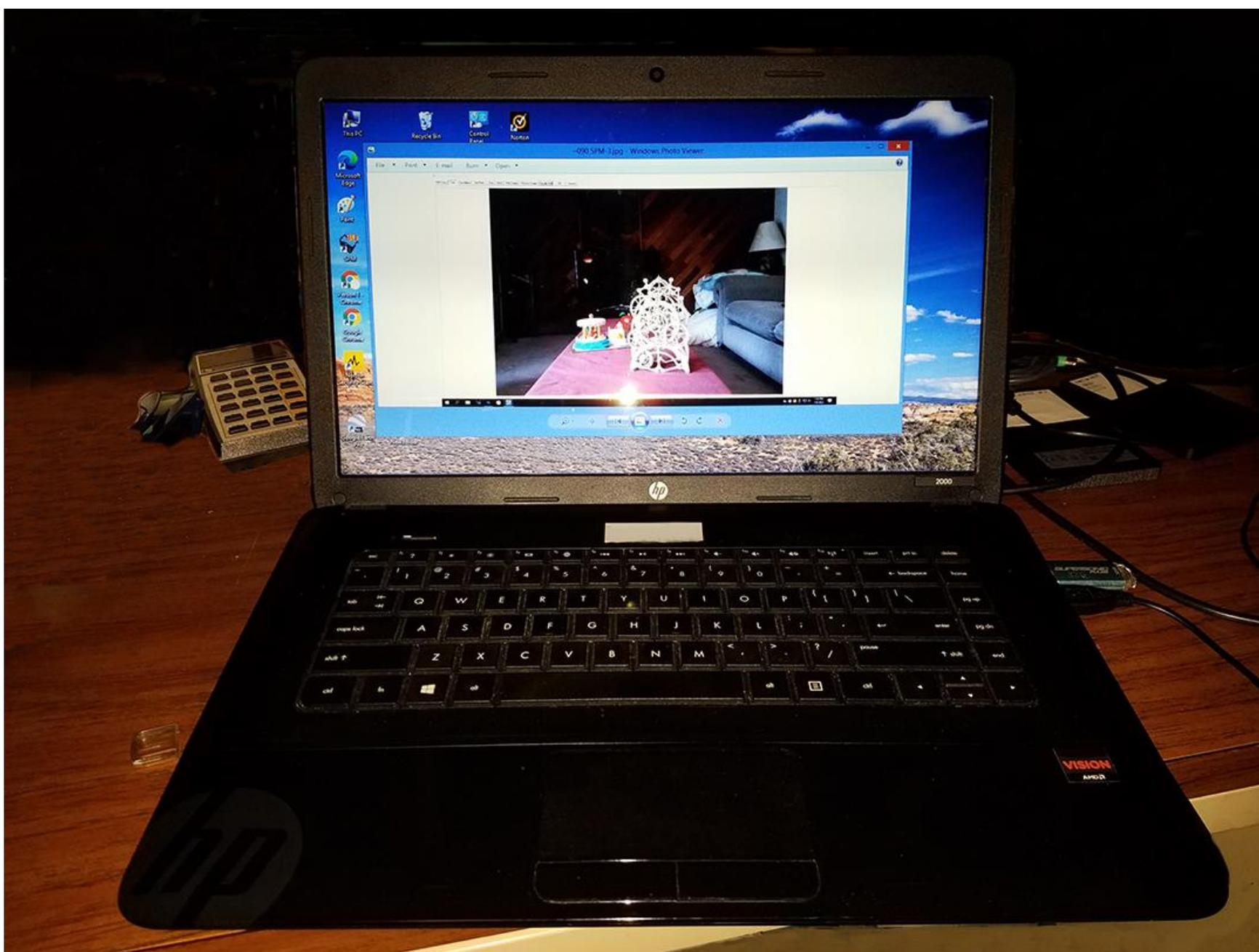
Version 6.25a



Things you need to make a lenticular 3D image.



Camera (of course) and tripod with a slide bar - my old hand made slide bar



Computer and Software

<https://stereo.jpn.org/eng/stphmkr/>

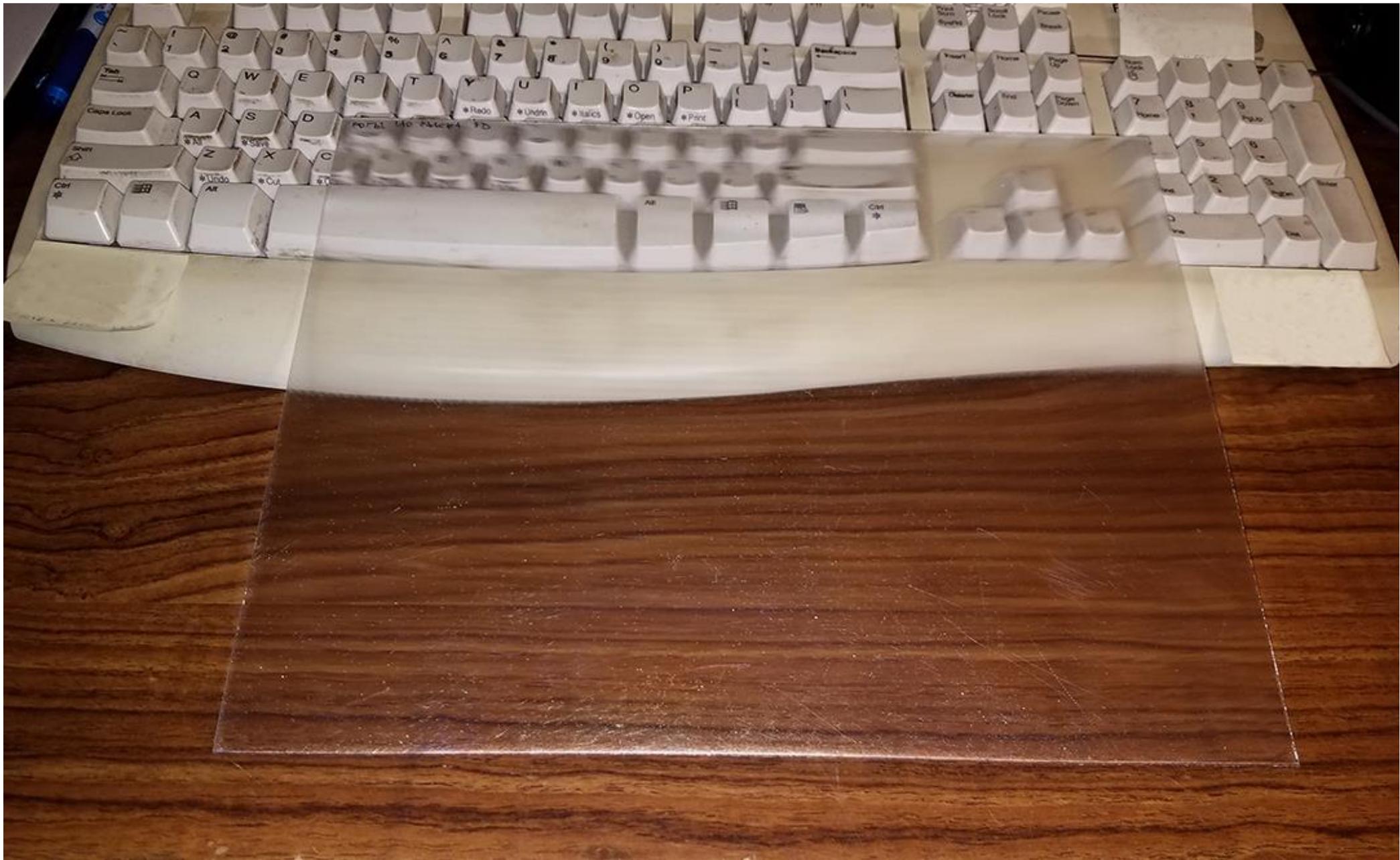
Version 6.25a



A photo printer and photo paper



A complementary lenticular Frame to get you started.

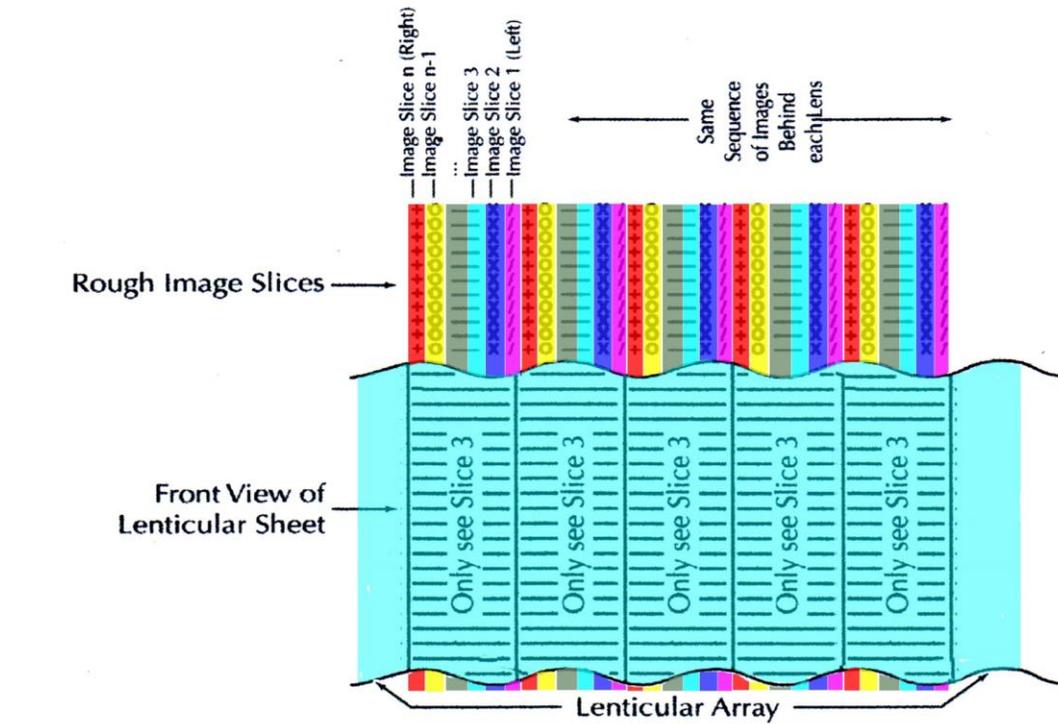


Or an 8" X 10" lenticular sheet - if you are more determined

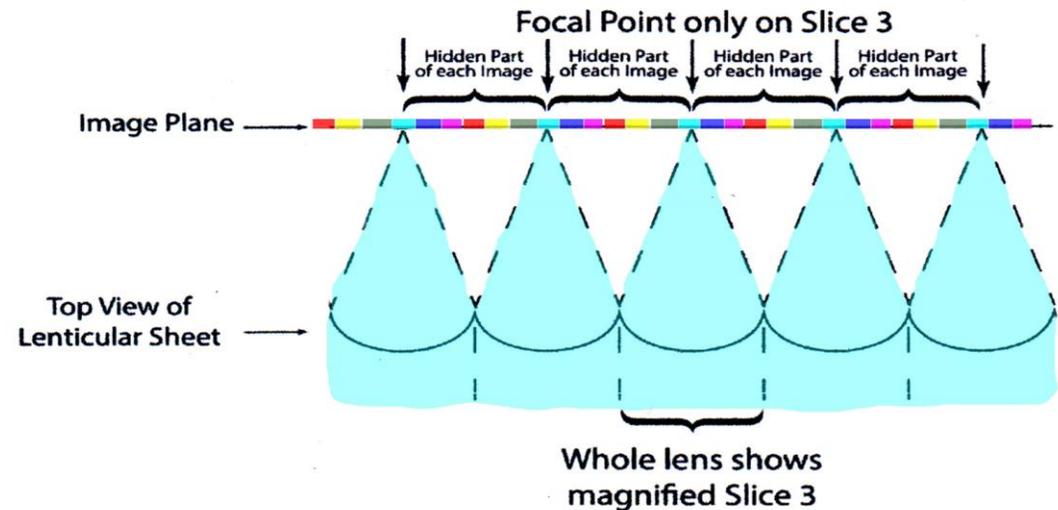
Lenticular Lens Diagram

The lenticular image all sliced up and shown as different colors.

With the lenticular lens over the image as shown, only the light blue slice is shown.

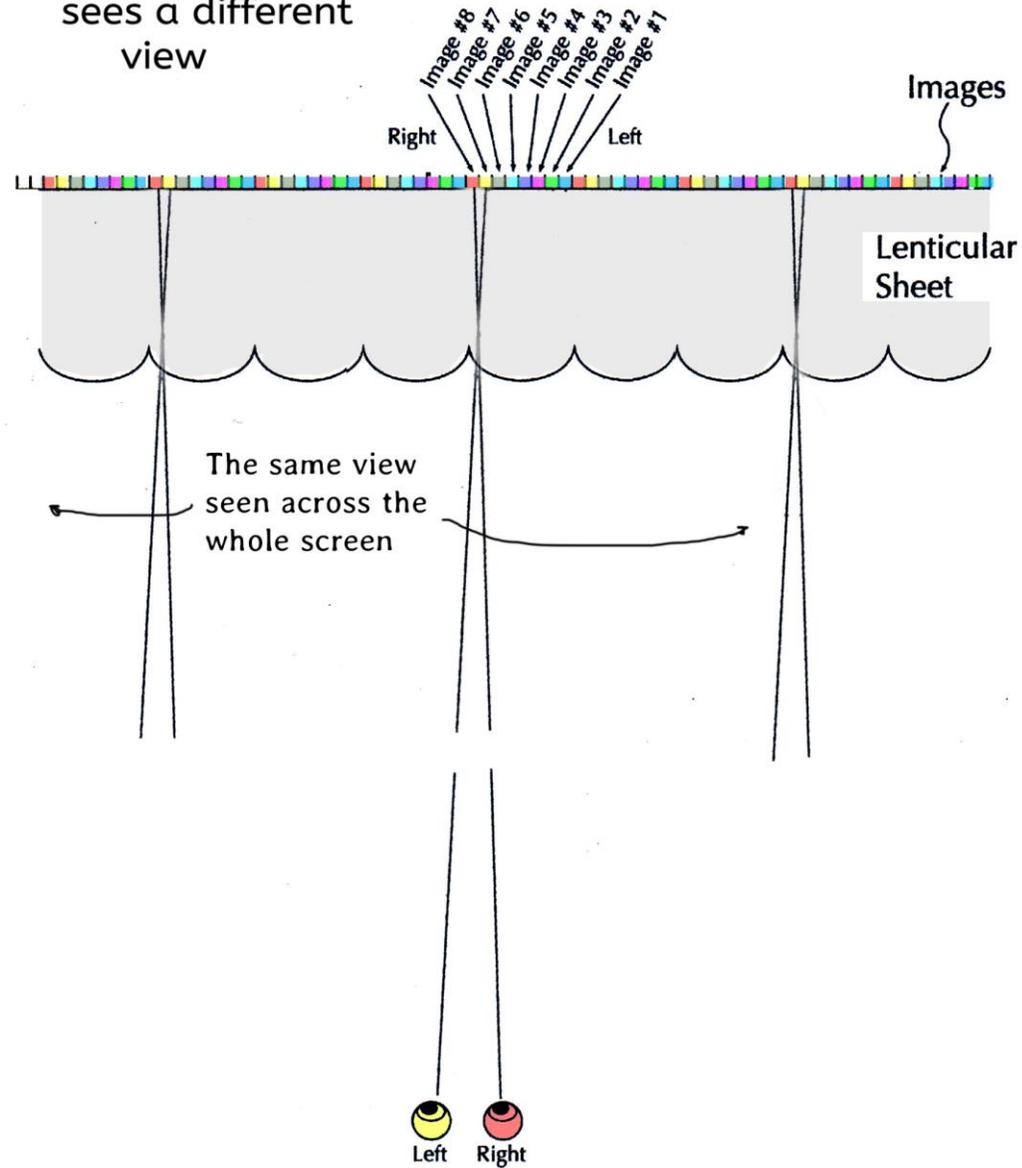


Top view showing the hidden images.

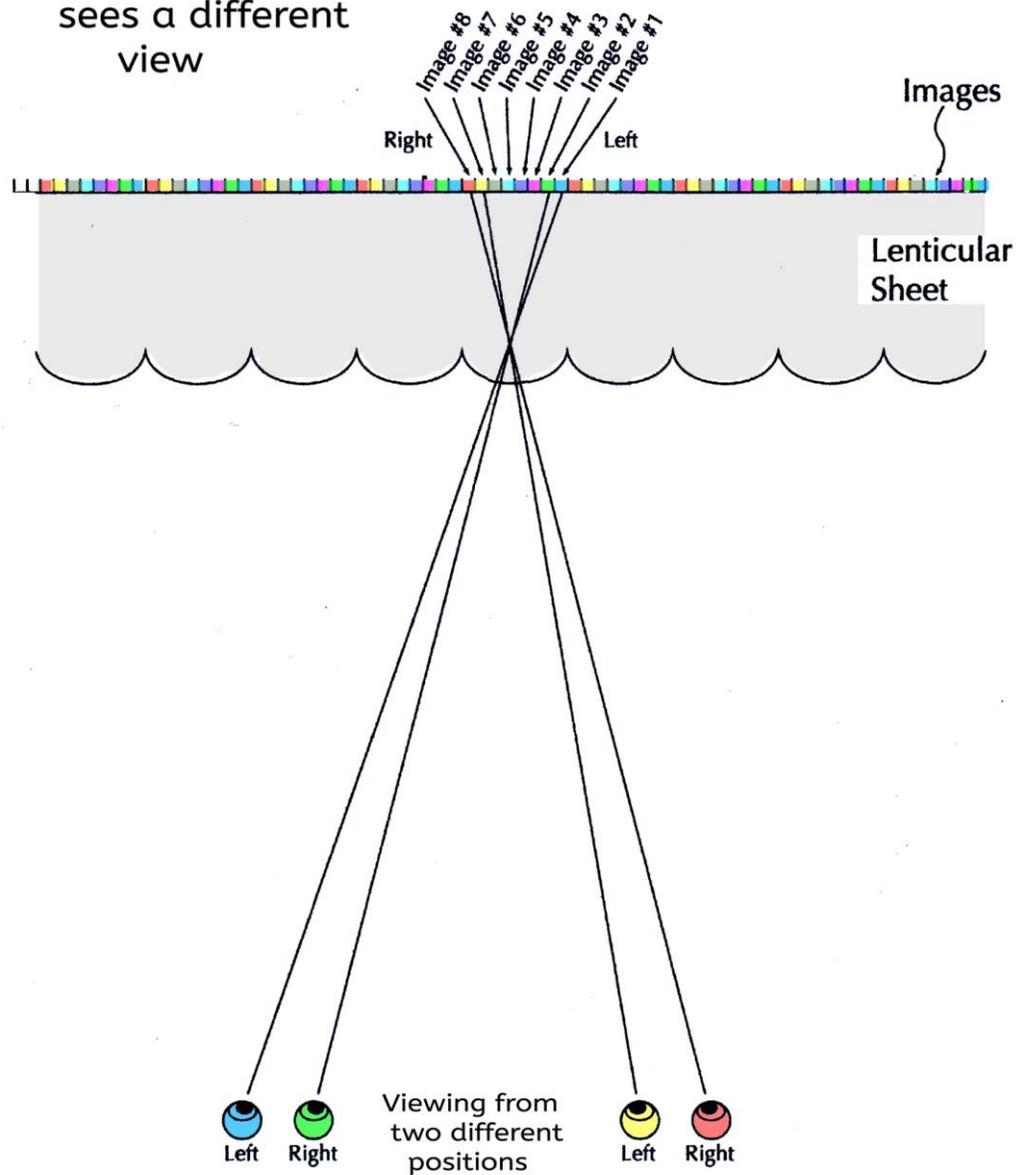


3D is seen
as each eye
sees a different
view

With everything all
aligned, you see only the
red/yellow side by side
images across the whole
screen.



3D is seen
as each eye
sees a different
view



As you move from one side to the other, you will see two, side by side, different views of the 3D image



Two different ways to take lenticular images

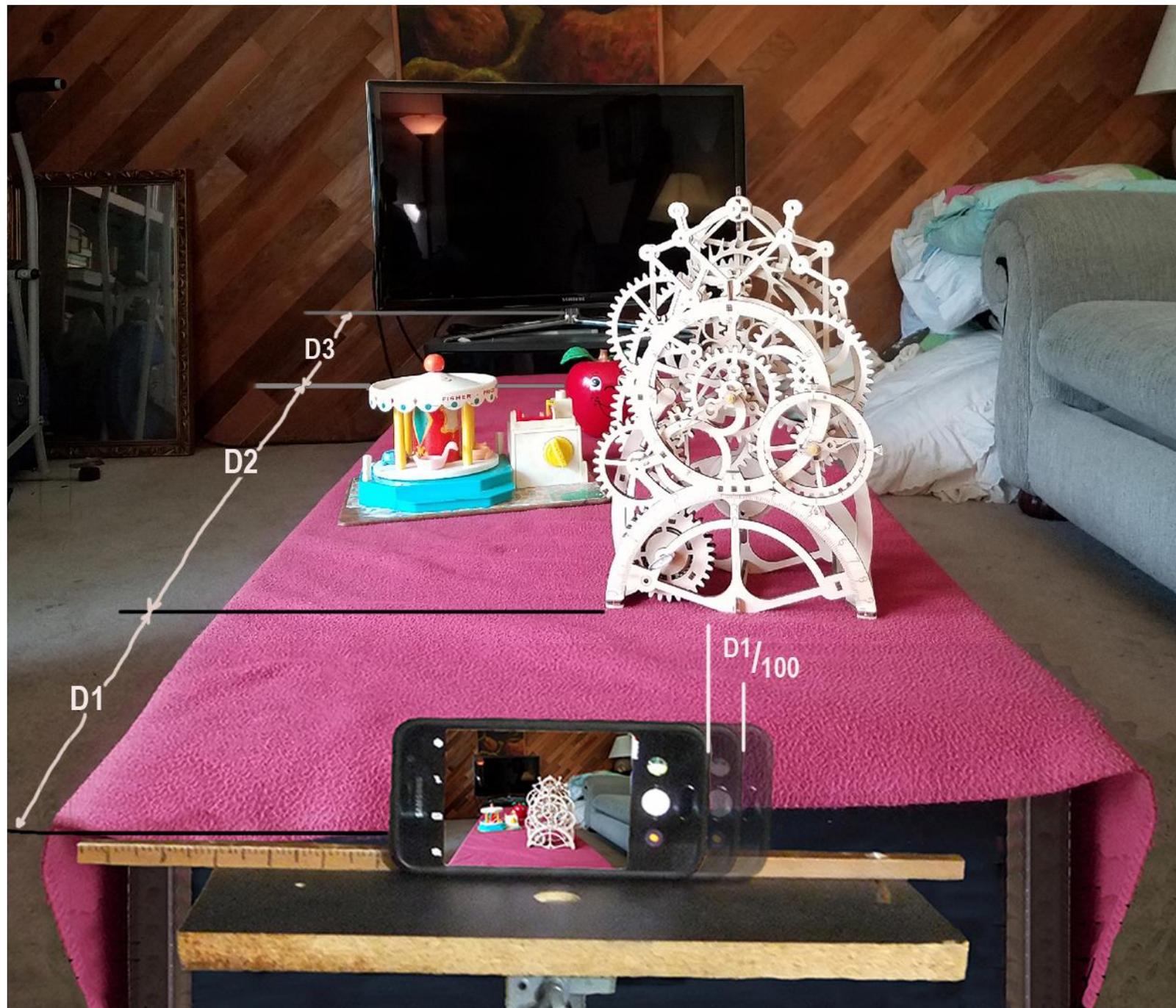
- 1) Rig up many cameras on a bar to trigger by one shutter control



2) Use one camera (a cell phone?) on a slide bar at many positions

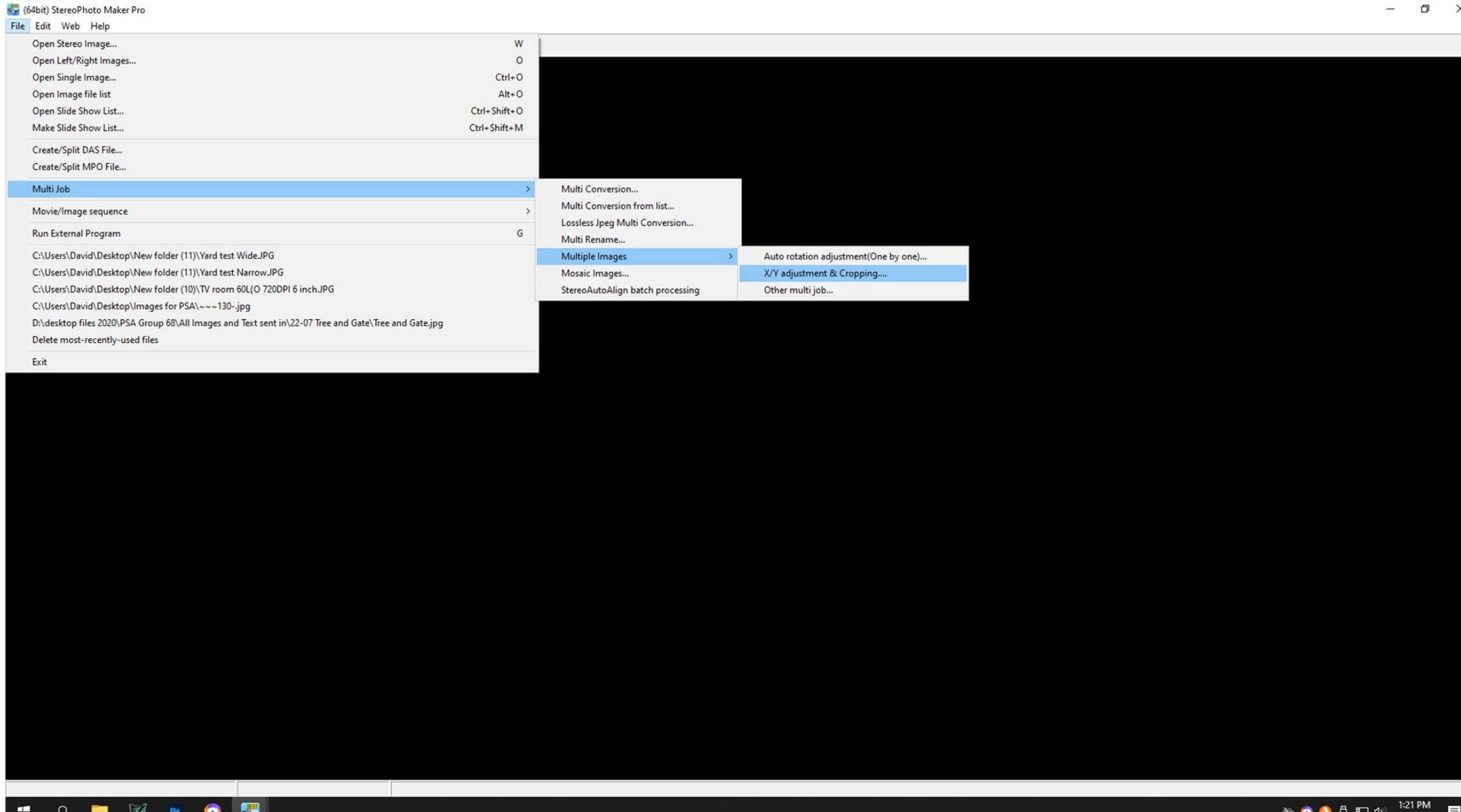
There are 3 important distances of interest. D1 - the distance from the camera to the nearest object in the image. D2 - the best field of focus of the lenticular 3D image. D3 - the distance from there to the background. D2 ought to be about equal to D1. D3 isn't that critical and can be about the same as D1 or larger. $D2 \sim D1$ $D3 \sim > D1$

Slide bar camera shift "CS". Camera Shift \sim Distance from nearest object / 100.
 $CS \sim D1/100$



- 1) Other helpful suggestions
 - a) Start on the LEFT moving to the RIGHT.
 - b) Make sure nothing moves or the zoom, focus or other camera settings don't change the during all the images you take.
 - c) Using the slide bar, try not to tilt the camera L/R or up/down differently as you take each image.
 - d) Compose the image using the zoom to cover more width than the image you want to end up with.
 - e) Pick the object in your image that you want to be at the lenticular sheet level and make sure that object is in the center most part of each image. This object should be about 1/2 way between the closest item and farthest back item. This part of the image will be at the lenticular level and it will be the best focused part of the lenticular image.
 - f) Take a few more images than you expect to use and use the best images. **Using Stereo Photo Maker, with a 600 DPI printer, and the 60 LPI lenticular sheet stock, 10 images are the most you can use. For a 720 DPI printer, and the 60 LPI lenticular sheet stock, 12 images are the most you can use. (The number of images you need is determined by the DPI of the printer divided by the LPI of the lenticular sheet)**
 - g) Save all your images (in original order) in a new easy to find folder on your computer.

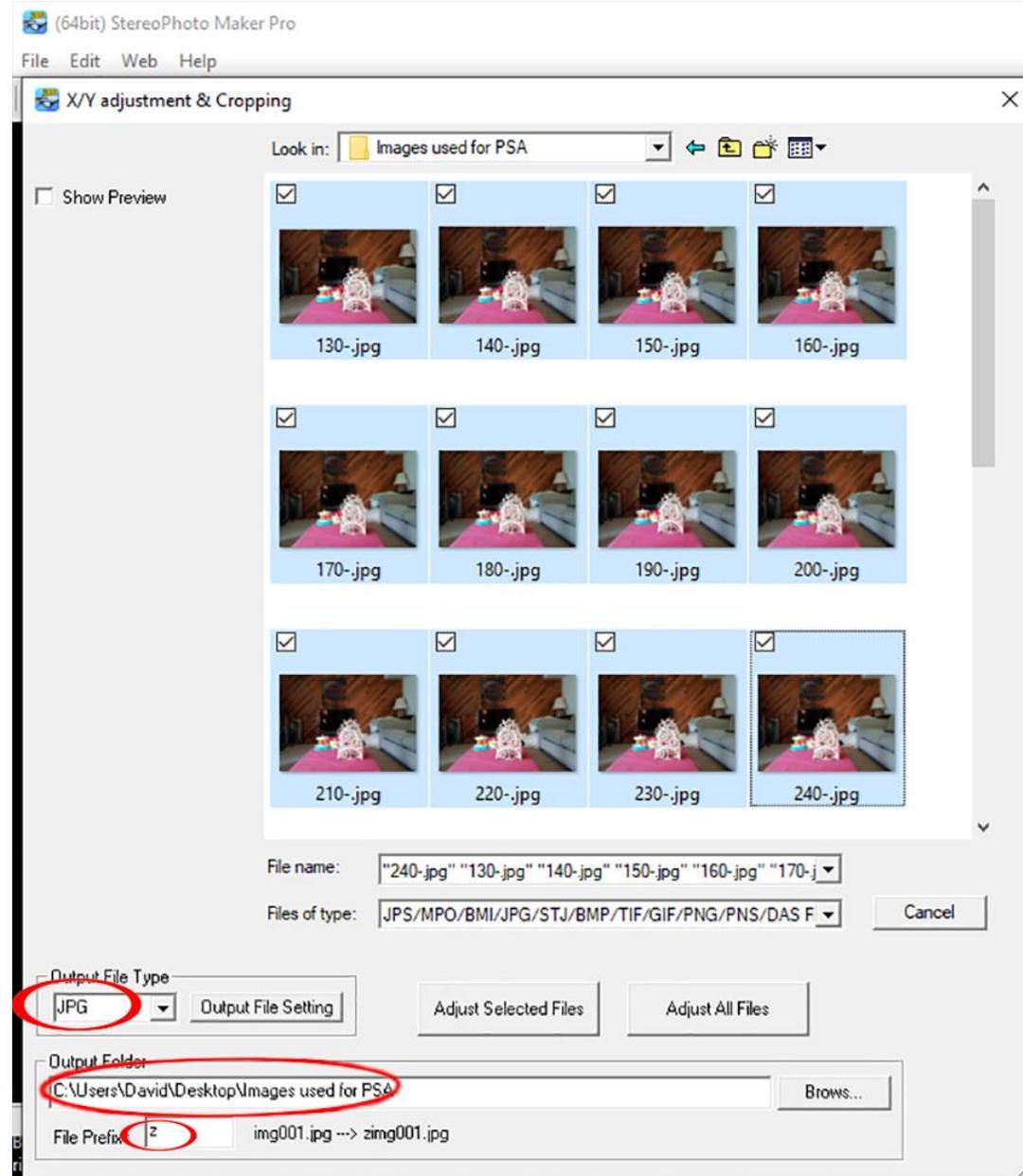
Using Stereo Photo Maker to Process images



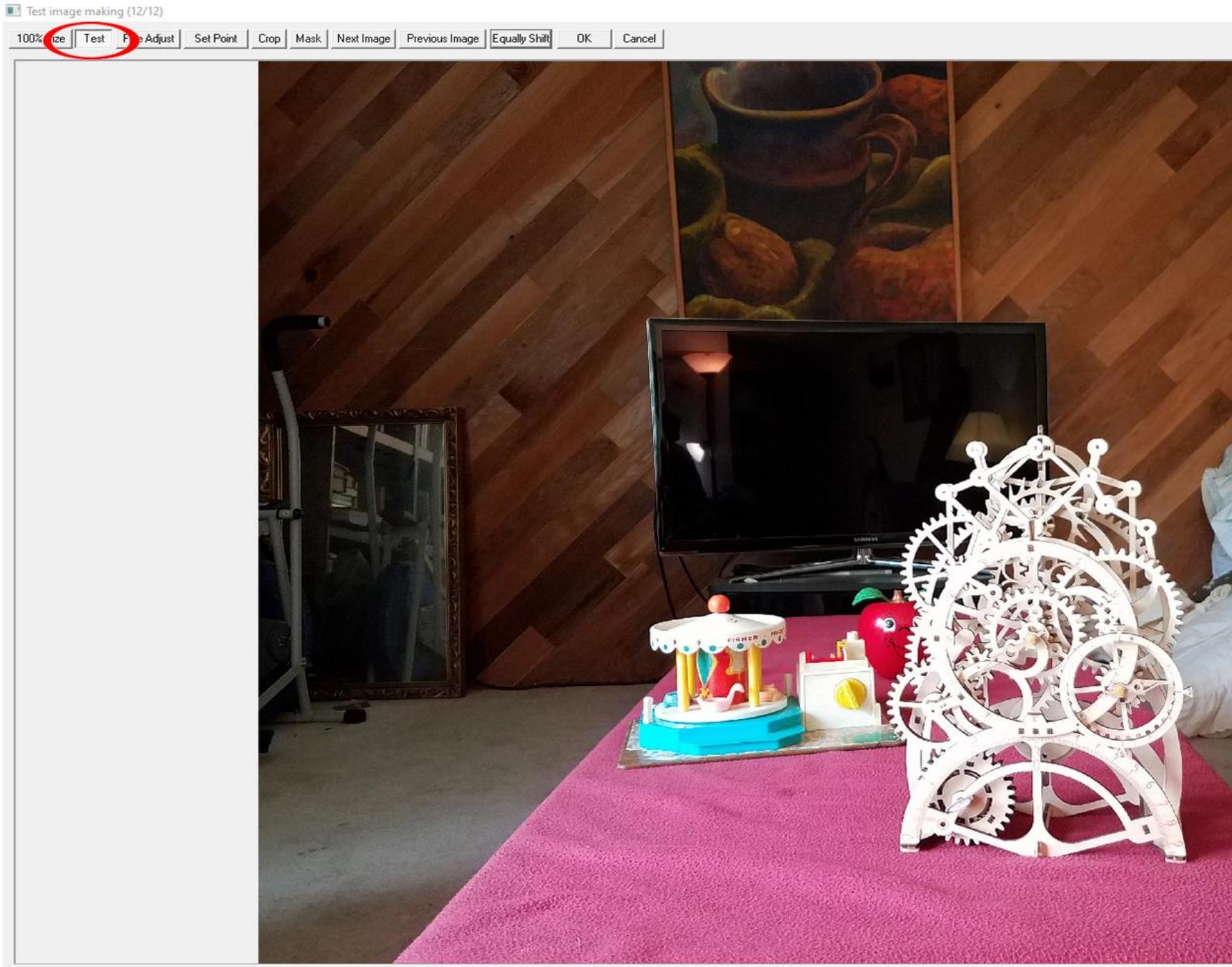
Start Stereo Photo Maker and select: “file/Multi job/Multiple Images/X-Y adjustment and cropping”

Find and open your new image files. Set “Output File Type” to your preference (I use JPG). Make sure the “Output Folder” is where you want to store the processed images. If you want your results in the same folder, enter a unique prefix name in “file Prefix” (otherwise SPM will overwrite your original images).

Select the images you want to work on and click on “Adjust Selected Files” or click on “Adjust All Files”.

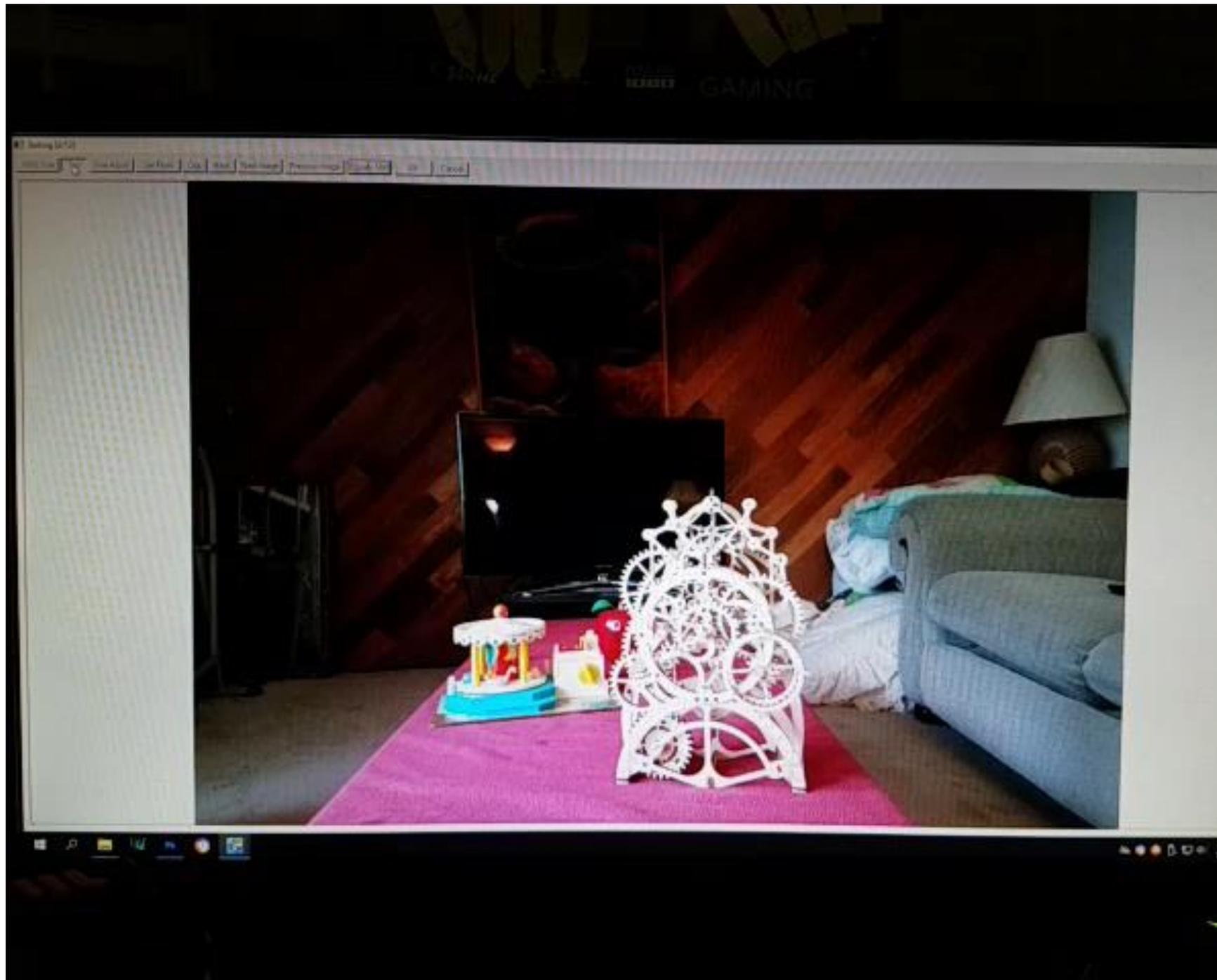


Click on “Test” and SPM will display all the images sequentially (this may take a while as SPM’s progress can be slow but progress is shown at the top of the screen)



If your images tilt or rotate too much as they are presented, you need to let SPM align your images. Cancel out of “test” and exit “X-Y adjustment and cropping”.

(you will have to watch the 101 .mp4 video to see what this action looks like)

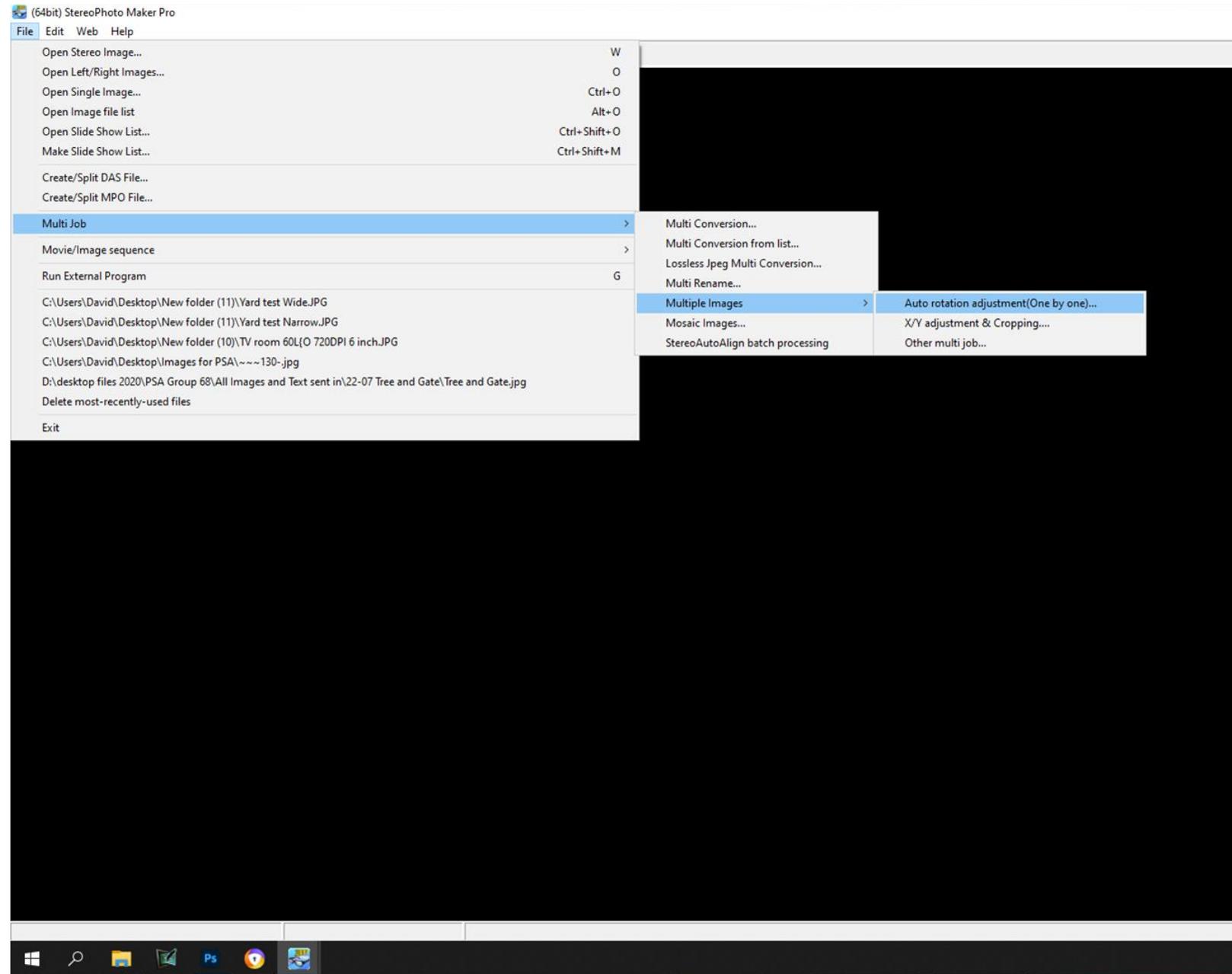


To fix images that rotate or change size:

Select – file/Multiple Images/Auto rotation adjustment (one by one)

Before you start, make sure you choose the correct “Output Folder” or change the “File Prefix” so you don’t over write the original images. Select the images you want to use and click on the appropriate “Adjust Files” button. This can take several minutes if there are many large images. (I generally use the SPM’s default settings).

With the new images test the image again and the images will be improved.

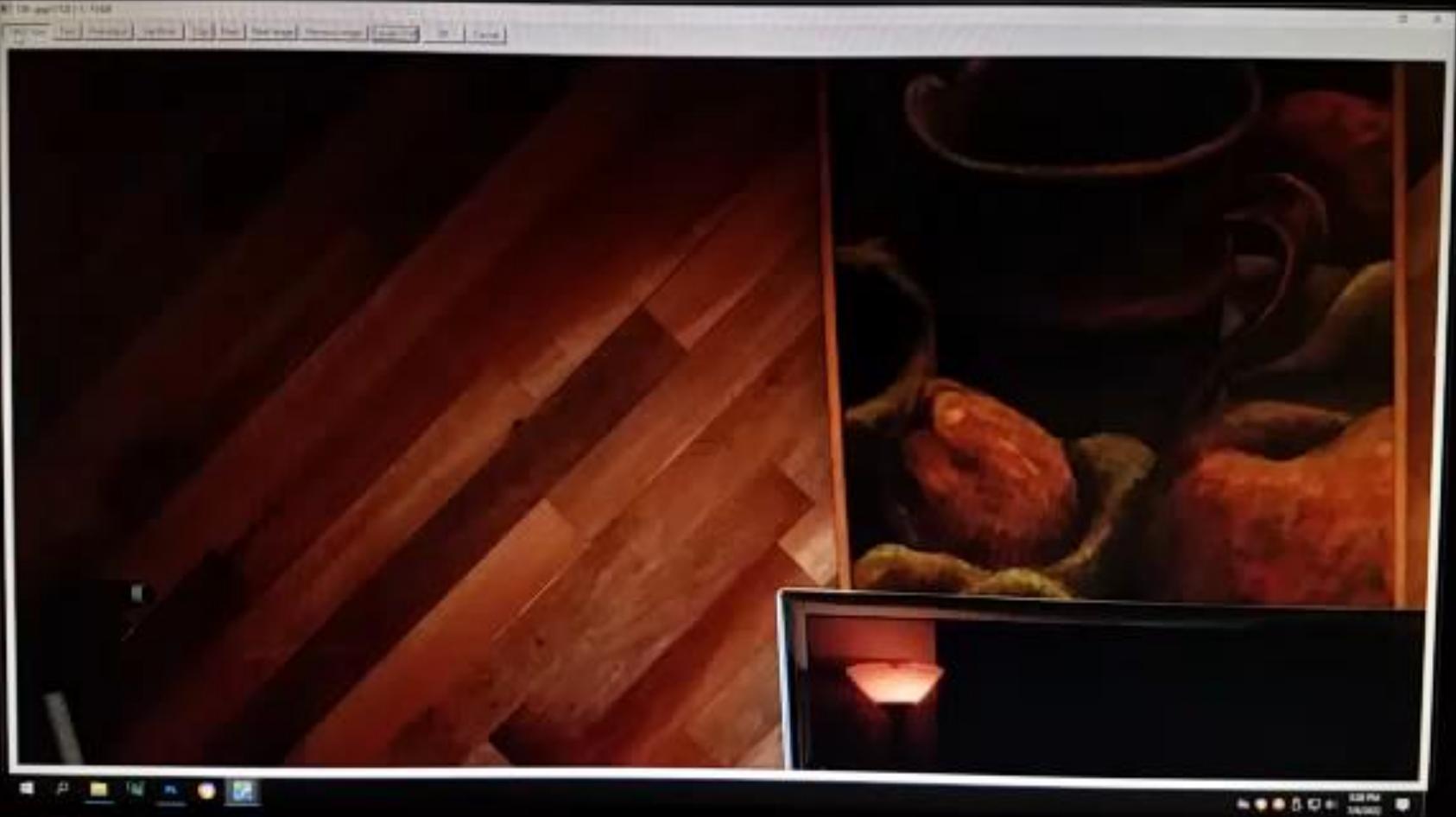


Click on “100% size” and move the image to where you can see a good part of the image that you want to be in the level of the lenticular sheet of your picture (in the middle of the D2 area).

This part of the image will be the best focused area of the lenticular image.



Now click “Set Point” and set the cross hairs on the same point on each of the images.

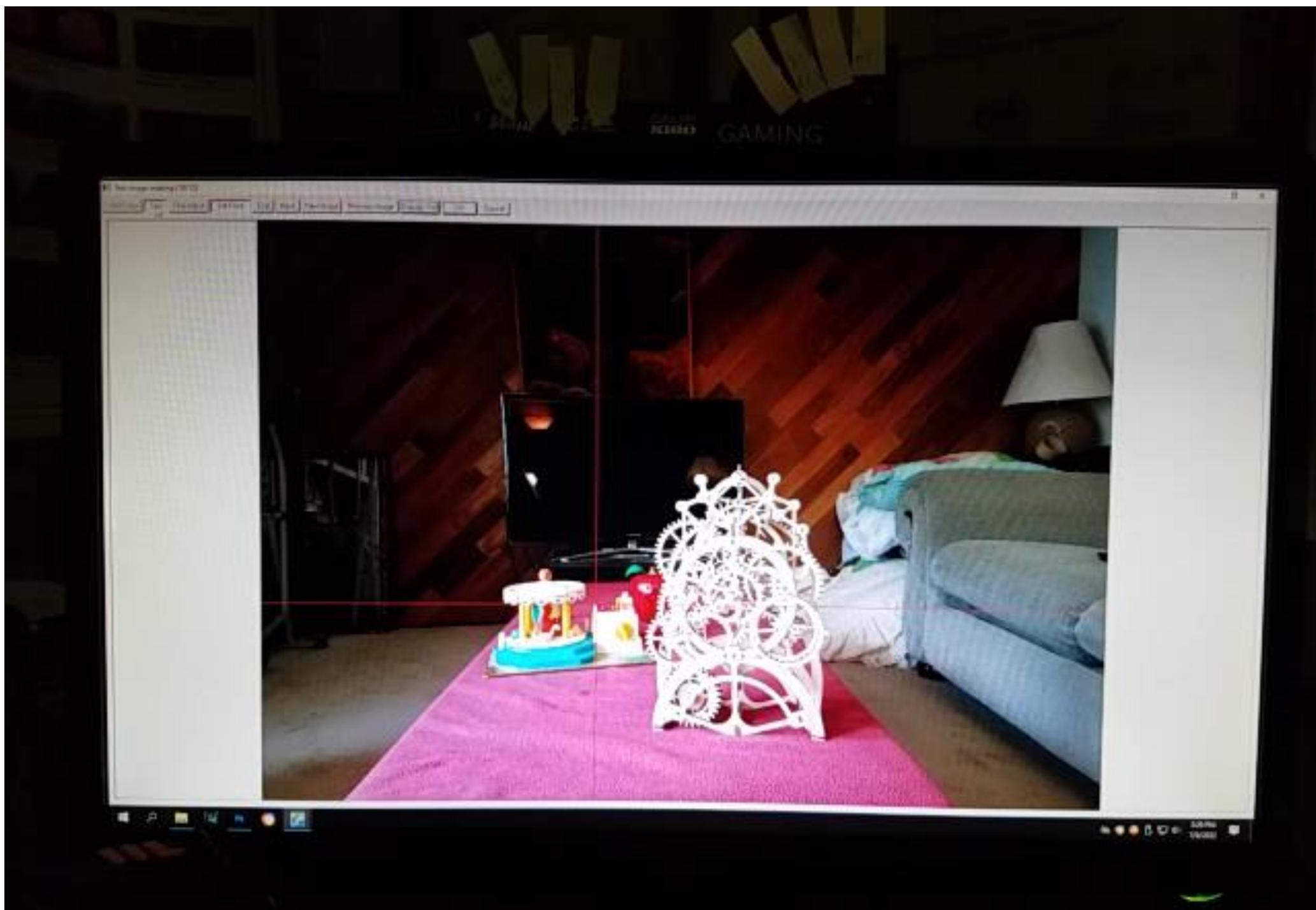


Click on “Test” and all the images should move smoothly in the screen.



All the images should move smoothly in the screen, with the selected point stable.

(you will have to watch the 101 .mp4 video to see what this action looks like)

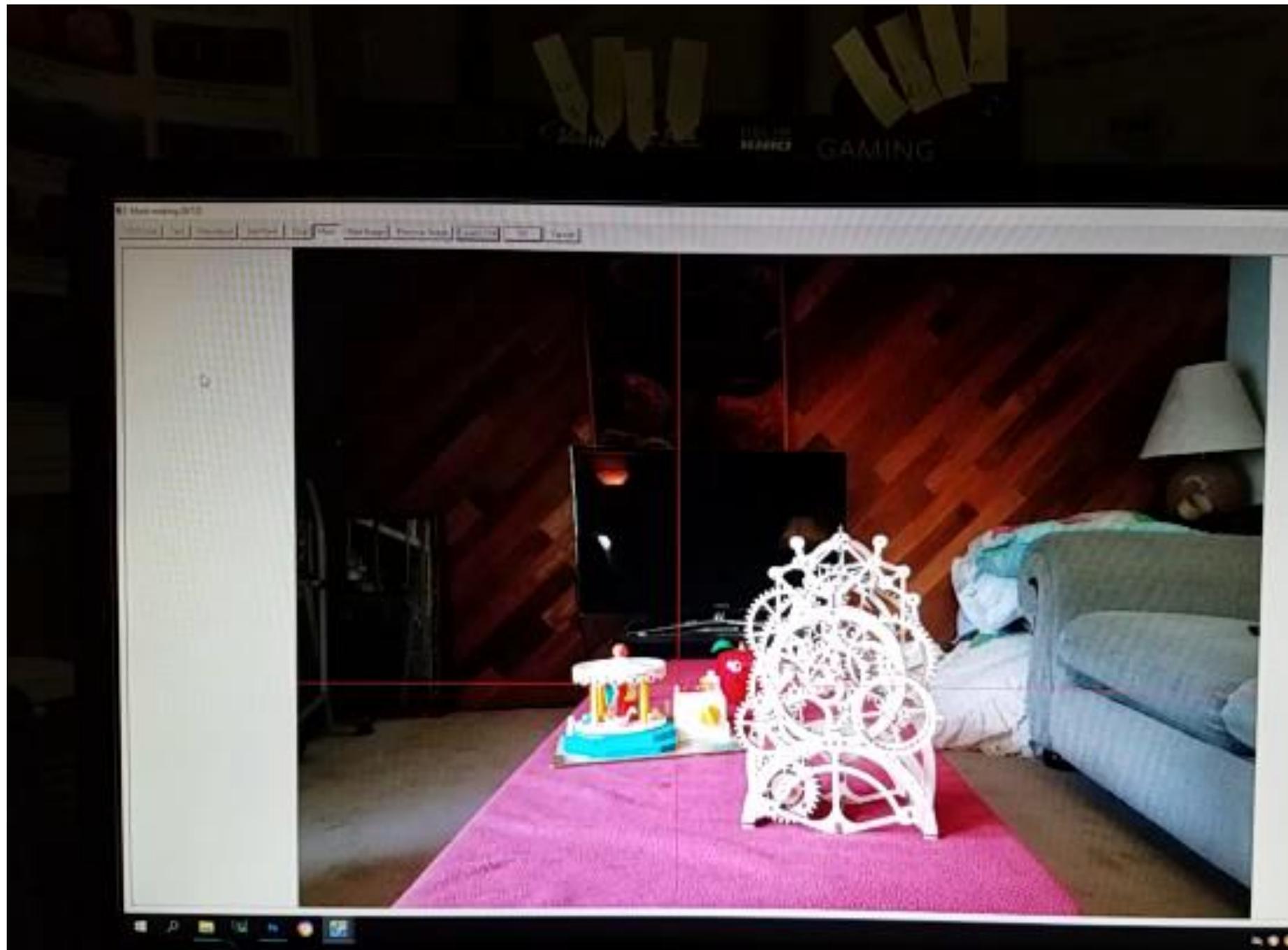


Click on “Mask” and SPM will show the part of this image that is common to all the images.



Part of the image that is common to all the images

(you will have to watch the 101 .mp4 video to see what this action looks like)



z150-jpg(1/11) [-1,-1] 601,508

100% Size Test Fine Adjust Set Point **Crop** Ma... Next Image Previous Image Equally Shift OK Cancel

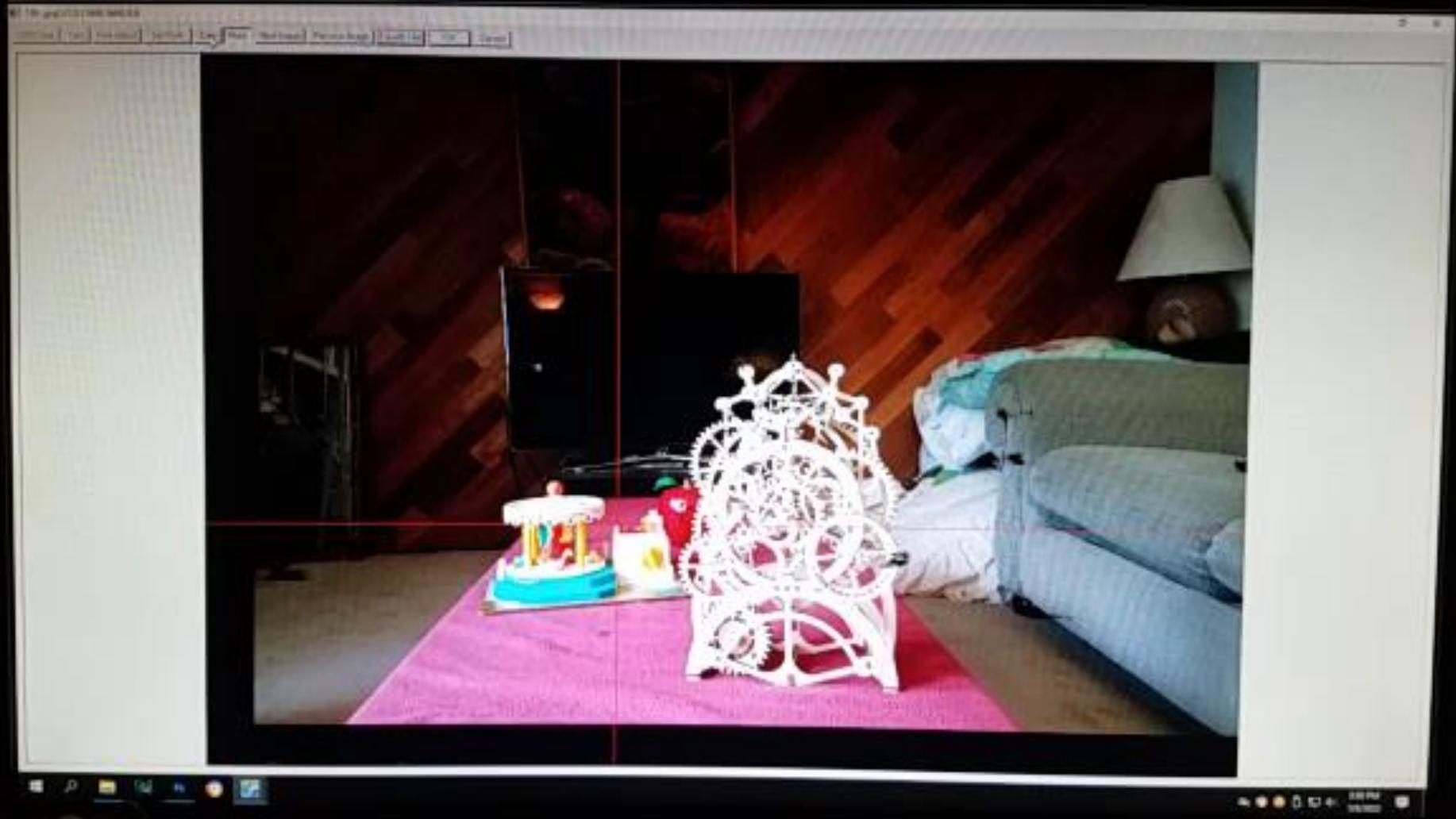
Click on "Crop"



Crop and select the part of the image that you want. Make the image ratio as close to 4x6 as you can.

Then click on “Test” to see what the results of your efforts are

Stereo Photo Maker can also resize and do other functions on the set of images if desired, in “Other Multi Job...”

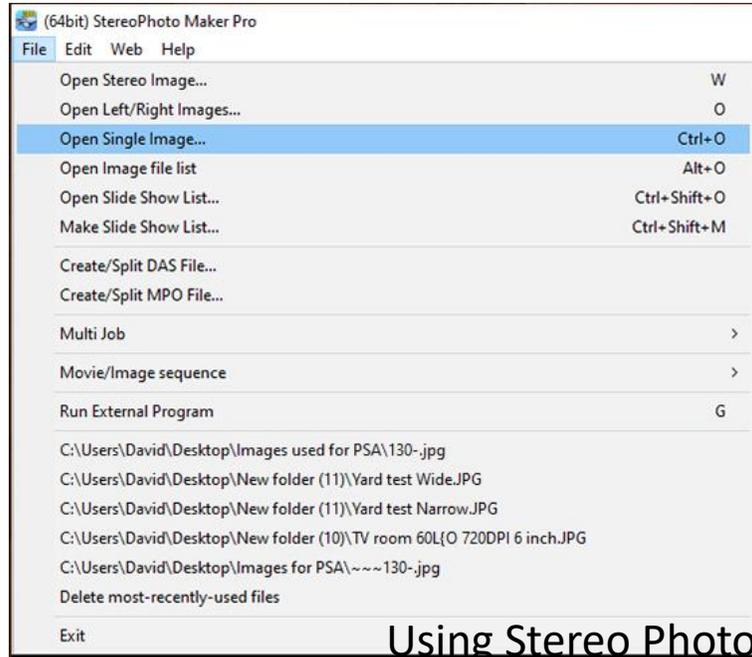


Click on “OK” and SPM will crop all the images at the common point you selected and save them. Make sure you use a new prefix or a new folder otherwise, SPM will overwrite the original images.

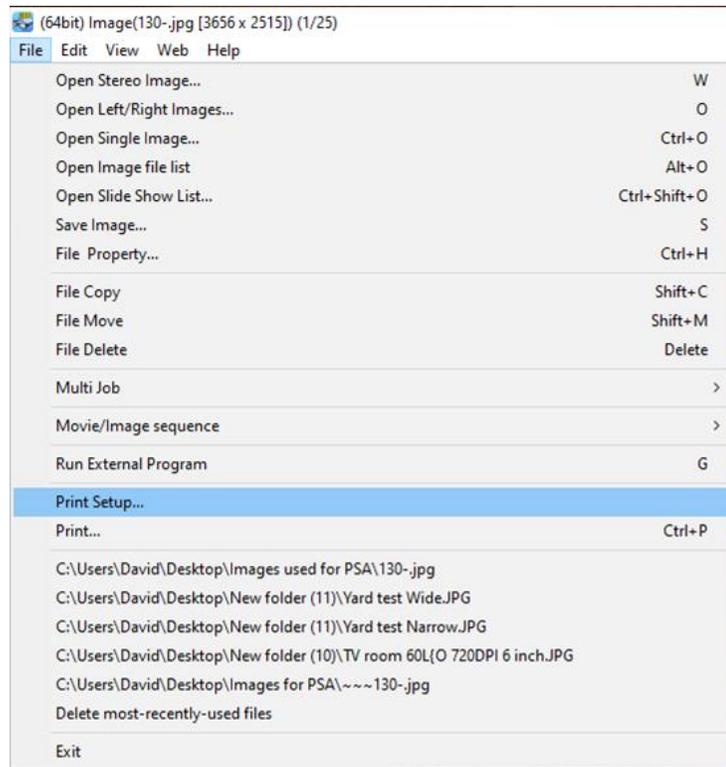


Using Stereo Photo Maker to Slice up and print your images

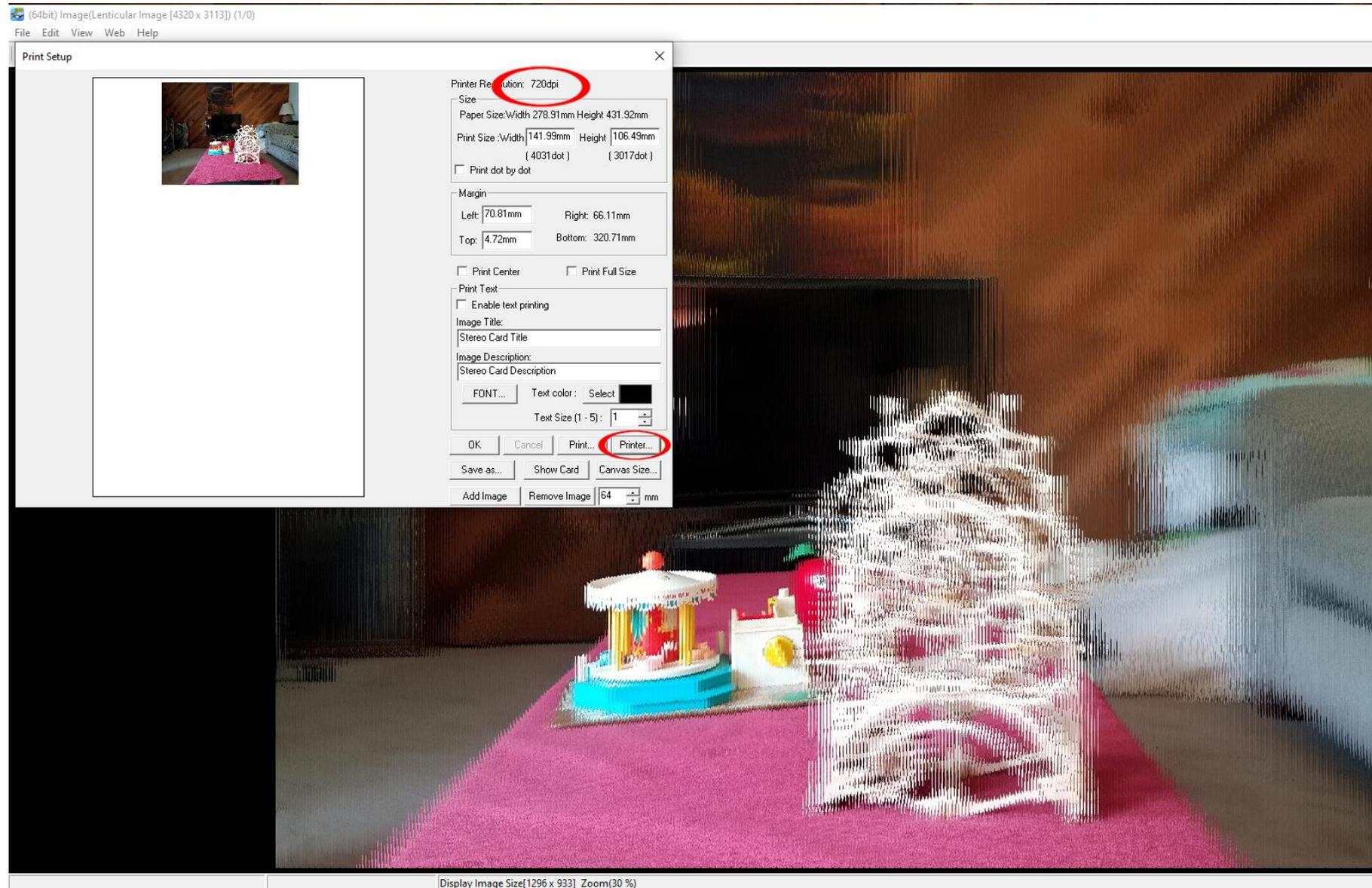
Before you start, load a single image in Stereo Photo Maker.



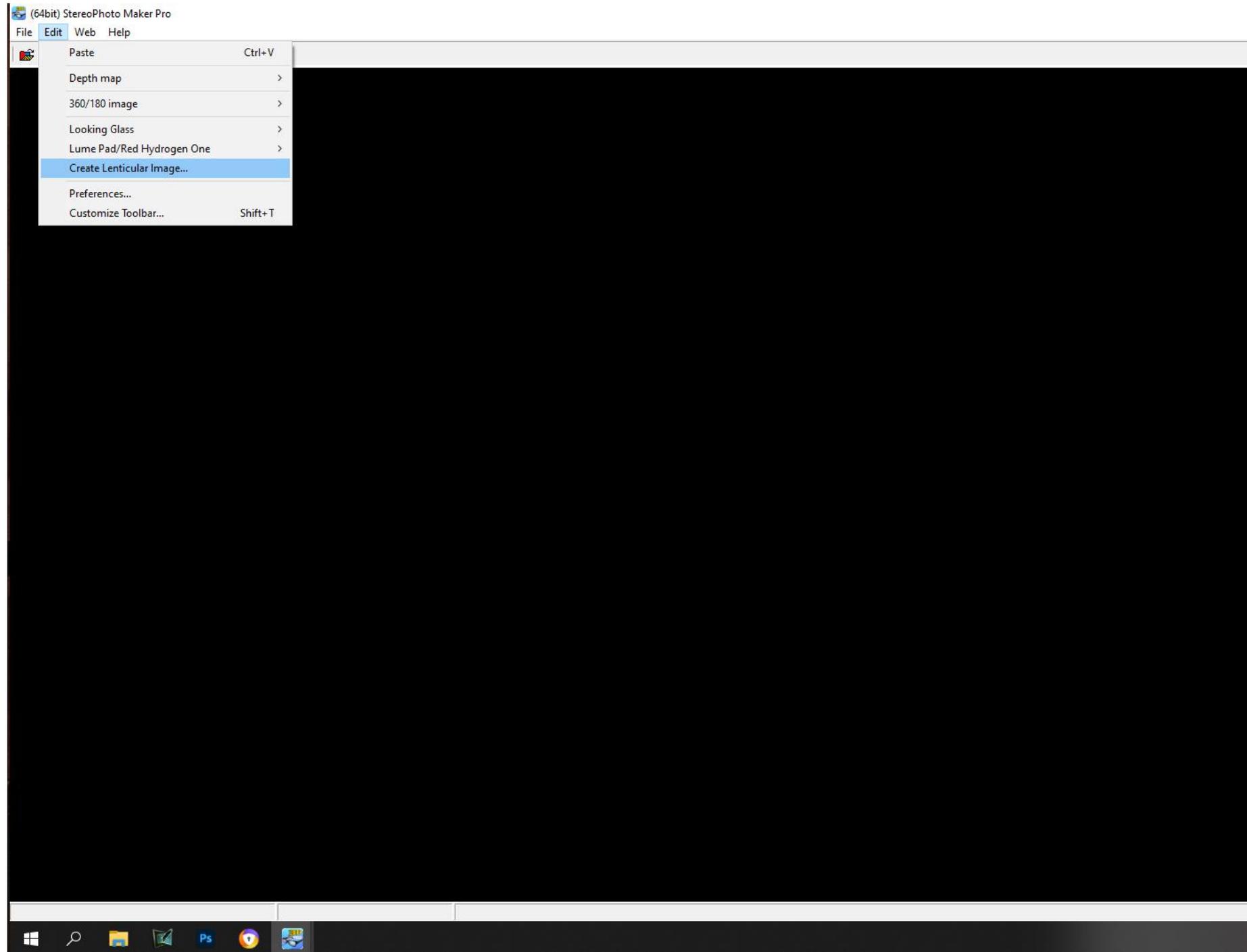
Click on “file, Printer Setup”. Click on the “Printer” box in the lower right corner and set your printer to the “Best Photo”.

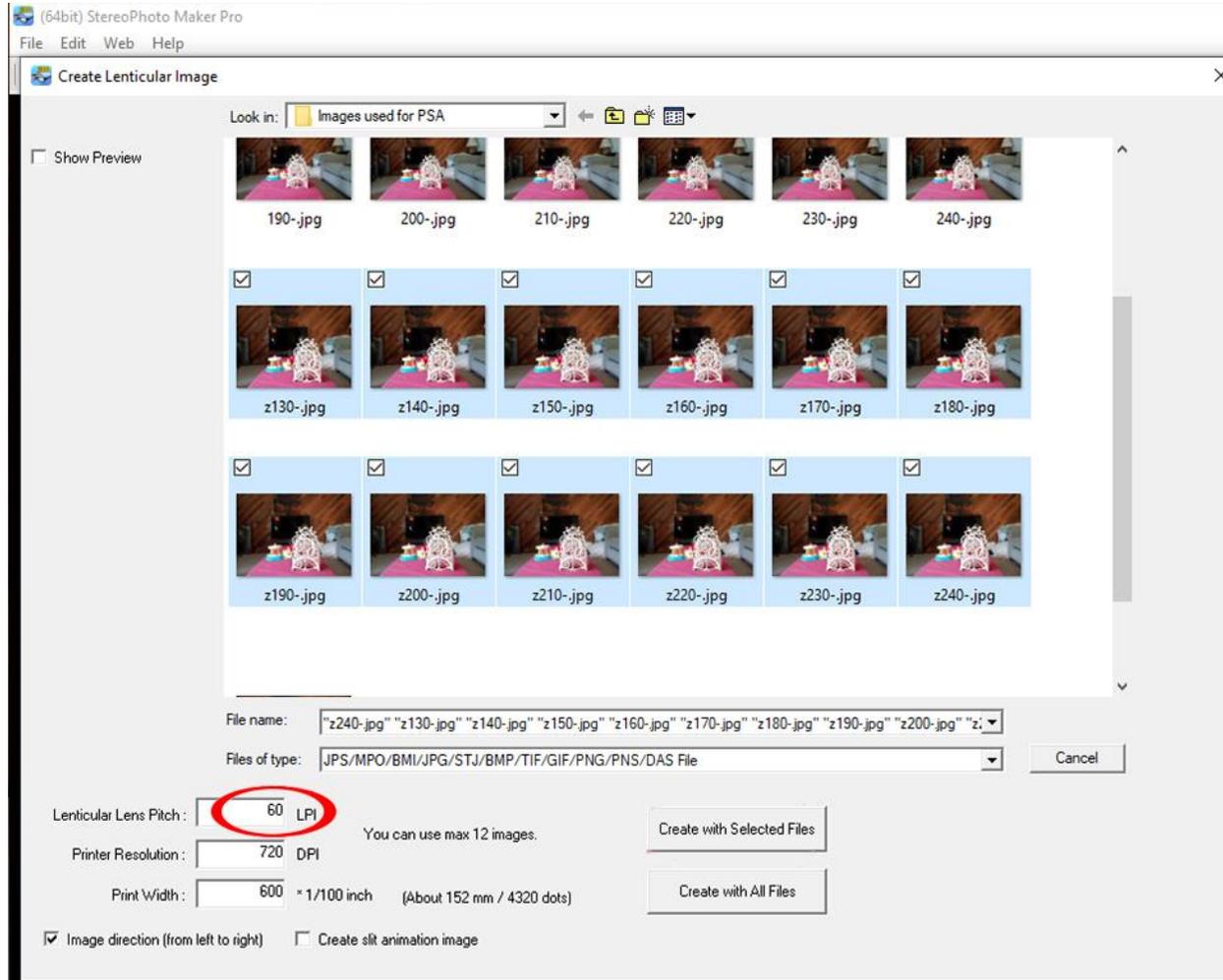


Stereo Photo Maker will now show the printer resolution (DPI) of your printer at the top of the page. You will need this number to proceed with processing your lenticular image. Close SPM.



Go to Stereo Photo Maker and select “Edit/ Create Lenticular Image.” and find your folder with your image files.

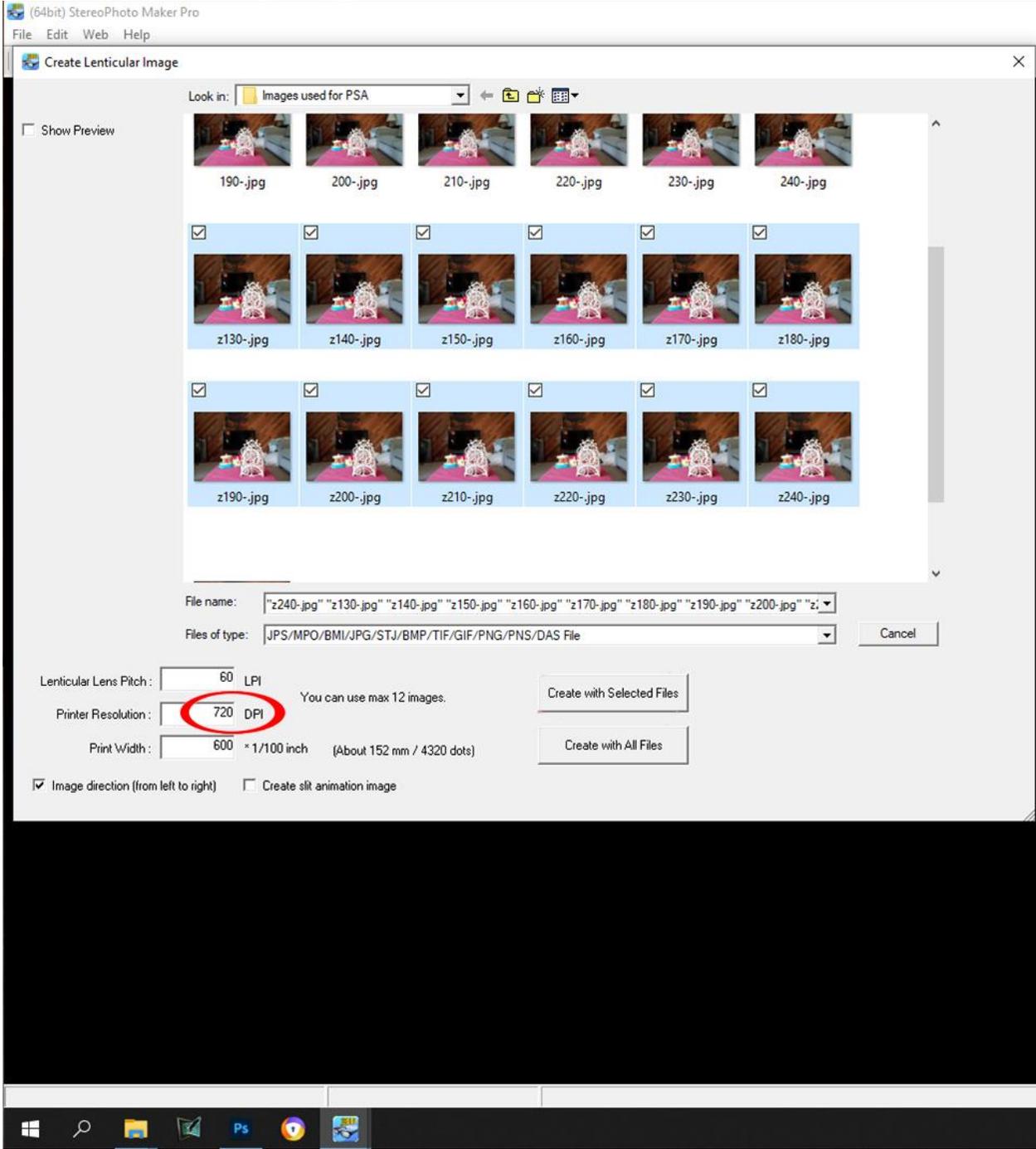




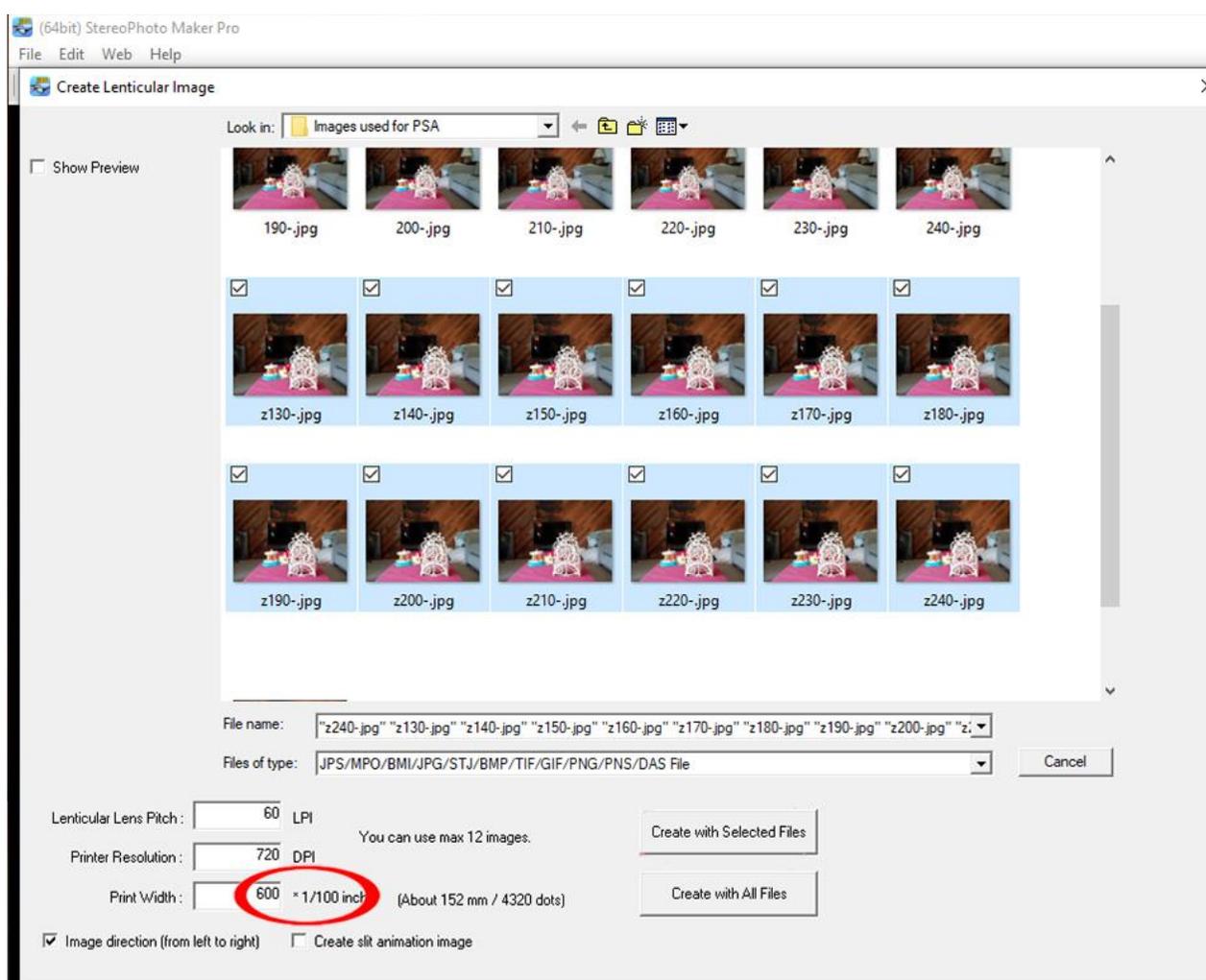
On the lower left, set the box
“Lenticular Lens Pitch (LPI)” to 60
(or the pitch of the lenticular sheet
you have).

Set the box "Printer Resolution (DPI)" to the DPI your printer (determined previously). My printer can do 720 DPI.

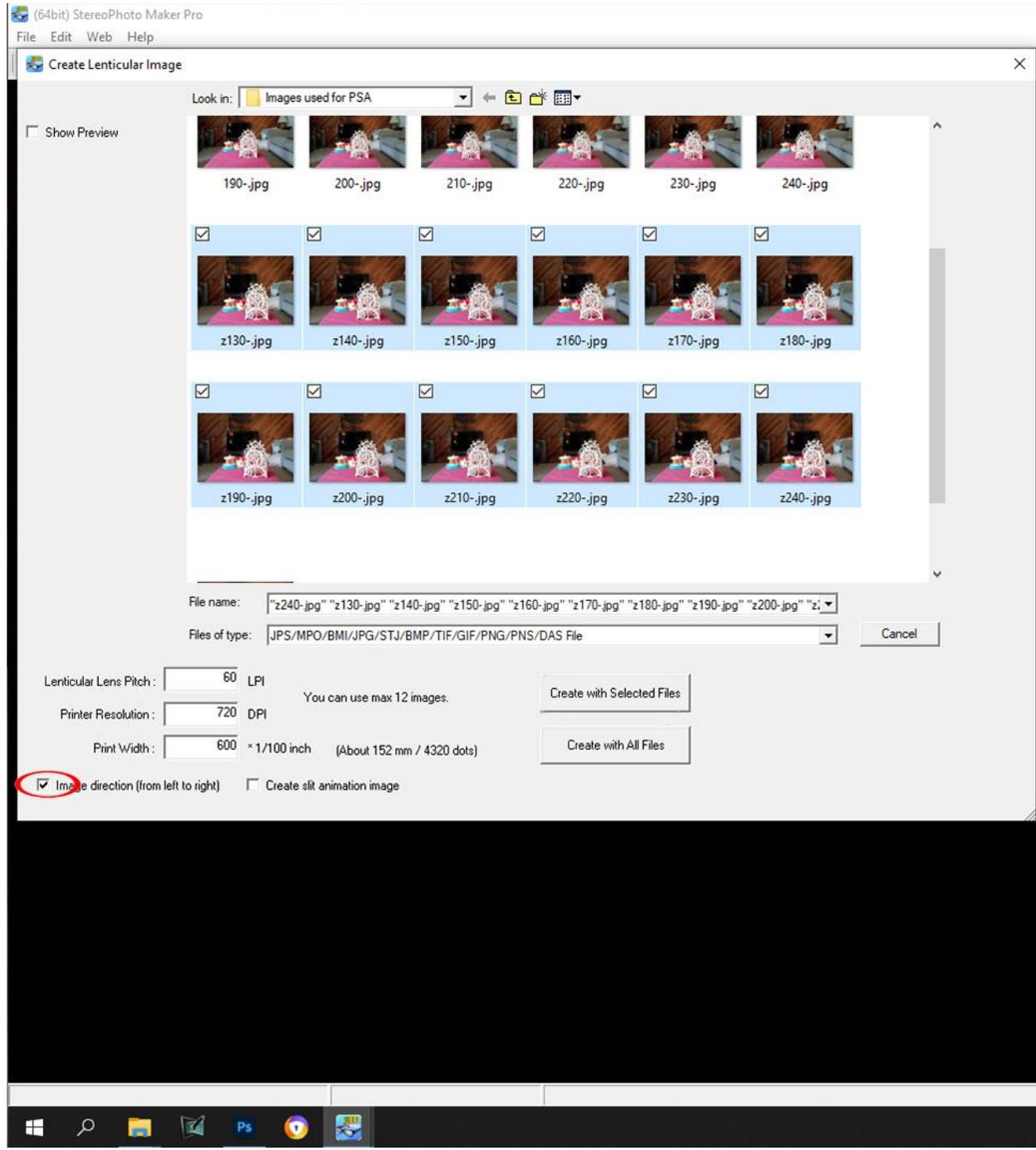
SPM will show you how many images you can use with your printer DPI and the lenticular LPI just to the right.



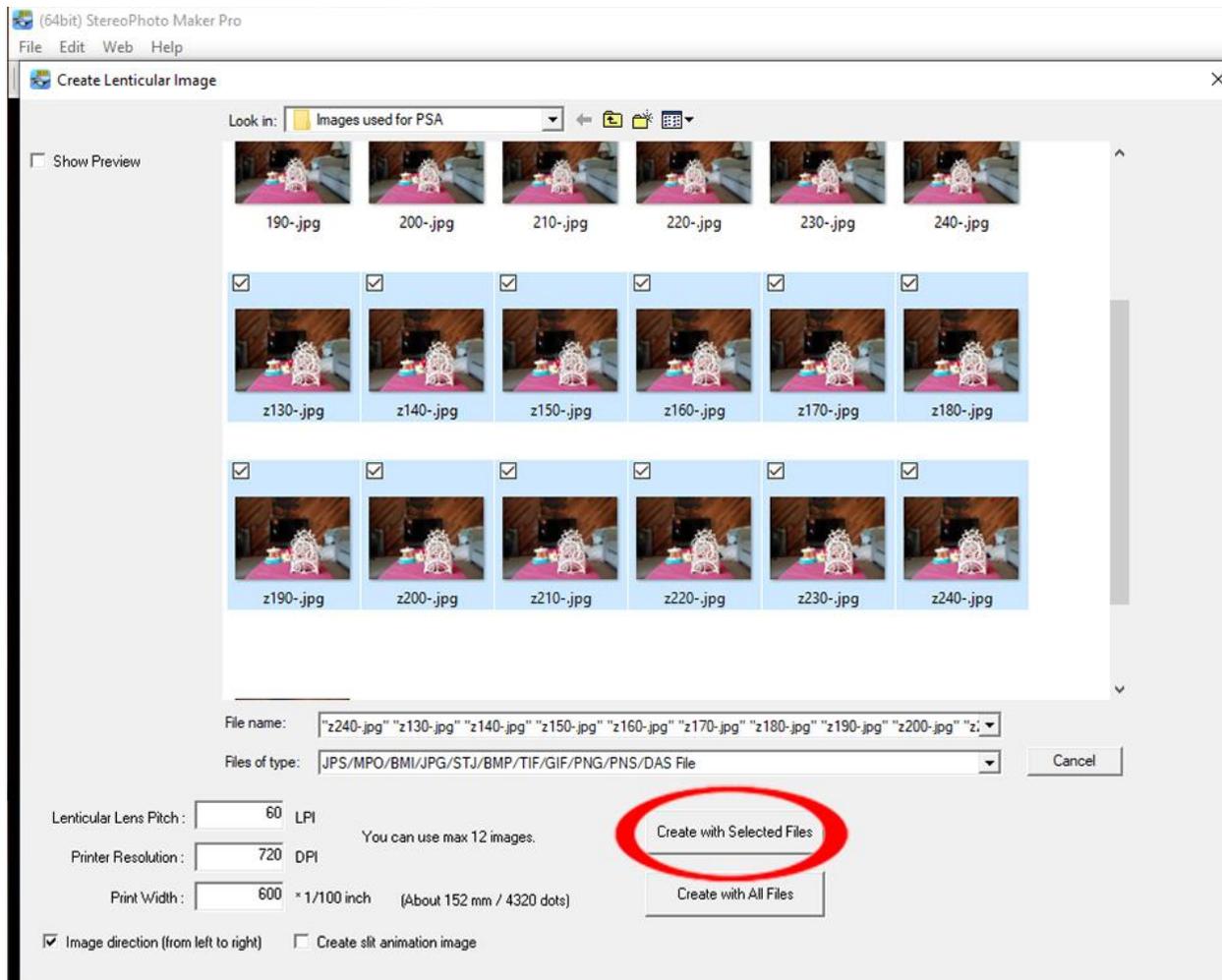
Set the box "Print width" to the size of your final print (I would recommend using the actual width of the lenticular sheet you want to use). In this case use 600 for 6" print for your frame.



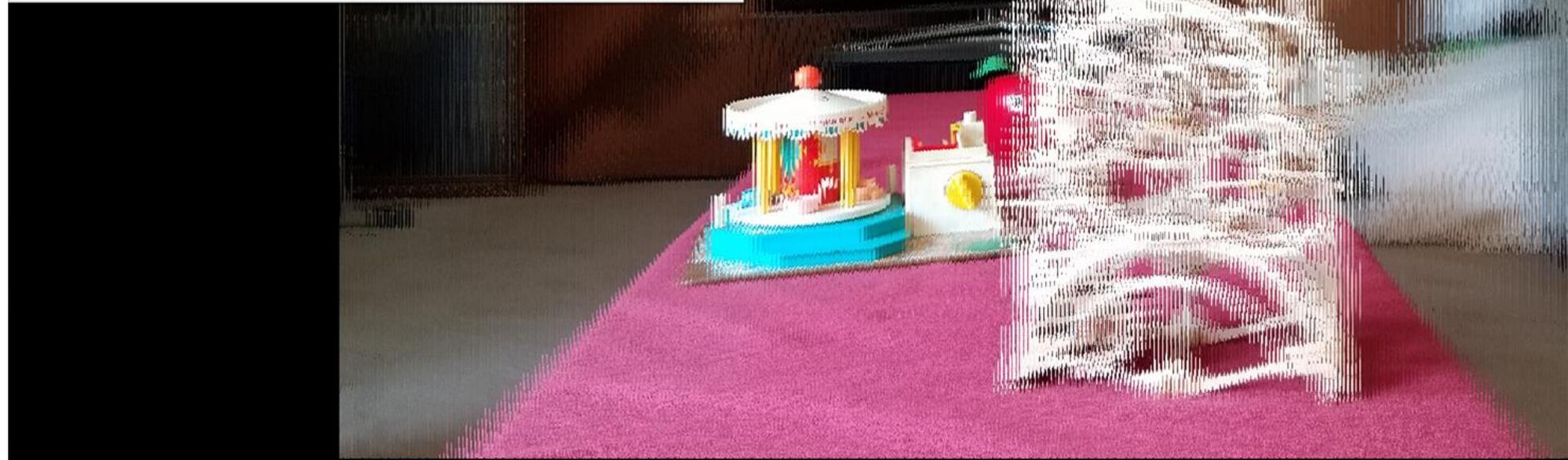
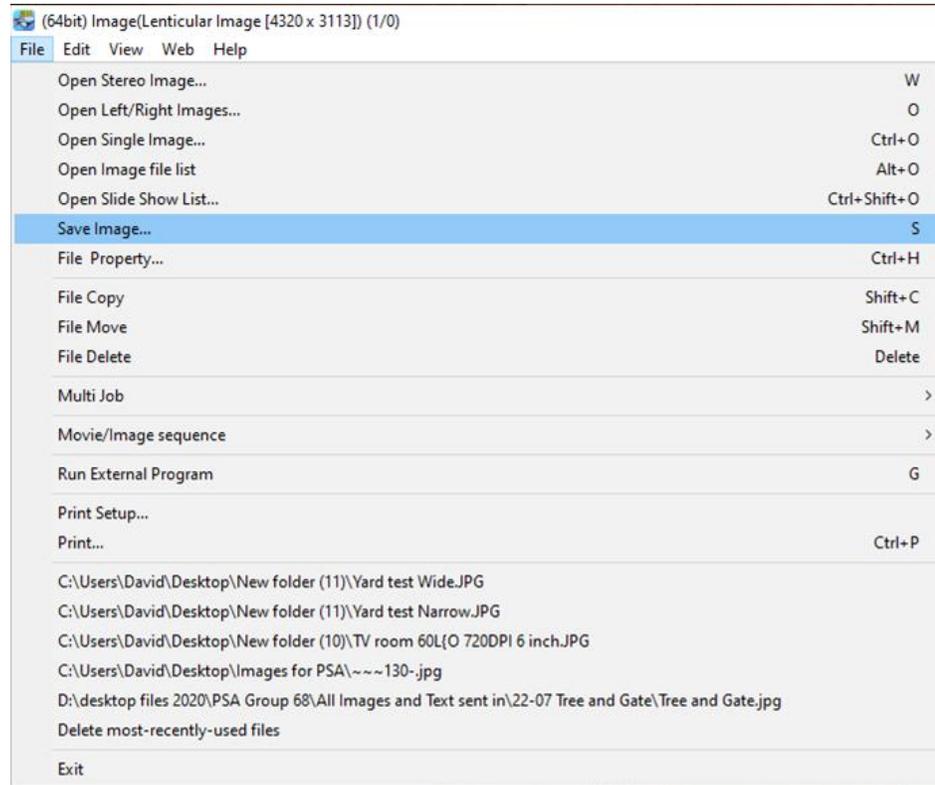
Make sure “Image Direction (from left to right)” is checked



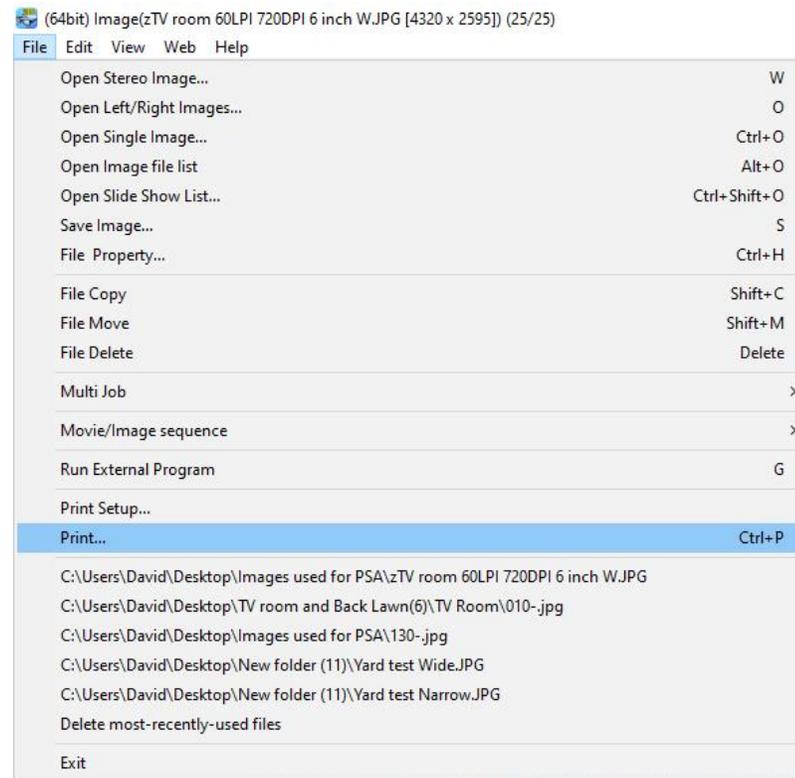
Select your final images and click on "Create with Selected Files". Wait a while and POP! You have the lenticular image file to be printed for your frame.



Select “file/save image” and set the “image quality” to 99. Locate your folder, Give the lenticular image a new File name and click on “Save”.



To print this sliced up image, select “file/Print” From the main Stereo Photo Maker window. If your “Best Photo” printer DPI is not shown at the top, set your printer to “Best Photo” as mentioned earlier.





Printer Resolution: 720dpi

Size
Paper Size: Width 278.91mm Height 431.92mm
Print Size: Width 141.99mm Height 106.49mm
(4031dot) (3017dot)
 Print dot by dot

Margin
Left: 70.81mm Right: 66.11mm
Top: 4.72mm Bottom: 320.71mm

Print Center Print Full Size

Print Text
 Enable text printing
Image Title:
Stereo Card Title
Image Description:
Stereo Card Description
FONT... Text color: Select 
Text Size (1 - 5): 1

OK Cancel Print... Printer...

Save as... Show Card Canvas Size...

Add Image Remove Image 64 mm

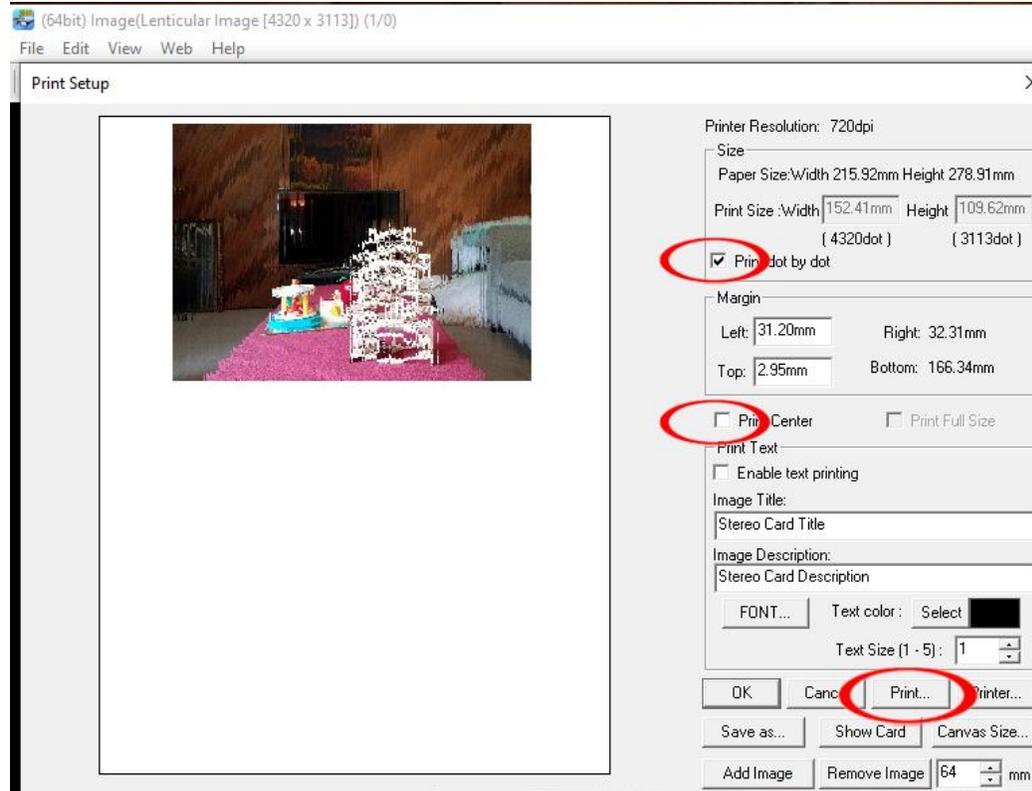
Your maximum printer
DPI must be showing.

This is what my Epson
printer software
shows.

Make sure the box “Print dot by dot” is selected and make sure “Enable text printer” is not checked.

The image should show up in the window the size and position it will be printed. Move the image to the top and in the middle of the print page. There should be some margin on both sides of the image.

Load some good photo paper and Click “Print” to print the lenticular image.



The printed
lenticular image.

It will look rather
blurred and striped
but that's how the
lenticular sheet
works.



Viewing your 6-inch image in the lenticular frame

Cut your image from the printed paper so the bottom of the image is parallel to, or right at the lower edge. Place the lenticular image in your frame setting on the bottom and close the lenticular sheet.



Slide the image left or right to make the 3D image appear good. Holding the image secure, trim off the extra photo paper.



Place the clear elastic on the top of the lenticular frame to keep it tight. **YOU now have a finished Lenticular frame!**

(you will have to watch the 101 .mp4 video to see what this action looks like)

