

FREE

Improving your Railway Photography



Railway Herald

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Improving your Railway Photography

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Front cover: Riddles WD 2-8-0 No. 90733 accelerates a short mixed goods train out away from Oakworth past Myholmes in the early morning of 2nd March.

Rear cover: Stanier LMS 'Black 5' 4-6-0 No. 45305 storms up the climb to Blea Moor tunnel on the Settle & Carlisle line with the last York - Carlisle 'Waverley' charter of the season on 9th September 2012.

Below: Thompson LNER B1 class 4-6-0 No. 61306 *Mayflower* attacks Wilpshire Bank during its main line 'loaded test' on 2nd May.



Chapter 1

Making a start with photography

Thanks to the availability of inexpensive, good quality cameras, there are literally thousands of us that now enjoy the pastime of railway photography. However, some photographers continue to be disappointed with their efforts, and when it comes to getting images published in the media, competition can also be very fierce. In a new series of features, we take a look at easy ways to improve your shots, from getting to grips with your camera to planning a day's 'gricing'.

We have all seen the truly superb shots captured by the legendary photographers in the days of steam, such as those of the late, great Paul Riley.

Though captured well over 40 years ago, and sometimes with only the most basic of camera equipment, the scenes they depict can transport the viewer into a bygone era in the blink of an eye. The most evocative shots are perfectly composed, pin sharp and are not simply a close-up view of a locomotive and a few coaches, and it is this that makes all the difference. While it is not easy to achieve such perfection in the era of preservation, it is not impossible – and a lot less difficult than you might think to capture pleasing images of steam or heritage traction that stand up to close scrutiny alongside the best efforts in the magazines of today.

The most important thing – the choice of camera

The biggest factor that will contribute to the quality of your shots is what you are trying to capture your images with. While it is possible to get good shots with a simple 'point and shoot' camera, it is very difficult to achieve anything acceptable in all but the best light, the same criteria also applying to phone cameras. Compact system cameras or Digital Single Lens Reflex (DSLR) cameras are the most suitable types for railway photography, although good results are also possible with bridge cameras. The greatest drawback with the latter is the lack of an interchangeable lens, meaning you can't grab a longer zoom if you need one. For this reason alone, it is recommended that you go for either a DSLR or a compact system camera. If you need your camera to be highly portable and will be



Above: The Nikon P520 is a high-quality bridge camera with a 42x zoom. The lens has a maximum f/stop of f/3.

shooting a variety of subjects and only taking railway pictures fairly irregularly, then a compact system camera will probably be the most suitable for your needs. However, while the results obtained from the likes of Nikon's N1 and Panasonic's Lumix G3 can be very good, in the unique environment of railway photography they haven't quite got the measure of the DSLR.

There are some very good camera deals to be had online, both from camera dealers and internet auction sites, but if you do not know exactly what you are looking for then there



Above: Sony's α NEX-6 is a good example of a high-end compact system camera. As illustrated here, it's significantly smaller than a DSLR.

is really no substitute for going to a proper specialist photographic dealer and having a look at the range of products available.

Admittedly, since the demise of the national chain Jessops this is a little more difficult, but in most towns and cities of any size there will be a shop run by a small but knowledgeable team that will be more than happy to help you. You will also likely find that many will stock secondhand cameras and equipment that will do the job you need, so you don't have to break the bank on the latest £3,000 model!

You will also find camera and equipment reviews aimed specifically at the railway photographer in these pages and on our website from now on, with the aim of helping everyone choose the best equipment available for their budget. In the meantime, however, here are a few things you will need your camera to be able to do:

Manual control – it is important that you have the ability to input shutter speed, aperture (also known as the f-stop) and ISO (light sensitivity, the

equivalent of the ASA rating on a camera film) values manually, and without having to browse through a complicated menu to find one or all of these. If the camera you are looking at doesn't allow you to do this easily, reject it.

Shutter priority mode – if you are not fully confident with a camera to use full manual control, shutter priority mode is a good fallback. In order to capture a fast-moving train without any apparent motion blur, the shutter speed needs to be fairly high, a minimum of 1/250 second for a train travelling at 25mph, and 1/500 second for a main line special moving at up to 75mph. If Pendolinos are your thing, you will need an even faster shutter speed of around 1/800 second. Shutter priority mode lets you set this value and then juggles the aperture and ISO around in order to achieve what the camera perceives is the ideal result.

Reasonable low light performance – let's face it, the British weather is seldom the railway photographer's friend! This means that we are often out in fairly dismal light in a dull landscape, waiting for a dark-coloured train to shoot past us at upwards of 50mph. In order to be able to use a high enough shutter speed to 'freeze' the train, it needs to support a low aperture value and a reasonably high ISO value in order to avoid the images being too dark to use.

A good rechargeable battery – cameras that take AA or AAA size disposable batteries are certainly less expensive than those with their own dedicated battery.

However, when you are out in a freezing cold field and a train is due imminently, the last thing you need is for your numb fingers to be fumbling for three or four small batteries and then trying to work out which way up they go – it is a small thing, but it is far better to have to change one large battery. Remember – batteries lose their charge much faster in low temperatures.

A range of interchangeable lenses – It is not necessary to start out with dozens of lenses, one or two will do, but it is important that you are able to expand your collection to suit your needs in

the future. Any camera will only be as good as the lens that it is coupled to, and the advice offered is that if you have got a good camera already, consider spending money upgrading your lenses before moving up to the latest DSLR. The lens choice for most compact system cameras is limited, as they have only been around for a very short time and there tends to be only a handful of compatible lenses for each brand. It may sound obvious to many, but it is important to check compatibility of features or fitment, as not all lenses made by the same manufacturer fit all their cameras. With some DSLRs – notably those made by Nikon and Sony – a great number of lenses made three decades ago for film cameras can also be used on the some of the latest DSLRs, and many of these are of comparable quality to new lenses and can be picked up at a fraction of the price of the latest ones.

True they don't have vibration reduction built in, but for the purposes of railway photography this feature has minimal benefit anyway.

When choosing lenses for railway



Above: The Nikon D800 is a full-frame DSLR aimed at the serious photographer, and with a price tag to match. It works with many older film camera lenses.

photography, there is such a vast range available that it is not the intention to recommend specific ones in this feature. What we can advise, however, is the most suitable focal length range for your lenses. While prime (single focus) lenses are generally superior to zoom lenses, they are mostly impractical for railway photography as there is usually little choice over the distance from the subject. Zoom lenses give a greater control over the composition of the images, and if you are looking to buy one lens initially, consider one in the 18 – 120mm range, which will cover the majority of railway applications, be they close-up or 'train in the landscape' shots. If you can afford it, you can then add a second lens in the 70 – 200mm or 70 – 300mm range.

While it is possible to buy a single lens that will encompass the whole 18 – 300mm range, in many cases the focus is a little 'soft' at either end, so

seek the advice of your local specialist camera shop.

A viewfinder – It is surprising just how many cameras don't have a viewfinder these days, but it can provide a great benefit. Having



Above: The Canon EOS 60D is a plastic-bodied DSLR aimed at the enthusiast photographer, with a 17.9MP sensor and a mid-range price tag. It is pictured with the 18 - 135mm lens.

to hold a camera at arms length to see the screen can induce camera shake, resulting in blurred photographs, and screens can be very difficult to view properly in some lighting conditions. There is really no substitute for a good old-fashioned viewfinder, whether it's an optical one using a mirror, as in a DSLR, or an electronic one (basically a mini-screen, as found on some bridge and compact system cameras).

Continuous shooting – While it is frowned on by many of the 'old school' photographers, a continuous shooting or 'burst' mode can be beneficial, particularly in the case of steam locomotives. Exhaust steam and smoke can do funny things, and there are a number of would-be 'master' shots that have been ruined by a small patch of drifting smoke that, had the



Above: Sony's compact system, a NEX-C3 has a movable rear display screen that overcomes some of the disadvantages that come from the loss of a viewfinder, however handheld shots at arms length can still be very problematic.

shutter been pressed a fraction of a second earlier or later, would have been of no consequence. In order for 'burst' mode to be effective, the camera needs to have a reasonable 'buffer', the temporary memory in which the information is stored prior to being transferred to the memory card. Something that will help free up the 'buffer' memory is to use a fast

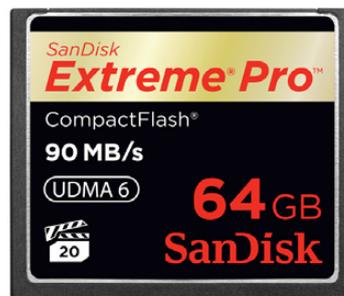
memory card, which will enable the data to be transferred from 'buffer' to card quickly.

It's also worth considering the type of card taken by the various cameras. These days, the vast majority take the physically



Above: Sandisk's 'Extreme Pro' range, as its name suggests, presently includes some of the fastest memory cards available. This is the 64GB capacity SD card, and is suitable for all cameras that take this format - but is ideally suited to higher-resolution models.

small SD cards, but many high-end cameras still take Compact Flash (or CF) cards, which are bigger and more expensive than SD. Some, such as the Nikon D800, take both. Many modern laptops, Apple Macs and desktop PCs have a built-in card reader for SD cards, but fewer have slots for Compact Flash. However, experience in the field does suggest that CF is still slightly faster than SD when it comes to collecting data from the camera's 'buffer'.



Above: Contrary to what its name suggests, a Compact Flash card is significantly larger than an SD card. Sandisk makes both formats in its 'Extreme Pro' and lower spec ranges.

Getting to grips with your camera

Assuming you have acquired the camera that best suits your needs, it is important that you understand how it works (at least as far as you need to!) in order to get the best from it. The best way of doing this is to get out there and practice in a mixture of different lighting and weather conditions before you attempt to go and capture 'that' shot. Rest assured, there is a steep learning curve to start with, and all of us got it all wrong in the beginning. Inevitably, we still do from time to time!

Basic settings

Without getting too technical about things, there are three things that affect the exposure of your images. Roughly the same amount of light needs to get to your film or image sensor each time to produce a similarly exposed image. As weather and lighting conditions vary greatly, the camera settings need to be adjusted in three ways:

Shutter speed – this term is self-explanatory, referring to the amount of time that the shutter is open, exposing

Shutter speed (in 1/3 stop increments)	
1/1000	
1/800	
1/640	
1/500	
1/400	
1/320	
1/250	
1/200	
1/160	
1/125	
1/100	
1/80	
1/60	
1/50	
1/40	
1/30	
1/25	
1/20	
1/15	
1/13	
1/10	
1/8	
1/6	
1/5	
1/5	
1/3	
1/2.5	
1/2	
1/1.6	
1/1.3	
1 second	
1.3 seconds	
1.6 seconds	
2 seconds	
2.5 seconds	
3 seconds	
4 seconds	
5 seconds	
6 seconds	
8 seconds	
10 seconds	
13 seconds	
15 seconds	
20 seconds	
25 seconds	
30 seconds	

the sensor to the light from the image coming through the lens. Normally, if lighting conditions are poor, landscape photographers and the like would simply use a longer shutter speed. However, in railway photography this is seldom practical. The subjects we are interested in are usually moving quickly through the landscape, and a longer shutter speed will simply result in a soft or even blurred image. This is particularly the case with steam locomotives, which often have a plethora of motion and other moving parts. As a rough guide, a minimum shutter speed of 1/250 second is necessary for a slow moving (up to about 15mph) train, 1/320 second for a train travelling at 25mph (as will be the maximum speed on most heritage lines), 1/500 second for main line trains moving at up to 75mph on the main line and around 1/800 second for 125mph Pendolinos, Class 91s and the like. Shutter speed is the single most important setting for our purposes, and this is the reason why the majority

f/stop (in 1/3 stop increments)	
2	
2.2	
2.5	
2.8	
3.2	
3.6	
4	
4.5	
5	
5.6	
6.3	
7.1	
8	
9	
10.1	
11	
12.7	
14.3	
16	
18	
20.2	
22	
25.4	
28.5	
32	
35.9	
40.3	
45	
50.8	
57	
64	
71.8	
80.6	
90	

of shots taken using a camera's 'auto' mode do not give ideal results.

Aperture – also referred to by the value of the **f/stop**. This setting refers to the size of the aperture ring, or 'iris', opening within the lens, the lower the f/number, the wider the opening. Wider apertures are necessary in dull conditions, and good-quality lenses can go open to values of f/2.8 or even wider, which will allow lots of light to reach the sensor in a short space of time. However, larger apertures come with a drawback – the smaller the f-number, the shorter the focal length of the image (the area of your

ISO (in 1/3 stop increments)	
6	
8	
10	
12	
16	
20	
25	
32	
40	
50	
64	
80	
100	
125	
160	
200	
250	
320	
400	
500	
640	
800	
1000	
1250	
1600	
2000	
2500	
3200	
4000	
5000	
6400	
8000	
10000	
12800	
16000	
20000	
25600	
32000	
40000	
51200	
64000	
80000	
102400	

image that is in focus). For example, if you are taking a front three-quarter shot of a locomotive at $f/2.8$ and are focusing on the smokebox door, if you are fairly close to it the front buffer beam may well appear soft, and the track in front of it may be completely blurred. Likewise, the boiler may also appear blurred and the cab completely out of focus. The amount in focus is referred to as 'depth of field'. As a general rule, we need this to be as long as possible, hence the aperture has to be fairly small. Unless there is a particular reason for wanting a shallow depth of field, a minimum f /stop value of $f/5$ is recommended, with an ideal minimum of $f/8$ in favourable weather conditions.

ISO sensitivity – Back in the days of colour film cameras (which is not all that long ago), for outdoor photography in the summer you would generally use a film of 100ASA or 200ASA, or if you were photographing indoors or in poor light, a 'faster' film of 400ASA or greater could be chosen. This film required less

light to produce a fully exposed image, enabling photographers to use a fast shutter speed and reasonable f -number. Of course, you don't get anything for nothing, and the down side was an increased amount of 'grain' on the image.

Well, that is in effect what the ISO setting does; the obvious benefit of course is that with digital format you can change the ISO rating on a shot-by-shot basis, which can make a real difference in variable light conditions. As with film, the lower the ISO setting that can be used, the better, so values of ISO 100 or 200 are ideal. However, with the ever-gloomy British weather, days where we can get pictures in perfect conditions are few and far between, but as with camera film, the higher ISO values result in increased image 'noise' (or 'grain' as it is called with film). Depending on the make, model and type of camera, significantly different levels of 'noise' can be experienced for the same ISO setting; some less expensive cameras have

sensors that produce visible 'noise' at values as low as ISO 400 or 640, while some of the more expensive, 'full frame' cameras such as the Canon 5D or Nikon D600, D700 and D800 show hardly any noise at up to ISO 3200. It is worth experimenting with your own camera to ascertain the setting at which the noise becomes a problem and keep below that wherever possible.

So, having digested all the above information, what does this mean to us as photographers 'in the field'? Well, full manual control of your camera – where you set the shutter speed, aperture and ISO values individually yourself – generally gives the best results, providing you understand what you want to achieve. However, if this daunts you initially, there is a 'middle ground' solution known as 'shutter priority mode'. This allows you to set the shutter speed manually, while the camera controls the aperture and ISO settings automatically, based on the available light. In many cases, this will produce acceptable results and has been successfully used on many occasions by some accomplished photographers.

Eventually, though, you will find that you get consistently better results using full manual control. There will be a certain amount of 'trial and error' necessary to begin with before you enjoy the fruits of your labour, but it will prove worthwhile in the end, as you will achieve surprisingly good results, even in very poor weather conditions.

You will hear experienced photographers talk of light in 'stops', a 'stop' being a relative measurement of light. Put simply, a doubling of the available light is an increase of one stop (+1 stop), and a halving of it is a decrease of one stop (-1 stop). Each of the values we have discussed here can be expressed in 'stops', and changing each one by a whole value (see the tables on the previous page) will change the exposure by one stop.

For example, $1/250$ -second exposure at $f/8$ and ISO 100 is the same as $1/500$ second at $f/5.6$ and ISO 100, or $1/500$ second at $f/11$ and ISO 400. The biggest help is your camera's built-in light meter, which can be used as a rough guide to estimate the initial settings. This usually takes the form of an illuminated bar across the bottom of your camera's viewfinder or screen, and the most common type will give an indication of plus or minus three stops, with the ideal exposure in the middle. Each small division on the scale is usually one third of a stop, as you will find that the majority of cameras are capable of adjusting each setting in one-third increments.



Above and below: LMS 'Princess Royal' Pacific No. 6201 *Princess Elizabeth* storms through Lancaster just after dusk at 75mph. The train was around half an hour late, but the location and speed of it meant a shutter speed of $1/500$ th second at $f4$; the resultant ISO value was thus 6400! The 'noise' (above) is clearly visible, but with the use of the noise reduction filter in Adobe Photoshop Lightroom the effects are minimised, as shown below. *Andrew Fowler*



All this might seem to be a little long-winded and technical at first, but bearing in mind that just four shutter speeds will suffice for our purposes; as already stated 1/250 for slow-moving trains, 1/320 for 25mph trains on heritage lines, 1/500 for main line steam specials and 1/800 for 125mph trains, things get a whole lot simpler right away. So, start by setting your shutter speed and confine your f/stop to, say, between f/5 in low light (or f/5.6 if

your camera is limited to full values) and f/16 in good light, and your ISO value will be determined as you view the exposure meter on the camera.

Do bear in mind, however, that your camera's light meter effectively sees only in black and white, and you may well find that a dark coloured train moving through the landscape will appear under-exposed. The beauty of digital is that one can allow for this by taking

a test shot shortly before the chosen train is due and looking at the results on the screen. If the area around the track is a little dark, either reduce the f/stop slightly or increase the ISO setting a fraction and try again. This is the real benefit of full manual control that you can't get from any other mode of operation, including shutter priority. Once you are happy, you can easily delete your test shots to keep your memory card from filling up.

This more or less covers the basics, although there are many other tools that better quality cameras have to help improve your pictures, and these will be dealt with in a forthcoming feature.

Camera images depicted within this article are copyright of the appropriate manufacturer. No endorsement or approval is suggested in anyway by Railway Herald or the manufacturers concerned.

Below: Just to prove that sometimes, against all the odds, perfect conditions can occur. Having chased this train to York and back, I had more or less given up hope of getting a decent picture, but persevered and climbed the hill overlooking Todmorden. The sun appeared from behind a cloud just as the train approached, and the valley between the hills provided just enough light to illuminate Gauxholme No. 1 viaduct. The lack of any wind led to a perfect smoke trail as 'Black 5' No. 45305 got to grips with the climb towards Rochdale.



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Chapter 2

Composing the image

Composition of the image is very important, and goes hand-in-hand with the choice of location and vantage point for your photograph. There are a few basic rules that will help you achieve attractive results, and in Chapter 2 we take a look at how the ingredients add up.

Basic principles

It is fair to say that the railway scene can be divided into three distinct categories, namely steam, heritage diesel and modern traction.

There are, and have been for a number of years, three basic styles of railway photography. The first is what I would refer to as 'train' photography, as it features a close-up of the locomotive and train that virtually fills the frame, containing little of the railway itself or the surrounding infrastructure or landscape. Many of the early railway photographers adopted this approach, but with the advent of the great names of the 1930s and 1940s, including Henry Casserley and Eric Treacy, this gradually fell from favour. It has now almost entirely been replaced by what we now

think of as classic railway photography, the 'train in the landscape' image that is the most popular today. There are many reasons for this, not least because the railway itself can contribute as much to an image as the locomotive and its train. Lastly, there is the creative or 'arty' style of photograph, in which the train takes up only a small part of the image and is often dominated by the landscape through which it passes. Images such as this are relatively rare, and can be quite difficult to execute successfully, but they are becoming increasingly popular.

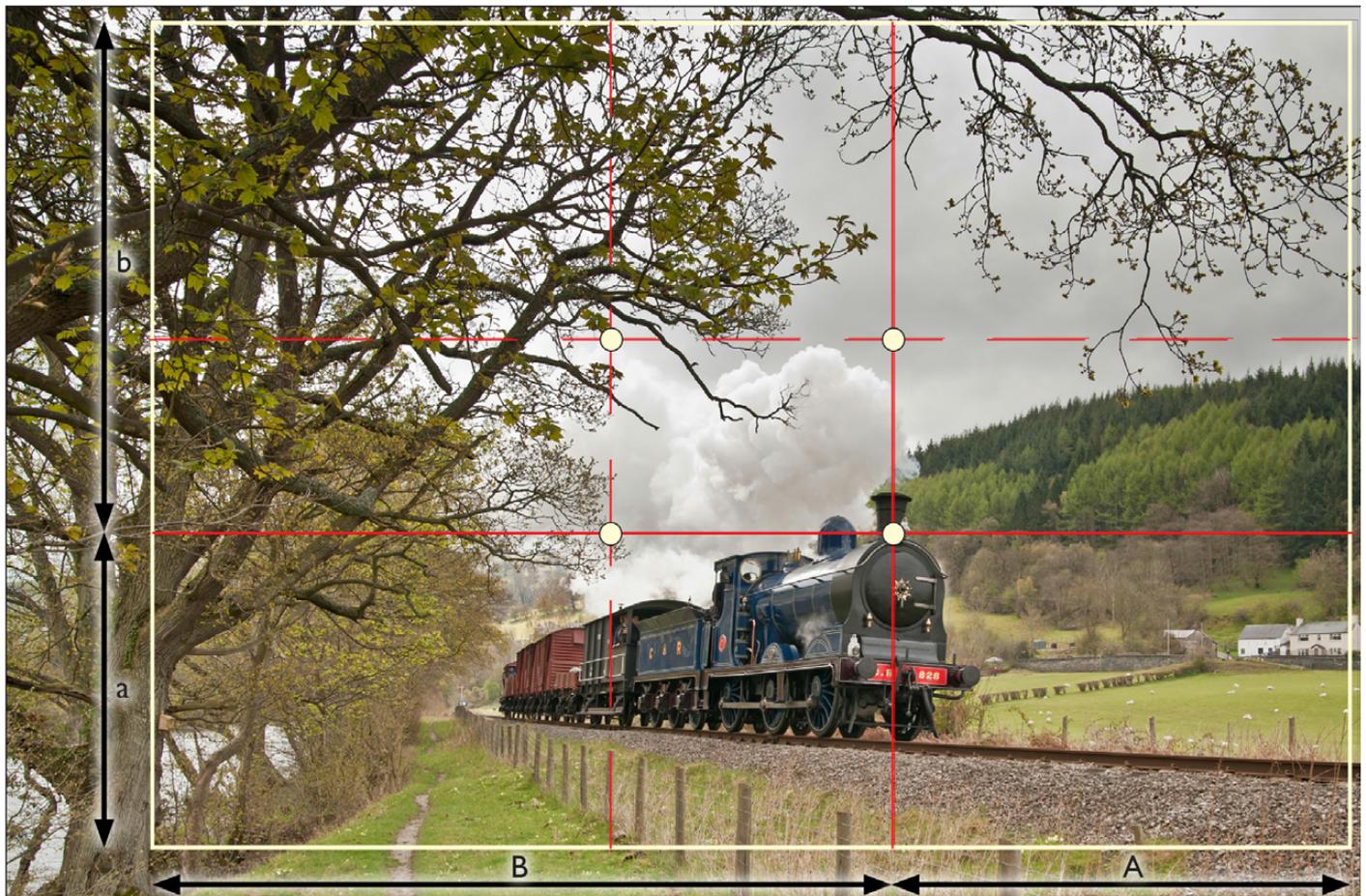
The most popular angle of photography for each of the above three styles is the 'front three-quarter' view as it makes the locomotive (or driving car of a multiple unit) the focal point of the picture. With this in mind, it is easy to see why the inclusion

of landscape and other features in an image becomes important, as it introduces significant variety into what could otherwise be a very repetitive series of photographs. Of course, 'going away' shots taken as the train recedes into the distance, or side-on shots, can work just as well, but in these the locomotive can appear far less dominant and great care needs to be taken if good results are to be obtained.

The 'Golden Section'

Of course, care also needs to be taken to capture the train correctly within the frame, and for this our guide is an Ancient Greek formula known as the 'Golden Section'. This gives the frame four possible focal points, as shown on the image below. The formula is included in the illustration caption,

Below: The 'golden section' lines overlaid on an image. As mentioned above, a little extra space was allowed on all sides, and the image recomposed in an editing package. The intersections of the lines create the four possible focal points within the picture; the distances A and B are defined as: $A/B = B/(A+B)$. An easy rule of thumb is that B is about 1.62 times larger than A. The golden section, often also referred to as the 'golden ratio', can be found in the crop guide tools of a number of photo editing packages, so you don't have to work it out every time!





Above: The same rules have been applied to the above image of Caprotti valve gear fitted Riddles BR Standard 5MT No. 73129 crossing Butterley Reservoir shortly before sunset with a breakdown train. The focal point used this time is on the upper right of the image in order to include the reflection, and is located just beneath the chimney of the locomotive.

but you don't need to memorise it! Getting the focal point in precisely the right place in the viewfinder every time is something that will get easier with practice, but until then there is a much easier way of achieving it. The rough approximation of the vertical and horizontal distances is 1:1.6, so in order to compose your image 'in the field', your focal point needs to be slightly to one side of, and either above or below, the centre of the view. If you allow a little extra space around the edges of the image, you can then easily re-compose the image in your chosen editing software and get the 'golden section' precisely where it is needed!

So what do we choose as the focal point for the 'golden section'? Well, believe it or not, it varies depending on the type of traction, and even the type of locomotive, that is to be the subject of the image. A good rule of thumb is to use a point just below the chimney of a steam locomotive (as the origin of the smoke normally draws the eye), or the middle of the cab front of a slab-fronted diesel or electric locomotive. There are many exceptions, of course – using the 'domino' indicators on the nose of a Class 55 Deltic, for example, tends to work rather well – and again, the only way you will get to grips with what works for you is through a process of trial and error; but when it all comes together, the results can be impressive.

It is important to note that the Golden Section is **not** the same thing as the 'Rule of Thirds' – the latter was originally used to aid the areas of light

and dark in paintings, and does not produce the same results.

Another basic rule is that, particularly if you are taking a 'front three-quarter' view, you take care not to 'chop' part of the train off at the edge of the frame, as the resultant image tends to look incomplete. Fit the whole train in the view if you can, or use a cutting slope, a clump of bushes or trees or some other natural feature to mask the end of the train before the edge of the image.

That is more or less as far as the simple rules of composition go – but there is a lot more to getting a good shot than just positioning the locomotive in the right place, and it all comes down to planning.

Planning a day's 'gricing'

I am sure that most of you have looked with awe and even envy at some of the pictures that have appeared in the railway press over the years, and wondered, "How on earth have they achieved that?" Well, aside from the camera basics we covered in these pages last time and the actual composition of the image covered above, the majority of the success of the image is down to planning and luck.

The timetable

Whatever train you want to capture in your photographs, the planning starts with the timetable. The majority of main line train timetable details, including freight and charter workings, are available at www.realtimetrails.co.uk;

main line steam charter details can also be found at www.uksteam.info and the majority of steam and diesel railtour details are listed on our own [railtour pages](#). Heritage lines usually publish details of their own timetables online on their individual websites, although during galas and other special events a working timetable is often made available for a fee to help raise additional funds.

The timetable is important, because in order to be able to compose your shot correctly, you have got to arrive at your desired position well in advance of the train. It is no good arriving with a few minutes to spare and finding that there is something spoiling the view – be it a bush that has grown up, farm equipment parked in the field or even an orange-clad permanent way gang in attendance. For this reason, it is recommended that you allow yourself at least an additional half hour to spare before the train is due.

The location itself

The success of the final image is largely dependent upon the location you choose to take your pictures. Having identified the times of the train you want to photograph, you can then begin your search for a suitable 'phot spot'. Google Maps is a good starting point, as it will help you on your way towards choosing a suitable location. This is difficult enough these days, especially on the main line, in view of the decline in the amount of lineside tree clearance that's carried out, but

there are many other factors to consider.

Getting there

Firstly, your chosen spot needs to be accessible – and legally so. *Railway Herald* does not condone or encourage trespass on the lineside, whether on the National Network or on a heritage railway. Many preserved lines have a lineside permit scheme, which for a small charge allows the holder to access locations that are otherwise out of reach, and this is a safe way in which you can enjoy the hobby and contribute to the upkeep of the railway.

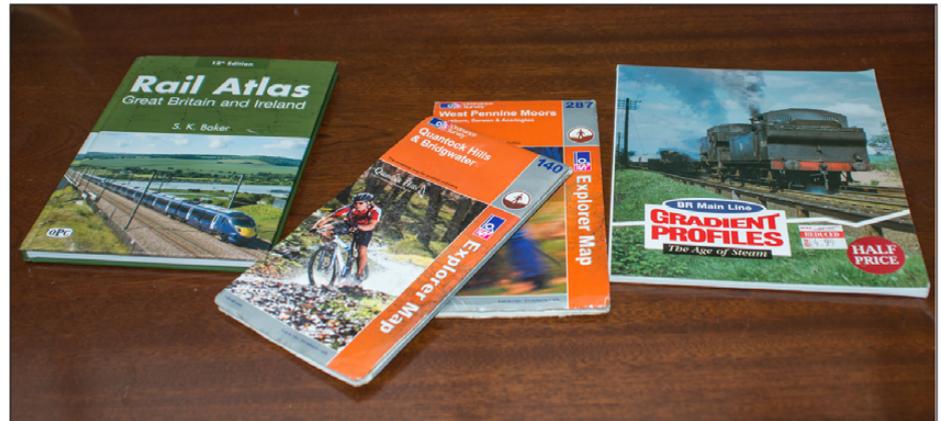
Likewise, do not trespass on private property adjacent to the railway. There are often public footpaths from which good photographs can be taken, or alternatively, if you wish to access a private field for your shot, talk to the landowner or farmer first. Many farmers are only too willing to allow access to the lineside as long as their property and livestock is respected. Most such locations are quite remote, accessed off narrow roads, and in such situations it is important to park considerately and not obstruct gateways. If in doubt, ask the farmer – I have been invited to park in farmyards on many occasions, and have even been made a cup of tea after I returned from a freezing wait alongside the West Coast Main Line!

For looking up public rights of way, a

good 1:25,000 scale Ordnance Survey (www.ordnancesurvey.co.uk) map is invaluable, and if it is a trip that you are likely to make on multiple occasions, the purchase of the relevant OS Explorer map. If it is a one-off, you will be able to view and print a very small area of the map at this scale at www.streetmap.co.uk. If you have an iPad or smartphone, there's also an app called 'OS MapFinder', with which you can purchase map tiles at various scales and mark out and print routes, or track your progress through the landscape.

There is, of course, another big deciding factor that is peculiar to

photographs of steam traction. In order to achieve a really striking shot it is important that the locomotive is working hard, and to guarantee that, the location needs to be at a point where the train will be climbing when it passes you. When it is on the National Network or a preserved part of a former main line such as the Great Central Railway, a copy of the 1966 Ian Allan book 'BR Main Line Gradient Profiles' (this has been reprinted many times and is widely available at a low price) provides a good indication of nominal gradients and the location of change points. Some heritage lines also



Above: The necessary tools required for finding a suitable and accessible location. The Rail Atlas - Great Britain and Ireland is not strictly essential, but it does contain the names and locations of some of the more obscure junctions listed on main line timetables. Large-scale Ordnance Survey maps are very important, as is a gradient profile of the line if you are photographing steam.

Below: Having advised that it is advisable to use the golden section to compose your images, it is important to realise that there are occasions when it is best ignored! In this case, the stunning landscape surrounding Swardale Viaduct on the Settle & Carlisle line adds much in the way of interest, and a successful balance could be achieved. In such cases, the uncropped version stands out much better than one cropped using the golden ratio. Unfortunately, the sun went in as soon as the train got on the viaduct!





Above: Unique Riddles BR 8P Pacific No. 71000 *Duke of Gloucester* storms through Langwathby with a southbound 'Cumbrian Mountain Express'. The weather conditions were very dull, necessitating a close proximity to the line. The otherwise quite plain landscape surrounding the shot is enhanced by the presence of the derelict permanent way hut and the bridge, the latter also serving as a break to avoid capturing some of the less attractively-liveried vehicles further along the train!

Below: Ours is a popular hobby, and you will rarely get a good location to yourself, even on a bad day, which is another reason to get to your chosen position early. This is about half of the 'gallery' that was present at Goosemere Heights, Hellfield, on 9th February, awaiting the passing of Stanier 8F No. 48151 with the 'Lancastrian'.



provide a profile, either in a guidebook or online, while the details of others have been published in books about them. In many cases, however, you will have to either make a 'recce' first or trust to luck!

Once you have arrived at your chosen spot, the vantage point is the most important consideration. If you are looking to take anything other than a 'head on' shot, it is important that you stand some distance from the line and have a clear field of view of at least the railhead of the line on which your train will pass, and for at least three coach

lengths. Anything more than this will add significantly to the effect of your final image, and a clear view of the whole line beyond the full length of the train is a distinct advantage. Items such as catenary posts and lineside equipment such as location cabinets need to be taken into consideration. Some items can be omitted by merely changing the angle of view, but it is of benefit if catenary posts do not bisect the locomotive or leading coach. The latter may often dictate a more 'head on' angle than would normally be desirable.

Conversely, with steam or heritage

diesel shots either on the main line or on a preserved line, 'steam age' lineside structures can enhance a shot. With careful composition things such as semaphore signals, permanent way huts and signal boxes all add to the illusion that the image is from another time. On the main line, there are not all that many of these things about, but the remoteness of the Settle & Carlisle line, the Cumbrian coast line and several others has resulted in even closed signal boxes and disused huts surviving to the present day in good condition.

While the above information is only a very basic guide, it should give you enough information to help you get some good shots, and detailed composition in greater depth will be published next time. Of course, there is one more thing that can see all your efforts triumph or fail.

The elements

As always, we are at the mercy of the British weather. Many, more seasoned railway photographers will only go out when the sun shines – which, of course, significantly reduces the number of shots they will get in a year. Others – the author included – go out in all weathers bar torrential rain. Even when

it is very overcast and threatening rain or snow, there can be some very dramatic skies that can produce an image that may be more successful than one taken on the sunniest of days.

On the subject of that glowing ball in the sky, if you are lucky enough to be able to go 'gricing' on a fine day, the angle of the sun is important. We have all heard that photographs should always be taken with the sun directly behind us, but this is rarely possible in the field of railway photography – we can't simply pick up and move a north-south railway line to suit the time of day at which the train is running! Different angles of sunlight, particularly in the early morning or late evening, can produce some very striking lighting effects that very much enhance an image, and this will be discussed next time.

When planning a shoot it is often possible to find a location where the line curves somewhere or other in order to provide a different angle of illumination. It is necessary, of course, to have an idea where the sun will be when the train is due, and for this there is an invaluable tool called the Photographer's Ephemeris (www.photoephemeris.com) that gives an accurate indication of the angle of the sun on any specified date, for a designated location at a specified time. It uses Google Maps as a base, so you

can see the results on an aerial image, and the best part is that it is free for use on a PC and Mac, and available as an iPhone and Android app for a nominal sum.

Photos taken in good light will always look better than those taken in dull conditions, but decent results can still be obtained on an overcast day. When it is cloudy, the light is flatter so there is less contrast and less definition, so it is better if you can get closer to your subject. Also, a dull day is not the time to try that fantastic long-distance view of a train crossing a dramatic viaduct, as the results will always be disappointing. If it is raining hard, keep your equipment in its bag, otherwise you will only get your lenses wet and risk spoiling your camera, and it is a

good excuse to repair to the pub to dry out!

If you're photographing steam, wind is the other thing that can spoil your shots. Even a light wind can cause the locomotive's exhaust to drift down in front of the train, and a strong wind will do this to a greater extent. It is very important, therefore, to make sure that the wind will blow the smoke away from you when the train arrives. With a stiff breeze it is easy to determine its direction, but this is more difficult with a light wind. Throw a few blades of grass in the air and watch which way they drift as they fall, and you will have a rough idea which way the wind is blowing. This isn't failsafe, however, and even the more experienced among us can, and do, get it wrong!



Above: When it goes wrong! Perfect light, and no apparent wind at all, but the smoke blew down, completely masking the train; this caught out several experienced photographers!

Below: When it goes right. A slight haze meant no harsh lighting conditions but still plenty of contrast. The matching rake of stock, authentic pairing of a T9 4-4-0 and a 'U-Boat' and the traditional railway infrastructure make this scene appear virtually timeless, and the blue sky gives the impression of a sunny summer's day. The shot was taken during a photo charter on the Severn Valley Railway.



Chapter 3

Working with the weather

Previously, we've considered the basic techniques needed to start getting better results in our photographs; hopefully you are now raring to get to the lineside and have a go! In Chapter 3 we take a more in-depth look at weather and lighting.

Basic principles

Once the depths of winter have done their worst, in the quiet of the post-Christmas period the heritage steam and diesel gala season gets fully under way and the number of main line charters surges, giving plenty of opportunity to put this new-found knowledge to the test.

In order to help readers achieve good results, we'll elaborate further on the basic information, hints and tips given in the last two chapters.

More on weather

There are so many outside factors that can affect the success, or otherwise, of a shot that makes the hobby of 'gricing' such a challenge. Indeed, that is why many people persevere in all weathers - to try and get the perfect photograph. For example, despite going out on almost every weekend of the year and taking hundreds of photographs each trip, I doubt if I get enough shots that I am truly 100% happy with to produce a calendar each Christmas. With around

6,000 images taken per annum, this equates to a 0.002% success rate, so it is important not to be too optimistic!

However, as time has gone by I have continued to apply the techniques that have been discussed in these pages, and the basic composition of my shots is now varied 'on location' each time to account for variations over the expected weather conditions.

The end result of this is that it is quite rare that I get home at the end of the day without a single shot that is worthy of submitting to a magazine for

Below: A brighter than usual Lancashire day! Fowler LMS class 3f 'Juntys' 0-6-0T No. 47324 rounds the curve at Burrs, East Lancashire Railway, with the first Rawtenstall train of the day on 12th January. The issue here was the strong easterly wind, which prevented me taking a shot from the correct side for the light and forced me to take this shot more or less into the sun. Fortunately there was a reasonable amount of cloud cover; the result was a quite pleasing, contrasty black and white shot.





Above: When lighting conditions are perfect in low autumn or spring light, a slightly backlit shot can result in a heavy glint. If you plan your shot carefully, you can reap the benefits of some very dramatic lighting effects. Drummond T9 class 'Greyhound' 4-4-0 No. 30120 pilots Maunsell U class 'U Boat' 2-6-0 No. 31806 towards Foley Park Tunnel on the Severn Valley Railway, on 12th October.

publication. In the previous part of this series, the basics of the vagaries of weather were discussed, and will now put a little more 'meat on the bones'.

With the coming of early spring we should be able to expect better weather for many of the forthcoming galas and events, and at least some sunny spells in which to enjoy our hobby. It is therefore important that we consider the effect of strong spring sunlight on the resultant images, as it has the ability to both ruin them and make them magical.

As was said last time, the oft-quoted adage for outdoor photography is to shoot with the sun directly at your back. This can produce a great image if your vantage point is some distance from the line, for example capturing a train on one of the immense viaducts on the Settle & Carlisle line, as the overall lighting is close to perfect and you can alter the angle of the sun to gain the best effect for the shot by simply moving your

vantage point. However, even in such locations there will be times of day when a 'front three-quarter' shot will be impossible to obtain with the sun behind you.

It is quite feasible, and indeed desirable, to take photos with the sun at other angles to the camera. The important thing to remember is that if there

is a clear sky and the sun is anything like 'full bore', as linesiders like to describe it, the sun must be on the same side as your vantage point to avoid the side of the train

Below: Bad planning! This looked as if it would be a perfect shot an hour prior to the arrival of the train. Unfortunately, by the time 'Black 5' No. 45305 showed up at Crosby Garrett cutting, the sun had dropped sufficiently for the slope to cast a shadow on the bottom part of the locomotive's wheels, so the picture was consigned to the list of 'embarrassing failures'.



being in shadow on the photograph. It's particularly important to avoid shooting directly into the sun, as this will result in a greatly over-exposed sky and under-exposed train.

If the shot is heavily backlit - that is with the sun close to the rear of the approaching train, then it is always an advantage to look for the angle of the 'glint'. This is the point at which the sunlight will be strongly reflected back off the paintwork of the locomotive or unit, and while the actual location of the glint can of course be worked out mathematically, finding its position 'in the field' is largely trial and error, and obviously varies with the time of day as the sun changes position.

A good idea can often be gained by looking for the bright spots on the railhead, or if you're lucky those on a preceding train. If it is done right, a heavily backlit shot with a strong glint on the locomotive can be one of the most effective images you can obtain.

That is the optimistic bit out of the way, so now it is time to deal with the strong likelihood that the weather will be less than ideal. If there is the certainty that cloud will cover the sun, then the position of the sun itself in relation to your location is less important. Dull conditions are an ideal excuse to take shots on the wrong

side for the light, opening up a greater number of gallery positions for any given line. If, for example, a strong easterly wind dictates that you have to take a photo at an acute angle to the sun, a stark, contrasty black and white image can sometimes work, and in such cases it is important to meter the

exposure against the sky in order to avoid burning out the highlights.

This brings us to the point where we can start looking at suitable software for editing imagery in order to get the best results from the information that comes off the memory card, and we'll do that in the next feature.



Above: The reason why it is worth persevering in almost any weather conditions! A threatening, heavily overcast sky can often produce the most dramatic effect on a photograph. In this case, a brief patch of light broke through to brighten Docker viaduct as Peppercorn A1 Pacific No. 60163 *Tornado* stormed through on 20th November 2010.

Below: The early morning sunlight was just breaking over the hillside at Burrs on the East Lancashire Railway, on 21st October, as Thompson B1 class 4-6-0 No. 61305 *Mayflower* passes with the first demonstration freight working of the day. The lighting effect was very pleasing, with ample glint on the locomotive's boiler, cab windows, driving wheels and tender but plenty of contrast provided by the shadows on the rest of the train. The key to this successful shot was perseverance - I had attempted to get such a result at this location for several years before efforts paid off!



Chapter 4

Introducing Lightroom

So far, we've considered the basic techniques needed to start getting better results from your photographs, and hopefully you will now be able to head out to the lineside and get some great results! Now it's time to start editing them, and in Chapter 4 we take a look at the basics of using an inexpensive and user-friendly computer program.

Software

There are literally dozens of image editing packages out there, ranging from free-to-download apps to software costing hundreds of pounds.

However, the choice is not always that simple. If you're shooting in RAW format, which will give by far the best results, the choice is much more limited.

Choosing a package

Most cameras come with a basic software suite, sometimes as a free trial of a full version, or occasionally as a fully-functional program. However, it will certainly be more limited than some of the software marketed by the larger firms such as Adobe.

Most people think 'Photoshop' when image editing is mentioned, and visions of infinite complexity come to mind. Although for those users with less editing experience, another option on the market that is ideal for basic image editing. If you are not interested in detailed photo manipulation, cloning out people, trees and lineside clutter from your pictures, or changing the liveries



Above: During the following videos, this feature will take a step-by-step look at importing and processing images such as the above in Adobe Lightroom software.

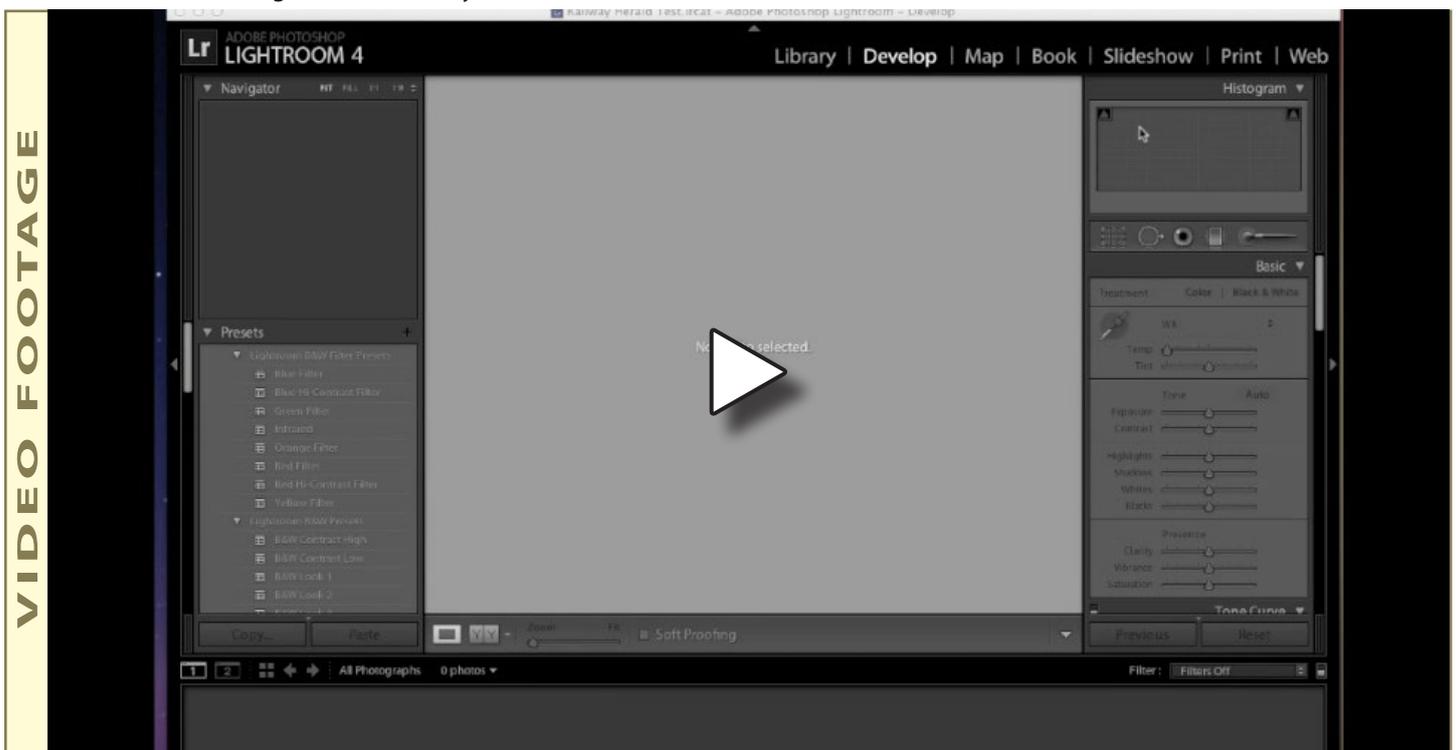
of coaches then it could be the only editing software needed.

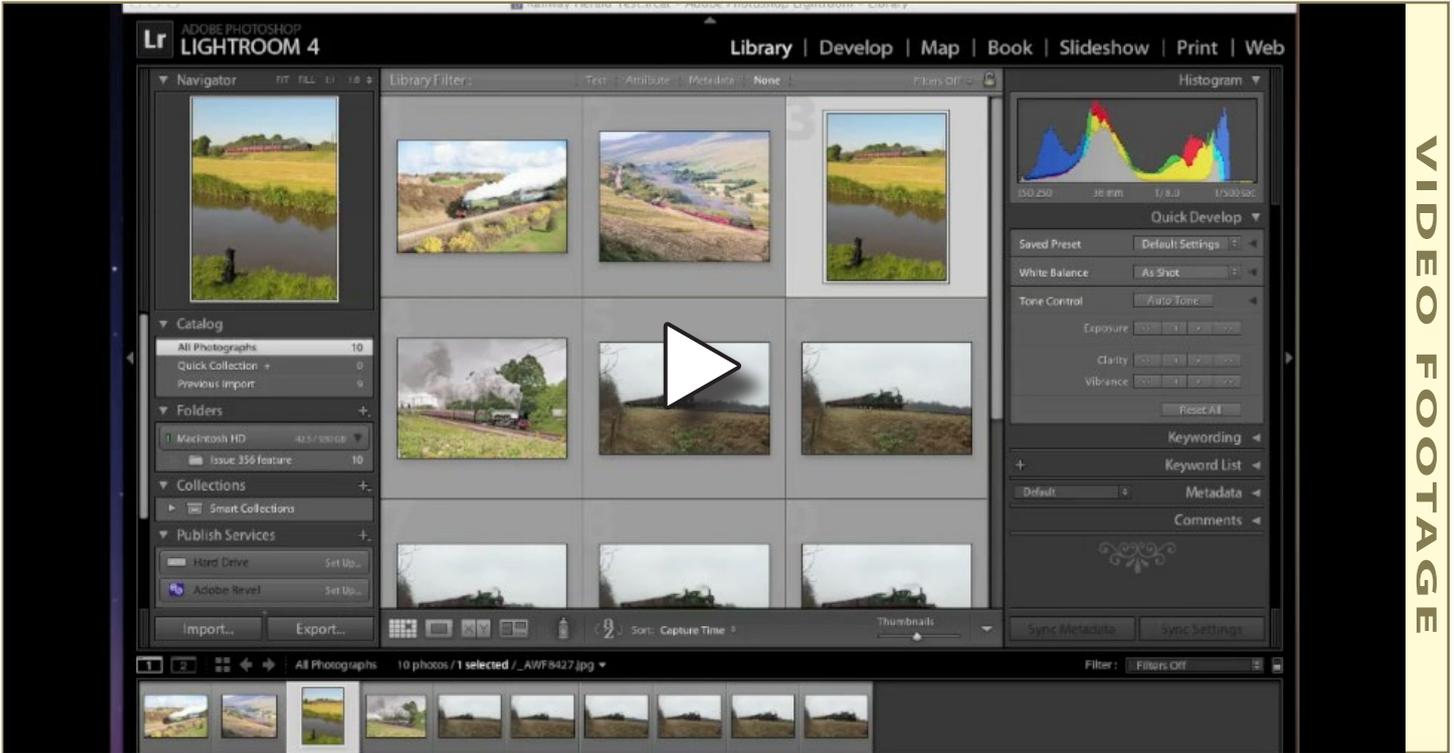
Adobe Photoshop Lightroom is a 'standalone program' that doesn't require you to have Photoshop itself in order to edit images. It supports the majority of image formats, from jpeg, png and tiff to RAW, NEF (Nikon) and CR2 (Canon). More importantly, it is

both widely available and inexpensive.

You can download a free trial from the Adobe website, by visiting www.adobe.com/Lightroom to get started straight away, and the software can either be purchased online from Adobe direct or from a number of retailers. For example, at the time of writing, it is available from

Below: The first video covers the basics of importing images into Lightroom, including the different ways to import files and an introduction to the Lightroom screen layout.





Above: The second video deals with selecting and comparing single and multiple images in the library, how to zoom and pan views in the library, and a brief introduction to the 'Develop' interface.

www.parkcameras.com for just £99, and on Amazon for £95.50.

The beauty of Lightroom is that in the majority of ways it is almost identical to traditional print photography - so those that think that digital photography is far removed from film need not fear.

It contains pretty much everything you will need to make an image look fantastic, as long as the basic

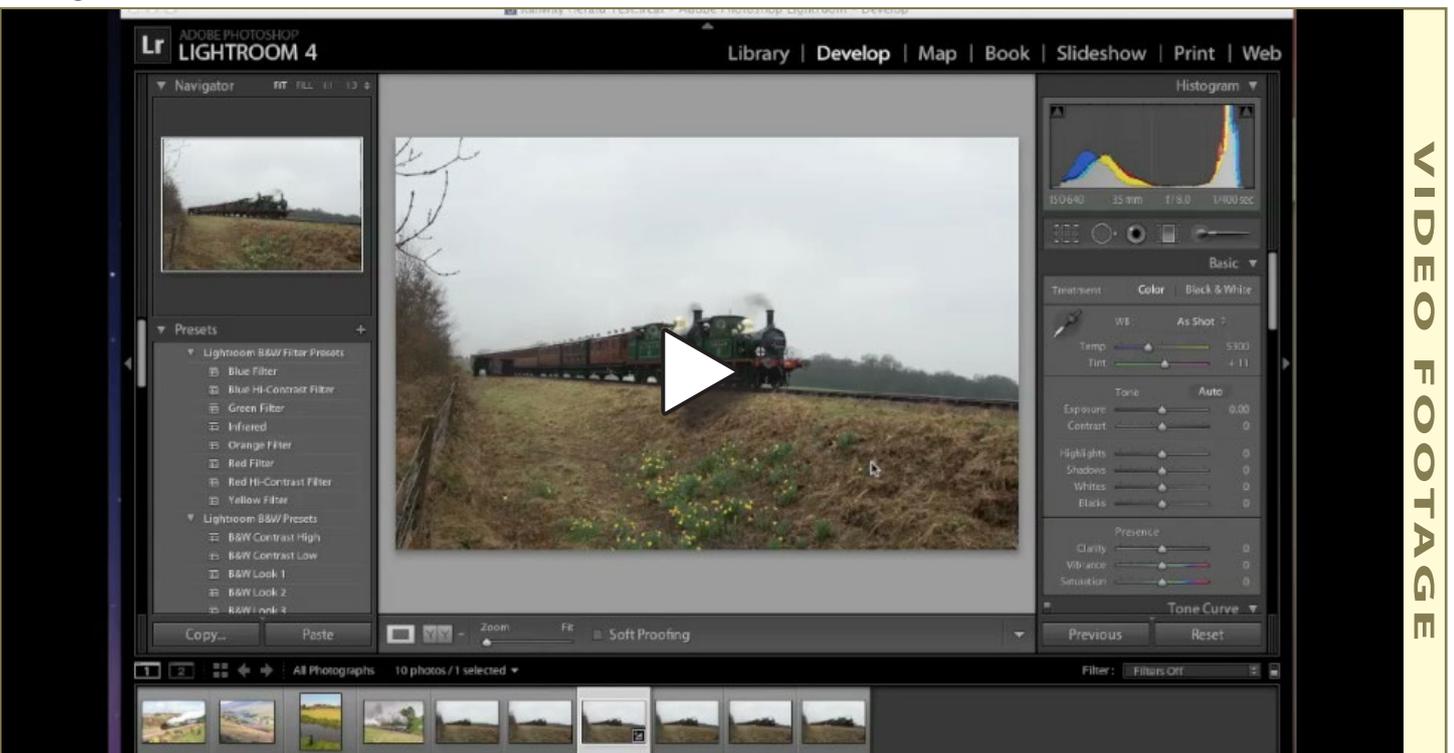
composition was correct in the first place. Basic errors like incorrect white balance settings can easily be overcome, slightly skewed images corrected, red-eye removed and the like, but there's little it can do to remove a telegraph pole growing out of a locomotive's chimney!

The real beauty of Lightroom, especially for beginners, is that nothing you do to the image is irreversible. All

the changes you make take the form of 'filters', and the final image has to be exported to a folder of your choice in order to save it - your original file remains completely unchanged, so if it all goes horribly wrong you can just ditch your efforts and have another go. To save your completed images, use the File/Export option from the menu at the very top of the screen/window.

In order to demonstrate Lightroom

Below: A more detailed look at the 'Develop' module as we look towards editing an image. The navigator window is explained, along with the function of the histogram and an explanation of how to use it as a guide to avoid clipping shadows and highlights in an image.





VIDEO FOOTAGE

Above: As we begin to edit the image, we examine the 'auto tone' option, together with making adjustments to exposure, highlights, shadows, whites and blacks to get the best results. We also show you how to compare 'before' and 'after' views as you go along so that you can better judge how well your adjustments are affecting the image.

easily, this week's feature consists of five tutorial videos covering the basics to help you start doing some simple editing tasks. They can also be viewed online by [clicking here](#) if you want to be able to follow them without doing so through the magazine pages. We will add more in the way of detail in the next chapter.

It must be remembered that, even with the relatively simple setting adjustments provided within Lightroom, it is all too easy to 'over-edit' an image - with most editing projects, the old adage of less is more definitely applies when processing digital images! However, each photographer will interpret a scene differently, so the

most important question to ask is whether or not you are happy with the image yourself. If you are, that is all that matters at the end of the day. The overall aim should always be to make the best of the image, while keeping the finished product as close to the picture seen by the naked eye on the day.

Below: In the final video this week, we examine how to boost contrast using the basic tone curve settings, automatic sharpening and using noise reduction settings to remove the grain effect that can result from using a high ISO setting when shooting in poor light conditions.



VIDEO FOOTAGE

Chapter 5

Recomposition and the golden section

Chapter 5 builds on what we looked at in the previous chapter to show you how to recompose your shots and deal with burned-out skies.

Keeping it simple
Lightroom enables the user to edit an image to get the best results in much the same way that professional photographers used darkroom techniques to ensure everything was spot on in their finished pictures.

The only difference is the time it takes to get the same result, with Lightroom achieving in minutes what was only possible with hours of developing and printing work.

Dyed-in-the-wool film photographers often see digital images as the 'enemy', simply because of the ease with which a photograph can now be manipulated. In truth, even in the days of film it was possible to remove errant telegraph poles, people and the like from prints by using bleaches and dyes or superimposing parts of one image onto another,

but the time and skill it took to achieve a convincing result was usually enough to deter all but the professionals from attempting it!

In this week's tutorials, you will see just how similar the basic editing tools in Lightroom are to the processes used with film. There is no over-used digital trickery here, and in fact, you will find that we advise you to use the tools sparingly, and even avoid using some altogether, to get the most convincing results. Heavy editing of images can be very obvious even to the casual viewer, and once noticed it detracts significantly from the finished picture. If in doubt, leave it out!

I'm sure all of us have, at some point, taken a 'grab' shot that has resulted in an image that's slightly skewed, and you will find out just how simple it is to correct this by eye in

Lightroom, while at the same time recomposing the image to improve the look. Lightroom is one of those editing packages whose crop tool has a template that includes the 'Golden Section' that we flagged as being very important back at the beginning of this series.

If you are going to crop your image, it is better to do so before you begin making exposure or colour adjustments, particularly if you're going to use the automatic options for white balance and tone. This is because depending upon the location of the sun (or other light source indoors or at night) you will often remove the darkest or lightest parts of an image, and this has a corresponding effect on the overall exposure as illustrated by the histogram.

You will also learn how to get the effect and benefit of an natural density grad filter without having to carry all

that glass with you when you go gricing. Granted, the results are not always quite as good as the real thing, but used sparingly the results can be both convincing and dramatic, giving the images that necessary contrast in what would otherwise be a very flat, pale sky.

Although we gave you the basic information that you would need to export the image in the last column, you will find a quick look at the export menu in the videos. We recommend (especially if you're sending images in to *Railway Herald*) that you use a jpeg format for your finished image, set to the maximum possible quality.

Tiff files are the best quality, but the file sizes are large by comparison with jpegs. Also if submitting to *Railway Herald*, we would also request that you do not crop the image.

Lightroom's spot removal tool does what it says on the

Below: The first video in this feature illustrates how to set the crop tool overlay in Lightroom, to show the Golden Section guides.





VIDEO FOOTAGE

Above: Learn how to straighten and recompose your shots using the crop tool overlay

tin - if you've been unlucky enough to get some dirt on your lens without noticing and end up with visible spots on your image, this useful tool can be used to get rid of them effortlessly.

By contrast, the adjustment brush is probably best avoided, as it takes great

skill to get good results from it and this is one aspect that is handled better Photoshop. A brief look is included merely to show you how it works, but we would advise you to use it sparingly, if at all.

Last to be looked at are the Lightroom filter presets,

which can transform your edited colour image into a striking black and white or sepia photograph in just a very few seconds. There are also a number of colour filter presets that can give your photo a faded or aged look, although be warned - some of these don't suit

railway photographs! The best way to find out what looks good for an image is to experiment - don't forget the compare tools we demonstrated in the previous column.

The videos can also be viewed online [here](#) if you want to be able to follow

Below: Discover how to use the graduated filter overlay to add a neutral density filter effect to an overexposed sky to provide better balance to your images and use manual adjustments for better effect. Learn about the noise reduction tool, and see an example of how to export an image.



VIDEO FOOTAGE



Above: We take a detailed look at editing a jpeg image in Lightroom, correcting the colour balance and removing spots and smudges from the picture.

them without doing so through the magazine pages. Do not forget to send your entries into our photo competition (see page 4).

Now we have shown you the basics of editing, if you have any specific questions, we will welcome the opportunity to answer

them. In a forthcoming column, subject to demand, we will be offering a 'clinic' feature, helping readers with problems they have

with some of their own images - so if you've any specific issues, please send your images to photography@railwayherald.com.

Below: Find out about Lightroom's various finishing effects – see how to convert a colour image to different black and white, sepia and aged colour looks using the filter presets. Learn how the adjustment brush works, but be aware that use of this tool is best kept to a minimum. Discover the general presets that allow you to add 'punch' to your images with a single mouse click, or darken the edges with a vignette effect.





Ecclesbourne Valley Railway

Photo Theme Day -
8th August 2014



As a prelude to its popular 'Multiple Memories' weekend on 9th/10th August, which celebrates everything about the DMU, the Ecclesbourne Valley Railway is holding a special Photo Theme Day on 8th August. This event will afford photographers unprecedented access to a number of photo locations, and will feature some of the line's historic DMUs in various cameos to recapture scenes from the past. Tickets for this unique all-day event are priced at just £49.50 - full details are available on its website at www.e-v-r.com, where more information about the Railway's calendar of exciting events for the coming year can also be found.

Chapter 6

Introducing the RH Imaging Centre

Railway Herald's Imaging Centre is a great place to display and share your railway photographs. We'll now take a look at how to upload images, write effective captions in a style that is suitable for the *Railway Herald* website and answers the question of why we moderate submissions.

Introducing the RH Imaging Centre

No doubt most readers are familiar with the useful resource that is our Imaging Centre, containing over 127,000 photographs from numerous photographers, covering a wide variety of railway subjects, both from the UK and abroad. Over 90,000 images a day are viewed on the site, meaning that your images are seen by hundreds of people, both visitors and those that search through search engines, such as Google.

The Imaging Centre is an ideal place to showcase your best images, and is a great way of letting our Editorial Team know about your efforts so that we can give you the opportunity of having them included in the magazine.

Using the Imaging Centre is fairly simple, and you do not need to be a subscriber

to the magazine to upload and share your images, so be sure to tell your friends!

Moderation

All images are moderated in order to make sure that they are suitable for display. This means checking the subject matter is appropriate, that the image quality is sufficient to maintain the high standard set by the magazine, and that the caption information is present and complete. Images submitted do not necessarily need to include a locomotive, as multiple units or an item of rolling stock can be of interest, but they must depict a railway subject in some, shape or form. If you have been reading the regular features in this series, you shouldn't have an issue with composition, but if you haven't, as a rough guide we need the image to be sharp, of high enough resolution

to not be pixilated when displayed at full size, and to include the whole subject (for example, not cropping part of a train off at the edge of the frame). A full version of the Photographic Acceptance Guidelines is available on the *Railway Herald* website at www.railwayherald.com/downloads/ICGuidelines.pdf.

Our moderators are, on average, handling over 1000 images a week, so to allow pictures to be processed as quickly as possible, we would strongly advise that the above guidelines document is read thoroughly.

Check out the two accompanying videos to see how easy it is to use the Imaging Centre to showcase your images, and to submit them for publication.

Image details

The caption is of critical importance, and needs to

contain sufficient information to allow viewers to know the subject, location and date of your image without being too unwieldy to read. However, an item of interesting information is no bad thing. A full caption is also an aid to the magazine's editors if the picture is included in the publication. If a search has to be made on the worldwide web for information to put in the caption, it is far less likely that the particular image will be included in the magazine!

Breaking down the caption information into the individual fields, should have:

Vehicle number: This should be the number of the specific item of rolling stock that is the subject of the image (assuming the subject is a train or vehicle, of course). This sounds straightforward enough, but lots of people get it wrong. It needs to contain just one

Below: In the first video, we look at how to create an album for a set of images and how to upload an image to the Imaging Centre.

Imaging Centre

Welcome to the new look home page for the Imaging Centre. The number of images contained within the Railway Herald website currently comprises 85,000 images, contributed by over 800 photographers.

Always free to view and share images

While Railway Herald magazine and some parts of this website are only available on subscription, the Imaging Centre will remain free of charge to all users, both for viewing and uploading images. [Click here](#) for further details

Search Imaging Centre:

Recent Galleries Updated:

- 29 Apr: NR Diesel Gala - April 2013 **UPDATED**
- 28 Apr: GCR Swithland Gala - April 2013 **UPDATED**
- 9 Apr: Foxfield Railway - Made by Bag...
- 9 Apr: M4 Norfolk Diesel Gala Weekend
- 6 Mar: BR Spring Diesel Gala 2013

Imaging Centre Help

Are you looking to submit images to the Imaging Centre? It's a great way of sharing railway related images with like minded people and its free!

If you are looking for information on what types of images to submit, or reasons why an image may have been declined, then our Guidelines PDF can be downloaded from [here](#).

SUBSCRIBE to Railway Herald

£18 per year

that's just 38p per week!

VIDEO FOOTAGE

number, and no name – if you're inputting the details of an EMU, use the set number, or if it is a double-headed train, just input the number of the lead locomotive. The format of the locomotive or set number is also important, and should not include a space between the TOPS class number and the remaining three digits, for example 87002 and not 87 002. This format is very important, as the data is used to 'auto-populate' other information in our databases behind the scenes.

Location: Include the full location depicted on the image. For example, Ais Gill summit, Settle & Carlisle line. Do not use abbreviations, such as Jcn for Junction or Rly for Railway. For this field, as with all those that follow, use sentence case rather than upper case for the text.

Country: This is automatically set to the default 'United Kingdom', although obviously for images taken abroad it is important to change this by selecting the appropriate country from the drop-down list.

Date: This should be populated automatically by the metadata recorded in the image file when you took the photograph, but it is worth checking that it is correct.

Caption: If your photograph is of a locomotive or train, the caption should contain, as a minimum, a description of the locomotive or train, including the class and number of the locomotive or unit, the working involved, the location and the date, provided as one or more sentences. The number should be prefixed with the term 'No.', and again, no space (and certainly not a comma or full stop!) between the two or three-digit TOPS class reference and the three-digit locomotive number. If you do not know the locomotive number, then leaving it described as 'unknown' is quite acceptable, or if you know the TOPS classification but not the specific locomotive number then using No. 87xxx for a Class 87 is the best way of describing it.

Include locomotive and train names within single inverted commas rather than double ones. Bearing in mind the caption is being written as a sentence, the date format should be given in British day, month and year format, for example 28th April 2013, and not April 28 2013 or other permutations. In many cases it is not necessary to add the time of the working, but if you are including it the format should be hour:minute using the 24-hour clock, with a colon used as a separator, for example 17:23.

Points of the compass and directions, for example when referring to a northbound working, should not have a capital letter. Conversely, when you are referring to a railway station by name, Edinburgh Waverley station is a proper noun and should have a capital E and W, but station is lower case.

There is no need to include your name in the caption narrative, as this is automatically added when the image is viewed within the imaging centre. When you have finished writing the caption, have a read through

and check it makes sense to you. If it doesn't it is unlikely to be clear to us either! Use of a spell-checker is recommended. Nearly every computer has one, and it only takes a few seconds to check a caption through as you write it. Finish the caption off with a full stop.

Album: If you have got several photos from an event, they can be grouped together in an album, and the accompanying video shows how this should be done. You can select the available albums from the pull-down list at the bottom of the Image Details dialogue box.

If you submit images, and they are declined but you either disagree with the reason for decline or need more help in understanding what needs correcting, then please do email the [editor](#); we try and respond to all emails within 48 hours (normally less) and we will do our best to help you. The most common problems surround grammar, completing the necessary fields and date formats.

Below: The second video looks at how to edit the caption details for an image and indicate whether or not it is to be considered for publication. We then take a look at what happens once the image has been uploaded and find out a little more about the other menus within the 'My Images' section of the *Railway Herald* website.

The screenshot shows the 'Railway Herald' website interface. At the top, there's a navigation menu with links for Home, News, Magazine, Railtours, Imaging Centre, My Account, Help, and Contact. Below this is the 'My Images' section, which contains a grid of icons for various image management tasks: My Images, Upload Images, Images for Captioning, Awaiting Moderation, Images Declined, Approve Comments, Image Settings, and Image Statistics. The main content area features a 'Great Britain VI' album with a thumbnail of a steam train. An 'Edit Album Details' button is visible. The 'Edit Image Details' form is open, showing a large image of a steam train and a form with the following fields: Vehicle No. (44871), Location (Farnon Curve Junction, Preston), Country (United Kingdom), Date (2013-04-22), and Caption (Ian Riley's brace of Black 5s, Nos. 44871 and 45467, Approach Preston with Day 3 of the Railway Touring Company's Great Britain VI railtour on 22nd April 2013). There's also an 'Albums' dropdown menu set to 'Great Britain VI'. At the bottom of the form, there's a checkbox for 'Please consider this photograph for possible publication in the magazine:' and a red 'Update Details' button. A white arrow points to this button. On the right side of the screenshot, there's a vertical yellow bar with the text 'VIDEO FOOTAGE'.

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Chapter 7

An introduction to night photography

The railway photographer's time of year is undoubtedly autumn, as it brings and vivid colours on sunny days. The days also get shorter, and this can present some interesting opportunities to capture stunning shots after dark.

So far, we have covered a variety of subjects in this series, including making the best of the available light and how to deal with fast moving trains. Night photography, however, is a whole new ball game that has its own set of rules.

In order for a night shot to be effective, the first thing to remember is to wait until it is properly dark. Try and get your shot too early and the sky will still show up quite brightly, and the end result will be a shot that just looks under-exposed. With the weather at this time of year being even less predictable

than that in summer, night photography is fortunately somewhat less restricted by it, and great shots can be had whether it is cloudy or clear – the only weather to cause problems is rain or snow.

Light, also, is less of a problem. With no sun to worry about, one can take shots of the subject from virtually any angle desired, though if there are available light sources such as station, yard or flood lamps then these may dictate your chosen spot somewhat. It is important to consider any artificial lighting, as it can both help and hinder your shots. In the right place, it can provide striking

reflections along the side of a locomotive or train, but get it too far into the shot and unattractive lens flare can be the result.

If you have read the earlier parts in the series, you will remember that an image recorded on your camera's digital sensor requires a specific amount of light in order for the correct exposure to be obtained. Three variables help you achieve this – shutter speed, aperture (f-stop) and ISO settings. During nighttime photography, unless there's an unnatural amount of floodlighting available, changing the f-stop and ISO settings will not give you sufficient benefit to

enable you to shoot at a high shutter speed. In a true night shot, therefore, a low shutter speed – one in the order of several seconds – is going to be necessary, and this dictates that your subject must be stationary.

Setting up a night shot

Recording an image using a long shutter speed is generally referred to as a time exposure, and requires the use of a tripod to ensure the final image is totally sharp and devoid of any camera shake. When choosing a tripod, you don't necessarily have to buy an expensive one to get a good result – even the budget £30 - £50 ones will do the

Below: The image below was captured on a 30742 Charters night shoot at Swanwick Junction on the Midland Railway, Butterley, in 2011. Carefully arranged lighting has highlighted the motion and the side of the boiler without undue glare, and a 10-second shutter speed proved sufficient to record the image without lens flare, while escaping steam produces a pleasing effect.





Above: Almost - but not quite - dark enough for a successful night shot. The result would have been more satisfactory if there had been some steam or exhaust to add some animation to an otherwise static scene in Didcot shed yard.

job, albeit without the same degree of flexibility as the more expensive ones.

A further aid to avoiding camera shake is a remote shutter release. These can be either wireless infra-red remotes or wired controls that plug into a port on your camera, depending on the make and model of camera you are using. Either is acceptable, as long as they will work while being held behind the camera.

Its principal purpose is to avoid the need for you to touch the on-camera shutter button, which might otherwise result in any accidental movement of the camera being recorded on the image.

Some degree of light around your subject is a distinct advantage. You may find that if the available light is very low, your camera's auto-focus won't work. If this is the case you might

have to focus manually, although it is often possible to 'cheat' with the use of a pocket LED torch. However, this should be used only to provide light while focusing, as otherwise the resultant light will affect the balance of the overall picture.

You might expect that a high-powered flash would be a necessity for a night shot, but this is far from the case – in fact, a flash is very rarely required. Instead, the shutter

speed is decreased until the level of light is correct, and a good approximation can be gained by using your camera's built-in exposure meter, although do expect that the latter will show a degree of under-exposure on an ideally-exposed night time shot.

If the available light is not sufficient to illuminate your chosen subject clearly throughout, it is possible to add extra light in the desired

Below: Night shots of classic diesel traction can be just as effective as those of steam locomotives. Cab lighting and a cloud of exhaust erupting from the idling Class 50 add to the spectacle at Baron Street yard on the East Lancashire Railway.



spots by using a technique known as 'painting with light'. To do this, a shutter speed of at least 10 seconds is ideal to give you time to move around your subject with a hand-held flash, letting off a few individual bursts of light. It sounds obvious, but in doing so do take care to avoid walking in your own shot (or that of other photographers) when shutters are open, as this is all too easy to do! With such a long shutter speed, anyone walking into the shot will show up as a blur and the shot will only be fit for the bin. For the same reason, if there are people you want to include within the shot as part of your subject, it is important that they keep fairly still. Telling people to 'freeze' is not always a good idea as the resulting image can often look 'wooden' when people take the instruction too literally, a little movement being acceptable and can add to the realism.

If photographing steam locomotives at night, long shutter speeds make smoke and steam look wispy, adding a nice effect to images. The unfortunate aspect to this, however, is that any drifting steam can obscure part of the subject, and it may sometimes be desirable to keep the shutter speed as fast as possible and increase the ISO as high as you can, bearing in mind the increased 'noise' that will result from the latter. This can often be done with only a minimal deterioration in image



Above: Dusk falls at Ramsbottom as Riddles BR Standard class 4MT tank No. 80080 waits with a parcels train. A small amount of lens flare from the platform lamps adds to the overall effect. The level of flare can be reduced by using a faster shutter speed.

quality, as long exposure times can also increase 'noise' on an image.

The best way to practice the art of night photography is to take part in an organised night shoot. With these, the lighting is usually set up by an experienced organiser, and there will be lots of time to experiment with your

camera too, so you will be able to get some good results on your first time out.

To this end, I have created 'Lure of Steam Photographic Events' in order to run a series of photo charters, including night shoots, to which readers will be cordially invited.

Below: Recreating an industrial shed scene on during the Ribble Steam Railway's gala in February. The darkness enabled much of the modern-day clutter to be masked, and careful floodlighting, allows the photographer to strike a balance between shutter speed and f-stop to ensure that there is sufficient depth of field to get all four locomotives in focus without the steam effects being too 'wispy'.



LURE OF STEAM PHOTOGRAPHIC EVENTS



Lure of Steam Photographic Events specialise in railway-themed charter events for photographers of all abilities. With a steadily-expanding portfolio we're sure to have an event near you soon, so keep an eye on our webpage for updates to our programme. Alternatively, you can e-mail your details to andrew_fowler@me.com to be added to our mailing list.

We're strictly not for profit, with the proceeds from all our events going towards the host railway or a specific cause such as a locomotive overhaul.

Chapter 8

More on night photography shoots

Further to the previous part in this series about night photography, we take a look at the results of some recent night shoots, and explains about an upcoming nocturnal event in which *Railway Herald* readers can take part.

The real beauty of night shoots is that the trains do not have to be moving in order for atmospheric and authentic shots; in fact, as was detailed in the last part in this series, stationary locomotives are by far the easiest to photograph.

With a little ingenuity, even 'out of ticket' steam locomotives can be made to look as if they are in steam, with the aid of a few oily rags in the smokebox. An example is shown in the picture below, which was recorded at a *Railway Herald* Editorial Team visit to Barrow Hill Roundhouse, thanks to kind assistance

from Mervyn Allcock, Alexa Stott and Martyn Brailsford.

Of course, it is not just steam locomotives that can be ideal subjects for night photography, as many diesels can do just as well. As detailed in last week's issue, I held a night shoot at the Ribble Steam Railway (RSR) on 5th October, featuring the prototype English Electric 3,300hp Co-Co No. DPI Deltic, Class 14 No. D9539, Class 05 No. D2595 and Waggon und Maschinenbau 4-wheeled railbus No. 79960. The evening presented a rare opportunity to see Deltic out of doors and matched to a rake of three BR Mk1 coaches, and as such was

very well attended. Despite only having the benefit of five days' notice of the opportunity, the shoot was fully subscribed and was very successful. Despite the locomotive's engines not being operational and its batteries having long since been removed, the cab interior was illuminated using inspection lamps fed by carefully concealed cables, and the train was lit by a mixture of the station lighting and additional floodlights. Sufficient lighting was provided to enable shutter speeds of around 4 seconds at f8 at ISO 100, resulting in images that had low noise and good depth of field. Less fixed lighting was

available for the shoot in the shed yard with the railbus and shunters, so three separate floodlights provided the necessary illumination with shutter speeds of 5 seconds at f8 at ISO 100 proving satisfactory for the slightly darker environment.

Lure of Steam Photographic Events will be holding a number of charters and evening shoots this year; we've also joined up with Martin Creese of 30742 Charters and Richard Newton of the 3P20 Parcels Group to offer additional events on a number of different lines.

Our first night shoot of the year will take place on 15th February at the Ribble

Below: The pleasing and authentic surroundings of Barrow Hill roundhouse, with Peppercorn A2 class Pacific No. 60532 *Blue Peter*, Robinson GCR 11F class 4-4-0 No. 506 *Butler Henderson* and Holden J17 class 0-6-0 No. 8217 resting around the turntable. None of the locomotives were in steam, so to add life to the scene, oily rags were burned in the smokebox of the 'A2' to good effect.





Above: Careful lighting was used to add life to what would otherwise have appeared a very 'flat' scene. The off-white cab interior was illuminated using a fluorescent work light, while floodlamps lit up the front end of the locomotive, the station lamps providing enough light to highlight the remainder of the train.

Steam Railway (RSR) in Preston. The event will be taking place during the line's annual winter steam gala, which this year will see the first public steamings in preservation of Bagnall 0-6-0ST No. 2680 *Courageous* (formerly *Birchenwood No. 4*). This locomotive is identical to the seven Bagnalls that used to work on Preston Corporation's extensive dock railway system, of which the RSR is now the only surviving part.

Its owner has painstakingly restored it to the correct condition to represent a Preston example, including tank ladders and chimney-top spark arrestor. This locomotive will be the star attraction at the night shoot, and the Lure of Steam team are undertaking the cosmetic restoration of three wagons to Preston Corporation condition in order to create a chertier scene that is as authentic as possible.

A second cameo will be created in the shed yard, featuring a line-up of up to four locomotives. Both scenes will be carefully floodlit.

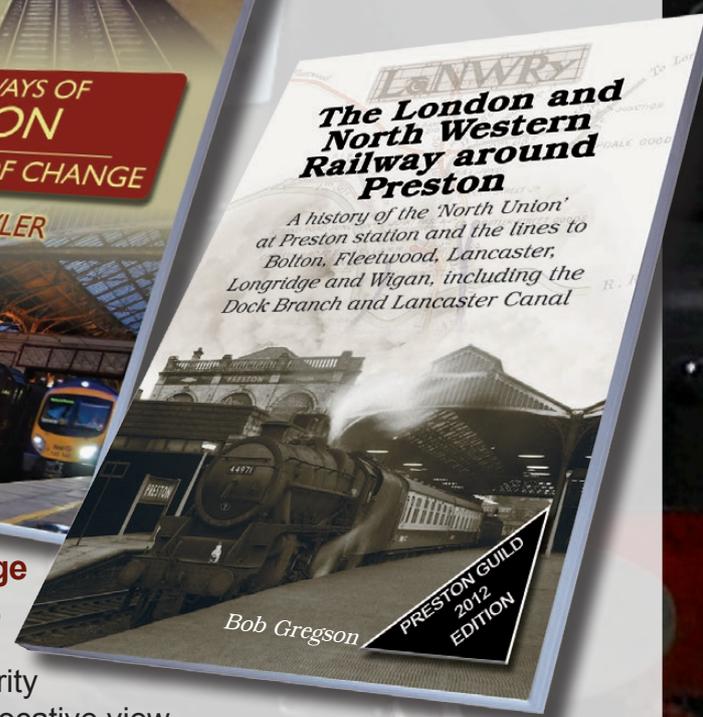
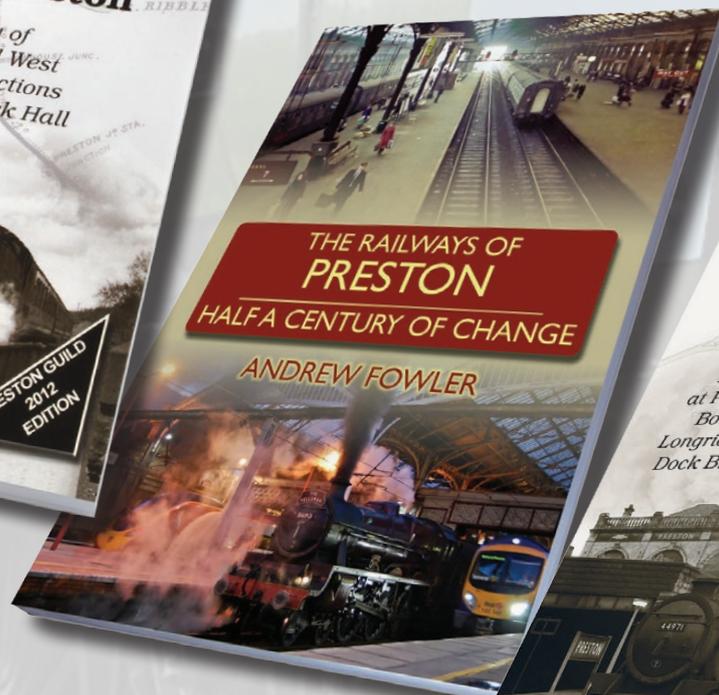
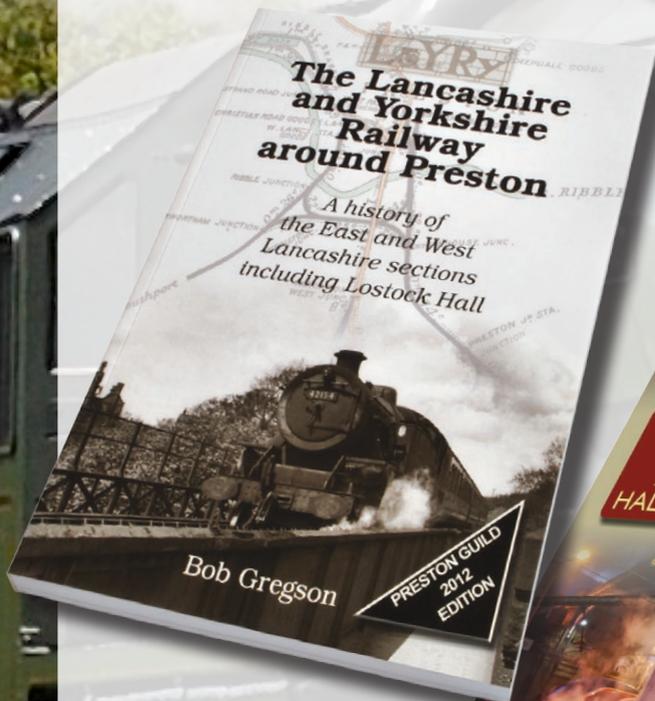
The shoot begins at 6pm; due to limited places, bookings must be made in advance. Tickets for the shoot are priced at £15, with all money raised going towards the upkeep of the railway. To make a booking enquiry, please e-mail [Andrew Fowler here](#).

Below: With 'proper' clag from Class 14 No. D9539 and Class 06 No. D2595 adding to the spectacle, an additional dimension to this shot was gained by using the reflection in the puddle, although this required the photographer to lie on wet ballast! *All: Andrew Fowler*



PRESTON

Three books from Atkinson Publications detailing a comprehensive history of the railways around Preston



The Railways of Preston – Half a Century of Change charts the development of the various lines in the area, including many that are now gone forever, such as the Southport branch. With 300 photographs, the majority of which are in colour, this book gives the reader an evocative view of just how much has changed since the 1950s.

The Lancashire & Yorkshire Railway Around Preston tells the story of the now lost part of Preston station on Butler street, together with the engine shed at Lostock Hall, the route to Bamber Bridge and Hoghton.

The London & North Western Railway Around Preston covers the arrival of the railways in the town, the Lancaster Canal and its involvement with the railway companies and surrounding industries, plus the development of the main railway station and signaling.

Both the latter books will have a strong appeal to the social historian, as a number of areas contain a significant human interest in the form of accounts from the men and women that worked in various roles on the Railways.

For more details and to order online visit:
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Chapter 9

Using the shadow and highlight tool in Adobe Photoshop

This chapter a look at how issues resulting from dull weather can be rectified in Photoshop without the efforts resulting in an 'over-cooked' image.

Having captured a dull image that could otherwise have been a great shot, it's inevitable that we will try to salvage it in our chosen editing package.

The one mistake that many photographers are most guilty of is over-zealous use of the 'Shadows/Highlights' tool in Photoshop.

This tool (along with all the others referred to within this article) is found within the Image > Adjustments menu. It can be useful to brighten under-exposed areas and bring back over-exposed skies, but increase the values too much and what results is a totally flat image that looks almost like a painting.

Photoshop actually encourages the user to make these errors; when the tool is activated, the default value for the shadows is 35%, which is far too high. The colours look very 'washed out' and



Above: This image was captured on the recent Scottish photo charter on 20th October. The sun disappeared just as the train rounded the curve, leaving no time to make adjustments to the camera settings. The result is disappointing, but with a few adjustments the photo can be improved.

the image takes on an almost surreal quality with yellows and browns appearing over-

saturated. The result of a 'Shadows' setting of 50% is shown in the image below.

The 'Highlights' tool has a default setting of 0%, but high values will have similar dramatic but undesirable results on the image, as depicted on the adjoining page. A value of 50% was again used, and while the exhaust and sky are both enhanced, the browns and yellows of the ferns and moorland are now almost red while the loch in the background is an unrealistic dark grey.

A happy medium is therefore required; for the

Left: A 'Shadows' tool setting of 50% has been used to illustrate the effect that such a high value will have on an image. While the locomotive has been lightened significantly and the scene is brighter, the contrast throughout the image is now lacking and the colour of the surrounding moorland is now over-saturated to the point that it will be difficult to recover.



Right: A 'Highlights' value of 50% has resulted in a very dark exhaust, dull water in the background and a clearly visible white line in the sky along the edge of the hills at the top of the image. The grass also has a very unrealistic red tint.

Below: The final image achieved by using the settings referred to in the main text. While it's still clear that it was taken in dull conditions, the overall effect is much brighter and more balanced, while the garishness of over-brightened colours has been avoided.

final image, I increased the shadows value to just 8% and the highlights to 6%. A slight boost to the colour was gained by increasing the vibrance value to 20, while within the Hue/Saturation menu the yellows (found within the 'Master' pull-down tab in the dialogue box) were adjusted to a hue value of 5 and a saturation value of -8 to correct the colour aberrations wrought by the Shadows/Highlights



tool. Finally, an increase in exposure of 0.1 and an increase in contrast of 12

resulted in the final image shown on the right. While it's impossible to

make a dull image look as if it was taken in full sun, a good overall result can be achieved.



Chapter 10

Railway photography in winter

Most railway photographers look forward to winter, with the plummeting temperatures promising the very best smoke effects for steam locomotives, and the low sunlight provides some dramatic lighting effects for all types of traction.

Winter does, of course, bring a great number of challenges for railway photography.

The cold temperatures that we lament about in the summer months cause as many problems as they bring benefits. This is particularly the case with steam photography – any minor steam leaks on a locomotive are highlighted by wisps of

vapour that can mask parts of the motion or reflect light back at the camera, causing 'burnt out' areas. In particular, drain cocks need to be left open for longer to minimise the risk of cylinder damage, and this can result in the locomotive's front end being shrouded in steam for a considerable distance after it has left a station.

The low sun causes

shadows to be longer and move more quickly than in summer, and with today's ever-encroaching lineside vegetation this inevitably dramatically reduces the number of locations available to us, and reduces the 'window' of light at others.

Leaking steam can, however, be an advantage as it can be used to good effect to separate a dark-

coloured locomotive from the background, as seen in the 'grab' shot below.

Snow

We all long for a blanket of snow to appear so that we can get some truly 'chocolate box' type picturesque shots, but snow brings its own problems too. Whether it's sunny or cloudy, the snow will reflect any available light and there is always the danger of 'burnt out' areas if you over-expose parts of the image. With so much light in the rest of the image, unless there is bright sunlight the train is likely to appear as a semi-silhouette against the snow.

Assessing the correct exposure can be very difficult. While it's possible to just use your camera's in-built light meter to take a reading for the snow and adjust the settings accordingly, this will almost certainly result in the train being under-exposed. A better way is to take note of the settings for the snow, then select a reading for a darker area (for example the trunk of a tree or a clump of bushes) that will approximate to the colour of the train, check the settings and make a compromise between the two values. There are, however, exceptions to this rule. In particular, black and white images that capture the train as a semi-silhouette against the white snow can be very effective.

Heavily falling snow needs to be considered separately; in such conditions a dark background is an advantage to highlight the snow and make a feature of it. Inevitably, with so many light areas in the picture, together with the blanket of cloud above to dim the ambient light, the train will show up as a semi-silhouette no matter how carefully you bracket the

Below: Due to a late-running train, my planned shot was quickly destroyed as the shadows moved across the track. Thankfully, as the train accelerated towards me it became apparent that the cylinder drain cocks were still open, and the mix of escaping steam and exhaust created a stunning separation of the train from its background. The resultant shot was all down to luck - but sometimes that's all we need!





Above: A light covering of snow lines the shallow cutting south of Summerseat as Maunsell SR N15 class 'King Arthur' 4-6-0 No. 30777 *Sir Lamiel* drifts down the grade towards Bury, East Lancashire Railway, on 21st February 2010. The snow had just begun to fall again, and is highlighted against the dark locomotive and the tree line behind. Despite the significant cloud cover, the snow is reflecting plenty of light onto the train.

exposures, so it's best to make a feature of it. If there's a decent covering of snow on the ground, this will reflect some light back onto the train, so a good idea is to capture the train as it emerges from a tunnel or bridge. This is particularly the case with steam – the exhaust will help to separate the locomotive from

its background, while the dark mass of the structure portal will help the falling snow stand out. This method also works for hailstones, except that there will normally be nothing on the ground to reflect light back at the subject.

Falling snow and hail will cause other problems. In particular, it's

important to keep your camera and lenses covered to ensure moisture doesn't get in. Even a small amount of moisture ingress can quickly cause lens elements to fog up, and if this happens your resultant photos will be soft, even if you can't see the problem through the viewfinder at the time. Snowflakes and hailstones can also cause your autofocus to 'hunt' at the crucial moment, resulting in either an out-of-focus shot or possibly no shot at all. It's therefore a good idea to use manual focus in such conditions, or alternatively use the camera's autofocus to get the selected area in focus before switching the camera (or lens in some cases) to manual focus mode.

In cold conditions, it's important to keep the camera as warm as possible. When it's not needed imminently, tuck the camera inside your jacket, and keep it in a bag when moving between positions. Batteries lose their charge much more quickly when temperatures fall below freezing, and for this reason you can expect to get significantly fewer shots from a fully charged battery in such conditions. It's a good idea to carry a spare battery (kept warm in a back pocket), or alternatively invest in a battery grip for your camera if one is available; this will ensure you don't spend hours waiting for 'that' shot only to find your battery fails at the crucial moment!

Below: Stanier LMS 5XP class 'Jubilee' 4-6-0 No. 45699 *Galatea* storms the final few yards up to Shap summit on 9th November. The train was running about 15 minutes late at this point, and a heavy hailstorm began just as it approached. The result was certainly one of my least successful shots ever!





Above: What a difference a day makes! In stunning late evening light, unique Riddles BR Standard class 8P No. 71000 *Duke of Gloucester* accelerates towards Heywood past Heap Bridge quarry, East Lancashire Railway, on 20th February 2010.

Below: Less than 24 hours later in the same location; the scene has been completely changed by an overnight fall of snow. Riddles BR Standard class 7MT No. 70013 *Oliver Cromwell* double-heads the first train of the day with No. 71000.



Nikon's entry level D3200 digital SLR camera went on sale in Britain in June 2012, replacing the earlier D3100 model. Now that it has been on the market for around 18 months, the price has fallen significantly and it can be purchased body-only for as little as £280, or £329 with the 18 – 55mm VR kit lens.

The basics

Don't let its size fool you - the D3200, despite being Nikon's most basic entry level camera, is packed with features. It has a 24.2 megapixel DX (crop) format sensor, giving it a resolution way ahead of anything offered by Canon (its nearest competitor for this is the full frame Canon 5D Mk III, with a 22.3 megapixel sensor, which costs nine times as much!).

Of course, resolution is not everything – a good-quality 10 megapixel SLR with a decent lens will give stunning images at a 20" x 16" print size – but the D3200 is excellent in many other ways too. In particular, the in-camera processing is fast enough to allow a camera of these diminutive

proportions (125mm wide x 96mm high x 76mm deep) to shoot four frames per second, and the auto-focus is also incredibly quick. It's light, too, with the body weighing in at just 500g with battery and memory card installed, or 760g including the kit lens as well.

The size and weight make it seem like an ideal gricing camera, easy to slip into a small camera bag and carry for a mile or more across country over the Settle – Carlisle line in search of steam in a stunning location. The 1.5x crop factor of the DX sensor means that the actual zoom of the 18 – 55mm VR kit lens equates to 27 – 82mm, good enough for the majority of traditional front three-quarter views and a host of others as well. The camera has an 11-point autofocus system – not as many as some of the more upmarket Nikon models like the D5300, which has a 39-point autofocus and a similar sized sensor – but adequate for most purposes, including gricing!

As indicated elsewhere in this supplement, I am a firm advocate of full-frame cameras due to their superior low-light performance. This stance hasn't changed, but the low-light

performance of the D3200 came close to convincing me otherwise! Thanks to enhanced in-camera processing, noise is minimised even at ISO 6400, and the resultant images are almost as good as those captured by the much more expensive full-frame Nikon D800.

So is it really good for gricing?

In short – yes! The super-light body, resolution, fast auto-focus and excellent low-light performance mean that it does more or less everything the gricer is looking for.

Using manual focus is really easy, despite the lack of buttons and dials when



Above: A good indication of the screen quality and rear buttons is gained from this view. *Nikon*

Most photographers like to review their images after they've captured them, and the D3200 has an excellent 3" LCD screen (pictured above) so you can do just that. While the screen is the same size as that on its predecessor, the D3100, its resolution is much clearer and sharper – and is easily as good, if not better, than that included on the D800.

Like many of the DSLRs now on the market, the D3200 also shoots full HD video of a quality that will rival most video cameras. Video recording requires 'Live View' mode to be active in order to lock the mirror up out of the way of the sensor, and uses a separate button for recording. Sound is recorded by an on-board mono microphone that delivers only mediocre-quality results, but the good news is that there is a stereo input jack for a separate microphone – which, if you're serious about your video, you will wish to use anyway.

compared to the professional and semi-pro cameras. The single dial at the top right on the rear of the body sets the shutter speed, but with the press of the button on the top also sets the aperture, while the pressing the function button on the front left of the body allows operation of the same dial to set the ISO. It seems a bit fiddly at first, but is simpler to do than it is to describe and soon becomes second nature.

Another added bonus, for those that choose to use it, is a very accurate built-in distortion correction facility. Gone are warped locomotive front ends, sloping lamp posts and curving walls!

Of course, taking into account the low price and compact size, there are some drawbacks to the D3200. Its small size can be a hinder as well as a help, particularly if you've got large hands – if you're rushing, it's all too easy to hit multiple or incorrect buttons, so practice and care are the order of



Above: The camera's small size is apparent in this view showing the body and 18-55mm kit lens. *Nikon*

the day. The camera doesn't have a built-in autofocus motor or aperture feeler, so if you're using an older AF lens without its own motor you will have to focus manually and set the aperture ring accordingly. This doesn't have to be a show-stopper though, as the D3200 has been optimised to work with the less expensive, slower DX lenses. Very good results can be got with Nikon's own better quality DX lenses, which include the 18 – 55mm VR kit lens. For telephoto work, the Nikon 55 – 200mm VR lens is also very good, and is available for around £100 from a number of retailers, meaning that you can complete a very good quality gricing set for about £450 in total.

A small camera body also inevitably

means a small battery; the included EN-EL14 7.4 volt lithium ion battery is rated for 540 shots on a full charge, assuming the use of the on-board flash for half of that value. Of course, in cold weather, and as the battery ages, it will discharge significantly quicker, so it's advisable to carry a spare if you're on an all-day charter.

All in all, this very inexpensive camera appears to provide pretty much everything the linesider could need in a compact package.

An alternative for the smaller budget

Of course, if the Nikon D3200 appears beyond your means, there is a less expensive alternative available

in the shape of its predecessor, the D3100 – while the latter is no longer manufactured, it is still widely available new from as little as £220 for the body, or £269 for the camera with an 18 – 55mm kit lens.

True, it has a smaller resolution (14.2 megapixels) but this is still adequate for most purposes; the rear screen is also nowhere near as sharp, but this need not be an issue unless you need to examine small areas of your images while you're at the lineside.

The D3100's low-light performance is no match for the D3200, either – and this is more of an issue for us; the D3200 is clearly a better camera but it does come with a slightly higher price tag.

Below: The Nikon D3200 is a remarkable camera for both its size and price, and the kit lens with which it is supplied is also of a high quality for its specification. The ensemble is capable of capturing some stunning images with excellent colour rendition, even in inexperienced hands - this shot was taken by my 11-year old son. *Jack Fowler*





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