

GOSSEN

Digital Exposures - External hand-held Exposure Meters

The most frequently asked question today is: „Does the photographer with a digital camera still need an external exposure meter?. All shooting mistakes can be corrected at the computer“.

In order to answer this question convincingly, we should examine the changes that have taken place in digital photography as compared to analog photography.

First, the light sensitive element is no longer a chemical film, but a light sensor (CCD, CMOS). Apart from this difference, all other features are the same. Only the conversion of the data from the sensor by the analog/digital converter turns the process into digital photography. Up to this point, the same optical laws are applicable for digital and analog photography.

In analog (chemical) photography shooting mistakes can be corrected in the laboratory. The same possibilities exist in digital photography, but are done in the computer. Experience has proved that correcting shooting errors will require the same amount of know-how, time and effort as in analog photography.

The same limitations for getting a good image out of an unsatisfactory picture exist in digital photography. A picture showing insufficient details in the margins of light and dark areas cannot be saved with computer technology either. Correct exposure will always be a factor to guarantee high quality images.

Five good reasons, why you should use a hand-held exposure meter in digital photography:

1.) Using the camera's automatic built-in exposure

The classical example: a black cat in the snow

The incident light mode is, beyond any doubt, the best way to get correct exposures.



Reflected light



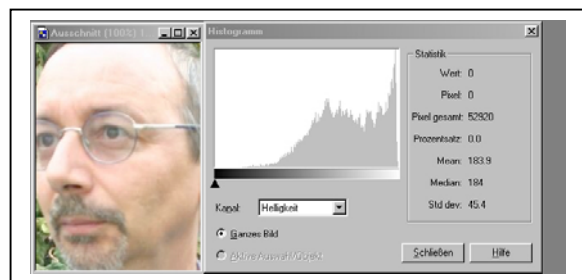
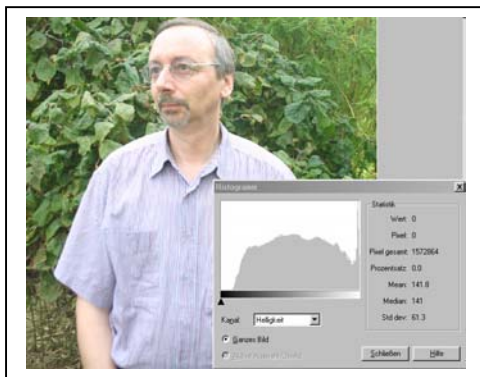
Incident light

2.) Evaluating the correct exposure in the histogram function

„A balanced histogram with fully used latitudes of tones corresponds to correct exposure“

This statement is incorrect. A balanced histogram only means that all tone values are uniformly distributed all over the complete image. If you compare the histogram of a portrait (integral tone value distribution of the complete picture taken) with the histogram of the most important part -- the face ---, you will find that in most cases the histogram will not equal the neutral point (50% tone value/latitude to 128).

Result: The exposure of the picture is not correct.



2. „In digital photography correct exposure is not important ...

Everything can be repaired with an image editing program in the computer!“

To correct this statement, you must know the latitude (film contrast range) of analog film as compared to that of digital sensors:

b/w negative	11 to 13	f/stops
color negative film	up to 10	f/stops
color reversal film	6 to 7	f/stops
digital photography	7.5	f/stops approx.

This table shows that the latitude of digital shooting is comparable to that of color reversal films. All photographers using color reversal film will know that it does not „forgive“ any errors in exposure. When compared to film material, the digital sensor will get into incorrect exposure much more abruptly, i.e. there is practically no transition phase between good images and bad ones.



The difference between the two pictures is 2/3 f/stops. Consequently, the colors in the left picture are incorrect.

4.) Correcting under or over exposure

When there are no details in the image (no details in the shadows, blurred lights), information cannot be generated. Editing the image at the computer will always mean a loss of available data.

Correcting an under or over exposure will expand the lower tonality to the full range (e.g. increasing 4 f/stops up to 7 f/stops). To repeat the statement: where there is no information ...

This effect can be recognized in the display as the most unwelcome „lattice fence „indication: there is no continuous latitude, but an interrupted bar.

5.) Once again the claim:

Everything can be corrected when editing the image at the computer.....

The computer must be calibrated, if it is used for improving/editing images. When a color neutral image is reproduced on a monitor without calibration, an error frequently occurs in the exposure of an image: the picture supplied by the developing lab shows color casts. Many errors in a digital image can be corrected in the computer to an acceptable degree. The corrections can be compared to the work being done in the laboratory for analog imaging. You will need sufficient experience with colors and contrasts, along with a considerable amount of time. However the basic advantage of digital photography is the quick workflow, which will be lost, if time consuming corrections will be required later.

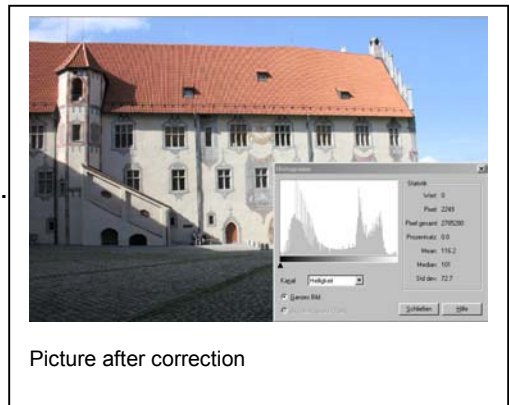
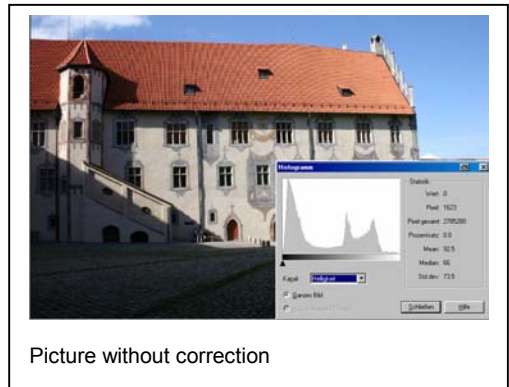
Conclusion :

Modern analog and digital camera systems contain a multitude of exposure settings so that using an external hand-held exposure meter seems to be unnecessary. Digital camera systems contain two more helpful items:

1. The LCD monitor: it helps to recognize clearly visible errors in exposure
2. Some digital cameras display a histogram which shows the latitude of tones all over the image after shooting.

The advantage of an external exposure meter is still the ability of measuring incident light. This is especially important when photographing inherently light or dark subjects. The same is true in case of difficult scenes, as for instance subjects having especially high contrasts. The incident light mode will always ensure correct exposure and perfect pictures.

The photographer will always want to know the contrast range in the scene, the contrast of the illumination and the general overall brightness. Because, also in digital photography, the final picture can only be as good as the picture taken.





Starlite - Flash and ambient, 19 functions
1 and 5 degrees



Variosix F2 - Flash and ambient,
5° accessory



Digipro F - Flash and ambient
Swivel head



Digiflash - Flash and ambient, Small size,
big features



Sixtomat digital - ambient light,
light weight, slim



Digisix - ambient light, small, compact,
add. features



Lunasix 3S - ambient light,
five specialty attachments



Spot-Master 2 - Flash and ambient,
true 1 degree spot,
optical viewfinder



Colormaster 3F - Color temperature
meter and filter indicator

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