

Q-Enhancer

from Colour-Science AG in Switzerland

Image comparison

Here you can see how Q-Enhancer corrects difficult images. Most of the images have been made with a Sony cybershot 3.3 mega-pixel camera.

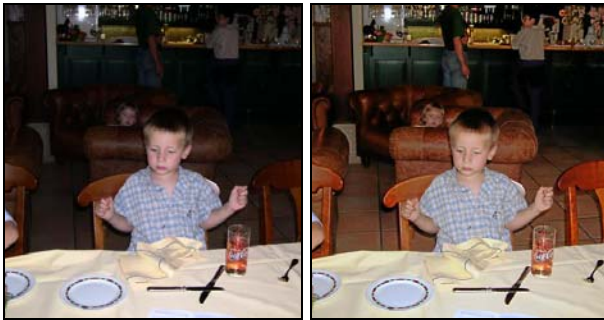
There are three main problems which are common to all digital cameras:

- **Density.**
Quite an important part of the images are too dark.
- **Contrast.**
The cameras have contrast problems with images which do not have an obvious white- and blackpoint.
- **Colour cast.**
The images mostly have a bluish unpleasant colour cast

Q-Enhancer is a fully automatic solution for image enhancement and output device profiling built for high volume digital production environments.

The Q-Enhancer system helps to achieve standardized quality for digital printing which is independent of the output unit.

Examples of Q-Enhancer functions



Example of Shadow Enhancement (SHE)
The details of the dark background of this flash exposure is brightened



Example of Memory Colour Enhancement (MCE)
The colour of the vegetation green is changed to a more pleasant green. The skin colour is made warmer and more naturally.



Example of Memory Colour Enhancement (MCE)
The colour of the vegetation green is changed to a more saturated green. The greyish sky blue is made more saturated.



Example of Shadow Enhancement (SHE) combined with Memory Colour Enhancement (MCE)
The dark trees are made brighter and the green is corrected to a more saturated and pleasant green.



Example of Adaptive Brightness and Contrast Enhancement (ABE)
The greyish winter image is enhanced both in contrast and brightness.

Image comparison



Sony Cybershot 3.3 megapixel original image



Density, white point and colour cast corrected



Sony Cybershot 3.3 megapixel original image



Density and colour cast corrected. The colours (specially green) look warmer and more pleasant.



Sony Cybershot 3.3 megapixel original image



Density, white point and the magenta colour cast are corrected.



Sony Cybershot 3.3 megapixel original image



The contrast is stretched and the bluish colour cast is corrected.



Sony Cybershot 3.3 megapixel original image



The reddish colour cast is corrected and the contrast is stretched.



Sony Cybershot 3.3 megapixel original image



Contrast and density is enhanced. The colours are made warmer and more pleasant.



Sony Cybershot 3.3 megapixel original image



Contrast and density is enhanced. The colour cast is removed.



Sony Cybershot 3.3 megapixel original image



Contrast is stretched and density corrected to bring some detail out of the dark.



Sony Cybershot 3.3 megapixel original image



Contrast is stretched and density corrected. The bluish colour cast is removed.



Sony Cybershot 3.3 megapixel original image



Contrast is stretched and density correction to bring some detail out of the dark. Red eyes corrected.



Original from Photo CD



Q-Enhancer can also correct very strong nonlinear colour casts. Nonlinear means that the cast can be different in the highlights and in the shadows.



Sony Cybershot 3.3 megapixel original image

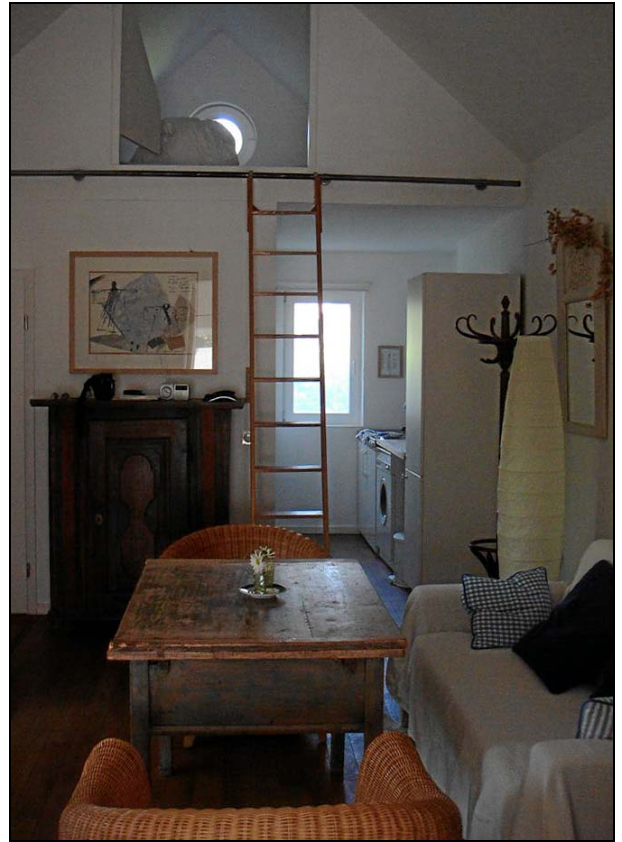


Contrast is stretched and density corrected. The colour cast is removed.

More images:









Comparison:

Why the Photoshop 7 "auto levels" correction can not be used for automatic colour correction

The "auto-levels" colour correction function of Photoshop is simply stretching the contrast in a way that the brightest point in the image is white and the darkest point is black. In many cases the darkest point is not black and the whitest point is not white.

Q-Enhancer technology is using an intelligent approach to determine whitepoints, blackpoints and neutral colours.

3.3 megapixel camera



For most of the artificial light images the light of the lamp is the brightest point.

Q-Enhancer corrected



Q-Enhancer recognises the artificial light situation and looks for whites elsewhere but not at the lamp.

Photoshop 7 "auto-levels"



By correcting the yellow colour of the lamp to white all the rest of the image will get a strong blue colour cast.



For many portrait images the face is the brightest point.



Q-Enhancer recognises the skin colour and makes the right correction.



Photoshop detects the skin colour as white point and corrects wrong.



This is a typical image with not enough contrast. Most cameras have big problems with this type of images. The result is a very flat looking image.



The contrast is enhanced and the sky colour is let blue.



Photoshop stretches the image to much and tries to correct the blue to white. The result are very bad looking jpeg artefacts in the image.