Canon EOS R 5

A field review

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INTRODUCTION AND BACKGROUND

The Canon EOS R5 continues the newer direction that Canon is taking with their full-frame mirrorless range of cameras using their RF lens mount system. Along with the previously released R and RP, Canon now offers the R5 at the upper end of the scale in terms of features, performance and pricing.

This camera also came with the lens mount adapter, of which three different models are offered, to make the RF mount compatible with the current huge range of Canon EF and EF-S lenses. The standard EF/EF-S to RF adapter was provided boxed with the camera.

Standard disclaimer: I do my reviews in the way a camera is likely to be used; out in the field, real life conditions with real life subjects. There are enough intelligent guys out there for the lab tests and special sensor resolution tests etc. What I present is how the camera fared under certain conditions using typical lenses. If a parameter does not work for me, it does not mean it won't work for someone else. We all have our own requirements and preferences when choosing camera equipment.

When I reviewed the Canon EOS R some time ago, it initially left me a little cold, and warming up to it after some time using it. But I never got really intrigued by the EOS R to the point where I wanted to go out and buy one. Not so with the EOS R5, I was excited by this camera from day one and becoming just more excited as time went by.

Designing the RF mount to use 12 contact pins instead of the eight found with the EF lens mount created opportunities for faster data handling and exchange rate between camera lens and body helped by technology advances in the wonderful world of computer technology.

The RF lens mount retains the same 54mm inner diameter of the EF mount but the flange back distance (the distance from the back of the lens mount to the sensor) is now 20mm instead of the 44 mm on the EF lens mount. This was possible by getting rid of the flip-up mirror assembly, which also meant there can be no Through The Lens (TTL) optical viewfinder, hence the Electronic View Finder (EVF) found on the mirrorless EOS camera bodies, currently in R5, R6, R and RP. This also had an impact on lens design, making fast aperture lenses with less aberrations now more of a reality.

SPECIFICATIONS

The EOS R5 uses a new 45 MP full frame CMOS sensor and is also integrated with Canon's Dual Pixel CMOS Auto Focus (AF) system, which is proven to work quite well indeed.

The important specifications are listed below:

Sensor	45 MP CMOS	
Sensor size	36mm x 24mm	Full frame
Image Resolution	8192 x 5464 pixels	Full sensor, no internal cropping or aspect ratio change
Processor	Digic X	
In-body Image Stabilisation (IBIS)	Up to 8 stops in a 5-axis grid	Depending on lens used
ISO range	100-51,200	Extended range 50-102,400
Viewfinder:	0.5-inch OLED EVF, 5,690k dots, 120fps refresh rate	100 % coverage, 0.76x magnification
Frame rate	12 fps Mechanical shutter 20 fps Electronic shutter	One shot AF only, otherwise 12 fps in AI Servo.
Shutter speed range	30 sec – 1/8000	Bulb mode available
Autofocus System	Dual Pixel CMOS AF II	5940 Focus points 100% horizontal frame coverage
Body	Weather sealed, Magnesium Alloy frame	
LCD Screen	Touch-enabled 3.15″ Fully Articulating LCD	2.1 million dots
Weight	738 g	With battery and card
Size	135.8 x 97.5 x 89 mm	W x H x D
Storage	1x CF express type B, 1x UHS-II SD/SDHC/SDXC	
Battery	LP E6NH	Approx 320 shot life using EVF, ambient temperature
Video mode	8K DCI or UHD at 30p, 24p 4K DCI or UHD at 120p, 100p, 60p, 50p, 30p, 25p, 24p 1080p (FullHD) at 60p, 50p, 30p, 25p, 24p	

There is no pop-up flash, AF fine-tuning per lens – which on mirrorless cameras is really not required.

Included are built-in Dual Pixel AF, Wi-Fi, Bluetooth, mechanical or electronic shutter mode and in-camera HDR capability

The full set of specifications can be seen at the Canon website using the following link:

https://www.canon.co.za/cameras/eos-r5/specifications/

UNBOXING

The Canon EOS R comes securely packed in the typical black Canon outer package with body and standard accessories securely packed inside in two compartments, a plastic type tray separating the two compartments.

In the box are the camera body, lens adaptor, neck strap, battery and battery charger with power cord and a 3.1 USB – C connector cable. A quick start manual and the usual warranty card are also included.

Putting it all together is easy enough, no fancy stuff and anyone who has handled a Canon camera before should accomplish this easily enough.

MENU LAYOUT

The basic menu layout follows the now familiar Canon grouping of menu items, easily understandable and the set-up function is nicely intuitive. The Help info is also available at the touch of a button should it be required.

Special notes on set-up and settings:

The MODE button allows the setting of the shooting mode: Fv, P, Tv, Av, M, B, C1p C2p, C3p

A^+	Scene Intelligent Auto	Fully automatic mode – camera analyses scene and sets optimum settings automatically
Fv	Flexible-priority AE	User can set shutter speed, aperture and ISO speed manually or automatically, much the same as in P, Tv, Av, or M modes
P	Program AE	The camera will automatically set the shutter speed and aperture for optimum exposure.
Tv	Shutter-priority AE	User sets desired shutter speed, and camera will set an aperture value for balanced exposure
Av	Aperture-priority AE	User sets desired aperture value, and camera will set a shutter speed for balanced exposure
M	Manual	User sets both the shutter speed and aperture values and ensures through reading of exposure meter if proper exposure will be possible under the prevalent conditions.
B	Bulb	Shutter stays open for as long as shutter button is depressed
C1p	Custom 1	
C2p	Custom 2	
C3p	Custom 3	

A read through the full manual downloaded from Canon website revealed little surprises, newer settings like Touch AF, in-camera cropping, the selection and set-up of the AF zones and AF point selection will require some reading of the manual to fully understand how it works and what it will do for the user. Similarly the fine-tuning of the camera's Custom Functions will demand attention from the user.

There are five case studies to choose from when using Servo AF:

Case 1- Versatile Multi purpose, Case 2 – Continue to track subjects ignoring possible obstacles, Case 3 – Instantly focus on subjects entering AF points, Case 4 – For subjects that accelerate or decelerate quickly, Case A – Auto, Tracking automatically adapts to subject movement. Some finetuning of the parameters for each case setting are possible. They all work as intended, Case 3 certainly changes AF to subject very quickly. I settled on Case 4 for most of my shooting.

The Eye-detect AF function now has settings for people or animals (which include birds) or can be set to no preference. More on the AF performance a little later.

Handy for back-button-focus users is the function where you can customize the function of the buttons and set the AF-ON button to perform Servo AF and the * button to perform One Shot AF.

Mount Adapter EF-EOS R: Canon has the EF/EF-S to RF lens mount adapter available in three different models (info from the Canon website):

- The standard Mount Adapter EF-EOS R allows EF-S and EF lenses to be used on EOS R cameras – this is a plain adapter with the only functionality of mounting the different lens mounts to the RF mount.
- Control Ring Mount Adapter EF-EOS R offers the same lens mount conversion as Mount Adapter EF-EOS R, but also adds a Lens Control Ring which is customisable and can easily be used without taking the camera from your eye.
- Drop-In Filter Mount Adapter EF-EOS R takes the functionality of Mount Adapter EF-EOS R and adds the ability to use drop-in filters, removing the need to fit filters on the front of a lens, especially useful for wide-angles with a large front lens element. It's available with either a variable neutral density (V-ND) filter[2] or circular polarising (C-PL) filter, and a clear (CL) filter is also available for shooting without filter effects.

My test camera from Canon SA was supplied with the standard lens mount adapter.

IN THE FIELD PERFORMANCE

With a body only weight of around 740g it is not heavy, in fact most of the mass in hand comes from the lenses. The basic design and layout of the switches, control wheels, joysticks (no more M-Fn touch bar as found on the EOS R, now replaced by a joystick controller). As a result, the AF-On button is now also in more familiar position, for me a big improvement on the EOS R.

Another big improvement is the EVF – a lot more detailed so I could see what my older eyes should be seeing, the refresh rate is vastly improved (I hated the EVF freeze on the EOS R), in all one of best EVF's I've had to use. Let's hope this, or better, is the new normal for EVF's. There is still a very slight freeze, but really nothing to be concerned about, it was easy to keep fast flying birds with an erratic flight path in the viewfinder and accurately track them though visual placement in the EVF. This was something that really bothered me with the EOS R – the slow refresh rate / viewfinder freeze made tracking fast paced action with tight framing a very hit-and-miss affair.

Now to get the obvious out of the way: A camera of this type must be seen as a do-it-all type of body; one should be able to use it for relaxed family type photography, wildlife and birding, active sports, portraiture and weddings, landscapes and macro. If that is your requirements from a camera, then this EOS R5 is the one to get. Just be sure to pick the right lenses for the intended use, and you will end up with spectacular results if you do your part.

Due to the Covid-19 regulations when I had the camera, I couldn't evaluate it on professional sports photography. I was hoping to cover the Bulls warm-up match at Loftus, but SARU wouldn't allow regular media to attend and the rally I had in mind was postponed as well. But I believe that if this camera will track a fast flying White-throated Swallow coming at the camera, then it will certainly track a race car or rugby player.

Canon EOS R5 with Canon EF 200-400 f4 L IS USM-1.4x, 560mm, 1/1600, f9, ISO 1600. Servo AF Case 4, Animal detect, Face detection + Tracking AF

Therefor not able to test it on sports, I opted for all of the rest; wildlife and birding, landscapes, portraiture and macro with some regular commercial and action use thrown into the mix.

AF performance: The various options for AF set-up work really well. The Eye Detect setting has to be used with AF Tracking with the options of choosing the initial focus point to start off with. I didn't find any one to be better and used the centre point setting mostly. When using the centre point and your subject is not well placed in the centre, which is difficult with erratic flying birds, the initial lock-on takes a couple of 10^{th} seconds longer. A central placed subject yields very fast lock-on. Using a Canon EF 200-400 f4 L IS USM with internal 1.4x (for wildlife), the Canon RF 28-70 f2 L USM and Canon RF 70-200 f2.8 L IS USM (for people portraits) yielded results which kept the focus on the eyes of the subject, even more distant birds. At times it was a little frustrating when trying to use it on birds in flight against a clear sky, the AF lock-on sometimes just wouldn't play ball. Also, when using a centre point with expansion, it would refuse to find birds in a tree when there is foliage just in front of them, no matter how I pointed or moved the camera around. Fortunately, it is easy to change the AF point and still manage the shot. Overall, the eye-detect Servo AF is a really very nice to have feature and people photographers specifically should find it very useful. It also makes some hard to get wildlife shots more manageable.

Canon EOS R5 with Canon EF 200-400 f4 L IS USM-1.4x, 560mm, 1/4000, f6.3, ISO 1600. Servo AF Case 4, No priority, AF Point expansion:surround – not picking up intended subject (Cropped image)

Using AI Servo, partial metering, Tv mode and the RF 70-200 f2.8 L the Rooivalk helicopter proved the focus tracking of the camera for aviation type events and should be quite comparable to other sporting events as well. An action photographer will be happy using the EOS R5 – results are very good overall. I certainly was pleased with the images I managed during the SAAF flyby.

SAAF Rooivalk CSH. Canon EOS R5 with Canon RF 70-200 f2.8 L IS US, 200mm, 1/80, f16, ISO 200, Servo AF Case 4, AF point expansion:surround.

For the portrait or wedding photographer this camera will perform really well. The low noise at higher ISO settings means low light photography in venues are handled more easily. I used my regular model, actually my live-in niece, for some indoor, natural light portraits using high ISO. Colours, contrast and sharpness from the excellent RF 70-200 f2.8 lens was really good. The photo had absolutely no developing done to it except conversion from raw to jpg using DPP and resized to fit the review. I believe the camera and lens combo is one of the best for natural light portraits I've ever used. The excellent Canon RF 28-70 f2 L Is also one to consider, delivering absolutely stellar results.

Canon EOS R5, Canon RF 70-200mm F2.8 L IS USM, 108mm, 1/60, f8, ISO 6400, natural light indoors

Black Wildebeest in a slight tussle. Canon EOS R5, Canon EF 200-400 f4 L IS USM/1.4x, 1/500, f5.6, ISO 800 Servo AF Case 4 Animal Detect.

The wildlife and birding photographer should also seriously consider the EOS R5 if at all within his budget limitations. The in the field performance of the R5 with the Canon EF 200-400 f4 L IS USM +1.4xproved that it is a hard to beat combo. Obviously using any high-quality telephoto lens will do the trick, and I tested the R5 with the aforementioned Canon, as well as four Sigma lenses I had on hand; the 120-300 f2.8 Sport with 2x Extender, the 500 f4 Sport, the 100-400 f5-6.3 Contemporary and the EX 150 f2.8 Macro OS. All worked perfectly, and once again I was reminded by the handy design of the EF 200-400 f4 with that integral 1.4x extender. It remains one of my favourite lenses.

The black Wildebeest tussle proved no match for the R5's AF servo and tracking capabilities. I easily managed to keep all the frames, 17 in all, of this series pin sharp. No matter how the animals romped and twisted around the AF didn't miss a beat.

Apart from the usual portrait type stationary birds, I also did the faster flying activity type birding shots. A more challenging birding environment presented itself whilst watching a Southern Masked Weaver in the process of nest-building, and catching the weaver coming up to his nest was managed successfully enough, helped by the fast AF lock-on from the R5.

Using the R5 not only for regular wildlife, one should not forget the smaller nature subjects; those that fit the bill for macro or close-up photography. I used the R5 to capture a pair of mating dragonflies whilst out birding using the EF 200-400 f4, and also my Sigma 150mm Macro with 25mm Extension tube to capture 1:1 macro images. The high MP count allows the detailed capturing of larger subjects such as butterflies with a little leeway for cropping on the smaller subjects without sacrificing detail. The image quality from the sensor really showed up when going for the small subjects, a difficult test for the resolution of any camera and lens combination.

Canon EOS R5, Canon EF 200-400 f4 L IS USM/1.4x, 1/1000, f6.3, ISO 1600, Servo AF Case 4 AF Point expansion:surround

Mating dragonflies. EOS R5 with Canon EF 200-400 f4 L IS USM/1.4x. 1/2000, f5.6, ISO 800, Servo AF Case 4 Animal Detect.

Butterfly, true macro. EOS R5 with Sigma 150 f2.8 Macro OS with 25mm ET, 1/250, f16, ISO 400, MF, flash.

Joining our Porsche group for the annual Loftus Day park-off, although not held at Loftus this year, provided me with the opportunity for some more regular testing of the R5 using the RF 28-70 f2 L lens, not using it at f2. No surprises here, this was really not a challenging environment for the R5 and lens combo, all images were crisp, showing accurate colours and no distortion.

Canon EOS R5, Canon RF 28-70 f2 L, 46mm, 1/1600, f11, ISO 1600, single shot AF.

Canon EOS R5 with RF 28-70 f2 L, 32mm, 1/20, f22, ISO 100, single shot AF

A visit to the Walter Sisulu Botanical Gardens allowed me to do some impromptu landscape photography using the familiar waterfall in the gardens. I don't give myself out as a landscape photographer, just grabbing the odd moment when it presents itself; there are many more capable landscapers out there than me. Going for a slow shutter speed to get some motion blur in the cascading water and relying on the IBIS to keep me steady handholding the camera yielded the acceptable (for me) image. I do feel that the serious landscape photographer will be able live out his passion with the R5 – it is such a versatile camera. No filters or special processing techniques were used here, again just a straight raw conversion from DPP.

General Comments

I've come to accept the fact that mirrorless cameras are heavy on battery life. The uprated LP E6NH battery (which is backward compatible to cameras using the LP E6 series of batteries) is rated for around 320 shots. Very dependent on LCD usage, I switched off the review function on the LCD and resorted to check on images only when I really needed to confirm exposure, composition or presentation. Constant use of the LCD will drain the battery quickly, I managed around 250 shots when using AF tracking and AI Servo on moving subjects a lot, and not taking the shot with every single tracking, such as when the subject wasn't locked on, or confirming the ID of a species, etc. Typical field use where we don't always trip the shutter. A spare battery or two remains a good option if you intend to do some extensive shooting.

The AWB setting was one of the most accurate I've ever used. During initial testing I used the various WB presets for the conditions but ended up using AWB for most of my time with the camera, which enabled me to concentrate on the other performance parameters. One can in any case correct WB during raw processing in DPP, but I ended up not having to fine-tune the recorded WB.

I like the expanded range of parameters which can be assigned to the RF lens control ring, especially using either AF point selection or exposure compensation on the control ring, depending on what I was photographing at the time. This is another vast improvement on the EOS R.

Finally, a few comments on the video mode. Since I am not much of a videographer I cannot report in detail on the high spec video capabilities of the R5. I did capture some 8K video and can appreciate the high quality of footage one is capable of creating. Well, it is actually amazing. The 35.4 MP frame grab feature from 8K video in-camera is really handy if you want to do so, yielding a high quality HEIF or jpg, depending on the video quality set and the frame grab settings. Be warned that 8K video file sizes grow huge, quickly. Lots of memory required. And no, my limited video capturing didn't result in any overheating issues as some reported. The nice thing about the frame grab feature is you can video a scene, and afterwards select the exact moment you want to grab as a stills image as a really high-quality jpg. Just note that further developing of the jpg is not as easy as with regular camera jpg or converted Raw files. Recovering shadows and highlights are less effective for some reason. Get it right in camera and you're set.

SUMMARY

By now everyone reading this should get the fact that I really like the R5. It is not a perfect camera, but certainly raises the bar in this market segment.

Pro's:

Very capable in all environments / genre's

Best EVF I've used

Very good high ISO noise control

AF performance is very good.

Very customisable menu and CFn set-up

Light and small / compact with good ergonomic design and layout

Con's:

Small – personally I would love a battery grip / vertical grip for my gorilla hands

Price tag (for me) – but you really get what you pay for, and very market related

I had to give it back

Nothing else.

Many sincere thanks to Roger Machin from Canon SA for making available the EOS R5, RF 28-70 f2 L, RF 70-200 f2.8 L IS and the EF 200-400 f4 L IS/1.4x

Also thank you to Robert Harmse for the impromptu loan of his Sigma 500 f4 Sport to try out on the R5.