

How to Prevent Curved Walls

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Another common mistake Realtors make with marketing photos is to use images in which the walls don't appear to be straight. Inexpensive wide-angle lens and converters have what is called barrel distortion. That is, distortion will make straight lines near the edges of the frame look curved.



Example of barrel distortion – curved lines at the edge of the image

Why Not Having Perfectly Vertical Straight Walls is a Problem

Not having straight walls is very similar to having converging verticals. Curved walls distract from the purpose of real estate photographs. You want people to say “wow, that’s a beautiful room; I’d like to buy this home!” Anything in the image that takes attention away from this purpose is a problem.

How to Minimize Curved Verticals

Curved verticals result from inexpensive wide-angle lenses or wide-angle converters. For example, I have a Nikon WC-E63 screw on wide-angle converter (cost about \$180 new) that screws on many older Nikon CoolPix cameras. It produces images that have a noticeable barrel distortion. On the other hand my Canon EF 16-35mm f/2.8L USM cost \$1,300 still has barrel distortion if you look for it closely but most people will never notice it because it’s so slight. When you purchase a wide-angle lens or converter find out how much barrel distortion it has before you buy it.

The thing with barrel distortion is that it occurs most at the outer edges of the lens so if you keep straight lines away from the edges of the image you won’t be able to see the distortion.

How to Correct Curved Lines Caused By Barrel Distortion

There are 3 ways to fix barrel distortion:

1. Use PTlens, by Thomas Niemann (<http://epaperpress.com/ptlens>)
For \$15 is complete lens correction software that can be used either standalone or as a Photoshop Plug-in. Thomas has complete instructions on this site.
2. Use the Lens correction filter in Photoshop CS2 or greater:
 - a. Open image in PS CS2
 - b. Under "Filter>Distort" click on "Lens Correction"
 - c. Move the "Remove Distortion" slider at the top right until the curved lines become straight.
 - d. Click OK and save the corrected image.
3. Use the lens correction filter in Photoshop Elements 5 which is essentially identical to the one in PS CS2;
 - a. Open image in PSE 5.
 - b. Click on "Filter>Correct Camera Distortion..."
 - c. Use the "Remove Distortion" slider to remove barrel distortion.
 - d. Use the "Vertical Perspective" slider to remove converging verticals in this image.



No matter which of the above techniques you use after removing the distortion you'll have to re-crop the image because the edges will be curved and stretched.

The final cropped image will look like the following:



The image still has a color cast problem and is a little dark but we've fixed the barrel distortion and converging verticals problem.

Note that even though we straightened out the curved walls the same result on this image could have been achieved by cropping alone. This is frequently the case since barrel distortion occurs mostly at the edge of lenses. In this case the useable image is made a little larger by fixing the barrel distortion and converging verticals first and then cropping.