



Penrith RSL
Photographic Club

Camera Angles

The Official Newsletter of The Penrith RSL Photographic Club Incorporated - Established 1995
Member of the Federation of Camera Clubs (NSW) Inc - <https://fccnsw.myphotoclub.com.au>

November, 2025



LEFT:

A histogram is an essential tool for any photographer who wants to create well-exposed and balanced images.

The shape of the histogram can tell you a lot about the overall tonal range of your image. A well-exposed image should have a histogram that is spread out across the full range of brightness levels. If the histogram is skewed to one side or another, it can indicate underexposure or overexposure.

A beginner's guide to understanding Histograms

At our December meeting, our guest speaker Ákos Lumnitzer will give a presentation on 'Understanding your Histogram' explaining how to use your histogram correctly and how to manage high ISO.

In essence, the histogram is a visual representation of the brightness values of all of the pixels in your image. Generally we use a combined histogram of the three main colour channels (red, green and blue) or RGB histogram.

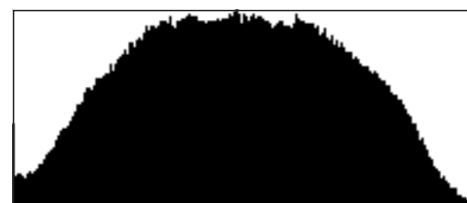
First, let's try to break down what it is exactly that is represented in the histogram. If you look at any histogram, you will notice two axes – horizontal and vertical. The horizontal axis represents the number of tones and their level of brightness, starting from 0 (pure black) up until 255 (pure white). On the other hand, the vertical axis represents the number of pixels at each level of brightness.

So, if you follow the line within the histogram, the highest 'mountain peaks' will tell you exactly where on the

brightness scale you have the most amount of information in the image. If the 'mountain peaks' are stacked more towards the left side, then even without looking at the actual image, the histogram is telling you that it's dark. On the contrary, if the peaks are towards the right side of the histogram, then the image is bright.

This is probably the most essential aspect of the histogram that you will need to remember. For your image to be correctly exposed, you will need to stay within those walls on each side of the histogram. If you expose beyond those walls, then in photographic terms we call it clipping. So, if any part of the histogram reaches the right side of the wall, the image is considered to be overexposed. This means that every single pixel that reaches this wall will be represented as pure white.

Similarly, if the histogram touches the left side of the wall, it's considered to be underexposed and you are left with pure blacks.



This is how an ideal histogram might look: evenly distributed and not up the sides, stretching across the entire graph.

Now we've established that overexposing and underexposing is something that should generally be avoided, however, there will be certain situations when the dynamic range or difference between the darkest and brightest parts of the scene are so high, that it's virtually impossible to capture them without clipping either the shadows or highlights.

Of course, you can use neutral density graduated filters to compensate for the difference or even bracket the shot and correct the exposure in the final image

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during post processing. However, let's imagine that you don't have these options or the scene is too complex to bracket without failing miserably. In this case, it is advised to underexpose the scene rather than to overexpose.

Modern digital cameras are capable of recording quite a lot of information about the details in the underexposed areas, which will allow you to bring them out later during post processing. However, it is virtually impossible to recover any of the information in the overexposed areas.

THE BACK OF YOUR CAMERA LIES!

While your LCD can give you a reasonably good interpretation of the image, it is far from perfect when determining how correct the exposure is.

First of all, the LCD displays only a JPEG preview version of the image, even if you shoot in RAW. Besides that, the LCD screen has a much lower resolution than the image itself and the brightness level of the screen may be adjusted too brightly or too dimly to give an accurate interpretation.

This is especially important to remember when shooting in very bright or dark conditions. For example, when shooting the Northern Lights, while looking at the screen in these dark conditions, it might seem that the picture on the back of your LCD is correctly exposed, however, this is misleading. The reason that this occurs is due to the way our eyes adjust according to the viewing conditions. In this case, when viewing the picture in the dark, it will look much brighter than it actually is.

MAKING USE OF THIS NEWLY LEARNT KNOWLEDGE

There are a number of ways to implement your new understanding of the histogram into your workflow. First of all, most modern cameras have an ability to represent the histogram on an LCD screen even before making a shot – through the live view mode. This way, you can adjust your exposure exactly, even before you take a shot.

Ideally, you should make a habit of checking the histogram after each shot. If that sounds too tedious, then you can at least use the 'highlight alert' function that is built into the camera. Once your shot is taken, it is possible to view the image and to allow the camera to detect if there are any areas that are overexposed.

Additionally, you can also use your knowledge of the histogram while making adjustments to an image during post processing. Increasing or decreasing the brightness during post processing may result in the loss of pixels. By keeping the histogram display open while you are processing in your software of choice, you'll be able to monitor when clipping occurs and prevent it from happening.

Being able to read the histogram doesn't necessarily make you a professional photographer, but learning how to use it can be very helpful at times.

I hope that this article has helped you to understand the basic principles behind the histogram and that with time, you will be able to incorporate this knowledge into your workflow and ultimately improve your own photography.

Exposing to the Right (ETTR)

Every scene is different and on the whole, there's no such thing as an ideal histogram as it depends entirely on what are you shooting.

Typically, for a shot to be well exposed, we are taught to aim for an even spread of tones across the histogram, peaking in the middle, and tapering off at the edges. When 'exposing to the right', the idea is to push the peak of the histogram as far to the right hand side as possible, i.e. overexpose the image, without clipping any highlights.

There is a theory that camera sensors give their optimum quality at the lighter end of the correct metered exposure. By shifting the exposure to the right of the histogram (brighter levels), we can improve the dynamic range and reduce the noise in the shadow regions.

If you split the histogram into 5 equal parts starting from left to right, from darkest part to the brightest. The first section only has 575 tones available, while the next one has 1149 tones. These two sections make up the so-called 'darks' in the picture. The third section is composed of mid tones and has 2298 tones within it. Meanwhile, the last two sections represent the brightest parts of the picture and they have a combined amount of 13,788 tones available.

In simpler terms, if your picture is dark, you will only have a very limited amount of tones available to work with. Let's say that you would like to adjust the picture during post processing by increasing the brightness, contrast or any other changes. Lack of information about the tones will manifest in banding (pixelated gradients), increased noise levels and other problems.

On the other hand, if you have a picture that is exposed towards the right side of the histogram, you are less likely to run into these problems during post processing. The resulting file, when processed back to the correct exposure, will contain more tonal information and less noise in the shadow areas, maximising your image quality.



Pixels and tones in the histogram

Keeping you posted



CHRIS TODD MEMORIAL TROPHY

Congratulations to all who entered this year's competition. There were lots of great images on display and our members had to work hard to select the winners.



Congratulations to our worthy winners:

1st Belinda Desmond

2nd Manesh De Silva

3rd Royce Jowett.

PRINTING SERVICE

We have 2 members printing images to a profession standard, suitable for competition or Show & Tell usage.

Brian Corlis

(02) 4733 4357 or briajen2@bigpond.com

Chris Carter

0416 150 000 or chris@carterfamily.biz

Please speak to either for costs and an understanding of what they require.

UPCOMING THEMED COMPETITIONS

THEMED COMPETITIONS

You can enter up to 2 images, at any size, with a \$2 per entry fee. The purpose of these themed competitions is to get you to think creatively about a subject and then take a new photo rather than picking something you have previously shot, that happens to fit the theme.

Our first themed competition will be titled **SILHOUETTE** and will be held on Monday, 21 May. **DIGITAL ONLY.**

Our second themed competition will be titled **A UNIQUE VIEW OF SOMEONE ELSE'S ARTWORK** and will be held on Monday, 27 July. **DIGITAL ONLY.**

CHRIS TODD MEMORIAL COMPETITION

Our third themed competition will be a **MACRO** competition and will be held on Monday, 26 October. **PRINTS ONLY.**

AND NEXT MONTH - DECEMBER

8th Understanding your Histogram

Ákos Lumnitzer will explain how to use your histogram correctly and how to manage high ISO.

AND NEXT YEAR - JANUARY 2026

26th PRINT & DIGITAL Show & Tell

First meeting for the year.

Up to 4 images, either prints or jpegs on a USB stick can be shown and discussed.

Download the full syllabus and newsletters at: <http://penrithrsl.wix.com/photographic-club>

Meetings start at 7.30pm