

Making Transparencies for Photopolymer

Overview:

Transparencies used for exposure of photopolymer must be printed as opaque as possible on a substrate that is as transparent as possible. I do this with an Epson r19000, running the "Print-Tool" and "Quad Tone RIP" software on 3M Inkjet Transparency Film or comparable alternative.

Links:

For downloads

<http://www.quadtonerip.com/html/QTRoverview.html>

Transparencies also can be custom printed. Ive never done this but if you don't have a printer, negatives can be jobbed out. Here's one option.

<http://www.capefearpress.com/contractprinting.html>

These are the digital steps I take to create halftone images for small scale electrolytic etching with Puretch photopolymer. Settings and steps should be altered and reconsidered for other desired outcomes.

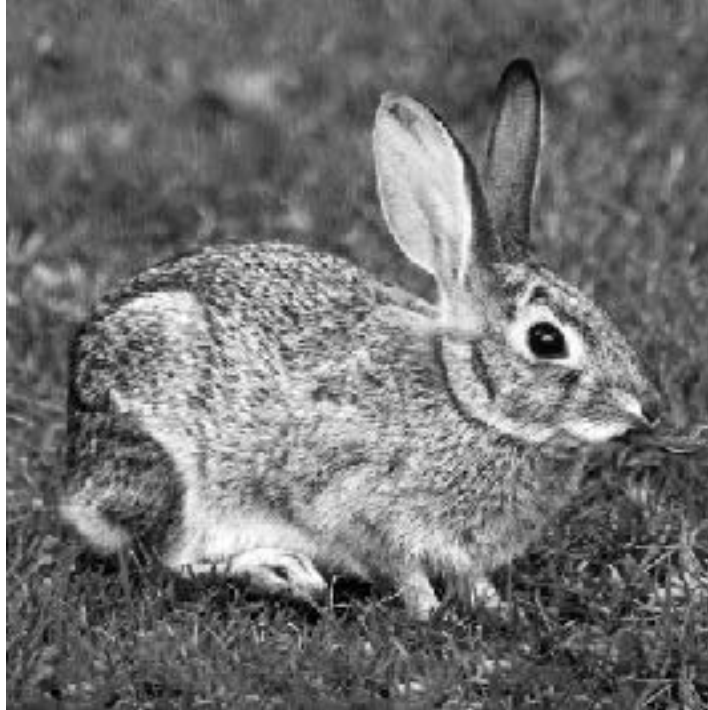
EDITING:

Begin by finding an image big enough to be sized down while maintaining resolution. I stick to the 1000 to 2000 pixel range. On google images there is a 'Tools' button to filter searches by size. I also recommend searching for public access image archives like the library of congress, national archives, internet archive, and wiki commons.

We will use this bunny. 2000 x 1333 px Greyscale



Edit to visual preference. I do this in photoshop but it can be accomplished with any number of programs. This edit included Brightness/Contrast and Levels layers. One layer to selectively darken the background. Cropping. And healing tools to add and blend information above and below.



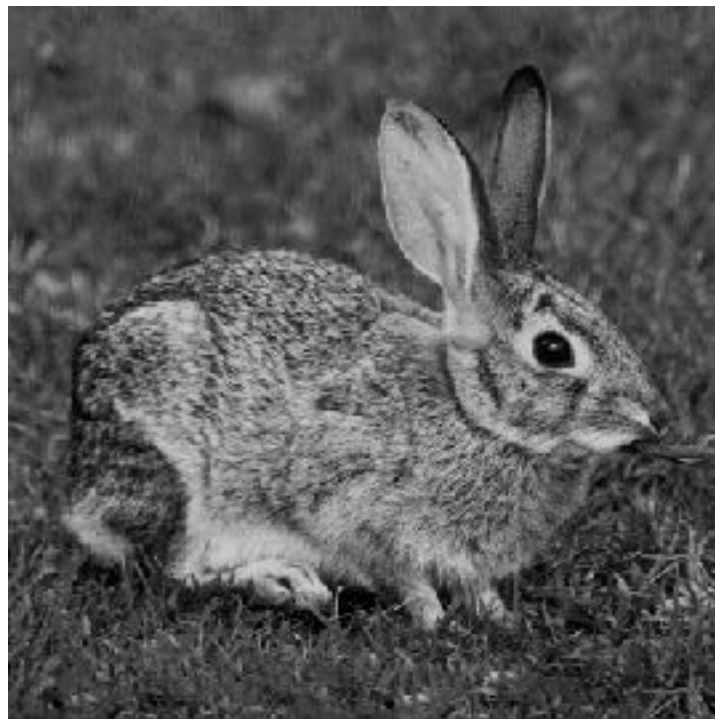
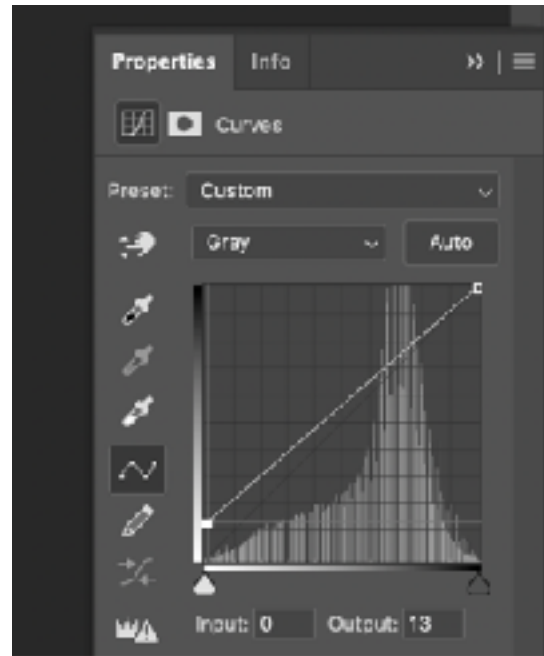
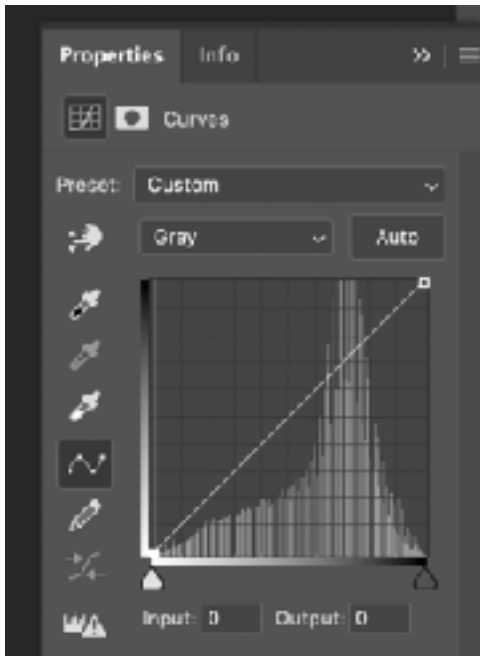
Darken to compensate for dot growth (if printing a negative). (If printing a positive you may need to lighten the image or leave it as is).

‘Dot growth’ or ‘dot gain’ is the when a printed dot of ink spreads slightly more than intended. Over the span of the entire image, this slight gain of dot size amounts to a darker print.

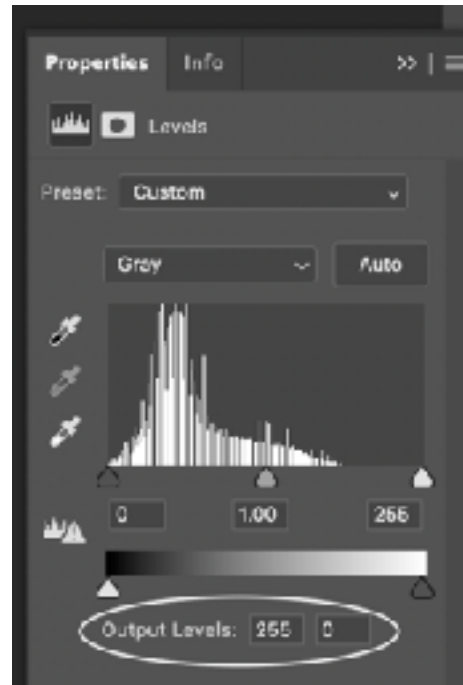
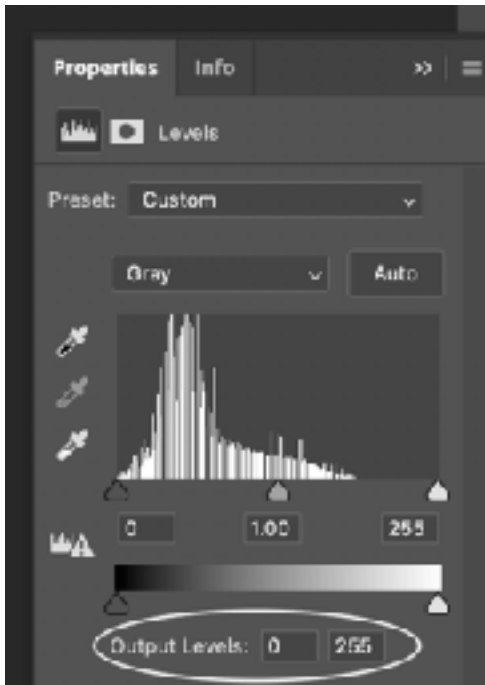
It seems counterintuitive to darken the image to compensate for this effect. But we are making a negative. An inverse of our final outcome. So a darker image now, equals a lighter print once it's inverted.

The particulars of this issue depend on your printer and you will need to make test prints to compare to your screen to determine how much alteration is necessary.

I use a ‘Curves’ layer to make this adjustment. Pull the left most part of the curve line up some amount. How far depends on the image and the severity of your printers dot growth.



Invert the image by adding a 'Levels' layer. Drag the Black and White tabs to their opposite positions on the slider so that the 'Output Levels' go from reading 0 and 225 to reading 255 and 0.

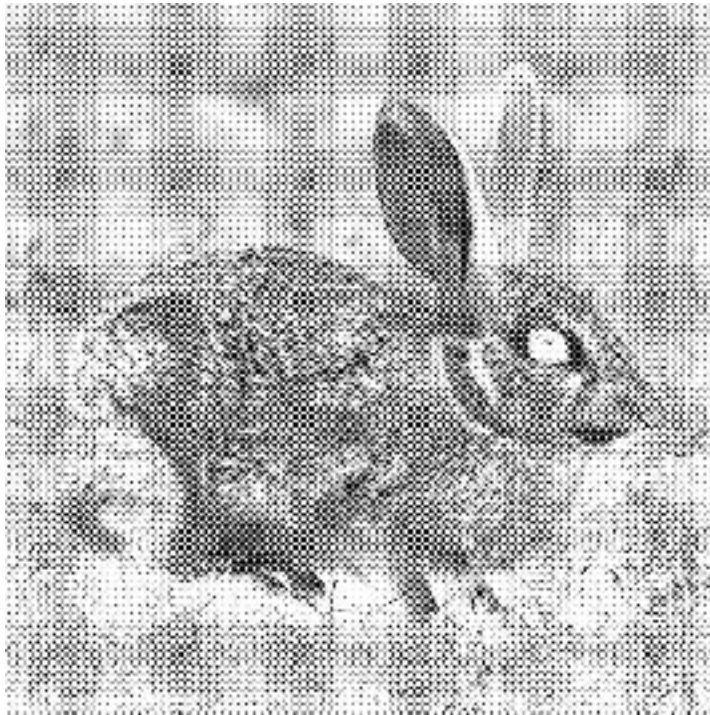


Size image down to desired aspect. Im working work on 3” x 3.5” plates. So in photoshop go to Image->Image Size and change the hight to 3” and the resolution to 600 dpi. This resolution adjustment should be considered and altered depending on the final resolution desired in the image. Conversion of this size should not alter the appearance of the image. The only difference should be that the measurement displays at the top and left should read an appropriate amount of inches.

Convert image to halftone in photoshop by selecting Image->Mode->Bitmap. Agree to ‘flattening image’. The next window is labeled Bitmap. The box labeled Input says 600 pixels/inch. The output should be at least doubled. I quadruple it because I find it gives me rounder dots in the final print. The Output should be tested and reconsidered depending on the image and desired outcome.

The ‘Method’ use dropdown should read ‘Halftone Screen’. Press OK.

Next window reads ‘Halftone Screen’. The Frequency I use at this scale with my printer is 85. Angle 45. And Shape is Round. These are all variables that can be customized depending on circumstance. Press OK.



Export image by going to File->Export->Export As. Set ‘Format’ to JPEG and ‘Quality’ to high. Click ‘Export’

PRINTING:

Download 'Print-Tool' And 'Quad Tone RIP' from the link at the top of the handout. Follow the websites instructions for your operating system and printer. These programs are needed to make the printer to do things it isn't really intended to do.

Inkjet photo printers are best for making colorful images on papers. To do this they use lots of inks to simulate all the blended colors between the colored inks in the cartridges. The blending requires transparent inks so a new color can be made by layering. This goes for black too. While there are black ink cartridges, its easier for the printer to simulate blacks and grays by blending balances of all the other colored inks. This won't work for us because we need only black ink. And we need crisp and distinct edges without any mid-tone noise between printed and un-printed portions of the negative. To achieve this Quad Tone tells the printer not to use any ink but Black and Print tool lets us bypass the print formatting in photoshop.

These programs have much more subtle and complex functions that I don't know about. I would encourage anyone with the desire to dive deeper into what's possible with these tools.

Once the programs are installed, add a printer in System Preferences. Name it distinctly so you always you're using the right set up each time you print. Mine is called EPSON 3. In the 'Use' dropdown bar select QuadTone RIP.

Open the negative image in Print-Tool and set up the preferences as follows.

At The top right side of the screen use the 'Printer' drop down to select EPSON 3 (or whatever you named yours).

Click 'Paper and Print Settings'. The window that comes up has a drop down menu that lists option - Layout, color matching, paper handling etc.

Under 'Color Matching' select QuadTone RIP.

Skip 'Layout, Paper Handling, and Cover Page'

Under 'QuadTone RIP' the Mode is QuadTone RIP 8-bit

Skip Curves

Paper Feed-> Sheet Feed

Resolution-> 2880 Super

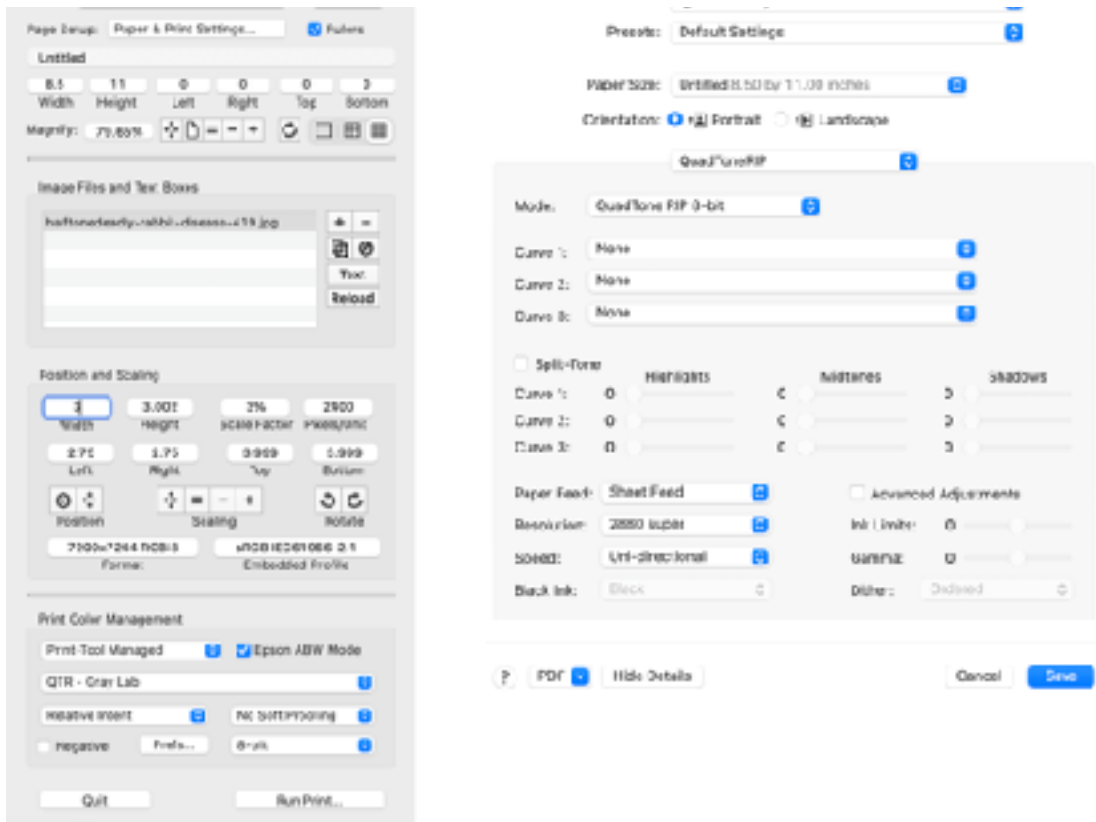
Speed-> Uni-directional

Under 'Printer Features' select media type 'Matte Paper'

Hit Save and the window will close.

Where it says Position and Scaling specify the height as needed. Mine is 3". Then position the image where you want it on the page. I usually print as many images on one page as I can. 'Print Tool' lets you open many images at once to be arranged and printed together.

Where it says Print Color Management select 'Print Tool Managed'. Activate Epson ABW Mode with the check box. Drop down menu should read 'QTR - Gray Lab'. Relative Intent. No Soft Proofing. 8-Bit. I don't use the automatic "negative" function - I prefer to do it in Photoshop.



Run Print with 3M Inkjet Transparency Film or comparable alternative. Examine the print with 10x loop and compare with your original image. From here its a matter of noodling around and tweaking settings until things come out just right. I often invert the color display on my phone so I can examine the negative through the camera and see it as a positive.

Let the final print dry before using it