

Macworld

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Photoshop

Secrets of Levels and Curves

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Introduction

Tonal range is determined by an image's distribution of pixels ranging from lightest to darkest. An image's tonal range can influence its perceived quality and detail. We can repair and enhance images by controlling tonal range.

Levels vs. Curves

Levels

- simple adjustment
- 3 adjustment points
- linear

Curves

- more sophisticated
- up to 14 adjustment points
- dynamic

VOCABULARY

highlights

The brightest areas of an image.

midtone

An area of medium brightness, neither a very dark shadow nor a very bright highlight.

shadows

The darkest areas of an image.

gray card

A card that reflects a known percentage of the light falling on it. Used to take accurate exposure meter readings or to provide a known gray tone in color work.

Parts of the Levels Dialog Box

The image shows a screenshot of the 'Levels' dialog box in a software application. The dialog box has a title bar 'Levels' and a 'Channel' dropdown menu set to 'RGB'. Below this, there are 'Input Levels' fields with values 0, 1.00, and 255. A histogram is displayed in the center, labeled 'Histogram' in red text. Below the histogram are 'Output Levels' fields with values 0 and 255. At the bottom of the histogram area are three triangular sliders: a black triangle on the left, a gray triangle in the middle, and a white triangle on the right. To the right of the histogram area is a vertical stack of buttons: 'OK', 'Cancel', 'Load...', 'Save...', 'Auto', and 'Options...'. Below these buttons are three eyedropper icons and a checked 'Preview' checkbox. Red lines and circles are used to highlight and label various parts of the dialog box.

Channel: RGB

Input Levels: 0 1.00 255

Histogram

Output Levels: 0 255

Shadow Control

Midtones Control

Highlights Control

OK

Cancel

Load...

Save...

Auto

Options...

Apply Auto Color Correction

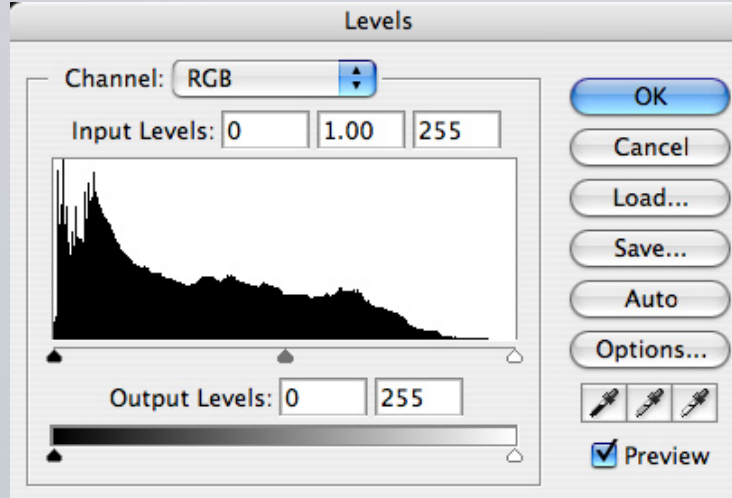
Open Options dialog box

Set white point

Set gray point

Set black point

Adjusting an Image Using Levels



Reading a Histogram

A histogram illustrates how pixels in an image are distributed by graphing the number of pixels at each color intensity level.

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Auto Levels

The Auto Levels command automatically adjusts the black point and white point in an image. This clips a portion of the shadows and highlights in each channel and maps the lightest and darkest pixels in each color channel to pure white (level 255) and pure black (level 0). The intermediate pixel values are redistributed proportionately.

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Auto Levels gives good results in certain images with an average distribution of pixel values that need a simple increase in contrast.

Levels Keyboard Shortcuts

Command + L to bring up levels

Shift Command + L for auto levels

Tab to move between fields

Shift + Tab to reverse direction

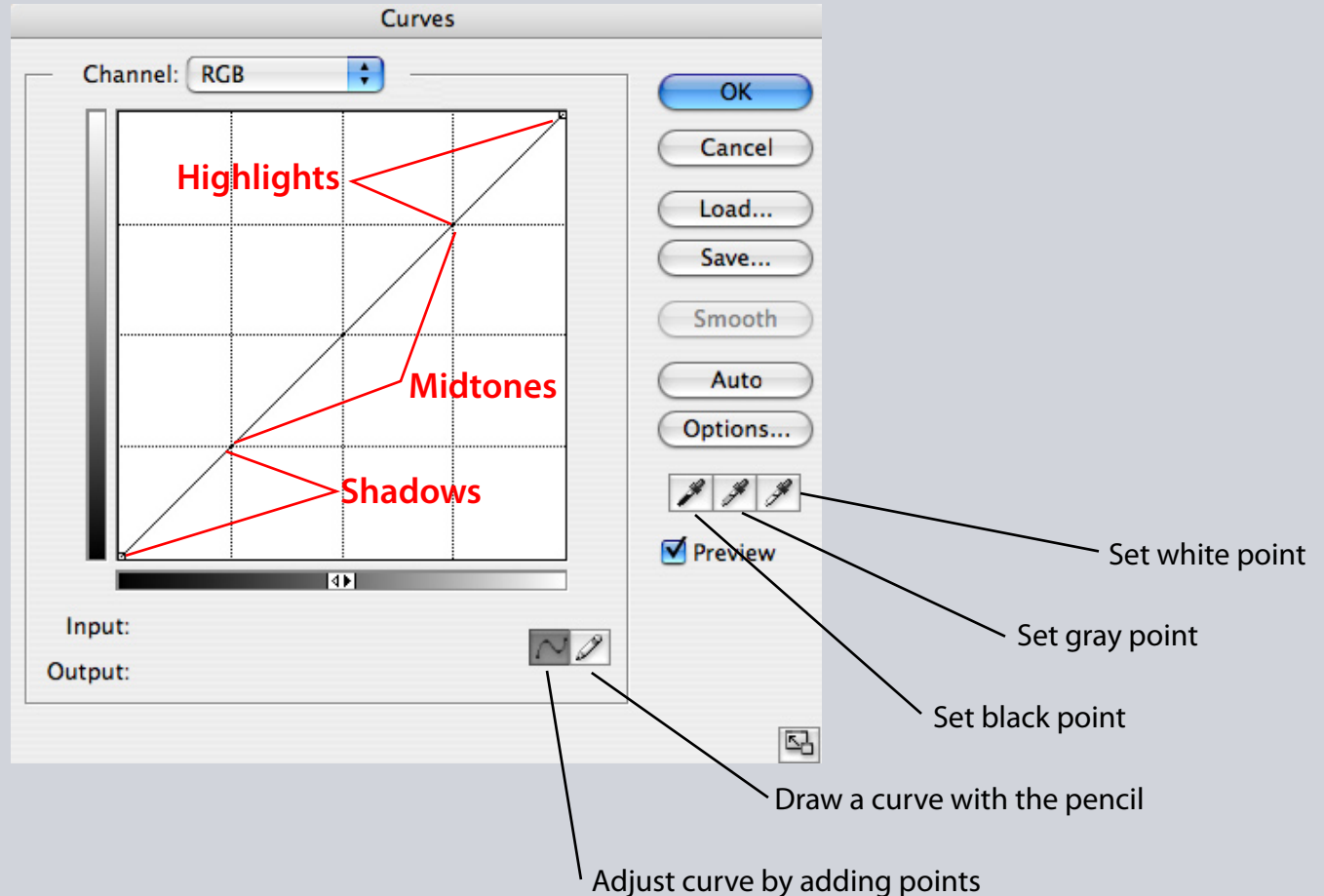
Up / Down Arrows to change values

Shift + Arrows to move in tens

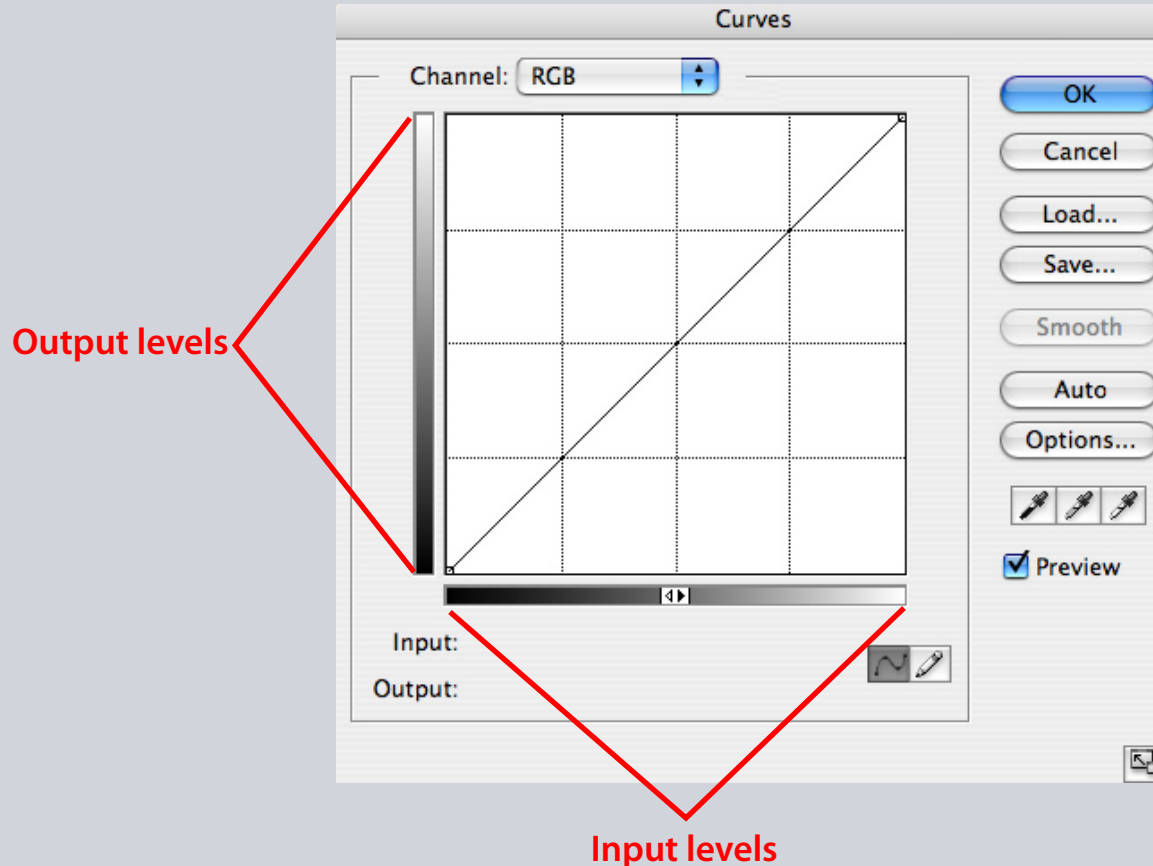
Option to reset dialog box

Threshold mode—Hold down Option and drag the white or black Input Levels triangle and a high-contrast preview image appears.

Parts of the Curves Dialog Box



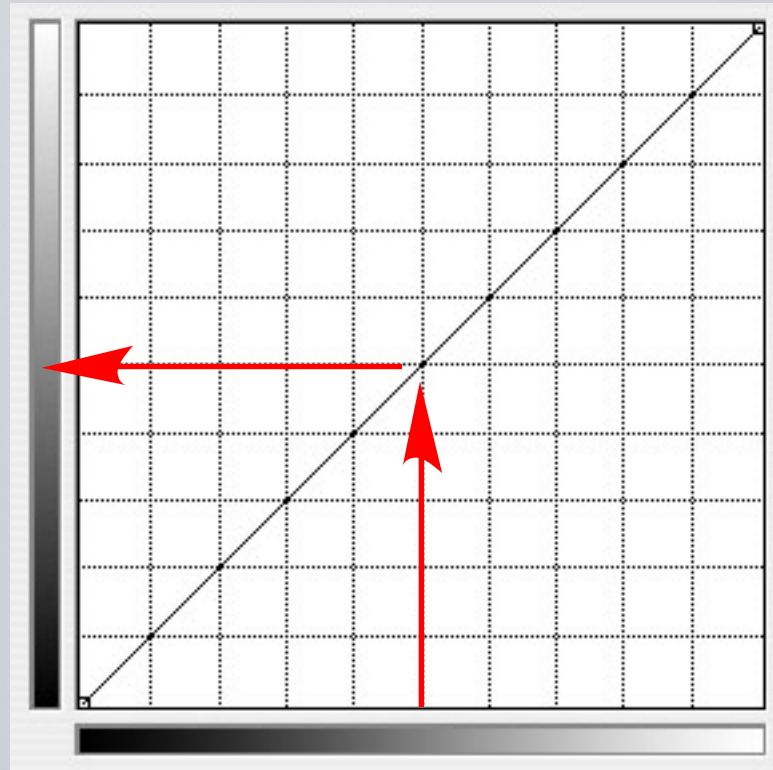
Parts of the Curves Dialog Box



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Output levels
(after)



Input levels
(before)

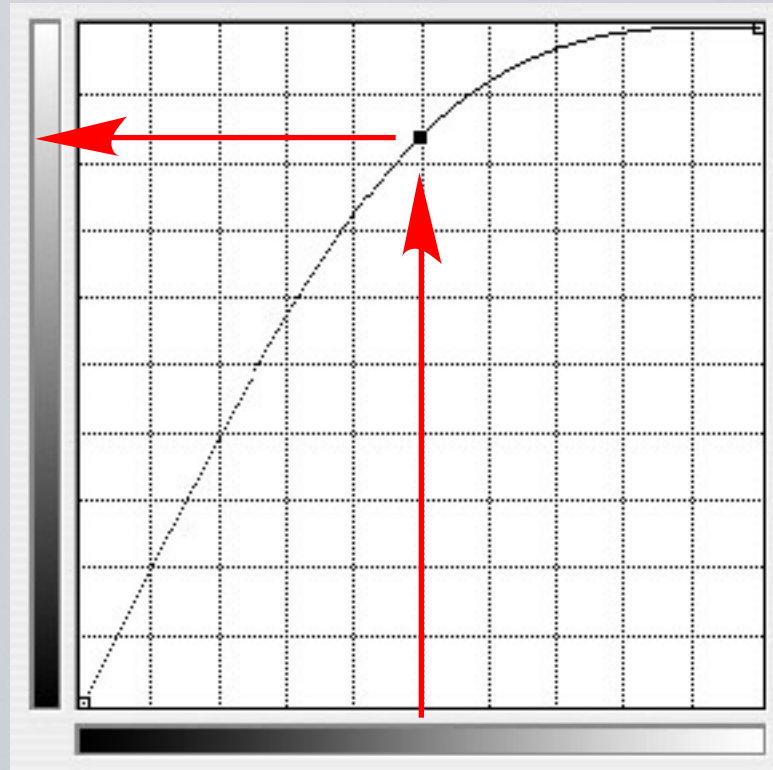
Visualize where tonal values lie on the curve.

A single click along the curve establishes a "point."

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Output levels
(after)



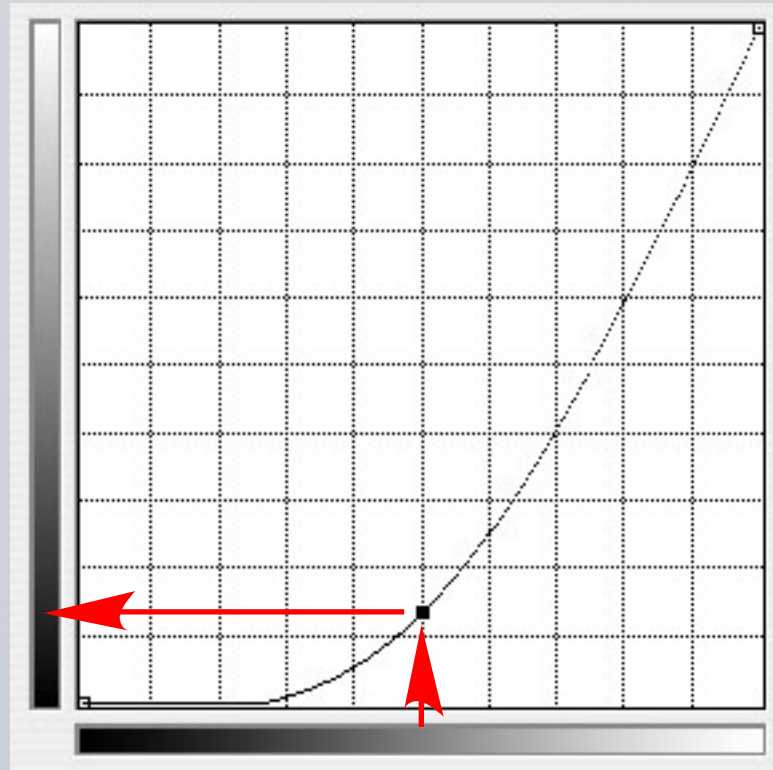
Input levels
(before)

This point can be dragged to modify the tonal value represented at that point.

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Output levels
(after)



Input levels
(before)

Because the curve is dynamic, dragging a single point has a reaction on both sides of that point—therefore the whole image reacts to that adjustment.

Adjusting an Image Using Curves

- To analyze the image, move the cursor over the image. Click and hold to see where that value is represented on the curve.
- Make a mental note of the areas that require attention.
- Remember that a steeper curve will have more contrast while a flatter curve will have less contrast.
- A good adjustment should blend believably throughout the image.

Levels Keyboard Shortcuts

Command + m brings up the Curves dialog box.

Command + click in the image to set a point on the curve in the current channel specified in the Curves dialog box.

Shift-click points on the curve to select multiple points. Selected points appear filled with black.

Click in the grid or **Command-D** to deselect all points on the curve.

Levels Keyboard Shortcuts

Arrow Keys move selected points on the curve.

Control+Tab to move forward through control points on the curve.

Shift+Control+Tab to move backward through control points on the curve.