



BLACK

&

WHITE

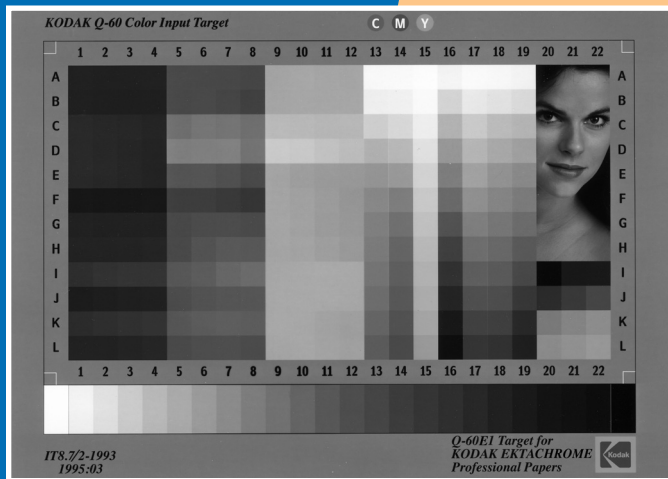
SCANNER
Calibration

GUIDE





Reflective IT8 Target



Transparency IT8 Target

The purpose of these instructions is to offer tips and techniques for calibrating a desktop scanner for black and white scanning. As you gain experience you should be able to get good halftone results with your scanner.

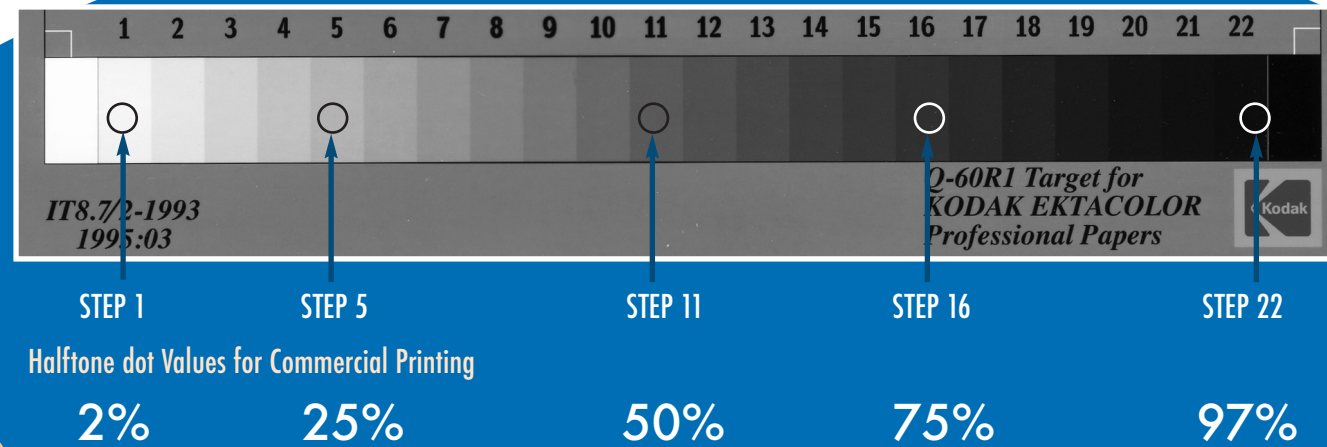
This method adjusts image contrast by changing the tone reproduction characteristic during scanning.

You will need an IT8 Q60 target for this guide. These quality control target images are used for scanning and imaging work. They are available in transparency and reflective versions depending on the type of scanner.

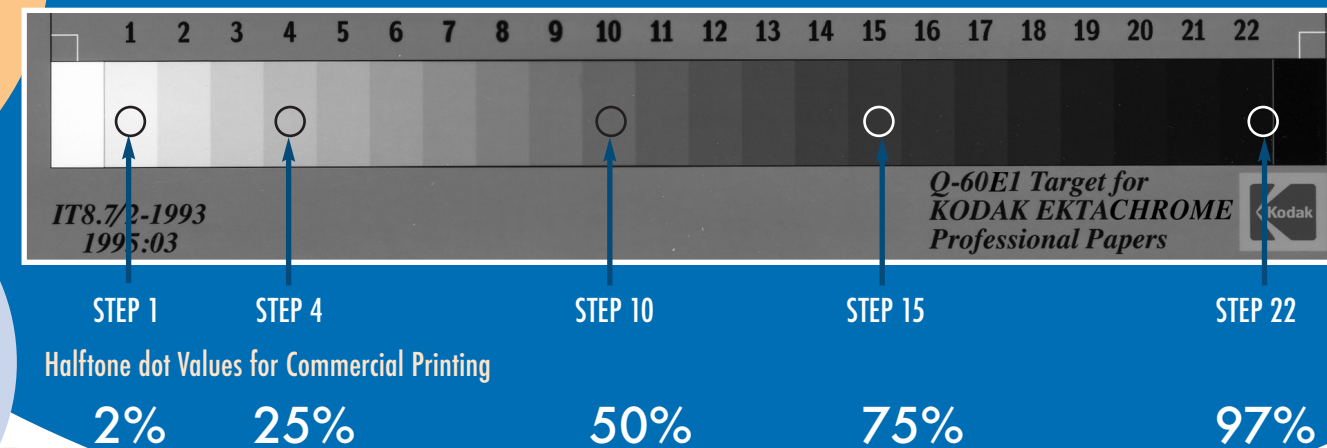
PLACES TO PURCHASE IT8 TARGETS

- Eastman Kodak Company
Phone: 800-234-0426
Item Q60E1 Q60 Color Target - 4"x5" Ektachrome - Catalog #8294738 (Transparency)
Item Q60 R1 Color Target - 5"x7" Ektachrome Paper - Catalog #1907914 (Reflective)
- Agfa Dealers • www.agfa.com
- Fuji Dealers • www.fujifilm.com

IT8 REFLECTIVE TARGET AREAS & VALUES:



IT8 TRANSPARENCY TARGET AREAS & VALUES:



Follow these steps to optimize your scanner.

The halftone target values are guidelines for optimizing a scanner. They have proven to be a good beginning point for commercial printing. These percentage values will need refinement for different types of printing conditions depending on dot gain, halftone resolution, paper, and type of printing press.

1. Scan the IT8 target into Photoshop using the scanner's default settings.

- Use the reflective target for scanning black and white prints and non-transparent originals. Use the transparency target for scanning slides and film transparencies.
- Save a copy of the scan using the scanner's default settings before adjusting the image.

2. Use Photoshop curves to adjust key areas on the target image.

- There are five areas on the target image to adjust. Use curves in Photoshop (Cmd/Ctrl M). Adjust the curve until the target values are achieved on the image that was scanned at the default settings.

This adjustment is usually done by first setting the white and black points with curves and then dragging the mid tone points on the curve.

The Info Palette is used with the Eyedropper tool to verify the target values during these adjustments.

3. Save the new curve in Photoshop.

- After the curve is adjusted to the target values at all five points, save it as a curve file Photoshop. Use the save button in the curves dialog box.

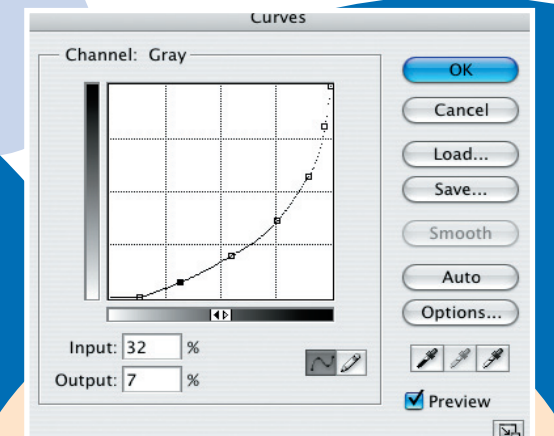
4. Verify that the curve works, rescanning the target.

- Rescan the IT8 target image with the new curve to verify that the newly scanned image file will produce the listed values in the five steps.

5. Fine tune images with this technique.

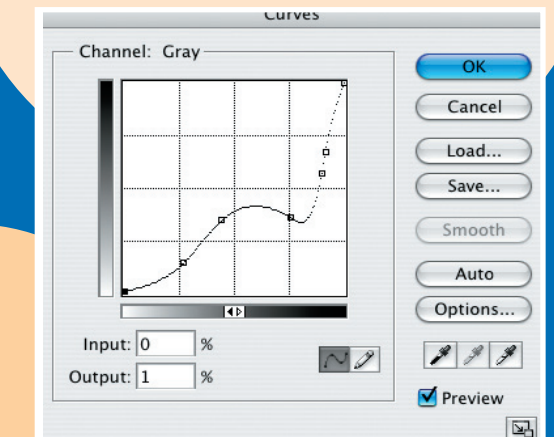
- Refining this technique requires making several test curves and outputting the scanned image to a printer or proofer. The proof can be digital or a film based proof.

EXAMPLE OF A PROPERLY ADJUSTED CURVE:



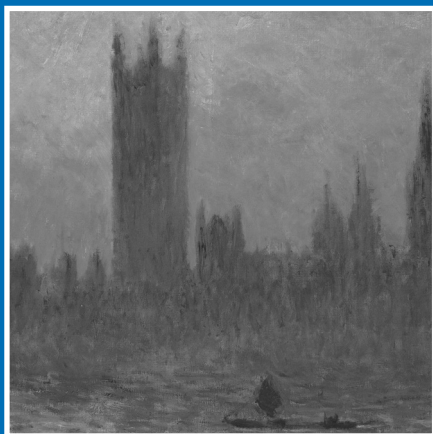
This curve produces smooth transitions between light and dark tones when applied to an image.

EXAMPLE OF A POORLY ADJUSTED CURVE:



This type of curve might produce the correct values on the IT8 Target, but transitions between tones are not smooth. Applying this kind of curve to an image may cause posterization or banding.

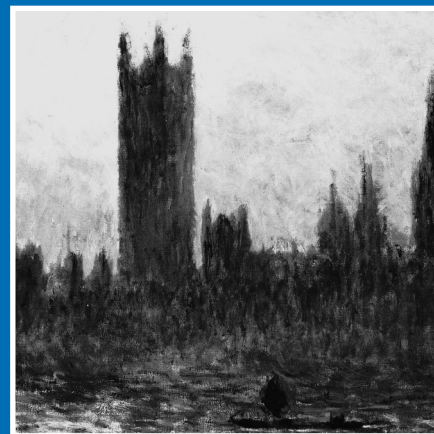
To smooth out the bumps in the curve, add points, and drag until the curve has a smooth transition between the tones.



The example above shows the results of scanning without any type of calibration. The image was scanned at the scanner's default values.



The example above shows the effects of a properly prepared curve that produces smooth transitions over the entire image and creates visually pleasing results.



The example above shows the effects of a poorly prepared curve that produces bad transitions from light to dark areas. The effect is called posterization.

6. Scan several test images with the newly established curve.

- Use the newly established curve to scan a few average looking images. Image reproduction should appear better than your scanner's default setting.
- Your curve may not produce optimal results in all situations because lightness and contrast varies between images.
- Create a few curves that cover most of your scanning conditions. Save these curves with easy to remember names.
- The halftone target values recommended should be altered to handle different types of images.

7. Option: Use the existing scanner controls to optimize scans.

- If your scanner doesn't have features to load preestablished Photoshop curves, there are two alternative methods:
- The first method is to use the scanner controls. The techniques are the same except you have to use the scanner's specific image processing features with the IT8 target image.
- The second method is to scan the IT8 target using the scanner's default settings. Then create and save a Photoshop curve that achieves the target values as in step 2. After scanning apply the curve and re-save the image.

8. Enhance the final image in Photoshop.

- For best results, after applying the curve, you can fine tune the highlight, mid tones and shadow points on each image.

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Sample image: Claude Monet, *The Houses of Parliament, Sunset*, 1903.
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