

AdobeSM Customer Services

Creating Mezzotints in Adobe Photoshop

This technical note applies to both the Macintosh and the Windows versions of Photoshop. Please note that the Control and Alt keys in the Windows version function as the Command and Option keys in the Macintosh version, respectively. In the following text, the Windows key is given after the Macintosh key.

A *mezzotint* is a random, non directional pattern produced in traditional printing by exposing an image to a specially designed halftone screen. The mezzotint image, when magnified, appears composed of randomly shaped dots. This technical note describes how to create a mezzotint pattern in Adobe Photoshop and how to apply the pattern to your image as a halftone screen.

In Adobe Photoshop, you can create a true mezzotint only in Bitmap mode, by using a mezzotint custom pattern when you convert a Grayscale mode image to Bitmap. In all other modes, you can simulate the appearance of a mezzotint by creating a pattern and applying it to an image, but Adobe Photoshop will print the image with a regular halftone dot. You must use traditional printing methods to print a true mezzotint, that is, using a randomly shaped halftone dot.

Adobe Photoshop supplies patterns, created in Adobe Illustrator™ 3.01 (and Adobe Illustrator 4.01 for Windows), that can be used to apply mezzotint effects. The patterns are located in the PostScript Patterns folder (in the Brushes & Patterns folder in the Adobe Photoshop 2.5 folder or on the Adobe Type Manager™ disk in Photoshop 2.0) and in the Adobe Collector's Edition: Patterns and Textures, which is a collection of artwork that can be used with Adobe Illustrator and Adobe Photoshop to paint objects with patterns. You can also create your own pattern by using one of the following procedures.

To create a mezzotint pattern in Adobe Photoshop:

- 1 Open a new grayscale document.
- 2 Choose Noise from the Filter menu and Add Noise from the submenu. In the Add Noise dialog box, set the noise amount, and select Gaussian distribution to distribute the pixels randomly.
- 3 Apply a softening filter, such as the Blur or Blur More filter, to the pattern.
- 4 Choose All from the Select menu (Command/Ctrl+A); choose Define Pattern from the Edit menu. The defined pattern remains in memory until you quit Adobe Photoshop or you define another pattern. You can use this pattern to create a mezzotint effect.

To define an existing Adobe Illustrator pattern as a Photoshop pattern:

- 1 Make sure that you are running both Adobe Photoshop and Adobe Illustrator.
- 2 In Adobe Illustrator, open a pattern, and select the pattern tile. Deselect Mask in the Paint Style dialog box in the Paint menu to remove any masks. Hold down the Option/Alt key while choosing Copy from the Edit menu; this command sequence places a PICT (TIFF) version of the pattern on the Clipboard.
- 3 In Photoshop, open a new grayscale document, and paste the pattern into the document. To eliminate white space around the pattern, crop the image so that it contains only the pattern.
- 4 Blur the pattern using the Blur or Blur More filter.
- 5 Choose All from the Select menu (Command/Ctrl+A); choose Define Pattern from the Edit menu. The defined pattern remains in memory until you quit Adobe Photoshop or you define another pattern. You can use this pattern to create a mezzotint effect.

To apply a mezzotint to a black-and-white image:

- 1 Create a Photoshop pattern or define an Adobe Illustrator pattern as a Photoshop pattern, as described in the preceding procedures.
- 2 Open the image to which you will apply the mezzotint pattern. If necessary, choose Grayscale from the Mode menu to convert the image to Grayscale mode.
- 3 Choose Bitmap from the Mode menu to convert the Grayscale image to Bitmap. In the Bitmap dialog box, select the following options:
 - Resolution: For the best results, increase the output resolution to a value higher than the input resolution. This produces a larger file, but it produces higher-quality output.
 - Method: Custom Pattern.
- 4 Click OK. The mezzotint pattern is applied to the Bitmap image. Print the Bitmap image for a true mezzotint.

You can also display and print the image with a mezzotint effect in modes other than Bitmap. To do so, choose Grayscale from the Mode menu to convert the image back to Grayscale mode. In the Grayscale dialog box, make sure that the Size Ratio is set to the default of 1. Click OK.

To apply a mezzotint to an RGB image:

- 1 Create a Photoshop pattern or define an Adobe Illustrator pattern as a Photoshop pattern, as described in the preceding procedures.
- 2 Open the RGB image to which you will apply the mezzotint pattern.
- 3 Choose Split Channels from the Channels palette pop-up menu. Splitting the RGB channels results in three separate files of the image, Red, Green, and Blue.
- 4 For each Red, Green, and Blue file, choose Grayscale from the Mode menu to convert the file to Grayscale mode.

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- 5 For each Red, Green, and Blue file, choose Bitmap from the Mode menu to convert the file to a bitmap. In the Bitmap dialog box, select the following options:
 - Resolution: For best results, increase the output resolution to a value higher than the input resolution. This produces a larger file but yields better-looking results.
 - Method: Custom Pattern.
 - 6 Click OK. The mezzotint pattern is applied to the Bitmap image.
 - 7 For each Red, Green, and Blue file, choose Grayscale from the Mode menu to convert the image back to Grayscale mode. In the Grayscale dialog box, make sure that the Size Ratio is set to the default of 1. Click OK. (Important: You must convert all three channels back to Grayscale to be able to merge them in the next step.)
 - 8 Choose Merge Channels from the Channels palette pop-up menu. Specify the three separate RGB channels that you created in step 2, and click OK. Click OK again. This step converts all three channels to RGB mode. Any additional channels contained in the file will be lost when the channels are merged.

For examples and more information about creating mezzotint effects in Adobe Photoshop, see “Creating High-Contrast Effects,” “Creating Halftones from Patterns,” and “Using Adobe Collector’s Edition: Patterns and Textures” in *Beyond the Basics*.