Understanding the EOS R5

Especially written for Canon EOS users

A fast track guide to understanding how to use the EOS R5's controls and functions

Contents include:

- Camera layout
- Exposure modes
- AF controls
- Key camera overrides
- Image processing options
- Menu options in-depth
- Customizations
- Custom functions

Written by Nina Bailey

About this book

The EOS R5 is one of the first models to feature the subject detection system. Models before have had the ability to identify a human face and on the R series models to even detect and focus upon a human eye. The R5 boosts this ability by featuring an Animal AF system that is designed to specifically identify the heads and eyes of birds, cats and dogs. However the system is so much more capable than that and as shown to the right and the next page can detect the heads or eyes of many other animals.

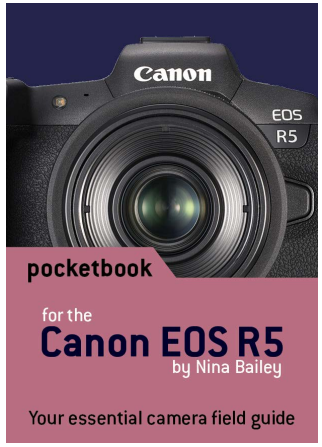
The autofocus system also uses virtually the whole viewfinder area making it easy to still focus on the head of a subject such as the one to the right, where the head falls well outside of a conventional DSLR focus area.

However, to get the very best from a model such as this you need to configure it in the correct way so as to get a feature to work, as on the image to the right a number of options need to be set up correctly. You also need learn to trust some of its new and innovative features and let them do what they are designed to do. This book also starts off by explaining some of the new "mirrorless" specific features which those transferring from DSLR models need to get to grips with.

It is designed to present the information in a much more accessible and detailed way than is found in the manual and is liberally illustrated throughout with screen images and also images to show what the features actually do to the images that you take.

There is also a companion Pocketbook available to provide a small A6 size guide that is easy to take with you when shooting, to help you remember how to set the key features on the camera. This is available from the EOS magazine shop.

Click here to find out more about the range of Pocketbooks or go to www.eos-magazine-shop.com and click on the links for books.



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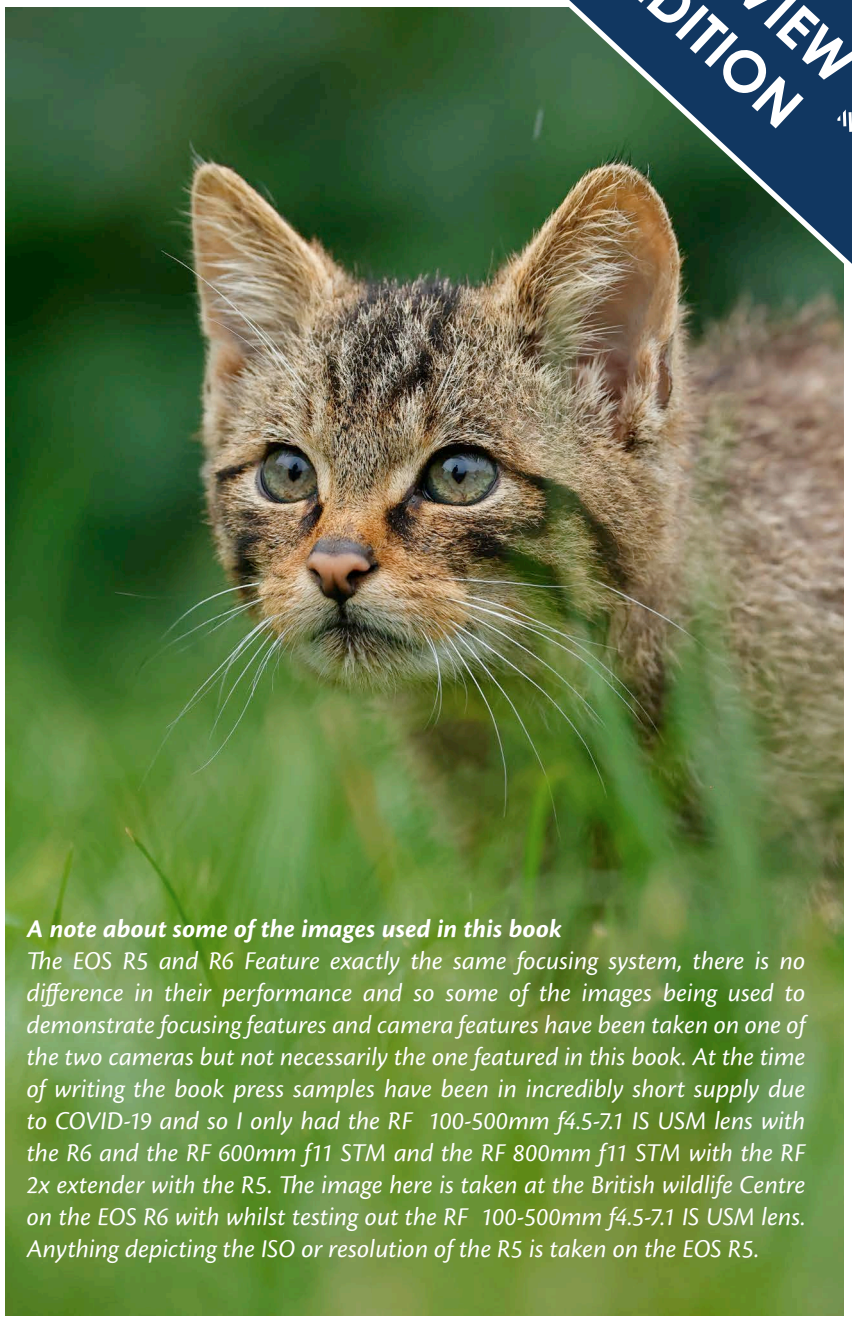
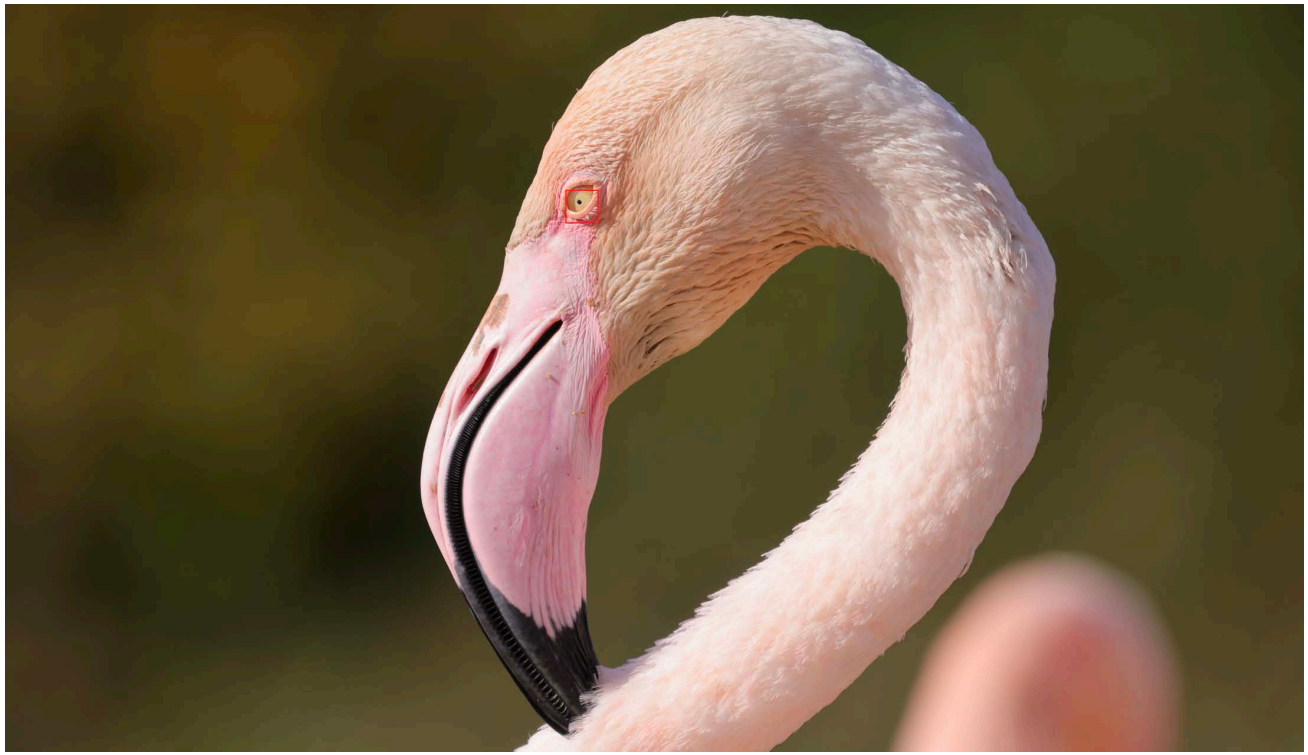
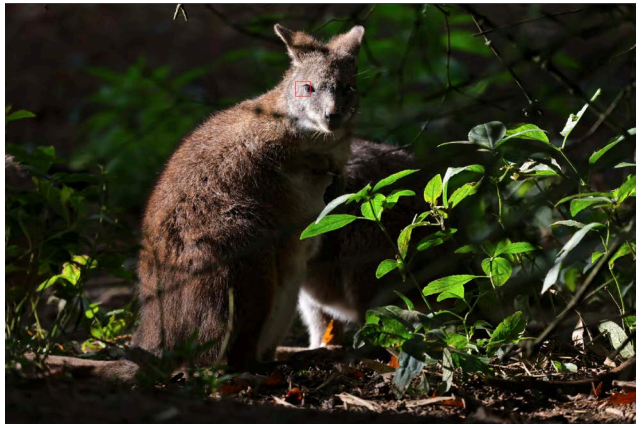


A note about some of the images used in this book

The EOS R5 and R6 Feature exactly the same focusing system, there is no difference in their performance and so some of the images being used to demonstrate focusing features and camera features have been taken on one of the two cameras but not necessarily the one featured in this book. At the time of writing the book press samples have been in incredibly short supply due to COVID-19 and so I only had the RF 100-500mm f4.5-7.1 IS USM lens with the R6 and the RF 600mm f11 STM and the RF 800mm f11 STM with the RF 2x extender with the R5. The image here is taken at the British wildlife Centre on the EOS R6 with whilst testing out the RF 100-500mm f4.5-7.1 IS USM lens. Anything depicting the ISO or resolution of the R5 is taken on the EOS R5.



Some of the test images shot on the EOS R5 whilst producing the book showing the great images that can be achieved using the Face detection + Tracking AF with Servo AF with Eye Detect turned on and the Animal detection switched on. These are screen captures from Digital Photo Professional which allows me to show the actual position of the autofocus method (the red square) at the time of capture.



Nina s
in the reta
photographic
then moved to
where she had a su
nine years looking a
training, exhibitions and
marketing both in the UK
and also within Europe.
This gave Nina an unrivalled knowledge of not only the Canon EOS system but also how to develop and enhance the skills of photographers of all ability levels.

Nina started her own business in 1999, concentrating on training for amateur photographers. As well as developing the online training academy and direct training of photographers, Nina is a prolific professional photographer producing images not only for the EOS Training Academy but for a variety of outside organisations. In 2014 Nina started producing her own range of ebooks (now over 50 titles) to bring photography training to an ever wider audience. In 2017 Nina also launched a range of printed compact pocket books (now over 20 titles) for the EOS range.

Nina started taking images when she was very young and is still a very keen photographer both professionally and personally. Nina loves travel, landscape and wildlife photography and shoots to illustrate the many articles and books that she writes.

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Basic camera layout

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About the EOS R5's main controls

It is important to understand the controls on any camera, as this will help you set the controls quickly and efficiently. The controls being shown here is as the camera comes out of its box. Nearly every button and dial on this model can be customized which I will look at later in this book. This model is very different to any other EOS model and so it will be important for all users to be familiar with the basic controls.

I rarely customize controls on my EOS cameras, as I find that as they come out of the box they are very usable and normally the customizations I use are to speed up the basic operation of the camera. A case in point is to enable quick scrolling between the different autofocus areas without the need to press the button to activate the AF area selection first.

The EOS R5 has been better designed than its forerunners reverting back to a more traditional way of controlling some of the settings. That said there are options where using the customizations can make sense to make some things quicker to set for more specialist areas of photography.

However, I would suggest waiting to do any customizations until you have got used to the camera and how its basic controls work and then customize the ones that you think you can improve on.

So this is a camera that can be made to work better if customized for some photographers. However, what works for one person is not going to work for another.

RF LENS MOUNT INDEX This is where you line up an RF mount lens and then turn clockwise until it clicks to mount it. Notice the different shape from EF mount index (round red circle) and EF-S mount index (white square) which are only found on the front of the mount adaptor as shown to the right. At the back of the mount adaptor is the RF index to align with the mount on the body.

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Rear camera controls

DIOPTRIC ADJUSTMENT A rotatable wheel to the side of the viewfinder where you can adjust the viewfinder sharpness to suit your eyesight.

RATE BUTTON default function is to apply rating during playback. Options in playback menu to set as protect or erase button. Press and hold to record an audio memo of up to 30 seconds

MENU BUTTON Press to access the camera's menu system where many options are set.

VIEWFINDER SENSOR Senses when the camera is raised to your eye and turns on the viewfinder.

REAR SCREEN Image can be viewed on here, screen can be flipped out for use at high and low angles. Can also be rotated inwards to store against camera for better protection.

MAGNIFY/REDUCE BUTTON Press during playback then use Quick control dial 2 to zoom in or out of an image

INFO BUTTON Toggles between displays when the camera is active. Five displays available, which are all enabled by default

One of the displays is the Q screen (right) – this may be more familiar if you also use a Canon DSLR camera. Additionally, pressing the INFO button does as follows: when in the menu allows you to jump between the main menu tabs; brings up additional information and settings when it appears as a prompt on-screen; gives different information displays during playback.

PLAYBACK BUTTON Will show the most recently taken image; use the Quick control dial 1 (below) to scroll.

ERASE BUTTON Deletes image in playback. Also re-centres the AF area after pressing the AF point selection button.

QUICK CONTROL DIAL 1 used for navigation in menus and changing of settings within Quick set menu. It also works to set exposure compensation when the camera is active in P, Tv and Av, plus it adjusts the aperture value when shooting manually. When setting functions on the Q screen it will adjust settings when a particular function is highlighted. Also changes the aperture in M mode.

MULTI CONTROL moving the AF poin navigation in the menus an control screens

AF POINT SELECTION BUTTON Th allows selection of your chosen focusi method. Prompts are shown at the bottom of the screen.

AE LOCK BUTTON Press to lock the exposure. In Evaluative metering with One Shot AF, the exposure locks automatically at the same time as the focusing with a half-press of shutter button. Using this button separates out their operation. Use to lock Spot or Partial metering onto correct area.

AF-ON BUTTON When pressed this activates the focusing and metering (like the shutter button). The use of this for focusing when shooting in Servo AF is often referred to as back button focusing.

Q BUTTON Pressing this will activate the Quick Set menu where the main settings are made. Can be done directly from the shooting screen or via Q screen.

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Top camera controls

CONTROL RING Can be programmed to change specific features. Default is to control aperture, but several other options are available.

MANUAL FOCUS RING Turn to manually focus once switched to MF.

ZOOM RING (Only on zoom lenses, i.e. with variable focal length.) Turn to zoom the lens closer or further away.

LENS ALIGNMENT MARK Line up with same mark on body to mount the lens. RF lenses – which natively fit the EOS R5 – have a red dash; EF and EF-S lenses – which can both be attached via Mount Adapter EF-EOS R – have a red dot and a white square respectively.

FOCAL PLANE MARK Shows the position of the image sensor. Your lens' minimum focusing distance is measured from here.

ON/OFF SWITCH Can be left on during a shoot as the camera goes onto standby after one minute – to wake the camera up press the shutter button.

TOP LCD DISPLAY Displays main settings on top panel, allows viewing of dial functions.

LIGHT/INFO BUTTON Pressing lights up the top LCD panel, also can be programmed to bring up shooting information.

LOCK BUTTON (LENS) Locks the zoom in place to zooming when being carried. Must be unlocked to s lenses.

SHUTTER BUTTON Half-pressure activates focusing a metering. Same half-press escapes from playback and me

M-FN BUTTON A multi-functional button whic brings up functions selected by the Quick Control Dial and the settings can then be changed with the Main Dial. Functions are ISO, drive, focusing mode, white balance and flash compensation.

MAIN DIAL Turn to adjust shutter speed or aperture within relevant shooting mode. In manual mode adjusts shutter speed. Can also change settings on Q screen.

MOVIE SHOOTING BUTTON Starts and stops video recording when in Movie mode. If using Auto+ for stills photography, it will start shooting video in Auto+ Movie mode; if in any other stills mode it automatically starts shooting video using the Auto mode for movies.

LOCK BUTTON (CAMERA) Pressing this can lock a number of controls on the camera. By default it locks the Quick Control Dials, as well as the control ring on RF lenses and on EF-EOS R Control Ring Mount Adapter. Can also be set to lock the Multi controller, touch controls and Main Dial.

QUICK CONTROL DIAL 2 Default is to set the ISO but can be programmed to a wide range of options using custom controls

MODE BUTTON Press and turn main dial to set the exposure mode, can be viewed on top LCD panel or rear LCD screen.

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Lens controls

MANUAL FOCUS RING turn to manually focus once switched to MF

ZOOM RING turn to zoom the lens once zoom is unlocked

LOCK BUTTON Locks the zoom in place to prevent the lens zooming when being carried. Must be unlocked to shoot. Not on all lenses

LENS ALIGNMENT MARK Line up with same mark on body to mount the lens.

AF/MF SWITCH on all RF lenses allows the lens to be set to AF for autofocus or MF for manual focus

CONTROL RING Can be programmed to change specific features. Default is to change aperture but can be programmed with a number of other options.

The control ring can be programmed from the black Q screen or from the camera's Custom function menu. There are a number of options that can be programmed onto it as can be seen from the screen bottom left. I look at these options in depth later in the book when I look at how to customize the camera.

The options allow you to have the ring active all the time or to only activate when the shutter button is part depressed, indicated with an down arrow to the side.

Changing lenses on the EOS R5

When lenses are changed on the EOS R5 the body should be turned off, otherwise the sensor is exposed to dust/rain spots as there is no protection in front of it as there is on a DSLR, as can be seen in the top image where the sensor is clearly visible. Also note how close the sensor is to the lens opening compared to a normal DSLR model.

When it is switched off the shutter closes and protects it as shown in the image to the right.

It only took me 3 weeks to discover this and get a significant mark (caused by a rain spot) on the sensor. The image to the right is a section of the full image enlarged big enough to fill this page, so a significant size spot which had to be removed for me by Canon's service department.

If using the mount adapter it should be fitted to the EF or EF-S lens first and then the combination mounted onto the EOS R5 body. To remove the lens you take the lens complete with the mount adapter off and then disconnect the lens from the adaptor. If using an extender on an EF or RF lens the extender is fitted to the lens first, then the adaptor is added and then the combination is fitted onto the body.

It was when using the mount adaptor that the body was left unprotected when mounted to a tripod and the spot of rain got in. You quickly run out of hands when trying to change a lens and mount adaptor and handle all the caps.

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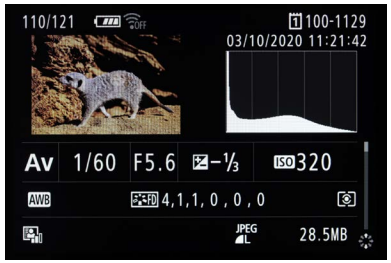
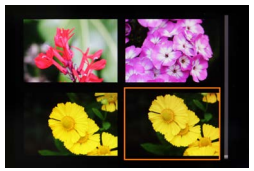
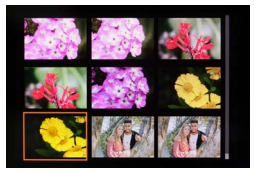
Display options


You can choose what displays on the rear of the camera when shooting. Each time, you press the INFO button the camera changes the display that you'll see. The options range as shown left to right, from having no information displayed, only basic information displayed, key settings displayed, key settings with histogram and level and finally the black Quick control screen. The displays constantly scroll through the options each time you press the button. Which one works best for you is a personal decision. These are the options for the rear screen. In the viewfinder you have a choice of the centre three, there is no option for no information, and you do not get the black Quick control screen in the viewfinder. There are options to control what you do and do not see on the screens, which we will look at in a couple of chapters time. If set to Movie mode the displays are virtually identical, but there is slightly different information being displayed.

When playing back the INFO button also cycles between different displays once again ranging from no information, basic shooting information or a screen that displays lots of information about how the image was taken as shown on the right. On this screen if you use the up and down function on the Multi-controller it is possible to change the display at the bottom, There are nine displays in total which can be used.

It is possible to customize the items being displayed within the blue Playback 5 menu. Some of the options include being able to bring up a playback grid and change the type of information being displayed as well as choosing between a brightness or RGB histogram.


Just above the INFO button is a button with a magnifying glass on it and this allows you to zoom in on the image to check sharpness. The effect of this is shown in the top three images. Quick control dial 2 is used to activate the zoom in option for the magnify function, if turned the opposite way it is possible to display 1, 4, 9, 36 or 99 images on the screen as shown on the bottom row.

On screen prompts

I see a lot of photographers struggling to operate the camera. It's important to understand the controls on the camera and to know what controls, set what items. A lot of things can be set by touch controls. However, it is quicker to set things like shutter speed and aperture using the dials a lot of the time. It also means that you can change the settings whilst you're looking through the viewfinder at the subject, rather than having to take the camera away from your eye.

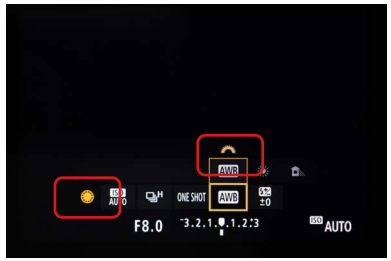
I think Canon has got as frustrated as I sometimes do, looking at the number of prompts that have appeared on this new model. I have put a variety of screens round the outside of the page and I have highlighted all the prompts for the controls that are used to set things directly using the dials and the occasional button. A number of these prompts have been here for some time. However, there is a lot more on this model than we have seen on past models.

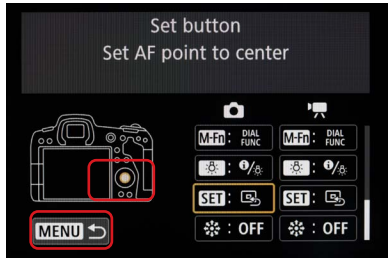
The table to the right indicates the controls that are mostly used, these were all pointed out a few pages ago on the camera. You will also notice that on a few of the screens there are some other things that I've highlighted. Quite often you will get a prompt come up on the screen in a grey box, you may find INFO, MENU or SET which are all buttons on the rear of the camera, again pointed out a few pages ago. These indicate if you tap on the prompt or press those buttons then it will do the function that's indicated by the side of it.

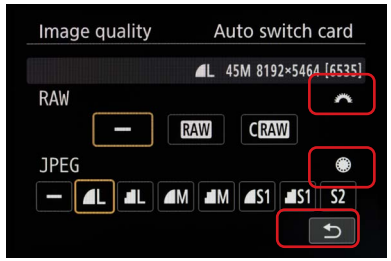
	Indicates the Main dial.
	Indicates Quick control dial 1.
	Indicates Quick control dial 2.
	Indicates the Multi-controller.
	Indicates the lens control ring.
SET	Indicates the Set button.

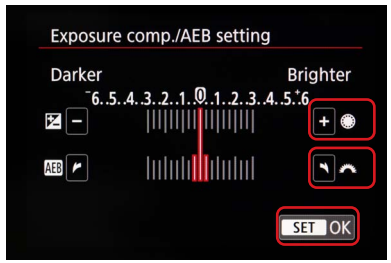
The control that appears a lot in the menus is the INFO button. Watch out for this when in the menus at the bottom of the screen, as it sometimes brings up help information about the function, or takes you in to further menus where you can set more options up.

If a function is slightly more complex to set up there's also sometimes options along the top of the screen, the Cropping option in the playback settings is a good example of this, as it has lots of controls along the top which tell you how to operate the control. So if you're not sure how something works have a look around the edges of the screen because the majority of the time the information will be there to help you.









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Viewing options

The EOS R5 has both an electronic viewfinder and a rear screen where you can see the image. By default the rear screen will display but if you put the camera to your eye the electronic viewfinder will activate. This can be changed by an option in the Shoot 8 menu which I will look at in the next chapter.

The electronic viewfinder is much better for viewing in bright conditions and also often easier to use when finding subjects with longer lenses. Compared to the DSLR models this is an electronic viewfinder and so allows you to preview how the image will actually look. The viewfinder on the EOS R5 is very large and bright and will show you exactly how the image is going to look just like the rear screen. This includes not only how the exposure is going to, be but also the colour, contrast, saturation and even if you are shooting in monochrome allows you to view the image in monochrome before you shoot. This will be a big advantage to photographers who struggle to visualise how the image is going to look, before it is actually taken.

The viewfinder automatically turns on as soon as you put your eye up to it. At the same time the rear screen will also turn off. There is a very slight delay when you put the camera to the eye in the viewfinder coming on. In most areas of photography this will not be a drawback, however, there are options to manually control which viewing method you are using, which I will look at later.

There are lots of advantages to shooting with the viewfinder, especially for those that are used to the DLSR models. One key advantage is that the viewfinder has a dioptric correction that allows the viewfinder to be set up for your eyesight.

VIEWFINDER This turns on au
camera is switched on and not on
the camera is raised to you eye.

DIOPTRE ADJUSTMENT a dial that allow
viewfinder to be adjusted to your eyesight.

VIEWFINDER SENSOR This is a sensor that detects if your eye is near the viewfinder. If you put your hand in front of it the rear screen will turn off.

CAMERA LCD REAR SCREEN allows you to view and compose the image on the rear of the camera. Turns off automatically if you look through viewfinder.

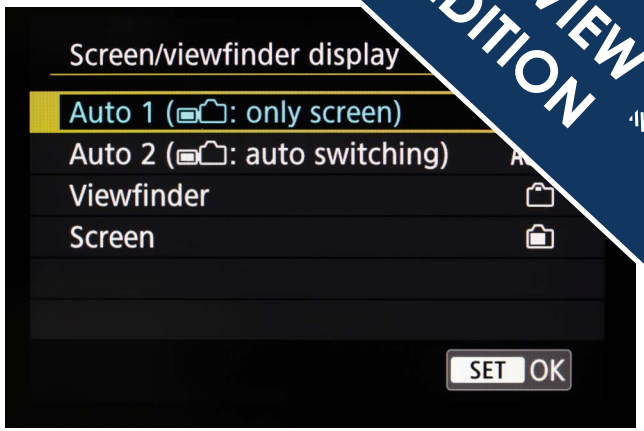
On the rear of the camera is the large LCD display which is turned on automatically when the camera is switched on and not on standby. If it turns off as the camera goes to sleep, reactivate it from standby by simply pressing shutter button part way. The LCD rear screen is normally used pushed flat against the camera but it can be flipped out or even rotated through almost 180° which is useful when shooting selfies.

Being able to preview how an image is going to look is an obvious advantage, and one that will appeal to many photographers. However it does come at a cost and that is that both displays will use more power when they are working than a more traditional optical viewfinder.

Viewing options

When the original EOS R appeared on the market it would be fair to say that there was a number of very annoying things that it did. The way the viewfinder worked was far from ideal for many photographers. On this model the viewing options have been much improved and it's a much more usable camera in its default function.

To accommodate different photographers preferences there has been a menu option introduced called Screen/viewfinder display and this gives four options which should accommodate most people's preferences. This is found in the Set up 3 menu and is shown in the images to the right.



AUTO1 only use the LCD screen when it is out from its normal position, even if you look through viewfinder it will not activate. If screen is in it's closed and facing out always use it unless you look through the viewfinder when it will switch to viewfinder viewing. This option works very well and stops a problem, when using the rear screen for low angle viewing that if your hand gets anywhere near the viewfinder sensor the screen switches off. So if the screen is against the camera body it switches as normal but if the screen is out to the side so it can be rotated for low angle viewing the viewfinder becomes inactive. The moment the screen is folded back in again the viewfinder can be used. This is now the default on this model.

AUTO2 Always use the screen for display but switch to the viewfinder when you look through it. This is the option that earlier EOS R models have worked to. Even if the screen is folded out the viewfinder will come on if you look through it. It's a subtle difference but one is important if you do a lot of macro work as you will find the display will go on and off quite a lot if you get too close to the viewfinder sensor.

VIEWFINDER Always use the viewfinder for display, menus, playback etc. The rear screen is not used at all. If you only use the viewfinder this may be a good option for some although you have to be very good with the camera controls to be able to utilise the menus and setting screens only when looking through the viewfinder. There is a customization within the customize buttons that allows you to set up a button that will toggle between the viewfinder and the screen option which would be useful if you have this setup.

SCREEN Always use the screen when it is open and facing you. If it is turned so it faces inwards for protection the viewfinder becomes active, other than that the viewfinder does not work. If you dislike viewing through the viewfinder this may be a good option however the viewfinder offers much better viewing in bright light.

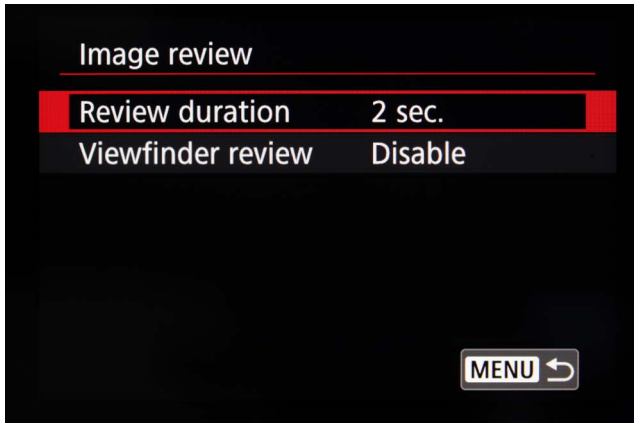
The screen above shows the customization option that allows you to toggle between screen and viewfinder, I am showing it set up on the movie shooting bottom however it can be set up on a large number of the buttons that can be customized. See the customization chapter for more details.

Review options

There are sometimes options which it's easy to overlook because they are hidden away within some of the menu commands, which is why I go through the menus towards the end of the book and look at every single option.

Most photographers will be familiar with image review, when you take a picture the image normally comes up on the rear of a camera for two seconds as a visual check. The image review settings allow you to go in and change the image duration, the default is for two seconds. But there are other options which allows us to be extended to four or eight seconds or for the review to come on and hold, you then press the shutter button part way to clear it and the image review can be turned off

On a mirrorless model the image review is not as critical, after all you are seeing exactly what you're about to take in the viewfinder both from the point of view of exposure and you also get to preview things like the white balance. So what you see is what you get.

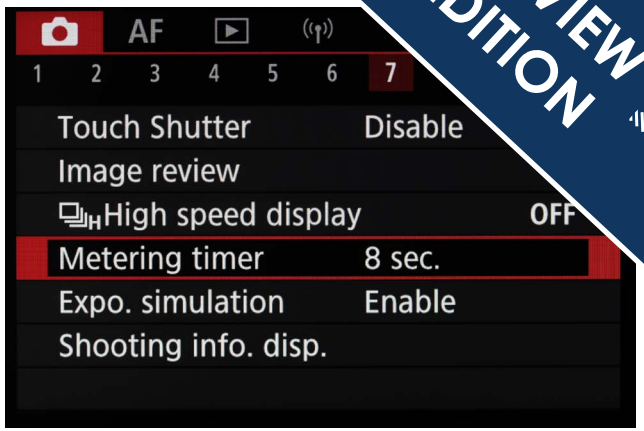


On previous EOS R models, the image review could be really annoying as soon as you had taken a picture the review appeared, even in the viewfinder, which had to be cleared before you could take another image. The result of this was a lot of photographers, me included, ended up turning off the image review.

Canon has changed this on the EOS R5 model as image review is turned off by default in the viewfinder. It will still review on the rear screen if you take your eye away from the viewfinder. In this menu you will find the option to turn it back on again should you want it along with the normal image review options.

One thing that this shows up is how much Canon have responded to feedback about the camera from lots of photographers. Most things that I found irritating on my EOS R model, have now been changed and work a lot better on this new camera. Which is one of the reasons I say that this camera doesn't need anywhere near as much customization, it works well as it comes out of the box.

Metering timer



The metering timer is something that we've been able to change within the Live View system for some time on the DSLR models, however it's only on one or two professional models that we've been able to change it for viewfinder usage. The metering timer affects how long the camera stays in its active status for. When you press the shutter button part way the camera wakes up and becomes active, that means the focusing has either worked or is working and the metering switch is on. In the camera's viewfinder you will be seeing all the information that's normally available displayed, so if working in AV mode you will be seeing the aperture and the shutter speed. If the camera is not active then you would only be seeing the aperture. On DSLR models the metering timer is normally been set to 4 seconds but on these models, it's been extended to a default of eight seconds. There are options within this menu to take the metering timer back down onto 4 seconds or it is possible to extend it up to as long as 30 minutes.

The drawback to extending it is a much higher power usage because the camera is active for longer.

Battery life

The new high capacity battery is offsetting this power drain to a large degree. Canon has used the new LP-E6NH battery on the EOS R5 which does give it a good life with the batteries. It's actually quoted as doing between 250 and 510 shots from a single charge. That said I have had up to 2800 shots from a single charge of a battery when shooting lots of shots as sequences.

I normally just about get through a LP-E6N battery on a full day's shooting on my 5D Mark IV. With the EOS R5 I am finding the batteriy life is about the same as the EOS 5D Mark IV with the new LP-E6NH. With the older LP-E6N batteries I need a couple to last the whole day. There are two ways to deal with the issues of the higher power consumption, the first is to simply invest in more batteries, depending on how much you shoot within a day. In my opinion this is by far the best option.

The second option, is to understand and utilise the power saving options that the camera offers which I will look at shortly in the next chapter.

There are a number of options on EOS R5 which do not appear on the DSLR models. There are also some options that only appear within the Live View system on the DSRL models. On the EOS R5 both ways of viewing the image you're about to take is using electronic displays. This makes it much more important to understand the viewfinder options provided and to have them set correctly to for how you want to shoot.

Possibly one of the most important of these is exposure simulation which I will explain next.

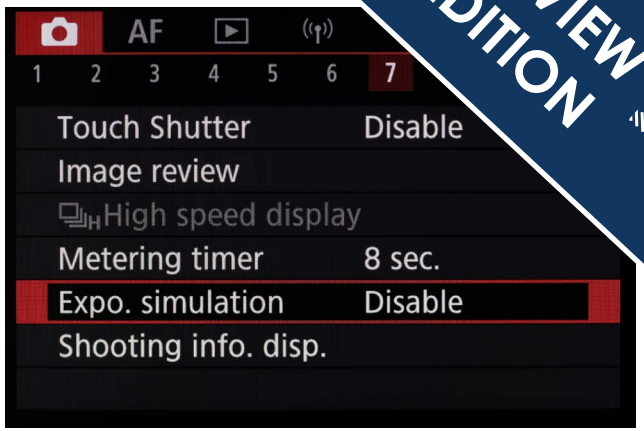
Exposure simulation

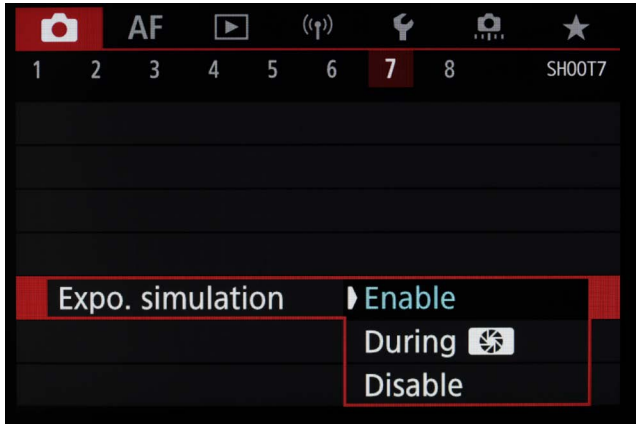
EXPOSURE SIMULATION is enabled as a default and this allows you to preview what the image will look like when it is taken. This makes using options such as the manual mode very easy as you simply adjust the settings until the image looks correct. If you have an exposure simulation warning flashing in the viewfinder it is indicating what is being shown is not accurate to the end result you are going to get,

If shooting with available light the exposure simulation should be used at all times. If shooting with fill-in flash then normally it would still be used as it allows you to preview the ambient part of the exposure.

Although the manual is somewhat vague, when shooting with a dedicated Canon Speedlite, it appears that the system automatically detects the flash is being used and switches to showing you a good view of the subject rather than previewing the exposure, even if exposed simulation is left enabled. If shooting manually and you wish to preview the ambient light that you were setting, then switching to the second option, which is only showing exposure simulation when the depth of field preview button is pressed, will be a better option.

If shooting with studio flash, especially if relying on the flash to provide all the light for your subject, this option can cause problems, as it is showing you the exposure for the ambient light not the flash exposure. This can mean that you may not see the image as it would be too dark using the settings used with the flash and it cannot preview the flash exposure.



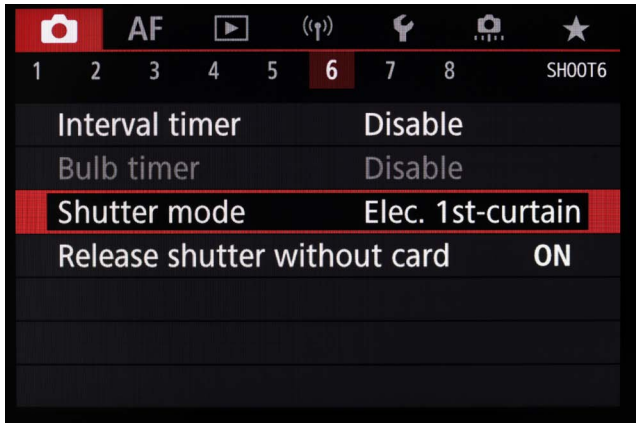


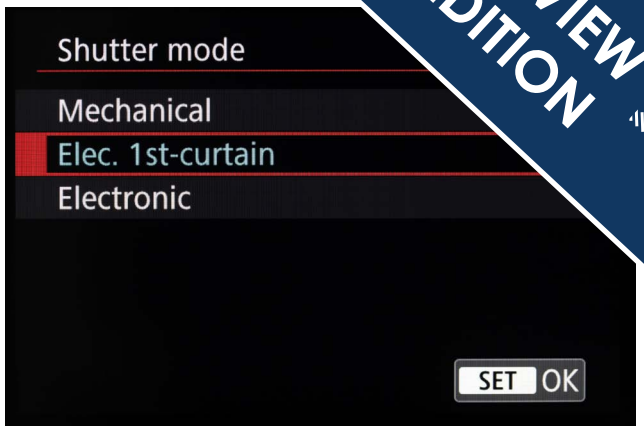
So there is an option to turn it off (disable) in which instance the viewfinder or screen will no longer show a preview of what the image will look like, but will allow you to see and therefore frame your image.

However, if this is left on and you shoot manually the exposure errors you may be getting will no longer show up. So it is very important that exposure simulation is set up correctly to the type of photography that you are doing.

Shutter mode

The R5 offers the photographer a choice of shutter modes. These are important to understand as not all shutter modes work for all types of photography. The options are set within the Shoot 6 menu. .





ELEC.1ST-CURTAIN

The default is to use the electronic first shutter curtain. This option will work for most subjects you are likely to shoot.

This reduces noise at the time of firing, though it's not completely silent. It works by not firing the first of the two shutter curtains which is how the noise reduction is achieved. A key advantage is they prevent a phenomenon called shutter shock occurring when shooting at shutter speeds between 1/2 and 1/50th.

Although this may be the first-time hearing about an electronic first curtain shutter, they have actually been in use since Live View first appeared on the DSLR models and so date back to 2007.

MECHANICAL SHUTTER

This reverts the shutter operation to working with a fully mechanical shutter which has both first and second curtain operation. The mechanical shutter is recommended if shooting with very bright aperture lenses wide open as it can give more natural defocused areas.

ELECTRONIC SHUTTER

This allows the camera to be silent in use which can be useful if shooting in sensitive situations. Using electronic shutters is not recommended if using extension tubes, or tilt and shift lenses. It can also give distortions on fast moving subjects (see image bottom right) and make some out of focus areas look strange or distorted when shooting at very high shutter speeds.

You can also experience more problems when shooting under artificial lighting and the anti-flicker shoot options are not available, the image to the right shows the type of banding that can occur.

As there is no sound when the shutter fires there is a white frame displayed around the outside of the rear LCD image to indicate that the shutter has been fired. The camera is defaulted to shoot at its maximum 20 FPS when the electronic shutter is active. When the electronic shutter is in use the camera automatically uses a High speed display mode that will make following fast moving subjects easier.

The other comment I would make is that it seems very strange shooting high speed subjects with the camera making no sound at all!


Electronic shutter-1/1000th artificial light

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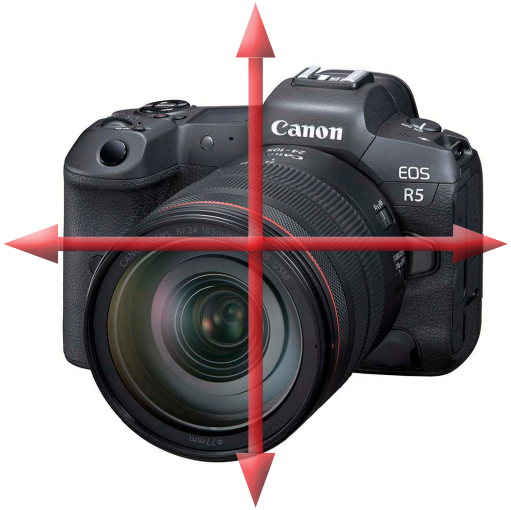
In Body Image Stabilisation



X & Y axis

Roll

Yaw and Pitch

This is the first model within the Canon range which features in body image stabilisation or IBIS for short. This is designed to give protection from camera shake when shooting with any lens mounted on the camera body. It's important to understand that any lens fitted to the camera will benefit from this system that is built in, as it combines with any image stabilisation in the lens to give an even greater degree of stabilisation. The system even works with lenses that do not have image stabilisation built into them, and supports lenses going right back to the start off the EOS system.

The system has the potential to give 8 stops of image stabilisation although this degree of stabilisation is only achieved because the camera and lens work in parallel through the high speed RF Mount system which allows a coordinated 5 axis image stabilisation correction to reduce the shake and movement of the user. So when the system is combined with EF lenses the amount of stabilisation will be less than with an RF lens. Exactly how much less, depends on the lens being used, but it will be more than if the lens was used without the in body stabilisation system.

The system works by physically moving the camera's sensor. This is possible because the RF Mount has a very wide diameter allowing the sensor to move around the image circle produced by the lens.

The normal optical image stabilisation within the image stabilised lenses mostly correct for just yaw and pitch. By using those lenses on a camera which features a 5 axis stabilisation they can also benefit from X&Y corrections along with roll corrections which makes them far more effective at providing effective stabilisation for using low shutter speeds.

There are two distinct benefits that this system is going to give. The most obvious is the fact that you can shoot at much lower shutter speeds when you have this degree of stabilisation and this is going to make it much easier when working in low light levels. How many stops you can shoot below your hand holding speed is going to have to be tested by the individual photographer as we all have different amounts of shake and different lenses give different amounts of stabilisation. The eight stops image stabilisation as quoted is based upon the use of the RF 24-105mm f4L IS USM lens.

The other thing that's been happening generally is that as cameras gradually get a higher resolution, we are starting to see camera shake occur more frequently and this is going to offset the effects of what's happening with this and prevent us from needing to use higher ISO settings to combat this.

24mm 1/30th f5.6 1600 ISO

24mm 1 second f5.6 100 ISO

Overall it means that you can use slower shutter speeds which will result in lower ISO and thus better quality when shooting in very low light levels. It also means that effects including movement in the image can be achieved without the necessity to carry a tripod with you. I'm going to be in very interested the next time I get near a waterfall to see how easy it is to capture a good feathery effect without the need to carry the tripod with me.

One thing it is important to understand is that image stabilisation only negates the effects of the photographer's wobbles, the movement in just holding a heavier or longer lens and shooting if walking or being on a vehicle which is moving and inducing movement into the camera.

Image stabilisation cannot affect or reduce the effect of movement from your subject, so this is an option which is going to be of more benefit to some photographers and others. For those that shoot things like birds in flight or animals, unless they are trying to capture a sense of movement within the subject when it's running the reality is if you want the animal to be pin sharp when it's

Enlarged section of 1 second exposure

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moving you are going to need the shutter speeds that allow you to do that as a built in stabiliser system, the same as lens stabilisation, will not reduce subject movement.

To the right and over on the next page are some examples of images that I've taken trying out the image stabilisation. On the image to the right it has allowed me to hand hold a shutter speed of 1 second, which was simply unthinkable prior to this camera appearing and still get a sharp image but be able to get light trails which was in effect previously only available on a tripod.

From the tests that I have done I have seen a lot of variation in the stabilisation effect, the closer you shoot the less it appears to improve, whilst more distant subjects appear to benefit from better stabilisation. That's not an unexpected result because when shooting close up a macro images we see more camera shake show up than shooting more distant subjects.

The two images over the page were both taken handheld with the lens set on a 50mm setting on the RF 24-105mm f4.0L IS USM lens. The left-hand image is taken at 1/60 which is the shutter speed I would normally use to handhold a 50mm lens. In order to get a shutter speed this high at an aperture of f4.0 the camera's ISO went right up to 25600 ISO to give me a correct exposure. The other image was also taken handheld at a shutter speed of 3.2 seconds at f4.0 which has allowed the ISO to drop to 200 ISO. I have enlarged the centre section of the image so you can compare the sharpness between the two shots. The right-hand image is the sharper of the two and that is simply down to the lower ISO setting that the image was taken at.

Of course, you wouldn't necessarily choose or need to shoot that low, but it does show the potential of the in-body stabilisation and some of the advantages it can offer us when shooting in low light. We can choose to get movement blur on images which would normally require to be taken on a tripod and we can also choose lower ISO settings which enables us to get better quality. It is going to be interesting to see the potential of these new options as it opens up whole new range of shooting opportunities as we no longer have to abide by the normal handholding rules.

24mm 1 second f5.6 200 ISO

Enlarged section of 1 second exposure

50mm 1/60 f4.0 25600 ISO

50mm 3.2 second f4.0 200 ISO

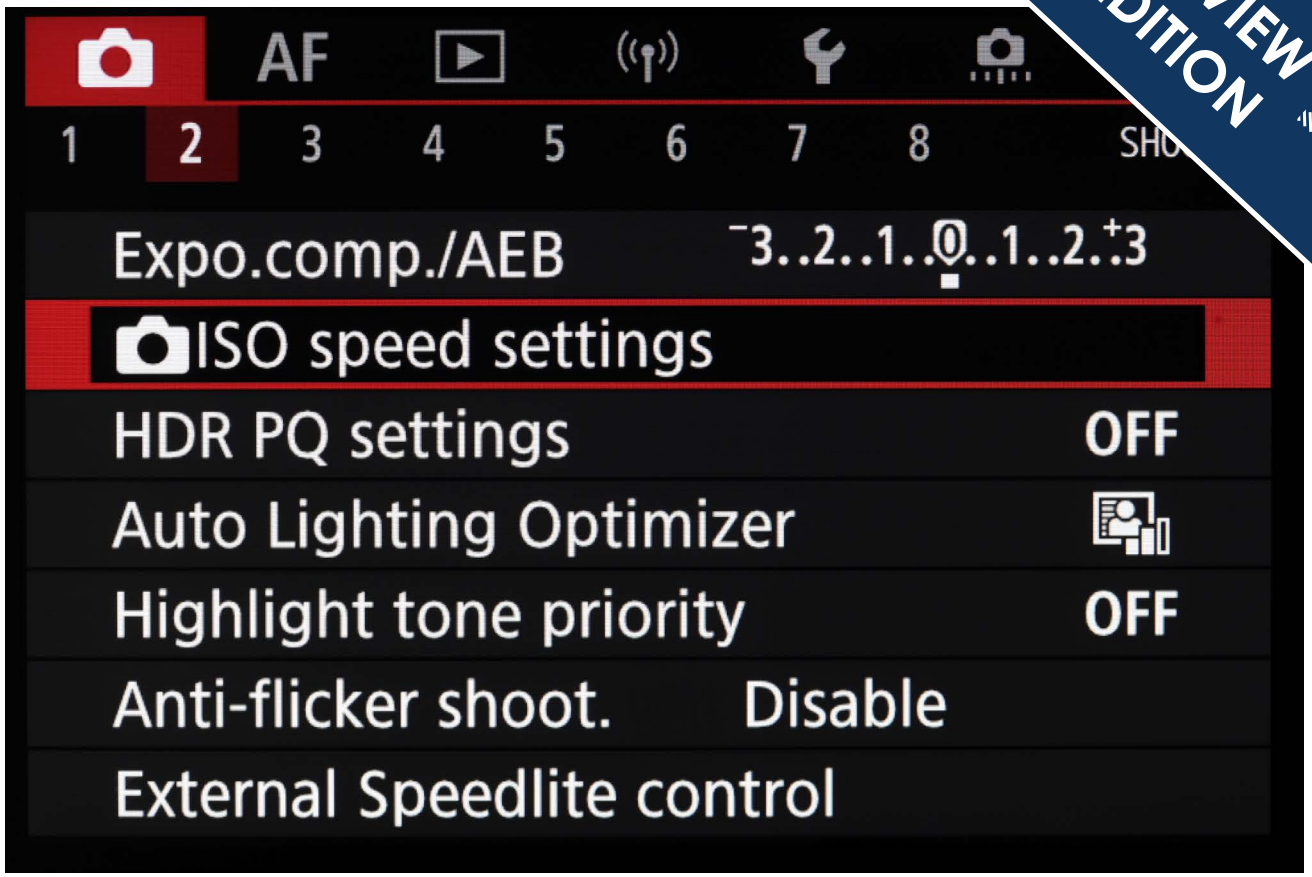
ISO speed settings

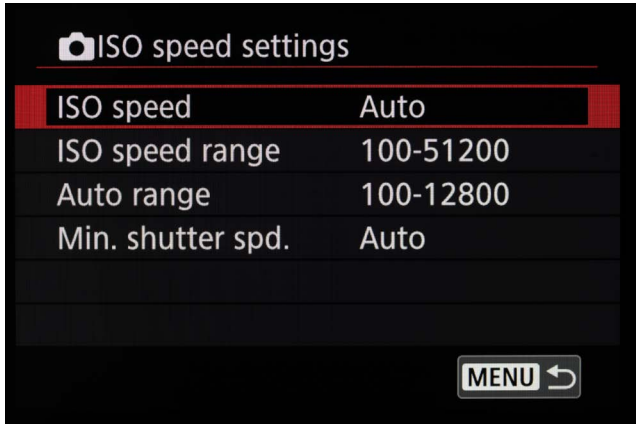
In previous books I have always looked at the basics and then moved on to look at the menu later on. However, there are some features that control and interface with how things work that I decided to move these options next to where they are most applied. This is also why I looked at the display settings right back at the start of the book.

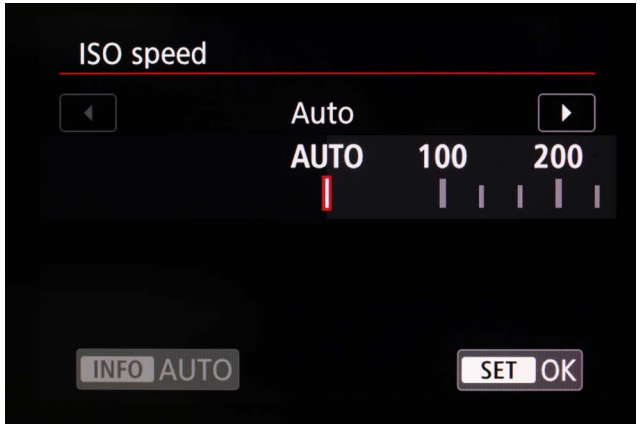
The ISO speed settings is a great example of a control that directly affects the modes, and how they work.

An increasing amount of the menu commands on first glance can look very simple and this is a good example. It's not until you enter the menus that you find another four menus inside the initial command. Canon are grouping commands together under a single heading to save space within the menu system. It is easy when you get a new camera to miss a number of really great features because you have not explored the menu system thoroughly.

The ISO speed settings option is found in the Shoot 2 menu on the camera. This is such a vital menu as it allows some great options to be set up to automate ISO selection. The first command in the menu allows the selection of either auto ISO setting or a manually set ISO speed. This does exactly the same as setting the ISO in any of the places that it can be set. This includes from the MF-N button on top of the camera and on the top LCD screen, from the black Q screen or indeed from any of the shooting screens using the touch controls. This is by far the least used of the options in this menu as it is quicker and easier to set from all of the other places.







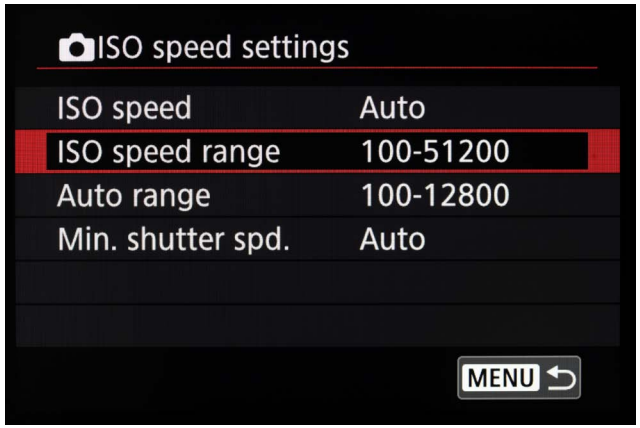
ISO speed settings - Manual options

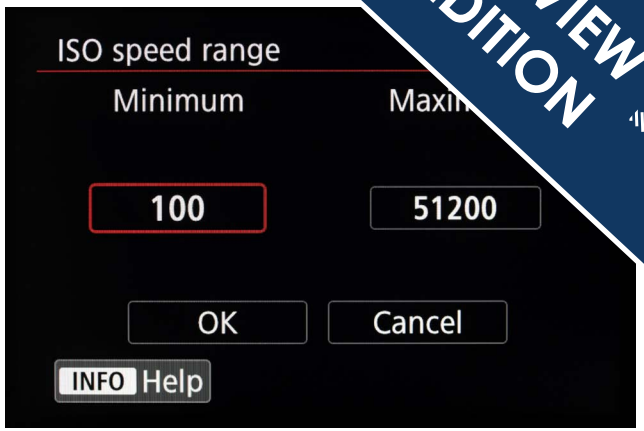
The next option down allows the photographer to change the ISO range that can be set on the camera when the ISO is being set manually by the photographer. The default range is 100 ISO up to 51200 ISO. If you want to the range to be narrower than this, then you simply go in and change the default values.

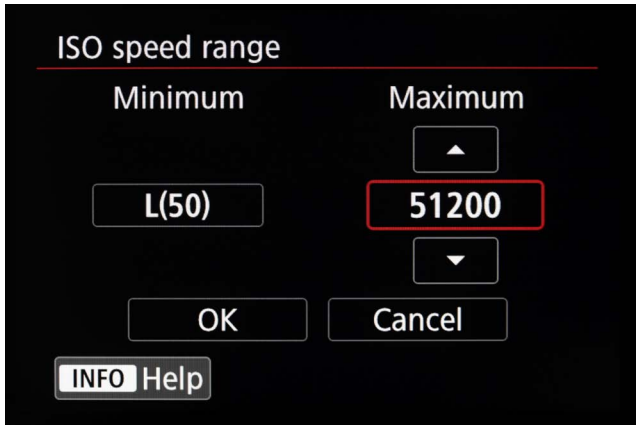
When you go into the menu by tapping on it or pressing the set button the highest and lowest ranges will appear on screen. Tapping the value you want to change or pressing the set button with it highlighted will bring up the values. Use the up and down arrows, alternatively use the Main dial on the top of the camera to set the value that you want. You then navigate to the OK button at the bottom and on it press the set button to apply the settings.

This option also allows something that used to be called ISO expansion to be set on the camera. On the lowest setting it is possible to take the camera down to setting shown as L (50), which allows you to set the lowest ISO down to 50 ISO. This is not available as standard as it drops the dynamic range available.

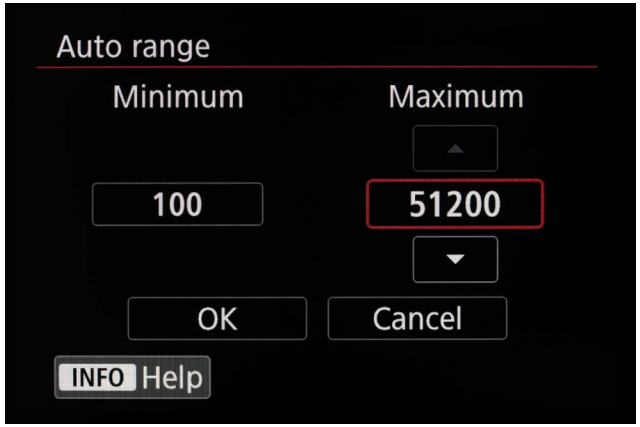
This also allows the photographer to expand the camera ISO range up to have an H settings, which is 102400 ISO. This has to be turned on because it drops the quality the camera gives. These settings only work when the ISO is being set manually. If shooting on auto ISO this option has no effect. I normally keep my camera on the full range including the expanded options as they are only utilised if I decide to manually set them. It means that the full range is available to me at any time if I choose to set it.







ISO speed settings - Auto options



The next option down allows the control of the Auto ISO range. By default this will be from 100 ISO up to 12800 ISO. It can be extended up to 51200 ISO or the range restricted to the ISO settings that you are comfortable working at.

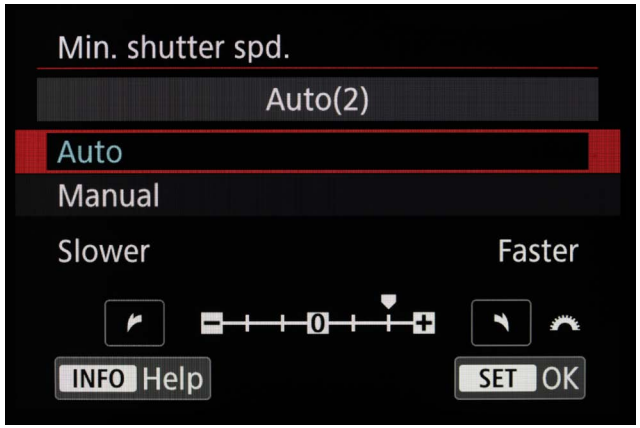
This option only works if the cameras is set to auto ISO. Although for many photographers they will think of using this to stop the camera going higher than they are comfortable shooting. The more useful option available here is to restrict how low the camera can set. The auto ISO option works well, though it tends to err on the side of maximum quality rather than allowing a better combination of settings. This often results in the aperture being kept wide open when shooting in program mode or TV mode. Whereas in reality, a slightly higher ISO would give a better combination of settings, allowing the aperture to go a bit narrower to give more depth of field or to optimise lens quality better.

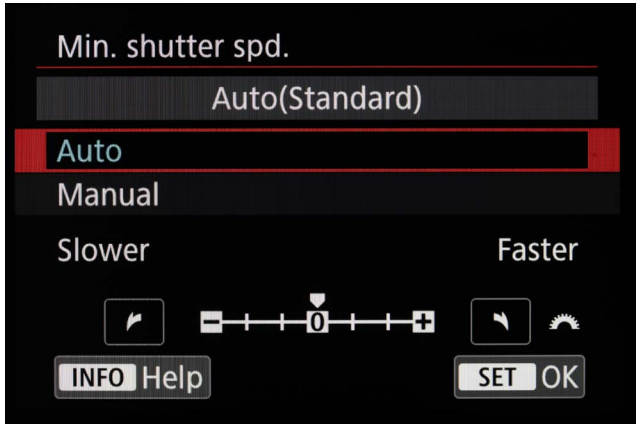
This allows a higher minimum ISO to be set which may be better for the light levels you are working in. The EOS R5 is so good at the higher ISO settings that I quite often have my minimum ISO set to 400 even in the very brightest of light especially for action of wildlife shooting.

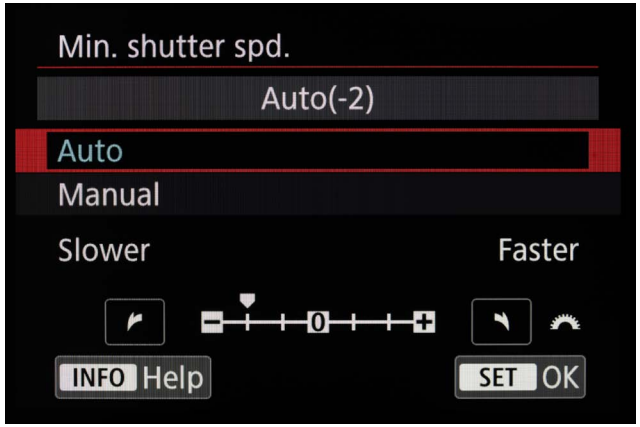
The first three options in this menu will work in any of the exposure modes that the camera has available.

The final option, minimum shutter speed only works in Program or AV mode.

ISO speed settings - Min shutter speed - Auto







The final option is for the **Min. shutter spd** or minimum shutter speed that the camera can select.

This is only active when Auto ISO is selected. If the ISO is being controlled manually it will not work. This is only works in P and AV mode to stop the shutter speed from becoming too low for the type of subject that you are shooting.

These options become particularly interesting when you bear in mind how much slower you can take the shutter speed then the hand holding speed and still get sharp images thanks to the new image stabilisation system in the body.

AUTO OPTION

The auto option is defaulted to give a shutter speed that is 1/ focal length of the lens being used. So if using a 100-500mm lens at 500mm it will take the ISO high enough to give 1/500th second when shooting in P or AV mode. If the scale at the bottom is taken to the right then each increment will raise the shutter speed needed by 1 stop above that normal handho
immediately to the left has the can
shutter speed 2 stops more than handh
shooting at 500mm will give a shutter speed
rather than the 1/500th when it is in the central
This allows you to bias the camera to give higher sh
speeds for the freezing of action in the image.

Taking the cursor in the opposite direction to the left allows you to utilise the image stabilisation that a lens has. Lenses today have stabilisation units that offer between 3 and 4 stops of stabiliser benefit and with the built in system it can be a lot higher. Taking the cursor two increments to the left will allow the camera to set a shutter speed that is two stops lower than the normal recommended handholding shutter speeds for the lens. So once again using a 500mm lens it will allow the camera to select a minimum shutter speed of 1/125th rather than the normal 1/500th that would normally be used. This can be very useful when photographing static subjects with a long lens in low light as it will keep the ISO down to a much more reasonable level as the image stabilisation on the lens will help to keep the camera shake out of the image.

The automatic settings can work very well, though if photographing subjects that require you to zoom out the shutter speeds will drop as they are working off the focal length that the lens is actually using at the time. So zooming back to 100mm and using the scale set two stops to the right, the shutter speed will only be 1/400th which may not be high enough to freeze a moving subject. This is why you also have the manual option that allows you to effectively fix the minimum shutter speed when working in AV or P mode.

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Why IS is not factored in automatically

A question that I've been asked a number of times, is why doesn't the camera factor in the image stabilisation automatically. It's a good question, especially given the image stabilising abilities of this model.

Image stabilisation corrects for a number of things that could cause the image to be blurred. The first is the simple issue of camera movement, however even that's not as simple as it seems as different photographers have different amounts of shake. The sad reality is as we get older, we become less stable and therefore we are going to need higher shutter speeds to keep the camera steady.

You then have the problem that some images are taken from a platform that's moving, this could be a boat, car or train or even an aircraft of some type. Any of these things would introduce a different scale of movement which the image stabilisation could compensate for. So the amount of stabilisation that's being given and what shutter speed you could shoot at isn't predictable.

It's why I said when I've talked about the image stabilisation you need to test it, I generally have a fairly steady hand , but it's not as steady as it was 30 years ago and so my hand holding speeds today without image stabilisation are generally slightly above the normal recommended shutter speeds. If I'm shooting from a moving platform that may be introducing two or three stops of blur and so if the camera lens combination is giving me three stops or correction then I'm back to where I'm starting effectively with no ability to reduce the shutter speed.

Plus in the situation where you have people with conditions and disabilities and it's important that the camera compensates for the movement caused by that affliction.

So, the camera setting a shutter speed that's equal to the focal length of the lens make sense that way if you're using it to overcome shooting problems then you should still get a good image. If you are using image stabilisation to simply shoot at a lower shutter speed than normal, then you have various ways to program in that correction. Even with how you set up the camera on the modes or utilising the options provided by the automatic minimum shutter speed you could bias the camera to shoot two or maybe even three stops slower than normal hand holding which will automatically keep the ISO lower.

You also have the situation that sometimes you need the shutter speed to be that bit higher just to freeze the subject you're shooting. The meerkat in the image above was moving forward as I took the picture, if you look carefully you can actually see where the sand's being kicked up slightly as it's moved. So the shutter speed for that image needed to be high enough to freeze that movement which is why it was taken on 1/800.

So that is why the modes and auto ISO settings never factor in the amount of image stabilisation that's being used.

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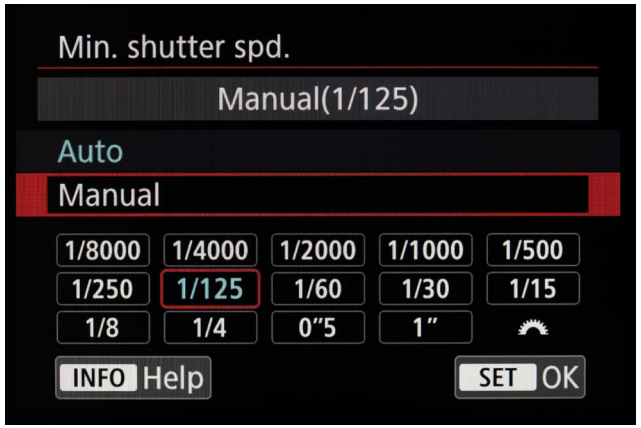

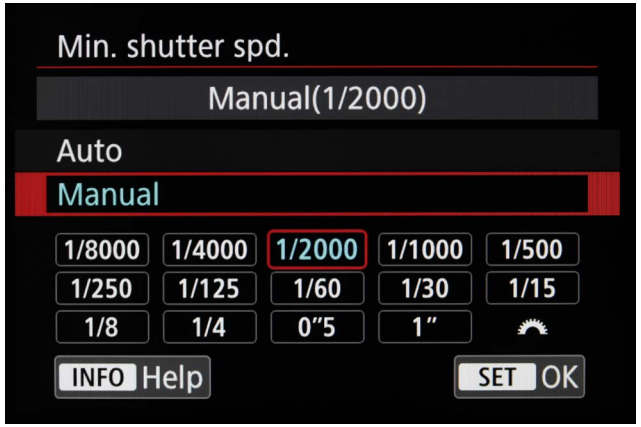

MANUAL OPTION

The manual setting now has a very wide range of shutter speeds to chose from which makes it more usable for action photography.

I personally find the manual option very useful when I shoot wildlife, as it allows me to fix the shutter speed yet still work in AV mode which allows me to have control over the aperture which I am shooting at. This allows me to set the aperture for the depth of field that I need and also to use an aperture that will optimise the lens quality that I am getting. Lenses are never at their best when used wide open.

When using this control the photographer does need to have a good grasp of the basics of photography as you will need to look at the light levels before you shoot and set the Auto ISO range to be realistic for the conditions that you are shooting in.

If you set an Auto ISO range of 100-200 ISO for a heavily overcast day and then expect the camera to be able to set 1/2000th second you are going to find that the camera will automatically drop the shutter speed down below the pre-set minimum as with the range of ISO it is allowed to use it cannot get the preferred minimum shutter speed. This might sound like it would never be done - but I have seen it at least twice on the practical events I run.

This is a setting that also has to be checked when you pick up the camera for the first time on a day's shooting if you use it a lot, as it is possible that the range of options you set the last time you were shooting may not be realistic for the conditions or subject that you are now shooting. However, if you set a realistic ISO range and then set the shutter speed up how you need it to work, this can make for a very easy day's shooting, as once you are set up you know that you are getting the shutter speed and the aperture that you need for the subject that you are shooting.

I shoot a lot of action and I find this option works very well. However, you need to be realistic with your settings. If you set the ISO range too narrow and the minimum shutter speed too high it may well take the exposure

out of range. In this case the camera will ignore your minimum shutter speed and simply set what's available to go with that combination of settings.

The image above was taken using this method which is how I still shoot. However, there are also options within the new FV mode to do exactly the same as what we're doing here. It is possible the development of FV mode stems from how some of the settings here have started to be used.

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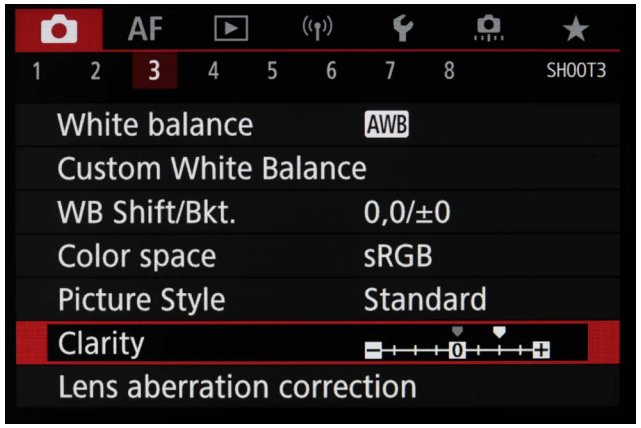
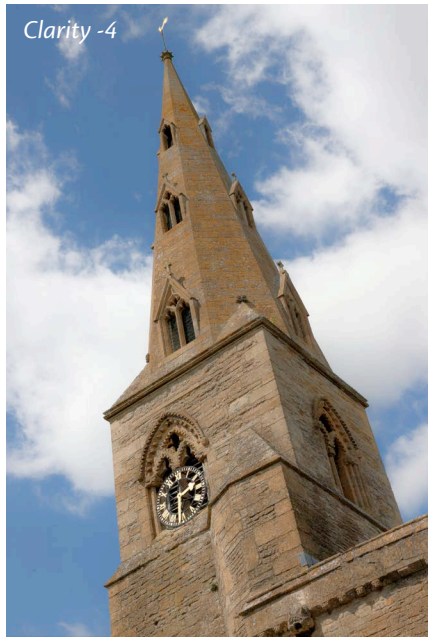
Clarity

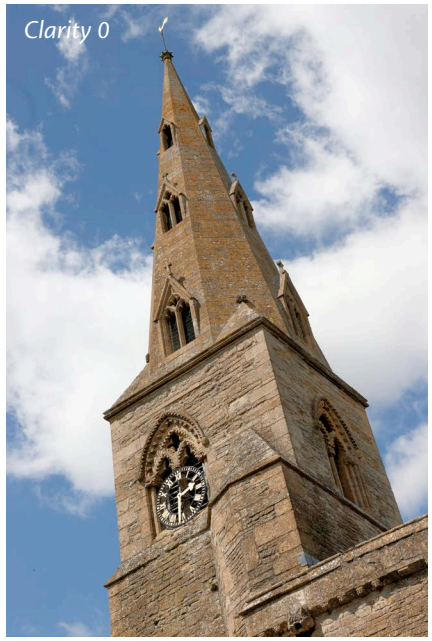


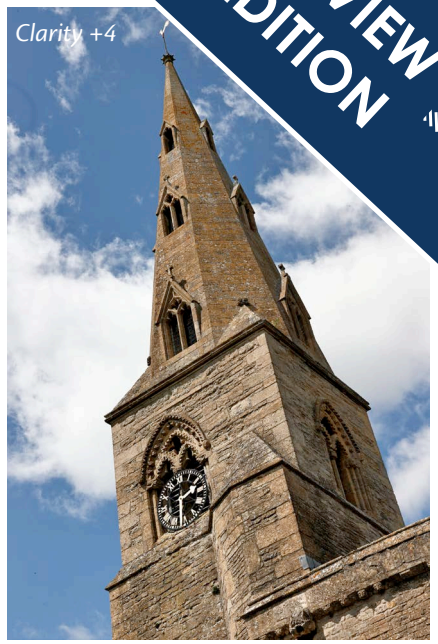
Clarity is a new option on the EOS R5 and is set from the Shoot 3 menu. It cannot be set from either of the Q control screens. Clarity is a control that works by adjusting the contrast of edges of things within the image. It can make images look either sharper or softer. However, it is important that this is not confused with the Sharpening options which work in a different way.

The camera settings offer from -4 which makes the image look softer up to +4 which makes the image look sharper. The effect that this control has on the image will vary according to the type of image that you are shooting. Although new as a feature on the EOS models, it has been seen as a control within Photoshop for a number of years.

For those that shoot JPEGs in camera it will be a useful; control but for those that shoot RAW and do not use DPP for processing their images it is an options that will be best left to the post-production stage. To see the effect in the book it is necessary to enlarge a small section so you can see what is happening within the image.







Clarity effect with differing images

Clarity -4

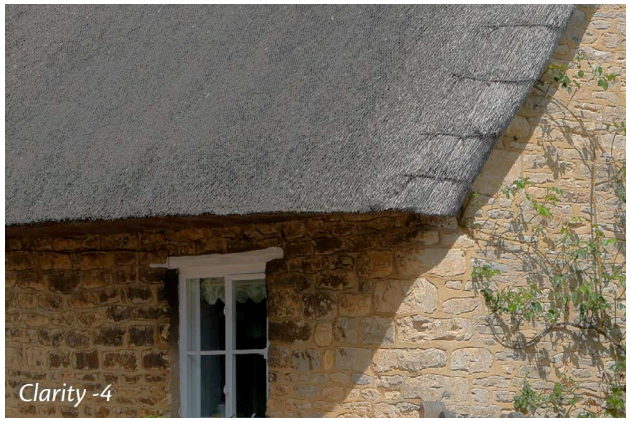
Clarity 0

Clarity +4

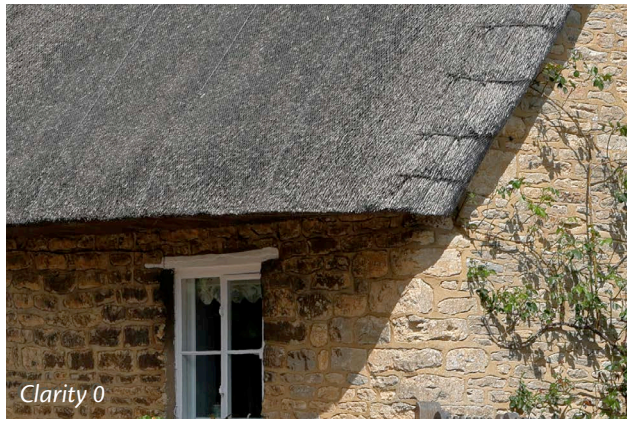
Clarity -4

Clarity 0

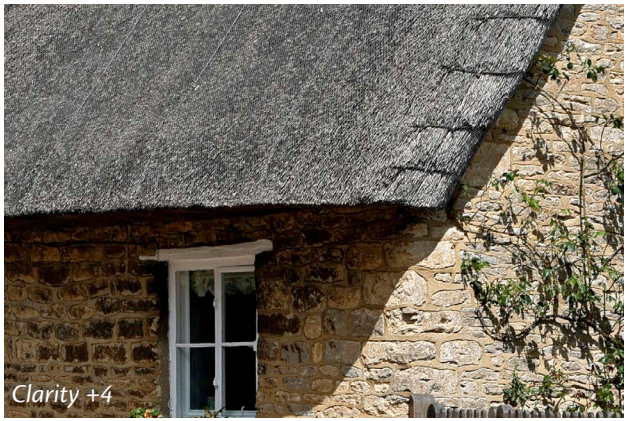
Clarity +4



Clarity -4



Clarity 0



Clarity +4

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