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Audio-Technica
ATV-SG1
On-Camera Video
Microphone



CLASSIC TEST

Who Needs
Automation?
Nikon's FM2 Is
Pure Mechanical
Pleasure

COMPETITION

SONY WORLD
PHOTOGRAPHY
AWARDS 2026



Australian
Photographer Wins
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Has Canon Got The EOS R6 Mark III
Just Right? It's Good At Everything



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* As of February 24, 2026, among 70-200mm f/2.8 interchangeable lenses for full-frame mirrorless cameras available.

^ As of August 22, 2025, among 24-70mm f/2.8 interchangeable lenses for full-frame/FX-format mirrorless cameras.

Statements based on Nikon research.



Subscription enquiries:

Please call CRM on (02) 8227 6486
www.techmags.com.au
future@crmaus.com.au

Editorial

Editor: **Paul Burrows**
paul.burrows@futurenet.com

Art Director: **Kristian Hagen**
kristian.hagen@futurenet.com

Contributors

Bruce Usher, Trevern Dawes, Stephen Dawson,
Alison Stieven-Taylor.

Photography

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Advertising

Advertising Director: **Jim Preece**
jim.preece@futurenet.com
Advertising Manager: **Lewis Preece**
lewis.preece@futurenet.com

Management

Managing Director: **Neville Daniels**

Printed by IVE GROUP

Distributed in Australia by

Are Direct Pty Limited www.aredirect.com.au

ISSN 1449-0137

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▼ Nikon's ten-year-old D5 – still alive and clicking in space.



DSLRs NOT DONE YET?

needs to be pointed out that the Z9 was being evaluated with a view to being used on future Artemis missions, but the point here is that the D5 is actually still a better camera – most notably its high ISO image quality (with the D6 even better again here) – and this convinced NASA to live with the extra weight when every gram counts. In reality, this is true of a number of the last-of-the-line full frame DSLRs including Canon's EOS-1D X Mark III and the EOS 5D Mark IV. However, the starker reality is that if you want a new DSLR – at least one badged either Canon or Nikon – you're nearly all out of choices, especially in terms of higher-end models. And, while Ricoh says it's committed to Pentax DSLRs, a brand new model is a long time coming.

So, my question is... have DSLR sales declined because users have been totally wowed by the mirrorless camera or have they declined because you haven't been able to buy what you want (and, remember, DSLR lenses have also been rapidly disappearing)? I don't know the answer to this question, but I suspect that the "DSLR is dead" messaging that really gathered strength after the intro of the Canon RF and Nikon Z systems would definitely put you off considering another reflex camera.

I also think it's telling that there's a growing market for second hand and refurbished DSLRs. I counted 24 models – from entry-level to pro – for sale online recently from one of Australia's leading camera retailers and there were plenty of others to be had from elsewhere. You don't have to be a rocket scientist to conclude this suggests there's still some demand... and that's likely to increase now that the rocket scientists at NASA have given the veteran Nikon D5 a red-hot endorsement. Of course, it's unlikely that there'll be any going back because the priority for both Nikon and Canon is to remain as leading ILC brands and that now means putting all their resources into their mirrorless systems. The big positive, though, is that thanks to NASA and the Artemis II mission, we now know that a ten-year-old DSLR can still cut the mustard. And, more than likely, your camera is younger and later generation. For now then, let's consider the DSLR to be very much alive as an ILC option on Earth as well as in space..

Paul Burrows, Editor.

I've lost track of how many times I've read in a press release for a new camera that a new or updated feature is the result of user requests. They most likely are – given how vocal users can be on social media if they're disappointed about something – and it gives the impression that consumer demand has a lot of influence in product design. It makes us feel like we're all part of the family. In reality, though, I'm not so sure and what fuels this doubt is the demise of the DSLR. Following on from my editorial in the last issue when I noted that we're now down to a handful of models that you can buy new, I decided to do a bit more investigation.

Out and about – especially at any public event – I started to check out what anybody who was taking photographs was using. Lots of smartphones, of course, and a few compacts plus more film cameras than I was expecting including, on one occasion, a Pentax 6x7. I commended the user on his courage and tenacity. However, overall, there were quite a lot more DSLRs in evidence than mirrorless cameras. We're talking mostly amateur photographers here, shooting for fun. Then, low and behold, we find out that the crew of the recent Artemis II Moon flyby mission took a pair of ten-year-old Nikon D5s with them along with a Z9 and a bunch of GoPros (incidentally, even older HERO4 Black models). So... D5s being used as the main cameras – not even the later D6 – which means so-called 'old' camera tech was relied on to record some of the most important pictures taken in recent times. Specifically, NASA decided to go with the D5 because it had already been extensively tested for reliability issues such as exposure to radiation and vibration as well as operation in zero gravity. NASA also noted that familiar physical controls and the D5's exceptional low-noise performance were also factors, the latter obviously being important for space-related applications. Notably though, the many thousands of spectacular images shot during the mission – including a reprise of the famous *Earthrise* shot from 1968, but redone as *Earthset* – proved that the decade-old D5 is still up to the biggest of assignments. It

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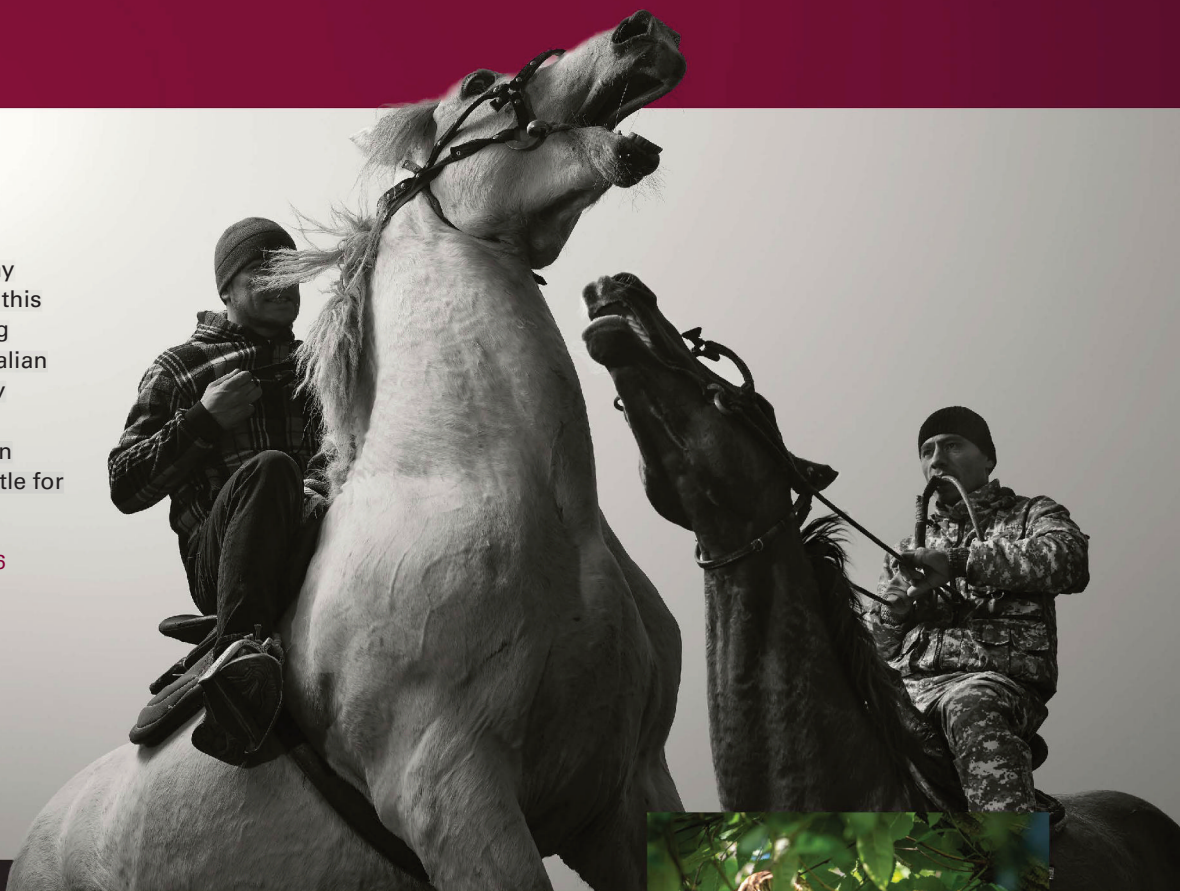
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SONY WORLD PHOTOGRAPHY AWARDS 2026

It's the biggest photography competition in the world – this year attracting a staggering 430,000 images – so Australian photographer Elle Leontiev deserves plenty of praise for winning the major Open Photographer of the Year title for 2026.

Image by Todd Anthony © 2026



REGULARS

6 WHAT'S NEW

It'd been a busy last couple of months with plenty of exciting new products announced and arriving on the market now. **Panasonic** probably tops the list with the Lumix L10, the large sensor fixed-lens compact camera that we've all been waiting for. Yes, it has an EVF and a whole lot more, ticking a lot of boxes for enthusiast-level shooters. **Sony** has unveiled its sixth-generation A7R high-res mirrorless body and it's got 66.8 megapixels under the bonnet, but amazingly, it can shoot at up

to 30 fps which is no mean feat. Along with the A7R VI comes a new version of the FE 100-400mm telezoom, now with a constant maximum aperture of f/4.5 and an all-new optical design. **Canon** hones its full frame hybrid offerings with a third option aimed primarily for video content creators. Depending on what's your main application, you can now choose between the new EOS R6 V, the EOS R6 Mark III (on test in this issue) or the Cinema EOS C50. And there's the clever dual-action RF 20-50mm f/4.0L lens from Canon which has both powered or manual zooming control.

Talking of interesting what it took to create the dramatic image which won the Amateur competition in the 2025 **Epson International Pano Awards** was created. If this inspires you, the 2026 Awards are now open for entries. Find out more at <https://thepanoawards.com/enter-awards/>



78 SIGMA SHOWCASE 2025

Our Showcase sponsor, Sigma lenses – via the Australian distributor, C.R. Kennedy Photo Imaging – is providing the competition's grand prize of a lens – your choice of model and mount – valued at up to \$1000. It's easy to be in the running for the 2026 competition's grand prize. Submit your entries online at camera@futurenet.com

80 CAMERA BUYER'S CHECKLISTS – MIRRORLESS CAMERAS, DIGITAL RF CAMERAS AND DSLRS

After a slow start this year, new cameras are starting arrive in a hurry so maybe now is the right time to upgrade or just treat yourself to something nice. Our buyer's checklists for mirrorless cameras, DSLRs and the digital RF models allow you to directly compare all the key specifications and features at all the main price points.



◀ Page 7:
Panasonic Lumix L10

FEATURES

18 SPECIAL FEATURE TIPA WORLD AWARDS 2026

Once again the TIPA member magazine editors – including us, of course – have distilled down all the great imaging products release over the last 12 months to arrive at 40 category winners which represent the cream of the crop.

42 COMPETITION – WORLD FOOD PHOTOGRAPHY AWARDS 2026 FINALISTS

Launched back in 2011, the annual World Food Photography Awards has steadily grown to attract many thousands of entries from all over the world. Here's an appetiser of the finalists in the 2026 competition. The winners will be announced after this magazine has gone to press, so we'll be covering them in the next issue.

50 IN PRACTICE – BACK TO BASICS: ALL ABOUT LENSES

Lens purchases are arguably more important than your camera picks – they'll most likely stay with you when you change bodies anyway – and they are critical to both creative and technical outcomes. So what's going on inside a lens? Understanding how they work will help you use them more effectively to achieve your visions.

ON TRIAL

30 ON TRIAL CANON EOS R6 MARK III

Once again, Canon packs its mid-range full frame ILC with all the essential ingredients seasoned with a liberal serving of tasty extras. Yes, the R6 III is quite a bit pricier than its predecessor, but you get a lot more for your money too. Put simply, it's good at everything

▼ Page 30: Canon EOS R6 Mark III



58 ON TRIAL AUDIO-TECHNICA ATV-SG1 ON-CAMERA VIDEO MICROPHONE

It doesn't take long to realise that great sound is as important as great vision when shooting video. Audio-Technica knows a lot about making professional microphones and now it's bringing this expertise to on-camera models which incorporate some clever design features.

74 CLASSICS ON TRIAL – NIKON FM2

Nikon's last mechanical 35mm SLR – launched when automation was taking over in camera design – was a huge hit at the time and has stayed popular ever since. Nearly 45 years later, the FM2's purity of purpose is still a big plus.



OUR FRONT COVER: The main photograph on this issue's front cover features some of winning imaging products from the 2026 TIPA World Awards. Turn to page 18 to see all this year's 40 category prizes and the judges' commendations. Inset photograph by Australian photographer Elle Leontiev, overall winner of the Open competition, 2026 Sony World Photography Awards.



CANON FIRST WITH DUAL MANUAL/POWER ZOOM LENS FOR FF MIRRORLESS

LAUNCHED ALONG WITH the EOS R6 V, the RF 20-50mm f/4.0L IS USM PZ is clearly designed with video-makers mostly in mind, but it has an interesting feature that may well broaden its appeal. The 'PZ' designation tells you that this is a power zoom, but interestingly, it can be also zoomed manually. The same control collar is used for both operations which are changed by flicking a PZ/MZ switch in the same way that you switch between AF/MF control. The power zoom mode the collar is jogged left or right to change the focal length, and in the manual model it operates conventionally by twisting it left or right. The speed of the power zooming can be adjusted – over 15 levels – from an R mount camera body and, in the case of the R6 V, operated from a rocker switch the camera. It can also be remotely controlled via Canon's new BR-E2 Wireless Remote Control unit. The lens's two zooming groups are driven by individual 'Nano USM' motors while the focusing group is moved by a third. Both zooming and focusing are performed internally so the lens's physical length doesn't change. Despite incorporating the zooming motors and also offering the ultra-wide focal length of 20mm – along with a constant aperture of f/4.0 – this lens is surprisingly compact and weighs in at 420 grams. It's just over 98 millimetres in length and accepts 67 millimetres diameter screwthread filters.

The optical construction employs 13 elements in 11 groups and includes two aspherical types and three made from ultra-low dispersion (UD) optical glass. Bring an L series lens, the 20-50mm PZ zoom has both Canon's 'ASC' (Air Sphere Coating) and 'Super Spectra' anti-reflection multi-coatings to minimise flare and ghosting.

The barrel construction is sealed against dust and moisture, and a fluorine coating is applied to the front element to help better repel water and grease. Optical image stabilisation gives up to six stops of correction for camera shake (at the centre of the frame) which increases to eight stops when working in conjunction with the in-body stabilisation in many of the later RF mount mirrorless bodies.

The Canon RF 20-50mm f/4.0L IS USM PZ sells for \$2199 and is available locally now. Canon Australia provides a five-year warranty for cameras and lenses purchased from an authorised reseller. For more information visit www.canon.com.au.

IT'S TIME

AFTER ALL THE excitement after the launch of the Pentax 17 – now two years ago, believe it or not – things have gone very quiet in terms of any new 35mm cameras. You may remember that Ricoh was promising another Pentax film model to follow the 17, but that looks to be on the backburner for the moment. Yet the volume of 35mm film being processed at commercial labs around the country continues to steadily rise – as do, logically, the sales of both colour and B&W film. Darkroom equipment and materials continue to tick along too... so shooting film continues to grow in popularity. But what are these film fans actually shooting with?

The Pentax 17 – quite a curiosity in some respects – was primarily designed to appeal to a particular audience who were not only new to film, but new to using a camera rather than a smartphone. Consequently, interesting though it is, it doesn't have any appeal to more experienced photographers who either want to return to shooting film or who want to try it for first time. Either way, what's needed is a more mainstream design and that's either a more conventional compact camera or, better still, a 35mm SLR. The Pentax back catalogue should provide reach pickings for recreating the latter, assuming that there's basic tooling still available (which the main chassis of the 17 suggests is indeed the case) so why has Ricoh's film camera project seemingly pressed pause? And, subsequently, is anybody else in a position to do a new 35mm SLR?

It's no secret that, after being in very high demand initially, sales of the Pentax 17 have slowed. Much of that early demand was driven by the curiosity factor and people bought the camera because of its historical significance and because it was "something different." However, it was always one of those products that would reach point where everybody who wants one has got one.

My opinion is that Ricoh should have kicked off with a more mainstream 35mm design and followed with the quirky half-frame fixed-lens compact. I suspect the potential customers for the former are far larger in number than whatever unit sales the Pentax 17 has achieved so far. That said, Ricoh is reportedly happy with how the 17 has sold and it's still available with only a smallish reduction in the price compared to when it was launched. But would the balance sheet have looked a lot better with a 35mm SLR or a full frame compact? Ricoh says it hasn't dismissed the idea of revived 35mm R/GR series compact which perhaps makes more sense given just how big the line's following is now courtesy of the last few digital models. Nevertheless, I still feel

what's really needed now is a

35mm reflex. It needs to be priced at under \$1000 body only and, while a fully mechanical and manual design has some appeal, I think it should have automatic operations – i.e. exposure, focus and film transport – because that's what we're all so used to now. OK, manual focus is probably fine, but too much nostalgia might just be too much full stop. If you're a purist, there are plenty of pre-loved classic mechanical cameras available to scratch



▲ A multiple award winner in its day, the Pentax MZ-5 (1996) would be the perfect candidate for a revived 35mm SLR which is compact, capable and affordable.

that itch, but a reasonable degree of automation – backed by a new camera warranty and, of course, with manual overrides – would make jumping into film less of a culture shock. There is the question of the lens mount, but the ubiquitous K bayonet would seem the obvious choice given huge reservoir of lenses available, old and new.

Right now, though, we seem to have reached an impasse. An affordable 35mm SLR is what's need to kick the film revival up a gear or two, but the current numbers probably look a bit marginal in terms of profitability. I'm convinced that built it and they will come, but somebody somewhere needs to take a leap of faith. – **Paul Burrows, Editor.**



LUMIX IS 25 AND HERE'S YOUR SPECIAL BIRTHDAY PRESENT

AS THE LUMIX brand celebrates 25 years – where did all that time go? – Panasonic has unveiled the fixed-lens compact camera that many photographers have been dreaming about. If you've been disappointed that the new Lumix TZ300 doesn't have an EVF (see separate news piece), the Lumix L10 ticks this box and a whole lot of other important ones. It's essentially a successor to the much-loved LX100 II and, yes, you have seen this model designation before... on a Four Thirds format DSLR – full name the DMC-L10 – which was launched in late 2007, not long before Panasonic kicked the reflex mirror into touch with the world's first mirrorless ILC.

The all-new L10 – full name the DC-L10 – still uses the same format sensor, specifically the 20.4 megapixels (effective) BSI-type CMOS device that's also used in the Lumix GH7 and, here, mated with the same processor that drives the S1 II. Up front, there's a Leica DC Vario Summilux 10.9-34mm f/1.7-2.8 zoom which is equivalent to 24-75mm and employs 11 elements in six groups (with a total of eight aspherical surfaces). As the sensor is larger than the lens's imaging circle, the angle-of-view remains the same with the 4:3, 3:2 and 16:9 aspect ratios (but not at the 1:1 setting which involves a crop). The lens focuses down to just 3.0 centimetres at the 24mm end and 30 centimetres at 75mm. Notably, compared to the previous LX series models, the autofocus is now Panasonic's 'Phase Hybrid AF' system and uses phase detection measurements at a total of 779 points along with DFD (Depth-From-Defocus) contrast detection when needed. Additionally, there's AI-based subject recognition with the same selection of modes as the S1 II; namely humans (eyes, faces and bodies), animals (dogs, cats and birds), cars, motorcycles and bicycles, aircraft, and trains plus Urban Sports which employs pose recognition for

activities such as skateboarding, breaking dancing or BMX bikes.

Continuous shooting is at up to 30 fps with the camera's sensor-based shutter and up to 11 fps with its leaf shutter. Pre-capture buffering is available at 10, 20 or 30 fps when using the sensor shutter. The sensor shutter has a speed range of 60-1/32,000 second while the leaf shutter runs from 60-1/2000 second. Stills can be captured as JPEGs, 10-bit HEIFs or 14-bit RAW files. Data is stored on an SD memory card and the L10 supports UHS-II and Video Speed Class 90 devices.

Three new 'Photo Style' profiles are introduced with the L10, namely L.Classic, L.Classic Gold and L.Classic Neo which create various vintage film effects. Additionally, there's also the Leica Monochrome setting as per the latest G and S series mirrorless bodies and which pumps up the contrast with brighter highlights and deeper blacks. The camera also has Panasonic's Magic LUT feature which enable a look-up table (i.e. a picture profile) to be created directly from an image using AI-based colour analysis via the Lumix Lab app. It also supports downloadable custom-made 'Real Time LUTs' for both stills and video, and the camera has a dedicated LUT button for quicker switching between looks. Incidentally, Lumix Lab Version 3.0 now allows for the editing of RAW files.

The headline video spec is 5.6K 'open gate' recording at 24/25/30 fps with 10-bit 4:2:0 colour using the H.265 codec. There's 4K DCI and UHD at up to 100/120 fps and Full HD at up to 200/240 fps, all with 10-bit colour (all 4K footage is oversampled from 5.6K). The H.265 coding is with LongGOP compression, but All-Intra is available with H.264 with 10-bit 4:2:2 colour which pushes the bit rate up to 600 Mbps. In addition

to the MOV and MP4 formats there's an MP4 Lite option to give smaller file sizes for social media applications. V-Log recording is also available.

The L10's styling is very similar to that of the LX100 II so there's a classic rangefinder camera look enhanced by the leather-look inserts. The construction comprises a diecast magnesium alloy chassis with aluminium top and bottom covers in either black or silver anodized finishes. The weight is a shade over 500 grams all-up so this camera has a substantial, solid feel. There isn't a built-in flash, but there is a hotshoe so you can fit as much flash power as you want. The EVF is an OLED panel with a resolution of 2.36 megadots and a magnification of 0.74x (35mm equivalent). The 7.62 cm touch screen monitor is fully-articulated – Panasonic calls it "free-angle" – and has a resolution of 1.84 megadots. Power comes from the higher-capacity BLK-22 battery that's used in the latest GH series bodies and is good for around 420 shots using the monitor screen or 410 with the EVF. Wireless connectivity is via WiFi (either the 2.4 GHz or 5.0 GHz band) and Bluetooth LE 5.0, but the L10 can also be connected to a smartphone running Lumix Lab via its USB C port which will often be quicker and more reliable.

If you want something a bit more special, there's a special edition Titanium Gold version of the L10 – which will only be available directly from Panasonic Australia – with gold-coloured titanium top and bottom covers. There are a few cosmetic changes – notably the 'Lumix' branding moves from the front to the back – plus the camera comes with some matching accessories, including a lens cap and a camera strap.

The Panasonic Lumix L10 is priced at \$2599 in the standard black and silver finishes, and is available now. The Titanium Gold special edition is priced at \$2999 and will be available in July. For the first time, Panasonic Australia is applying its extended five year warranty (two year standard warranty plus an additional three years) on a Lumix compact camera. To qualify, the L10 must be sold by an authorised Panasonic Australia reseller. For more information visit www.panasonic.com.au



EOS R6 V IS FULL FRAME FOR CONTENT CREATORS

TAKE YOUR PICK. Canon is now offering three camera bodies with its 32.5 megapixel full frame CMOS sensor and latest-generation 'DIGIC' processors. Each has a specific target audience – the EOS R6 Mark III for photographers, the EOS C50 for videographers and the new EOS R6 V for content creators. That said there's a lot of commonality between the three – essentially all three can be said to be hybrid mirrorless cameras – but there are key differences in features which make them more suited to specific applications. In case you're wondering, the "content creator" label essentially refers to people making videos for online sharing and often working on their own. They may want to take stills from time to time, but don't need the more production-orientated capabilities of a higher-end video or cinema camera such as the C50. Time coding being a notable difference here. Thus the R6 V gets pretty well all the photography features of the R6 III, but doesn't have an EVF or a mechanical shutter. It essentially arrives in the Canon R mount line-up as the full frame alternative to the 'APS-C' format R50 V.

Minus an EVF, the R6 V's magnesium alloy body is comparatively compact and similar in size and looks to the C50. Its 'Vari-Angle' monitor screen is adjustable so it can face forward which is an important requirement for vloggers and video content creators. It has in-body image stabilisation – giving up to 7.5 stops of correction for camera shake – and it's weather-sealed. The C50 has neither of these features, but it does have a built-in cooling fan as does the R6 V which allows for longer clip lengths especially when shooting video at the very



high bit rates that the new camera is capable of (up to 2600 Mbps). The video capabilities extend up to 7K resolution (6960x4640 pixels) recorded internally at 24, 25 or 30 fps in 12-bit CRM

RAW or up to 50/60 fps in RAW Light. A 7K 'open gate' mode (i.e. 3:2 aspect ratio) is also available with the RAW settings which provides a lot of flexibility with the final framing, including vertical. Both 4K DCI and UHD are recorded oversampled from 7K at up to 50/60 fps, or up to 100/120 fps without oversampling. Full HD and 2K DCI footage can be at up to 150/180 fps. There's the choice of the XF-HEVC S and XF-AVC C codecs (Canon's versions of H.265 and H.264 respectively) with either 8-bit 4:2:0 or 10-bit 4:2:2 colour and either LongGOP or ALL-Intra compression. There's also Canon Log2 and Log3, HDR PQ and HDR HLG, a selection of cinematic 'Colour Mode' settings and provisions for uploading LUTs in the .CUBE file format from a memory card. There are dual memory card slots for CFexpress Type B and SD devices with UHS-II speed support. Simultaneous recording to both cards is also supported. The camera's full-size, Type A HDMI output supports up to 7K in Apple ProRes RAW. There's also UVC/

UAC live streaming at up to 4K and 50/60 fps over USB C.

For audio, the R6 V has built-in stereo microphones plus a stereo audio input and an output for connection monitoring headphones. Additionally, the camera has Canon's multi-function power/data communications shoe for attaching dedicated accessories such as microphones, enabling four-channel audio recording. Without a focal plane shutter, the R6 V can't be used with electronic flash (at least not yet, but it's promised for a future upgrade).

However, the sensor shutter allows for continuous stills shooting at up to 40 fps for up to 330 best-quality JPEGs or 150 14-bit RAW files, and there's pre-capture buffering too. There's also a 10-bit HEIF capture mode for stills with ten levels of compression (as is also the case for JPEGs). The R6 V has Canon's 'Dual Pixel CMOS AF II' hybrid autofocus system with AI-based subject recognition for people (eye/face/head/body), dogs, cats, birds, horses, motorsports, aircraft and trains for stills (people, animals and vehicles for video). You also get the 'Register People Priority' option for storing up to ten faces. The shutter speed range is 60-1/16,000 second and the exposure control options include 'Scene Intelligent Auto' as well as the standard 'PASM' modes. It's interesting to note that the R6 V is closer to the R6 III in its video capabilities than its stills shooting features, but eliminating the EVF and the mechanical shutter obviously restrict in terms of the latter application. It is, however, around \$700 cheaper as a result (while the C50 is significantly more expensive).

The Canon EOS R6 V is priced at \$3599 body only and is available now. Canon Australia provides a five-year warranty for cameras and lenses purchased from an authorised reseller. For more information visit www.canon.com.au.

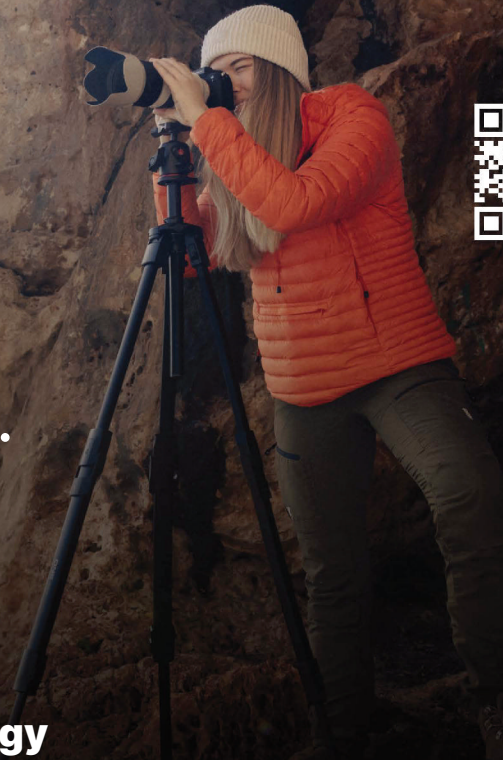
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SIXTH GEN SONY A7R DOES 66.8 MP AT 30 FPS!

SONY PUMPS UP all the key specs of its latest high-resolution Alpha series full frame mirrorless camera, giving it some serious shooting power. At the heart of the A7R VI is an all-new 'Exmor RS' stacked BSI-type CMOS sensor and the 'Bionz XR2' engine which incorporates an AI processing unit. Sony says this latest version of the XR2 processor is 5.6x faster than the one in the A7R V. The stacked sensor's design is different from what we've seen previous from Sony in that the additional layer isn't a buffer memory, but now processes the dual-gain outputs – low-gain for enhanced sensitivity and a high-gain for lower noise – to enhance the dynamic range across the entire native sensitivity range. It's

similar to Panasonic's 'Dynamic Range

Boost' parallel processing, but performed on the sensor. Sony is claiming a maximum dynamic range of 16 stops at the lower ISO settings.

The effective resolution of 66.8 megapixels isn't a big jump from the A7R V's 61 MP, but the really big deal is that the VI body can shoot at 30 fps with its sensor-based shutter and this is with 14-bit RAW files (compared to 7.0 fps with 12-bit RAWs previously), full AF/AE adjustment (which is actually performed at 60 fps) and blackout-free view-finding. That's pretty impressive. Pre-capture buffering is available for up to one second's worth of images, but can be set to shorter durations down to just 0.03 seconds. Burst lengths are pretty good too, at up to 215 fine-quality JPEGs or 150 RAW files. The A7R VI retains a focal plane shutter which gives a top shooting speed of 10 fps, but this now also with 14-bit RAW capture rather than 12-bit. The total pixel count, by the way, is 72.6 million. The A7R VI has dual memory cards, each dual format for CFexpress Type A and SD UHS-I/II.

The in-body image stabilisation (IBIS) gets a boost to 8.5 stops of correction for camera shake at the centre of the frame and up to 7.0 stops at the edges. Sensor shifting is also used for multi-shot capture to create an ultra-high res 270 megapixels RAW image, but the compositing has to be done post-camera. The autofocus upgrades to 'Real-Time Recognition AF+' with the plus symbol indication that the AI-analysed

subject recognition now includes skeletal-based human pose estimation for the more reliable tracking of people using their entire bodies. This will be particularly beneficial when shooting fast-moving athletes. The A7R VI also now has an auto subject recognition option. There's a total of 759 PDAF measuring points giving close to full frame coverage and the sensitivity extends down to -6.0 EV (at ISO 100 and f/1.2).

AI analysis now also drives the automatic white balance control which uses both visible light and IR sensors to better determine the most accurate colour rendition in a wider variety of lighting situations (especially with a mixture of source types).

Not surprisingly given its high resolution, the A7R V delivers up to 8K video (oversampled from 8.2K) at 24, 25 or 30 fps and 10-bit 4:2:2 colour although this comes with a 1.2x crop. Nevertheless, 4K UHD comes (oversampled from 5K) at up to 50/60 fps without a crop or at 100/120 fps with a small 1.1x crop, both again with the option of 10-bit 4:2:2 colour. If you engage 'Field Of View Priority', 4K is available at the higher speeds without a crop, but with the loss of noise reduction. The camera's video tool box includes S-Log2 and S-Log3, the S-Cinetone profile, LUT uploading, auto framing, proxy recording, 'Dynamic Active' electronic image stabilisation (although this also involves a crop), USB streaming, a front tally lamp and 32-bit 'float' audio recording internally when using the optional XLR-A4 XLR adaptor. Notably, dual-gain processing is now available for video – for the first time on an Alpha series camera – to give an increased dynamic range, but it's limited to 4K UHD at up to 25/30 fps and a sensitivity range of ISO 200 to 3200 in S-Log.

In terms of design, the A7R VI's magnesium alloy body is a little bigger than its predecessor's and with a larger handgrip, but the control layout is similar although, handily, some function buttons are now back-illuminated. The EVF is a 1.6 cm OLED panel with 9.44 megadots resolution as before, and but now covers the wider DCI-P3 colour space and has a 3.0x increase in brightness to allow for HDR previewing. The monitor screen is unchanged in size and resolution from the A7R V, but now has four-way position adjustments. There are now dual USB C ports, one primarily for high-speed data transfer and one with USB Power Delivery support for in-camera battery recharging or for powering the camera. The new camera also gets a new battery – the NP-SA100 – with an increased 2670 mAh capacity which is enough to deliver around 600 shots when using the EVF or 710 with the monitor screen. Finally, the A7R VI supports Sony's Camera Authenticity Solution – including the C2PA standard – for verification that still images or videos were captured with a camera and not manipulated.

Sony's A7R VI is priced at \$6999 body only and available now. For more information visit www.sony.com.au



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NEW SONY G MASTER 100-400MM HAS CONSTANT MAXIMUM APERTURE

WHEN SONY UPGRADES an FE mount lens, it doesn't do anything by halves. So the replacement for the FE 100-400mm f/4.5-5.6 GM OSS telezoom not only has a completely new optical design, but it's a constant-aperture f/4.5 lens and the zooming is performed internally so there's no change in the physical length or, as a result, the handling balance. The new FE 100-400mm f/4.5 GM OSS gains some weight thanks to its design – now tipping the scales at 1840 grams – and there's a weightier price tag too, but usability is significantly enhanced and so is the optical performance. Additionally, the autofocus speed is increased by a factor of three compared to the previous model.

The optical construction now comprises 28 elements in 20 groups of which seven are special types, including an all-new 'ED XA' element. This stands for 'Extra-low Dispersion eXtreme Aspherical' so it's a pretty advanced piece of optical engineering. There's also an

'XA' element (eXtreme Aspherical), two 'Super ED' types (Super Extra-Low Dispersion) and three 'ED' glass types. Collectively, these special elements correct for distortion and for multiple aberrations including chromatic and spherical to enhance sharpness across the frame at any focal length. Sony's 'Nano AR Coating II' antireflection multi-coating is employed to reduce ghosting and flare, and an 11-blade diaphragm gives smoother, more rounded out-of-focus effects. The new telezoom also supports in-camera correction of focus 'breathing' which automatically adjusts for small changes in the image size as the lens is focused.

Autofocusing – which is also performed internally via a 'floating' focus arrangement – is performed via a dedicated quartet of Sony's 'XD' (eXtreme Dynamic) linear motors which Sony says are fast enough to keep up with the 120 fps continuous shooting speed of the A9 III. The minimum focusing distance

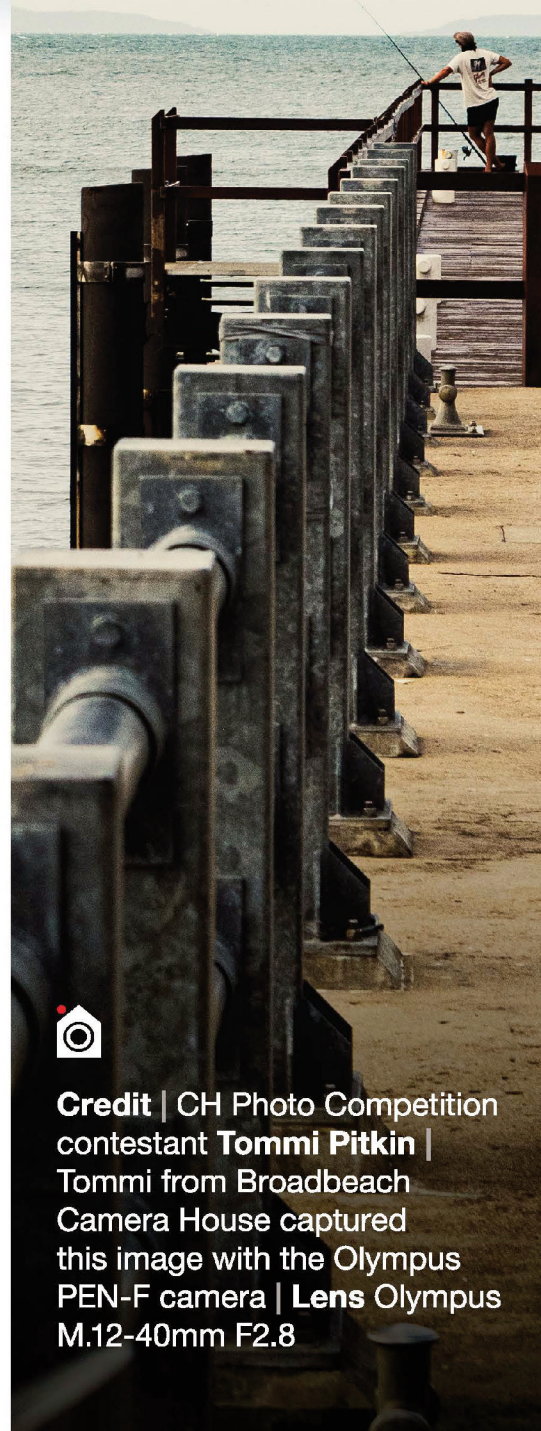
is 64 centimetres at 100mm and 1.5 metres at 400mm which maintains a maximum magnification of 1:4 throughout (i.e. one quarter life size).

The zoom's external construction employs magnesium alloy lens tubes with sealing against dust and moisture. There's also a fluorine coating on the front element to help repel water and grease while also assisting with easier cleaning. At the other end, there's a rear drop-in holder which takes filters with a 40.5 millimetres screwthread diameter (but 95 millimetres filters can also be fitted at the front).

On barrel controls include four focus hold buttons (which can be assigned to many other functions from the camera), a focus limiter switch and a selector for the optical image stabilisation's three modes – normal, horizontal panning, and both horizontal and vertical panning. The zooming collar's tensioning can be set between Tight and Smooth, while the manual focus ring also serves as a full-time override for the focusing (Sony calls it 'Direct Manual Focus'). There's also a third 'Function Ring' which can be set to one of three operations with the default being powered manual focusing. The alternatives are switching between the full frame and 'APS-C' formats (or Super 35 for video), or focus point presetting for instant recall. The zoom's tripod-mount collar can be set at 90-degree detents, but click-free (and hence silent) rotation is also available. It can also serve as a useful carry handle thanks to a padded top section on the mounting foot itself.

The new FE 100-400mm f/4.5 is compatible with Sony's SEL14TC 1.4x and SEL20TC 2.0x teleconverters which, respectively, give a 140-560mm f/6.3 or a 200-800mm f/9.0.

The Sony FE 100-400mm f/4.5 GM OSS is priced at \$7399 and is available in Australia now. For more information visit www.sony.com.au



Credit | CH Photo Competition contestant Tommi Pitkin | Tommi from Broadbeach Camera House captured this image with the Olympus PEN-F camera | Lens Olympus M.12-40mm F2.8



PANASONIC REVIVES HIGHER END 'TRAVEL ZOOM' COMPACT CAMERA

PANASONIC IS ANOTHER camera maker that's kept a couple of fixed-lens compact cameras on its books despite the category's decline in popularity because of smartphones. But now that the compact is back, Panasonic has sprung into action and so here is the Lumix TZ300, the latest model in the long-lived 'Travel Zoom' line. It carries on the sleek, slimline styling of the previous TZ200 model (from back in 2018) so it's essentially pocket-sized, but it still packs a 15x optical zoom mated with a '1.0-type' BSI CMOS sensor with an effective resolution of 20.1 megapixels. The zoom's focal range is equivalent to 24-360mm which is going to cover everything you're likely to need when travelling, and there's also a macro mode which focuses down to just three centimetres.

Unlike the TZ200, the new camera doesn't have an EVF and, additionally, its 7.62 cm monitor screen is fixed so there's only one way to hold the camera for viewfinding and there could be issues when shooting in bright sunlight. Of course, if you want an EVF, there's now the Lumix L10.

However, the TZ300 still has a lot to offer compared to its main rivals because it has a much longer zoom than the Canon PowerShot G7X Mark III and is a lot more

affordable than Sony's RX100 VI (which, however, does have an EVF *and* a tilt-adjustable monitor screen). Thanks to Panasonic's on-going alliance with Leica, the TZ300's superzoom has been breathed on by the legendary German marque to optimise its optical performance. The design comprises 13 elements in 11 groups and includes five aspherical types, three with extra-low dispersion (ED) characteristics and one that's both aspherical and uses extra-low dispersion glass. The aspherical elements – a total of 11 surfaces are aspherical – correct for distortion while the ED types minimise chromatic aberrations so both help enhance sharpness. For normal shooting, the minimum focusing distance is 50 centimetres at 24mm and 100 centimetres at 360mm (incidentally, the zoom's actual focal range is 8.8-132mm). Autofocusing is via Panasonic's 'Depth From Defocus' (DFD) contrast-detection system – which is nevertheless still quite snappy – but you don't get any subject recognition modes beyond face- and eye-detection.

The TZ300's sensor has a sensitivity range equivalent to ISO 125 to 12,800 with extensions down to ISO 80 and up to ISO 26,000. Exposure control is based on multi-zone metering with the options of centre-

weighted average or spot measurements. The standard 'PASM' exposure modes are supplemented by a whole host of subject/scene modes such as 'Romantic Sunset Glow', 'Backlit Softness' and 'Appetising Food'. There are also seven 'Photo Style' profiles (with adjustable parameters) and a set of 22 'Creative Control Mode' filter effects. Continuous shooting is at up to 10 fps with the AF/AE locked to the first frame and up to 6.0 fps with continuous AF/AE adjustment. However, there's also the '4K Photo' option which shoots JPEGs at 30 fps (with up to two seconds of pre-buffering if desired), but with the resolution reduced to 8.3 megapixels and a 1.4x crop. You can capture both JPEG and RAW stills (along with RAW+JPEG), conveniently using a standard SD memory card. JPEGs can be recorded at one of three image sizes and in four aspect ratios. By the way, the monitor screen has a resolution of 1.84 megadots and, of course, extensive touch controls.

The TZ300 can record 4K video at 24, 25 or 30 fps, but this also comes with the hefty 1.4x crop. Full HD video recording is, however, uncropped and at up to 100/120 fps and the camera has built-in stereo microphones. Five-axis 'Hybrid OIS' stabilisation – which combines optical and electronic corrections – operates with Full HD video recording while Panasonic's 'Power OIS' is available for stills and 4K video giving up to four stops of correction for camera shake.

What else do you get for your money? There's a built-in flash, in-camera battery recharging via USB C, focus stacking and post-focus functions, auto bracketing modes for exposure and white balance, WiFi 2.4 GHz and Bluetooth V5.0 wireless connectivity, a multi-mode self-timer and in-camera RAW processing.

The Panasonic Lumix TZ300 is priced at \$1599 and available now in either black or dark silver/grey colours. For more information visit www.panasonic.com.au

NIKON PLANS FAST TELEZOOM WITH BUILT-IN CONVERTER

THIS IS GOING to be a beauty, but don't expect it to be cheap. Nikon has announced that a Z mount 120-300mm telephoto zoom is on the way... with a constant maximum aperture of f/2.8... and a built-in 1.4x teleconverter. This last feature will turn it into a 168-420mm at the flick of a switch. It's going to be hard to resist if you're a Z mount user who shoots sports, adventure, aviation or wildlife, but that constant aperture of f/2.8 will likely make for a substantial price tag (we're thinking in five figures). Still, the Nikon Z 120-300mm f/2.8 TC VR S is going to be a pretty flexible telephoto lens, and it also has built-in optical stabilisation to enhance

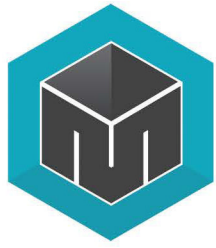
its hand-holding potential. What's more, it's an S line model so you can expect high-performance optics as well as higher-end features such as weather sealing and a fluorine moisture-repelling coating on the front element.

Like most new product development announcements, this one is short on details, but the supplied illustration shows that the 120-300mm f/2.8 TC VR S has three control rings, a fold hold button – likely customisable and no doubt one of a number set around the barrel – and a tripod mounting collar which will be detachable. The control rings are for zooming (which looks



very much like it's performed internally), manual focus (focusing will also be internal) and the standard Nikon Z multi-function controller which can be set to adjust exposure compensation, ISO setting, metering pattern and AF area mode... plus a whole host of other things depending on the Nikon Z mount body in use.

There won't be any more info than this on the Nikon Australia Website until the Nikon Z 120-300mm f/2.8 TC VR S is officially announced, but here's where to go when it is – www.nikon.com.au Note too that Nikon products purchased from an authorised Nikon Australia reseller are covered by a two year warranty.



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WHAT'S NEW

SUPER COMPACT LUMIX S 40MM F/2.0 IS ALSO A TINY PRICE

WEIGHING IN AT just 144 grams and a mere 40.9 millimetres in length, Panasonic's L mount 40mm is still a full frame lens and it has a maximum aperture of f/2.0. It looks particularly at home on the compact Lumix S9 body, but there's likely to be many L mount shooters who like the idea of a small, fast and affordable semi-wide prime. In many ways, the 40mm focal length is more 'standard' than 50mm and it's arguably more versatile too.

The lens's external construction is weather-sealed while there's a full strength stainless steel lens mount rather than a reinforced plastic fitting that might be expected at this price point.



On the inside, the optical construction comprises seven elements in six groups with three elements being aspherical types. The minimum focusing distance is 30 centimetres and there's a focus hold button which is customisable. The lens's single control ring serves as the

manual focus control when autofocus is switched off.

It can be switched between linear and non-linear focus adjustment. Alternatively, it serves as a multi-function command ring for other operations such as manual aperture setting or applying exposure compensation. For video shooters, there's micro-step aperture control – in roughly 1/6 stop increments – for very fine exposure adjustments and Panasonic says the optical design provides effective suppression of focus 'breathing'. The diaphragm has seven



blades to help create smoother out-of-focus effects and the minimum aperture setting is f/22. The screwthread filter fitting is 62 millimetres.

Panasonic Lumix S 40mm f/2.0 is priced at \$699 and will be available locally in June in either black or light silver finishes. Panasonic Australia offers an extended five year warranty (two year standard warranty plus an additional three years) on Lumix lenses sold by an authorised Panasonic Australia reseller. For more information visit www.panasonic.com.au

PHOTOGRAPHY EXHIBITIONS & EVENTS



World Press Photo of the Year Finalist Aid Emergency in Gaza © 2026 Saber Nuraldin

Current to 19 July: Exhibition. *2026 World Press Photo Contest*. Finalists and category winners showcasing outstanding work from photojournalists and documentary photographers around the world. At the Galleries, State Library Of NSW, 1 Shakespeare Place, Sydney, NSW 2000. Entry is free. Exhibition hours are 9.00am to 8.00pm Monday to Thursday, 9.00am to 5.00pm on Friday and 10.00am to 5.00pm on weekends. For more information visit <https://www.sl.nsw.gov.au/exhibitions>

Current to 7 August: Exhibition. *On The Street Where I Live: Viva Gibb's Portrait Of North And West Melbourne*. A landmark exhibition celebrating the work of Melbourne artist and social documentary Viva Jillian Gibbs (1945-2017). At the City Gallery, ground level, Melbourne Town Hall, 110 Swanston Street, Melbourne, Victoria

3000. Entry is free. Gallery hours are 8.30am to 5.00pm, Monday to Friday. For more information visit <https://www.melbourne.vic.gov.au/city-gallery>

Current to 6 September: Exhibition. *Trent Parke: The Christmas Tree Bucket*. A tender and darkly humorous portrayal of the photographer's extended family coming together to celebrate Christmas.

At Gallery 14, Level 1, National Gallery Of Australia, Parkes Place, Parkes, Canberra, ACT 2600. Entry is free. Gallery hours are 10.00am to 5.00pm daily. For more information visit <https://nga.gov.au>

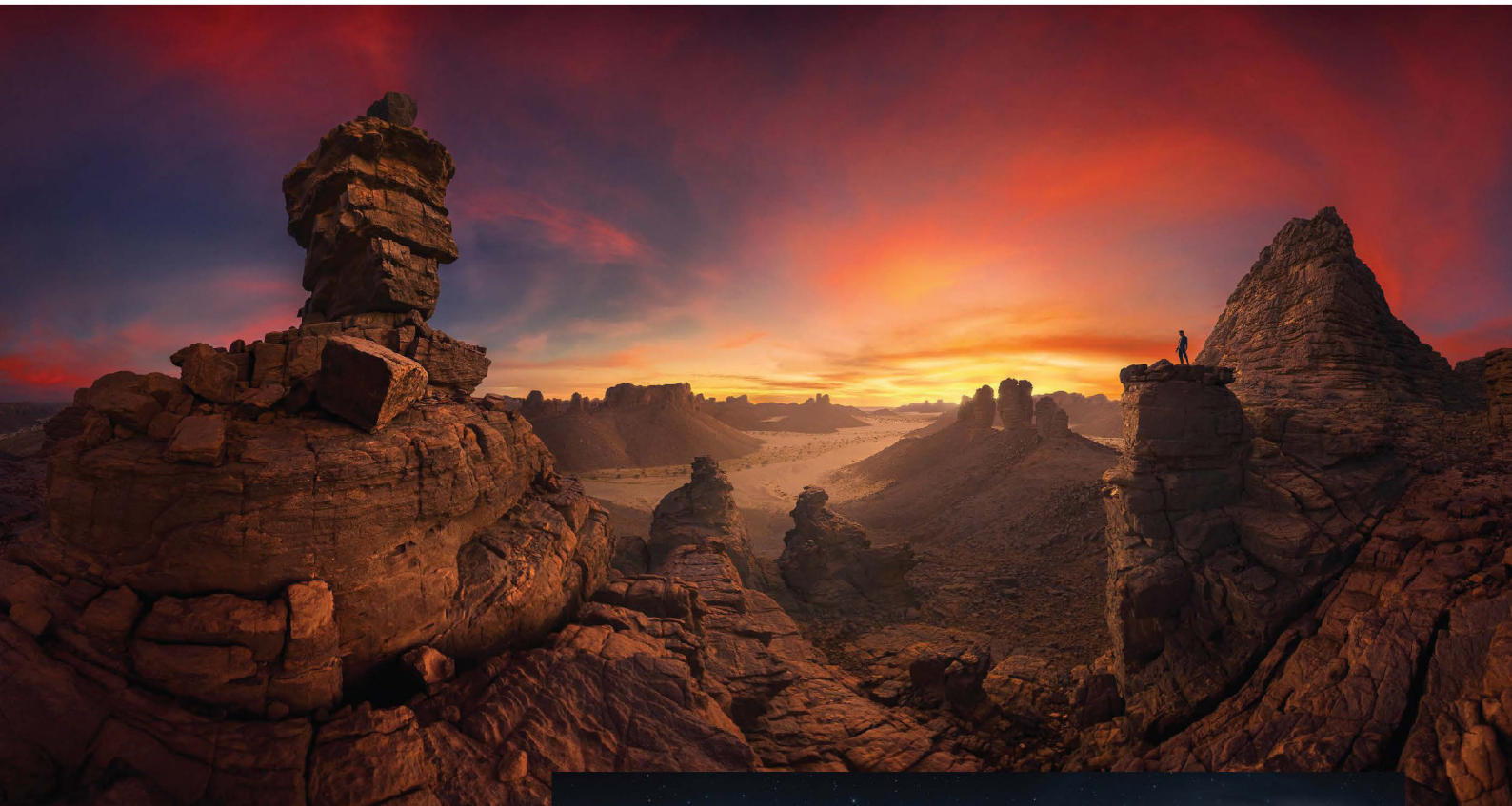
Current to 7 February 2027: Exhibition. *Mervyn Bishop: Close Up*. Mervyn Bishop is one of Australia's most important photographers and this exhibition is drawn for the archive of over 200,000 images held in the State Library Of NSW's collection. At the Exhibition Galleries, State Library Of NSW, Macquarie Street, Sydney, NSW 2000. Entry is free. Exhibition hours are 9.00am to 8.00pm Monday to Thursday, 9.00am to 5.00pm on Friday and 10.00am to 5.00pm on weekends. For more information visit <https://www.sl.nsw.gov.au/exhibitions>

20 June to 30 August: Exhibition. *Max Dupain And Ansel Adams: In Search Of*

Perfection. A total of 63 works which place Dupain's architectural photographs and Adams' iconic landscapes of the American West in conversation for the first time. At the Bayside Gallery, Brighton Town Hall, corner Wilson and, Carpenter Streets, Brighton, Victoria 3186. Entry is free. Gallery hours are 11.00am to 5.00pm Wednesday to Friday, 1.00pm to 5.00pm on weekends. For more information visit <https://www.bayside.vic.gov.au/gallery>

8 August to 12 September: Exhibition. *2026 World Press Photo Contest*. Finalists and category winners showcasing outstanding work from photojournalists and documentary photographers around the world. At the Art Gallery Of Ballarat, 40 Lydiard Street North, Ballarat, Victoria 3350. Note that the gallery is closed for upgrades during 2026 and 2027 and exhibitions during this time are being held at Backspace, 43 Mair Street, Ballarat Central. Check on the Website – <https://www.artgalleryofballarat.com.au> – for opening hours.

30 January to 3 April 2027: Exhibition. *Max Dupain And Ansel Adams: In Search Of Perfection*. A total of 63 works which place Dupain's architectural photographs and Adams' iconic landscapes of the American West in conversation for the first time. At the Logan Art Gallery, Wembley Road and Jacaranda Avenue, Logan Central, Queensland 4114. Entry is free. Gallery hours are 10.00am to 4.00pm Tuesday to Saturday. For more information visit <https://www.loganarts.com.au>



Last Fireworks by Alex Wides (Italy), winner of the Open Photographer of the Year competition in the 16th Epson International Pano Awards 2025.

GO WIDE!

THE 17TH EPSON INTERNATIONAL PANO AWARDS OPEN FOR ENTRIES

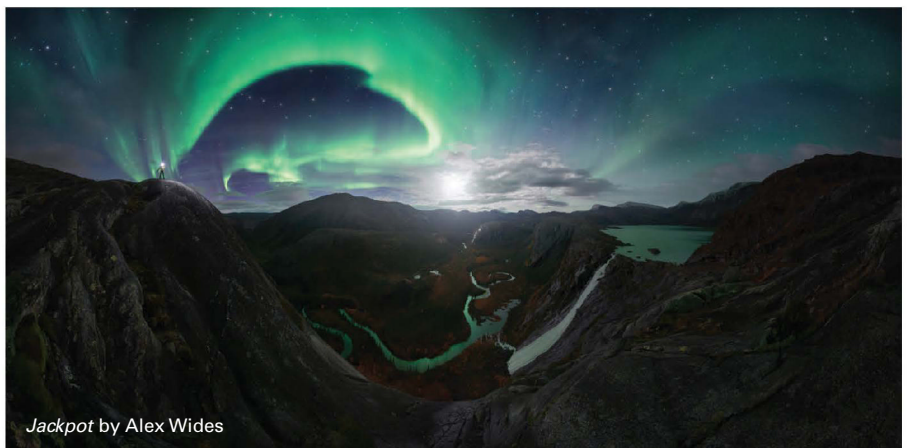
THE WORLD'S BIGGEST photo competition for the wide formats, the Epson International Pano Awards is now up and running for 2026 which is its 17th year.

Entries are invited in the Open competition – for both professionals and amateurs – and the Amateur competition which is for non-working photographers. Both these competitions now have three categories – Built Environment, Nature/Landscapes and, new for 2026, Aerial. There is also a competition for VR/360 submissions which is open to all photographers. Additionally, there are a number of special awards and prizes. All prizes are supplied by the competition's sponsors – Epson Australia, Epson New Zealand and Epson Southeast Asia.

Epson Australia's corporate marketing manager ANZ, Priscilla Dickason, says, "Every year we feel it is a real privilege to sponsor of these amazing awards. They mean so much to the industry and occupy a special place in the hearts and minds of photographers from all around the world. Epson is 100 percent committed to helping and supporting creativity through photography and



Mann by Alex Wides



Jackpot by Alex Wides

print and the Pano Awards are the perfect way to help us to achieve that goal!"

Early-bird entries for the Epson International Pano Awards 2026 are now open until 22 June 2026 and the final closing date is 13 July 2026. If you enter five or more images at once during the early bird period you will

save 20 percent on entry fees and you'll also be in the running to win the \$1000 Curator's Award.

To find out about all the entry requirements and procedures, and to submit your images go to <https://thepanoawards.com/enter-awards/>

LIGHT WORK

Photograph by Kevin Nyun (USA), winner of the Amateur Photographer of the Year competition, 16th Epson International Pano Awards. Copyright 2025.



ON A HIGH

The Story

Titled *The Altiplano Landscape* and taken in the Altiplano highlands of Bolivia in the central Andes of South America, this dramatic panorama was judged the overall winner the Amateur competition in the 16th Epson International Pano Awards. To be eligible for the major prize, the picture first won the competition's Amateur – Nature/Landscapes category. The photographer is Kevin Nyun from the USA.

The Altiplano spans western Bolivia, southern Peru, northern Chile and north-western Argentina. It is the largest

high-altitude plateau outside Tibet and the semi-arid to arid landscapes features volcanoes, geysers, lakes and vast salt flats, along with unique flora and fauna.

The Photograph

Kevin Nyun tells the story behind his winning picture, "This image was from my last morning in the Bolivian highland. We had been unlucky with the weather for three straight days and the clouds finally cleared at that moment. The Bolivian highland, to my knowledge, is less explored due to the difficulty of reaching remote locations and the high

altitude of almost 5000 meters. On top of that, snow was quite early this year, and I was in awe seeing the red desert mixed with fresh white powder. I will never know when I will get to have a moment like this in the future, so I quickly launched my drone and used the pano tool to compose this image. The total number of images in this composition is 21 which were stitched in Lightroom and processed through Lightroom and Photoshop."

The Photographer

Kevin Nyun is a hobbyist landscape



photographer and an avid adventurer who is based in San Francisco. He began his photography journey in 2021 when a friend sold him a Sony A6100 mirrorless camera. However, he says that even before owning a camera, he had always been inspired by nature and the moments that occurred within the environment such as the sea of fog in San Francisco, the burning skies during sunrises and sunsets, the alpine glow on top of the mountain peaks, or the Auroras dancing above the sky. "Each of the surreal moments to me is like an escape from reality, and now I use

photography to freeze time." "When I am on the field, I do my best to find unique ways to portray my compositions, and now I am even researching places less travelled. At the end of the day, my goal is always the same – chase where the conditions align and wherever the light shines."

To see more of Kevin Nyun's photography visit www.kevinnyunphoto.com The 17th Epson International Pano Awards is open for entries until 13 July and for more details go to <https://thepanoawards.com/enter-awards/>

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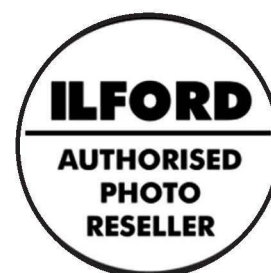
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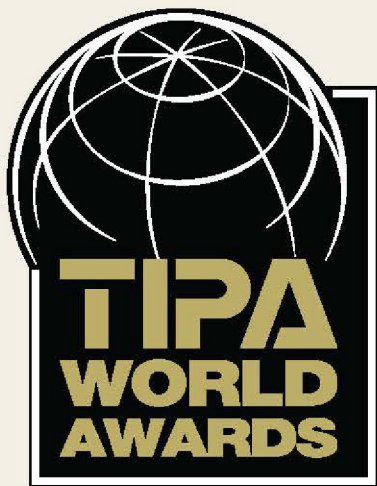
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TIPA WORLD AWARDS 2026

It may have had a slowish start, but the past 12 months ended up producing a great crop of eligible products to consider for a TIPA World Award. Once again, the process of whittling down the original long list to find 40 category winners yielded an exceptional selection of innovative imaging products and services.

Report by **Paul Burrows** who is a member of TIPA's Technical Committee.

While camera sales have been up through most of 2025 and the start of 2026, there was still a bit of an impression that the last 12 months had been more steady-as-she-goes than anyone really daring to be different. OK, so Fujifilm is still surprising – and sometimes delighting – with out-of-left-field cameras like the X Half and the Instax Mini Evo Cinema, but overall, it still felt like that, with most of the new products, we were just seeing incremental improvements on what had gone before. Nothing wrong with that, of course, but when a market starts to show some long-awaited growth, you might expect more adventure and less conservatism.

Imagine, then, the surprise when TIPA's Technical Committee – of which I've been a member since 2020 – started compiling a list of eligible candidates for this year's World Awards and we ended up with an initial list of 172 possibilities! So much for first impressions... it wasn't such a lean year for innovation and new ideas after all. Of course, as the editor of a photography magazine, you try to keep on top of everything that's happening in new products and services, but this first list of candidates is also highly educational as it reveals what you may have missed for one reason or another as well as – especially this year – indicating the overall health of the market and identifying trends. For example, very

evident now is the role of AI-based 'learning' algorithms in improving the efficiencies and accuracies of imaging software in all areas from editing and processing to sorting, culling, cataloguing and preparing for print outputs.

On the hardware side, 2025 saw a revived interest in the traditional fixed-lens compact camera which certainly helped increase camera sales overall. So far, the camera makers that have been able to cash in on the compact's revival have been those with existing models – most notably Canon, Ricoh and Sony – but there's undoubtedly more to come and with models which use some of the advanced technologies we've been seeing in mirrorless camera such as AI-driven subject recognition for autofocus, exposure control and white balance.

Unfortunately, current world events will, mostly likely, have the potential to slow things down as both supply chain logistics and consumer confidence take a hit. Any interruptions to global energy supplies inevitably have far-reaching implications as all associated costs – from manufacturing to transport – increase which results in price rises all the way down the line to the consumer. Whether this results in delays to new product launches – as was the result of the many Covid-related disruptions – remains to be seen, but the market is in better shape now than it was back then. Perhaps affordability will be a bigger factor in

generating sales in the near term, but cost-of-living pressures are undoubtedly affecting discretionary purchases in all consumer product markets at the moment.

Positive Outlooks

There are, however, still plenty of positives and some of these are reflected in the 2026 TIPA World Award winners. How about Hasselblad's brilliant – but certainly not inexpensive – X2D II 100C topping best-seller charts for quite some time after its launch? It's certainly my pick for the best new camera of 2025 and given many buyers also specified the XCD 35-100mm f/2.8-4.0 zoom released at the same time, represents a fairly significant outlay. However, it's easier to justify spending this much when the benefits are so clearly obvious.

Likewise, the Leica M EV1 which, despite all the moans from the purists, has undoubtedly given the venerated M system a boost by appealing to a newer generation of users. Far from detracting from the traditional M camera experience, the EVF enhances it by adding conveniences that are truly complimentary to the rest of the camera's operations. And it really does need to be remembered that you can still buy a classic OVF/RF digital Leica M and even a 35mm film model if you want to... and probably always will be able to.

Each of this year's mirrorless camera winners generally advance the category and, individually, exhibit flashes of brilliance in one way or another. Canon's third-generation EOS R6 is arguably the most capable all-rounder hybrid mirrorless we've seen so far (and it had very stiff competition from Panasonic's Lumix S1 II) while the hugely competent A7 V shows why Sony is now consistently up there with its rivals from a traditionally photographic background. Fujifilm's current generation of X mount 'APS-C' mirrorless cameras using the 40.2 megapixels 'X-Trans CMOS 5 HR' sensor and the current-generation 'X Processor 5' engine has something for everybody, but along with the compact RF-style body of the X-E5 they create an irresistible combination. This is a camera that appeals on every level as it's a joy to use and delivers exceptional IQ and AF performance. Nikon wins this year with both the Z5II and the ZR – the

“As has been the case for the last couple of years, a whole lot of excitement is being generated by the world of interchangeable lenses.”

former a huge value-for-money hybrid proposition and the latter a more video-centric Z mount camera enriched with RED's cinema smarts, so it combines compactness with exceptional film-making capabilities.

Adventures In Lens Design

As has been the case for the last couple of years, a whole lot of excitement is being generated by the world of interchangeable lenses thanks to the design freedoms inherent in the mirrorless camera configuration. To this can be added the ever-expanding cohort of Chinese brands – some of them doing very clever things and all of them redefining affordability seemingly without unduly compromising either build quality or optical quality.

It's not surprising that the more established of the Chinese lens makers are starting to make an appearance in these

awards. How's this for a rollcall of winning lenses that would have been considered 'exotic' just a few years ago – 200mm f/2.0 (Sigma), 50-150mm f/2.0 (Sony), 16-30mm f/2.8 (Tamron), 5-10x ultra-macro zoom (Laowa) and 7-14mm dual circular/diagonal fisheye (Canon)? It's worth noting too, that our 11 lens category winners were selected from a long list that stretched to over 60 models and also included some other pretty remarkable designs that didn't quite make the cut such as Sigma's 35mm f/1.4, Panasonic's 100-500mm f5.0-7.1 and Laowa's 12mm f/2.8 full frame ultra-wide prime which boasts an angle-of-view of 122 degrees. It's going to be very interesting to see what comes next in even more adventurous lens designs.

Fashion And Technology

We commented that last year's group of

TIPA World Award winners represented "the green shoots that suggest brighter things ahead" for the imaging industry and this certainly seems to be confirmed with this year's crop. Those green shoots seem to be getting stronger and, hopefully, the current challenges won't cause what's been some promising growth to become stunted. We have weathered worse over the last couple of decades and adapted to the inevitable changes that result.

As noted earlier, there is certainly more to be positive about this time around with both fashion trends (i.e. the compact camera's return) and technologies (such as AI-based subject recognition) both stimulating interest... and sales. In the end though, it is still all about delivering tangible benefits to you, the end-user, that will enhance the way a product works and performs to, ultimately, better enable you to achieve your visions.

TIPA WORLD AWARDS 2026 WINNERS

- Best APS-C Camera**
Fujifilm X-E5

- Best Full Frame Advanced Camera**
Nikon Z5II

- Best Full Frame Expert Camera**
Sony Alpha A7 V

- Best Advanced Compact Cinema Camera**
Nikon ZR

- Best Hybrid Full Frame Camera**
Canon EOS R6 Mark III

- Best Professional Cinema Camera**
Fujifilm GFX Eterna 55

- Best Content Creator Camera**
Canon PowerShot V1

- Best APS-C Compact Camera**
Ricoh GR IV

- Best Rangefinder-Style Camera**
Leica M EV1

- Best Professional Fixed Lens Camera**
Sony RX1R III

- Best Medium Format Camera**
Hasselblad X2D II 100C

- Best Full Frame Wide-Angle Prime Lens**
Sigma 35mm f/1.2 DG II Art

- Best Full Frame Telephoto Prime Lens**
Sigma 200mm f/2.0 DG OS Sport

- Best Full Frame Wide-Angle Zoom Lens**
Tamron 16-30mm f/2.8 Di III VXD G2

- Best Full Frame Superzoom Lens**
Sigma 20-200mm f/3.5-6.3 DG Contemporary

- Best Full Frame Standard Zoom Lens**
Nikkor Z 24-70mm f/2.8 S II

- Best Full Frame Travel Lens**
Tamron 35-100mm f/2.8 Di III VXD

- Best Full Frame Telephoto Zoom Lens**
Sony FE 50-150mm f/2.0 G Master

- Best Macro Lens**
Sony FE 100mm f/2.8 Macro GM OSS

- Best Ultra Macro Lens**
Laowa Axon 1-5x and 5-10x Ultra Macro APO

- Best Tilt/Shift Lens**
TTArtisan TS 17mm f/4.0 ASPH

- Best Speciality Lens**
Canon RF 7-14mm f/2.8-3.5L Fisheye STM

- Best Actioncam**
Insta360 Go Ultra

- Best Photo Smartphone**
Samsung Galaxy S26 Ultra

- Best Tripod**
Manfrotto ONE Photo

- Best Professional Portable Flash**
Godox AD800 Pro

- Best Professional Photo/Video Monitor**
BenQ Creative Pro PD2770U

- Best Large Format Printer**
Epson SureColor P7300/P9300

- Best AI Professional Workflow Software**
Aftershoot Instant AI Profiles

- Best Expert Photo Editing Software**
Affinity by Canva

- Best RAW Processing Software**
DxO PhotoLab 9

- Best AI Photo Editing Software**
Evoto AI Photo Editor

- Best Photo Management Software**
Excire Search 2026

- Best AI B2B Software**
Viesus

- Best Photobook Design Software**
Fotobuch Software DESIGNER 3

- Best Printing Kiosk And AI Software**
PhotoAiD Photo Kiosk and AI Photo cards

- Best Photo Service**
CEWE Calendar XXL

- Best Photo Book**
CEWE Photobook On Photographic Paper with Memento Pocket

- Best Professional Printing App**
CEWE Online Direct 2.0

- Best Photolab Service**
WhiteWall Shopify Integration

Eligibility

The period of eligibility for the 2026 TIPA World Awards was from 1 April 2025 to 31 March 2026 with the key provisos that a product has to be available to buy in most markets by that closing date and also have been tested to some degree by one or more of the member magazines. TIPA also conducts independent camera testing at the Testlab facility in Cologne, Germany. Of course, we also have our own in-house product testing – as do many of the TIPA member magazines and Websites around the world – to further guide us in the process of choosing worthy World Award winners.

PRODUCT AWARDS



Fujifilm X-E5 Best APS-C Camera



“This premium interchangeable lens, compact, rangefinder-style ‘APS-C’ mirrorless camera is designed for photographers who want portability without sacrificing image quality. The X-E5 delivers

high-resolution, strong colour reproduction, and advanced autofocus capabilities. Its retro-inspired design includes manual dials for shutter speed and exposure compensation, appealing to photographers who prefer tactile controls. It has a 40.2 megapixels sensor and AI-powered subject recognition AF, along with 6.2K video recording. Suitable for travel and street photography, the X-E5 integrates modern imaging technology with the company’s renowned ‘Film Simulation’ profiles which allow users to create distinctive photographic styles directly in-camera.”

Nikon Z5II Best Full Frame Advanced Camera



“Designed for photographers and content creators seeking high image quality and advanced autofocus performance, the Z5II features a 24.5 megapixels BSI-type CMOS sensor and the Nikon’s ‘EXPEED’ 7 image-processing engine. This combination enables faster autofocus, improved subject detection for focus-

ing and tracking, and enhanced low-light performance. The camera has in-body image stabilisation, 4K video recording, and continuous shooting speeds of up to 30 fps. Most notably, the Z5II offers many flagship-level capabilities in a more affordable, mid-level full-frame mirrorless body.”

Sony Alpha A7 V Best Full Frame Expert Camera



“The Sony A7 V marks a re-defining of mirrorless camera excellence and capabilities. It delivers class-leading autofocus driven by AI subject recognition, exceptional image quality, and robust video performance in a compact, weather-sealed body. Pho-

tographers benefit from improved ergonomics, a high-resolution EVF, and highly effective image stabilisation – all of which help meet the often demanding needs of both field and studio work. Video production is enhanced by refined codecs and advanced colour science, plus thermal management for longer duration shoots. With responsive handling, outstanding reliability and seamless hybrid capability, the A7 V empowers creators to work faster, smarter and with confidence in all genres – from portraits and wildlife to documentary and cinematic story-telling – with a camera that meets or exceeds professional expectations.”

Nikon ZR Best Advanced Compact Cinema Camera



“The Nikon ZR sets high standards in professional video production with its combination of innovation, reliability, and performance. It represents a significant advancement in imaging technology, delivering 6K video resolution, 15+ stops

of dynamic range in video, and versatility for filmmakers and content creators. Its thoughtful design, robust engineering, and seamless integration of advanced features empower users to capture cinematic footage with precision and confidence. Featuring full control over ISO, exposure, and colour in post via its R3D NE RAW format, built-in image stabilisation up to 7.5 stops, and acceptance of the wide range of Nikkor Z mount lenses and adaptability to many different mounts, the ZR redefines creative possibilities and sets a new benchmark for video camera performance in visual story-telling.”

Canon EOS R6 Mark III Best Hybrid Full Frame Camera



“Aimed at both pros and advanced enthusiasts, the R6 Mark III joins the new breed of hybrid mirrorless cameras that offer both high-end still capture and video recording. This full frame camera provides impressive recording features thanks to its 32.5 megapixels sensor that can handle up to 7K60p

‘open gate’ video and continuous shooting at up to 40 fps. Additionally, there’s up to 8.5 stops of image stabilisation which is an added advantage with both low light situations and fast action shooting. Given these strong specs and its revised handling and design – including file storage onto both CFexpress Type B and SD memory cards – the R6 Mark III has great appeal to shooters working in a wide variety of genres and applications.”

Best Professional Cinema Camera Fujifilm GFX Eterna 55



“A new arena for Fujifilm, this professional medium-format cinema camera is designed to deliver exceptional image quality for higher-end video production. Built around Fujifilm’s

102 megapixels medium format sensor and renowned colour science, the GFX Eterna 55 delivers a rich tonal gradation and impressive dynamic range that makes it suitable for a wide range of video-making applications from cinematic productions to video streaming. It offers high-resolution video recording up to 8K DCI, a wide selection of video codecs along with internal RAW recording and a flexible choice of frame rates – all of which give cinematographers a high degree of creative control. A modular body design allows seamless integration with professional rigs, lenses and monitoring systems. Reliable thermal management and a solid build quality make it suitable for demanding shoots. By combining medium format imaging ▶

These judges’ citations have been sub-edited to conform to our house style for elements such as measurements and numbers. In some cases, they’ve also been slightly amended to better suit the Australian market situation or to enhance readability. The sensor pixel counts quoted are the effective number.

BenQ Creative Pro

PD2770U · 27" 4K IPS

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Always accurate. From panel to production.



4K UHD
RESOLUTION

$\Delta E \leq 1.5$
COLOUR ACCURACY
(FACTORY CALIBRATED)

100% sRGB
Rec. 709
COLOUR GAMUT

99% Adobe RGB
DCI-P3
COLOUR GAMUT

USB-C 65W
POWER DELIVERY

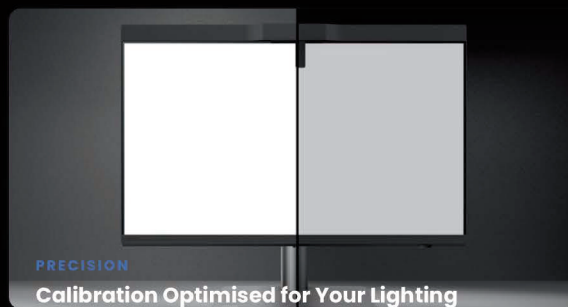


WORKFLOW

Less Setup. More Focus.

This one-piece magnetic shading hood snaps into place instantly - no tools or assembly required.

**Landscape use only.*



PRECISION

Calibration Optimised for Your Lighting



ACCURACY

Always Accurate, Out of the Box



Corner-to-Corner Uniformity

No dim corners, no uneven tones. Just consistent brightness and colour across the screen. Create with confidence.



Centralised Studio Calibration

With DMS Local, control, schedule and manage calibration across your entire studio remotely.

Built-in Calibrator

AUTO SCHEDULING
LIGHT ADAPTIVE CALIBRATION

16-bit LUT

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Pantone Validated Calman Verified

Industry-standard colour accuracy validation.



Built-In KVM Switch

Seamlessly control two computers with one keyboard and mice.



Magnetic Shading Hood

Eliminates ambient glare for colour-critical viewing environments.



AQCOLOR Technology

Industry-standard colour with out-of-the-box accuracy across every colour mode.

Visit www.benq.com/en-au/monitor/creative-pro/pd2770u.html

Scan to learn more
benqurl.biz/ac202606



PRODUCT AWARDS



with modern cinema workflow tools, the GFX Eterna 55 represents a powerful platform for next-generation cinematic storytelling.”

Canon PowerShot V1

Best Content Creator Camera



“Ideal for content creators, vloggers and even those who simply enjoy carrying a pocketable but capable camera on their journeys, the PowerShot V1 features an ultra-wide-angle 16-50mm (equivalent) zoom lens, a triple-microphone array, advanced autofocus, built-in fan cooling and an impres-

sive image stabilisation. A fully articulating 7.5 cm monitor screen allows for numerous points-of-view, including for taking selfies and vlogging. A dedicated switch offers quick switching between video and still recording. Numerous video formats and creative presets options make the V1 both versatile and adaptable to a great many subjects and scenes. Usefully, Bluetooth and WiFi can be used to connect and control the camera via a smartphone.”

Ricoh GR IV

Best APS-C Compact Camera



“Housed in a compact magnesium alloy body, the Ricoh GR IV delivers exceptional image quality in a truly pocketable form. Built around a high-performance ‘APS-C’ sensor and sharp 28mm (equivalent) lens, it produces crisp details, a rich

colour reproduction and an impressive dynamic range. Fast autofocus, responsive handling, eminent portability and refined ergonomics make GR IV ideal for street, travel and everyday photography. Other standout features include five-axis image stabilisation, a built-in 2.0 EV ND filter, a top shutter speed of 1/16,000 second (with the latest firmware) and a variety of customised presets. Its variant model, the GR IV HDF features a built-in ‘Highlight Diffusion Filter’ which enables photographers to switch instantly from classic clarity to a subtle cinematic glow.”

Leica M EV1

Best Rangefinder-Style Camera



“The Leica M EV1 is a full frame digital system camera that marks a significant evolution in Leica’s historic M series line. Unlike the previous models, the EV1 replaces

the traditional optical rangefinder with a built-in electronic viewfinder, providing photographers with real-time exposure and focus feedback. The camera has a 60.3 megapixels BSI CMOS sensor, Leica’s Maestro III image processor, and 64 GB of internal storage. It retains full compatibility with Leica M mount lenses while introducing contemporary tools such as focus assist and wireless connectivity through the Leica FOTOS app. The M EV1 blends classic Leica camera design with contemporary digital imaging capabilities, representing a milestone in the development of the M system.”

Sony RX1R III

Best Professional Fixed Lens Camera



“A compact camera with pro-level performance and specifications, the RX1R III is the third-generation edition of Sony’s full-frame, fixed lens line-up. Designed for professional and enthusiast-level photographers, it

emphasises portability while delivery a very high image quality. It features an impressive 61 megapixels ‘Exmor R’ CMOS sensor along with a Zeiss Sonnar T* 35mm f/2.0 prime lens. Other enhancements include advanced autofocus with AI-based subject recognition, Sony’s powerful ‘BIONZ XR’ image processor and a 4K video recording capability. It also supports a step-crop function to achieve 50mm and 70mm focal lengths for tighter framing. Additionally, its compact magnesium alloy body and high-resolution electronic viewfinder make the RX1R III eminently suitable for applications such as travel, street and documentary photography.”

Hasselblad X2D II 100C

Best Medium Format Camera



“Representing the next chapter in the evolution of digital medium format photography, the X2D II 100C combines extraordinary image quality with refined handling and modern performance. Its large, 100 megapixels resolution sensor delivers stunning detail, a remarkable dynamic

range and rich colour reproduction. Advanced in-body image stabilisation delivers up to ten stops of correction, greatly enhancing the scope for handheld shooting. An intuitive interface and beautifully crafted design make for seamless operation in the field. Fast internal storage and improved responsiveness further enhance the shooting experience. Ideal for landscape, fashion or fine-art photography, the X2D II 100C offers a perfect balance of precision engineering, reliability and uncompromising image quality.”

Sigma 35mm f/1.2 DG II Art

Best Full Frame Wide-Angle Prime Lens



“Today’s trend in lenses coincides with what’s happening in modern camera design, meaning smaller, lighter and more responsive products that bring advantages to both still photography and video making. Sigma’s fast full frame wide-angle lens boasts a 30 percent reduction in weight and a 20 percent reduction in size compared to previous versions. It also features Sigma’s HLA (‘High-response Linear Actuator’) AF drive that provides faster, quieter autofocus and significantly suppresses focus breathing. This makes it more suitable for video

work than its predecessors, as does a ‘de-click’ option for seamless aperture changes. An 11-blade diaphragm delivers an exceptionally smooth bokeh for even more creative image interpretations.”

Sigma 200mm f/2.0 DG OS Sport

Best Full Frame Telephoto Prime Lens



“With its sturdy magnesium alloy construction, this high-performance telephoto lens is aimed squarely at professional sports, portrait, nature and low-light photographers. Autofocus tracking is precise, rapid and near-silent. There’s 6.5

stops of optical image stabilisation with two operating modes – one for general shooting and the other for panning. To deal with the often less-than-favourable shooting conditions encountered in the field, this lens incorporates coatings that correct and suppress flare, ghosting, and even strong backlight. An added feature is an Arca-Swiss type tripod mounting bracket that doubles as a carrying handle, making for quick and easy transitions from static work to shooting action.”

Tamron 16-30mm f/2.8 Di III VXD G2

Best Full Frame Wide-Angle Zoom Lens



“This lightweight and fast ultra-wide zoom delivers exceptional edge-to-edge sharpness even at f/2.8, and combines outstanding optical performance with a robust, weather-sealed construction suited to demanding environments. Impressive versatility lends itself to capturing a wide variety of subjects, even in challenging lighting conditions. This makes the zoom a capable all-around choice for landscape, architecture, event and travel photography. Performance-wise, it delivers fast, reliable autofocus that ensures good reliability with both still and video capture. This

affordable lens also has a minimum focusing distance of 19 centimetres at 16mm and 30 centimetres at 30mm, adding even more versatility.”

Sigma 20-200mm f/3.5-6.3 DG Contemporary

Best Full Frame Superzoom Lens



“Sigma’s 20–200mm offers exceptional versatility and practicality, thanks to an impressive focal range that spans ultra-wide to telephoto packed in a compact and lightweight design. Cited as ideal for travel, documentary, and everyday photography, it enables photographers to capture sweeping landscapes, dynamic street scenes, distant subjects and more all with the one lens. Notably, the combination of reliable optical performance and smooth zoom operation makes advanced photography more accessible to a wider audience and empowers photographers to tell complete visual stories with a single, adaptable tool... and all at an attractive price point.”

Nikkor Z 24-70mm f/2.8 S II

Best Full Frame Standard Zoom Lens



“Completely redesigned, the Mark II version of Nikon’s 24-70mm f/2.8 S line standard zoom delivers enhanced optical performance and increased versatility. Its internal zooming design pays off with improved resistance to adverse weather conditions. An 11-blade diaphragm provides gorgeous bokeh effects, enhanced by the shorter close focusing distances of 33 centimetres at the 70mm setting and just 24 centimetres at 24mm. This is the first Nikon zoom to incorporate the ‘Silky Swift Voice Coil Motor’ which gives 5x faster focus acquisition and a 60 percent boost in the focus tracking

performance. Overall, the much upgraded Z mount zoom provides outstanding edge-to-edge sharpness with beautiful background separation across its entire zoom range. Its robust weather-sealed construction, fast and quiet autofocus, and customisable multi-function control ring make it equally well suited for still photography and video production.”

Tamron 35-100mm f/2.8 Di III VXD

Best Full Frame Travel Lens



“A handy, take-anywhere full frame zoom lens, Tamron’s 35-100mm f/2.8 offers an exceptional blend of optical performance, portability and innovation. It delivers consistently sharp images across its versatile zooming range, and the bright f/2.8 constant aperture enhances its low-light capabilities while also giving beautifully rendered depth and clarity. The advanced ‘VXD’ autofocus drive ensures rapid, precise and silent operation to meet the demands of both still photographers and video creators. Remarkably compact and lightweight for its class, the Tamron 35-100mm f/2.8 redefines compact portability without compromising quality.”

Sony FE 50-150mm f/2.0 G Master

Best Full Frame Telephoto Zoom Lens



A useful focal range combined with a very fast constant aperture, make Sony’s FE 50-150mm f/2.0 GM telezoom particularly suitable for portraiture, event, sports photography or any application

where flexibility and speed are important. This professional-level lens is one Sony’s G Master series models, and so delivers high optical performance, fast autofocus and a premium build quality. Its constant f/2.0 aperture allows photographers to achieve strong subject separation and excellent low-light performance across the entire zooming range. An advanced design elements helps minimise distortion and chromatic aberrations as well as focus breathing. A total of four of Sony’s ‘XD’ linear autofocus motors provide quick and precise focusing for both still photography and video recording.”

Sony FE 100mm f/2.8 Macro GM OSS

Best Macro Lens



“Recognised as a lens that redefines excellence in macro and portrait photography, Sony’s 100mm f/2.8 G Master macro delivers extraordinary sharpness, a natural colour rendition and a beautifully controlled bokeh. Advanced optics and ‘Nano AR’ multi-coating ensure exceptional clarity and contrast even in challenging lighting conditions. Its fast and precise autofocus along with a sturdy weather-sealed construction make it a reliable tool for professionals in the field and studio alike. The first GM series macro lens is also compatible with Sony 1.4x and 2.0x teleconverters, plus it has an aperture ring with

a ‘de-click’ option for the finer exposure control that’s often needed by videographers.”

Laowa Axon 1-5x and 5-10x Ultra Macro APO

Best Ultra Macro Lens



“Laowa has established itself as a manufacturer of distinguished and unique lenses that serve very special niches of photographic practice. Its newest entrants include a pair of what it calls “Ultra Macro” optics which employ a parfocal macro zoom system, allowing seamless transitions from 1x to 5x or 5x to 10x magnification without refocusing. Remarkably, the Axon FF lenses maintain a fixed working distance,

even at the highest magnifications. Despite these exceptional capabilities, the Axon FF lenses boast a compact and portable design. Laowa has also included a unique ‘Coaxial Illumination Version’ for the 5-10x model which lights the subject from the same direction as the lens, eliminating shadows for even illumination. The Axon FF lenses from Laowa open up new realms of close-up photography, empowering users to capture intricate details and unique perspectives.”

TTArtisan TS 17mm f/4.0 ASPH

Best Tilt/Shift Lens



“An ultra-wide tilt/shift lens that’s primarily designed for architecture and interiors, the TTArtisan TS 17mm f/4.0 is nevertheless also suitable for other applications such as landscapes and street photography. Its tilt/shift adjustments give photographers more control

over perspective and depth-of-field, helping to correct for distortion and convergence when photographing buildings or other structures. The tilt/shift assembly can also fully rotated through 360 degrees. The 17mm focal length provides a very wide field-of-view, making the lens useful for capturing expansive scenes and when working in tight spaces. The optical construction includes two large aspherical elements to improve edge sharpness and reduce distortion. Fully manual in operation with a metal construction, the TTArtisan TS 17mm f/4.0 emphasises precision control and durability. It provides photographers with a specialised yet affordable tool for creative control over perspective and sharpness.”

Canon RF 7-14mm f/2.8-3.5L Fisheye STM

Best Speciality Lens



“Designed for Canon’s RF mount mirrorless camera system, this exciting lens provides an extremely wide fisheye perspective with both circular and diagonal full frame renderings. Its focal range captures an ultra-wide field-of-view and gives the distinctive curved distortion characteristic of fisheye optics. Its variable maximum aperture of f/2.8-3.5 enhances the low-light capabilities while the optical design helps minimise both chromatic and spherical aberrations. As part of Canon’s L series line, the lens has high-performance optics, a strong

weather-sealed construction and professional-level durability. The inclusion of an STM (stepping motor) autofocus drive enables fast, smooth and quiet focusing.”

Insta360 Go Ultra

Best Actioncam



“The GO Ultra redefines compact filmmaking through innovation, portability and intelligent design. Delivering exceptional image stabilisation, high-resolution capture and intuitive functionality within an ultra-lightweight form, its seamless integration of advanced features empowers users to capture the action with clarity, creativity and confidence. Offering a large sensor for vastly improved image quality and low-light performance, the GO Ultra supports external microSD cards

up to 2.0 TB for extended storage, as well as faster charging, and a longer battery life. Other features, such as 4K video at 60 fps, enhanced dynamic range and a ‘PureVideo’ mode, make this actioncam a great choice for serious content creators and one that expands the possibilities for both shooting action and everyday storytelling.”

Samsung Galaxy S26 Ultra

Best Photo Smartphone



“Samsung’s Galaxy S26 Ultra features one of the most advanced smartphone camera systems available today. It has a quad-camera set-up, a 200 megapixels main sensor and powerful zoom capabilities. The ultra-high 200 megapixels resolution images result from utilising the

“wide camera” f/1.4 sensor, with other options including ultra-wide, 5x and 3x optical zoom, plus a 100x ‘AI Space Zoom’ setting for extreme long shots. The 12 megapixels selfie camera employs AI processing to deliver natural skin tones. This is one element of the vivid and sharp images delivered via the camera’s ‘AI ProVisual Engine’. Consequently, the S26 Ultra’s camera sets new standards in its zoom capabilities and range, both its low light and night performance, and with its highly detailed images.”



Photo credit | Night photography by Camera House Photography Competition contestant **Michael Peschar**
| Michael, from Launceston Camera House, captured this inspiring image using a Pentax K200D camera paired
with Pentax DA 18-135mm f/3.5-5.6 AL [IF] DC WR lens | **Image details** | 64mm | f/4.5 | 1.5 sec | ISO 200

Inspired by light, backed by **great gear**

Talented photographers, videographers,
cinematographers and content creators
working at your local Camera House store.



CameraHouse
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PRODUCT AWARDS



Manfrotto ONE Photo

Best Tripod

"Aimed at photographers who require a reliable and flexible tripod for both studio and location work, the Manfrotto ONE Photo is designed to provide stability, flexibility and a quick set-up. It incorporates modern design elements such as rapid-extension legs, modular feet and a centre column that can be adjusted for precise shooting angles. This allows users to capture images from low, overhead or standard positions with improved stability. The tripod's 'XTEND' mechanism allows all leg sections to be deployed simultaneously in a single action, making for rapid set-up and height adjustment. The sliding centre column enables more precise height adjustment and instant vertical-to-horizontal repositioning."

Godox AD800 Pro

Best Professional Portable Flash



"The battery-powered AD800 Pro encourages spontaneous and creative lighting in both the studio and on location. Its 800 joules flash power output is designed to "over-power" daylight allowing for it to still operate as the 'fill' light in very bright ambi-

ent lighting conditions. In addition, the unit can be set to a special 'Freeze Mode' that provides ultra-short flash durations down to an amazing 1/35,710 second for applications such as fashion, dance and high-speed action. With its very fast recycling times, up to 300 full-power flashes per charge, an optional wired charge set-up and a built-in wireless control system (including TTL flash), the AD800 Pro is ready to deliver exciting lighting possibilities whether shooting outside or indoors."

BenQ Creative Pro PD2770U

Best Professional Photo/Video Monitor



"BenQ's 27-inch 4K monitor redefines professional display performance through exceptional visual precision and thoughtful design. Engineered for creators and professionals who demand uncompromising clarity, the monitor delivers ultra-high resolution, outstanding colour fidelity and advanced display technologies that support long hours of productive work. Its refined industrial

design integrates seamlessly into modern workspaces while maintaining ergonomic flexibility and connectivity for evolving workflows. By combining cutting-edge display engineering with user-centred innovation, BenQ demonstrates a commitment to empowering digital creators, designers and professionals worldwide. This monitor stands as a benchmark for reliability and visual excellence and sets the standard for future high-performance professional displays."



Epson SureColor P7300/P9300

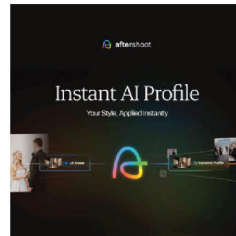
Best Large Format Printer

"Sharing the same features and technologies, these two professional large-format inkjet printers are designed for high-quality photographic and fine-art printing. They use Epson's UltraChrome PRO10 pigmented ink system with an expanded colour gamut to produce highly detailed images and accurate color reproduction. The P7300 is a 24-inch-wide model while the P9300 can handle media up to 44 inches wide, making them both suitable for galleries, studios and commercial printing environments. Both models feature advanced print heads that improve speed and precision, along with automated maintenance systems that help maintain consistent output. Their reliability, color accuracy, and large media capacity make them valuable tools for professional photographers and printmakers."

*In Australia these models are the Epson SureColor P7360 (24-inch) and SureColor P9360 (44-inch).

Aftershoot Instant AI Profiles

Best AI Professional Workflow Software

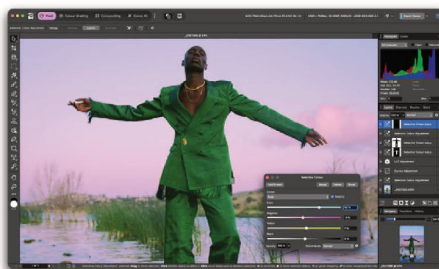


"Created for professional photographers to speed up photo editing workflows, Aftershoot's Instant AI Profiles analyse a photographer's previous edits and automatically generate a personalised editing profile that reflects their style. By applying this learned style to new images, Instant AI Profiles helps maintain consistency while significantly reducing

the time required for manual adjustments. The system integrates with Aftershoot's AI culling and editing tools, allowing photographers to streamline post-production processes as well. The software demonstrates how machine learning can replicate human editing preferences and improve efficiency in high-volume photography environments such as weddings, events and portrait sessions."

Affinity by Canva

Best Expert Photo Editing Software



"The new Affinity software provides a full set of professional tools within a single application, integrating photo editing with graphic design and page layout and is free to use.

Edits are non-destructive by default, allowing for iterative workflows without permanently altering source images. Affinity supports real-time rendering so changes to images – including filters and layer effects – are previewed instantly, even on high-resolution files. Affinity ▶

also includes standard professional features such as RAW processing, layer-based editing, blend modes, masking tools and compatibility with common file formats. This all enables easy integration into existing photography workflows. The single platform also allows seamless hand-off of images for use in design or documents. Users who wish to do so can also access Canva's powerful AI tools within Affinity."

DxO PhotoLab 9

Best RAW Processing Software



"PhotoLab is a professional photo editing and image processing software that's designed to enhance digital photographs through advanced correction and editing tools based on DxO's optical and

sensor analysis. PhotoLab includes features such as 'DeepPRIME' noise reduction, lens correction profiles and precise colour management to improve image quality while maintaining natural detail. The software supports RAW file processing and allows photographers to make non-destructive edits throughout their workflow. With its combination of automated corrections and manual control, DxO PhotoLab 9 is for photographers who require high-quality image optimisation and efficient digital photo development."

Evoto AI Photo Editor

Best AI Photo Editing Software



"The Evoto AI Photo Editor is an AI-powered editing software designed to streamline portrait and photo retouching workflows. The platform uses advanced AI algorithms to automate complex editing tasks such as skin retouching, colour correction, background adjustments and facial feature refinement. Evoto allows photographers and editors

to apply professional-level enhancements quickly while maintaining natural-looking results. Its intuitive interface and automation features reduce the time required for manual editing, making it especially useful for portrait, fashion and commercial photography. By combining AI technology with customisable editing tools, Evoto helps photographers increase productivity, maintain consistency and achieve high-quality results with minimal effort."

Excire Search 2026

Best Photo Management Software



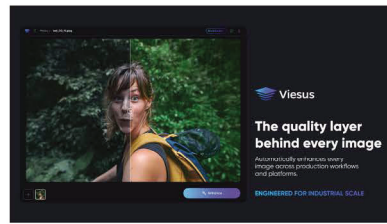
"An AI-powered photo management software, Excire Search helps photographers organise and search large image libraries efficiently. It runs locally – no cloud required – and uses image recognition to automatically analyse photos and assign descriptive keywords based on visual content. This

allows users to locate images by searching for subjects, colours, locations or even emotional expressions without manually tagging each file. Excire integrates with popular editing workflows and supports large photo archives used by professional photographers and

visual media organisations. By combining automated tagging with powerful search tools, the software significantly improves the speed and accuracy of digital photo organisation, retrieval and culling."

Viesus

Best AI B2B Software

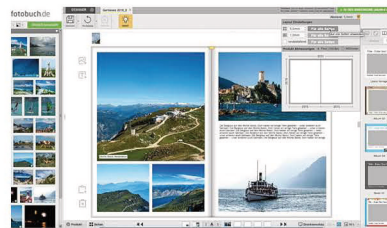


"Viesus is an AI-powered image and PDF enhancement engine for automated, production-scale workflows in photo printing manufacturing, print-on-demand and large-format printing. It goes beyond

print, powering any environment where images must consistently look their best without manual intervention. Unlike desktop AI tools built for manual editing, Viesus operates as an invisible quality backbone inside industrial production environments where it enhances millions of images daily and consistently. Beyond print manufacturing, Viesus powers any platform where image quality directly impacts user experience and conversion. Wherever suboptimal user-loaded images hurt engagement, it automatically enhances images at scale and bridges the gap between AI enhancement and real-world production scalability."

Fotobuch Software DESIGNER 3

Best Photobook Design Software



"Personalised photo books are wonderful ways for photographers to share their visions. This free software offers easy access to tools that aid in that process, featuring an intuitive interface with an AI-powered

assistant for quick and easy layout and design options. Book styles, including hardcover, soft cover, ring binder and Lay Flat expand the possibilities. Compatible with current operating systems, DESIGNER 3 offers 'Smart Layout' tools, including pre-designed templates and automated image optimisation as well as image import from cloud services, video integration and AI-driven text generation. The package also includes a detailed how-to guide that makes the process fun and easy while enhancing the personal creative presentation of a photographer's treasured work." * This product not available in Australia.

PhotoAiD Photo Kiosk and AI Photo cards

Best Printing Kiosk And AI Software



"Recognised for transforming the way individuals create and print official and personal photographs – as well as personalised photo products – the PhotoAiD kiosk combines intelligent automation with a user-friendly kiosk design. The system enables high-quality, compliant images for documents

such as passports and IDs, supported by AI-driven technology that enhances accuracy, lighting and composition while reducing the ▶

PRODUCT AWARDS

need for professional intervention. Additionally, the integration of AI Photo Cards introduces a creative dimension, allowing users to personalise and instantly generate visually engaging images. This innovation streamlines the photography process, making it faster, more accessible, and reliable, while redefining standards in automated photo solutions worldwide."



CEWE Calendar XXL

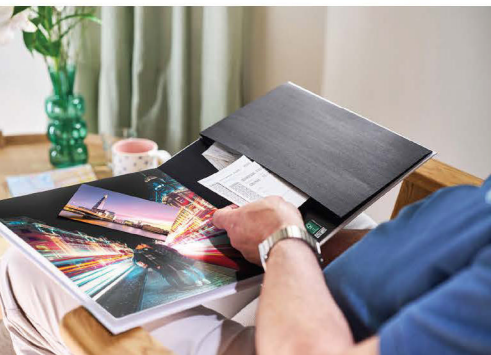
Best Photo Service

"This customisable photo calendar is designed to display personal images while serving as a practical monthly planner. Users can upload their own photographs through CEWE's online software or mobile applications and arrange them in various layouts, themes and formats. Each month can feature different images, captions and design elements, allowing the calendar to reflect personal memories such as holidays, family events or special occasions. Printed on high-quality paper with durable binding, the CEWE Wall Calendar XXL combines functionality with personalisation, transforming everyday scheduling into a visually engaging display of meaningful photographs and moments. In particular, the extra-large wall calendar in the 50x70 centimetres format offers an impressive amount of space, making it especially suitable for high-resolution photographs such as landscapes or architectural images."

*This product not available in Australia.

CEWE Photobook On Photographic Paper with Memento Pocket

Best Photo Book



"The CEWE PHOTO-BOOK with a memory compartment is a personalised photo album designed to preserve photographs and meaningful keepsakes in one place. Users can customise the book with their own images, layouts and text, turning personal moments such as holidays, weddings or family events into a printed narrative. A special 'Memento Pocket' can be added in black or white (to match the colour of the end pages) to store small items like tickets, notes or souvenirs, allowing physical mementos to accompany the photographs. The book is produced with high-quality printing and durable binding to ensure long-term preservation of memories. By combining images, text and stored objects, the photo book functions as a lasting archive of personal experiences."

A special 'Memento Pocket' can be added in black or white (to match the colour of the end pages) to store small items like tickets, notes or souvenirs, allowing physical mementos to accompany the photographs. The book is produced with high-quality printing and durable binding to ensure long-term preservation of memories. By combining images, text and stored objects, the photo book functions as a lasting archive of personal experiences."

*This product not available in Australia.



CEWE Online Direct 2.0

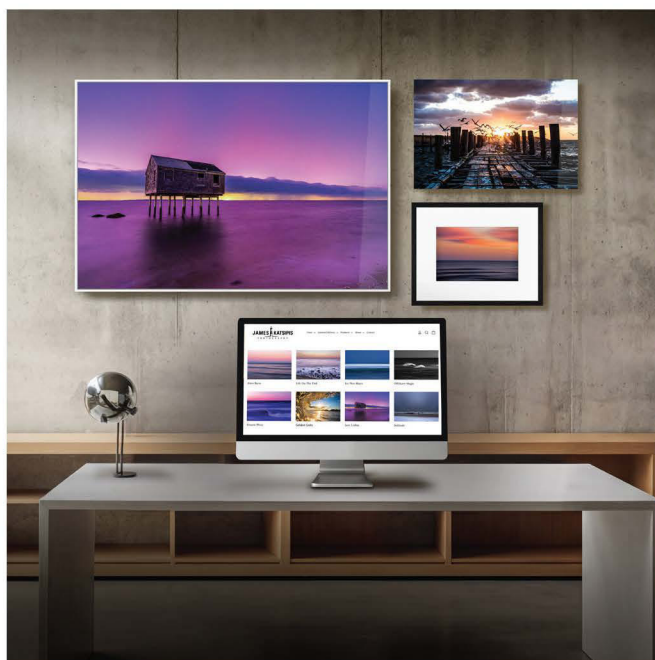
Best Professional Printing App



"Online Direct 2.0 (OD2) brings instant printing to the next level by making the smartphone the key interface at any CEWE Photostation. As a modern omnichannel service, it shifts photo selection to where it feels most natural today – directly onto users' mobile devices – fast, flexible and seamless. The process is simple – scan a QR code, select images in the Web app and print them on the spot. No registration

required. Users can choose their photos privately and at their own pace, while the CEWE Photostation focuses purely on printing – making the experience more convenient and up to date. After selection, a QR ticket can be saved or shared. Scanning it at any CEWE Photostation makes photos instantly ready to print – across locations and even across Europe. With additional access to cloud images, OD2 offers maximum flexibility. Online Direct 2.0 seamlessly connects smartphone, app and point-of-sale – redefining instant printing as fast, simple and designed for everyday use."

*This product not available in Australia.



WhiteWall Shopify Integration

Best Photolab Service

"Professional photographers and artists can now sell their images worldwide using WhiteWall's integrated Shopify print-on-demand service. Simple, seamless and fully automated, the service provides access to gallery-quality production and worldwide shipping services by WhiteWall, one of the world's leading photo and imaging labs. The process provides easy-to-use and fully automated step-by-step instructions for selling via the Shopify Website or directly from a photographer's own website, or both. Once configured, the process allows for easy image selection, sizing and pricing, opening the door to worldwide recognition and print sales."

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Forever a Shooter

RICOH



image: Malificent Images

GR

RICOH GR IV Monochrome

NO COLOUR. NO COMPROMISE.

The Ricoh GR IV Monochrome distills photography to its purest elements—light, shadow, and form. Its dedicated monochrome sensor captures richer tonal gradation, deeper blacks, and exceptional detail, delivering powerful black & white images straight out of camera.

Compact and discreet, it's built for photographers who move instinctively—perfect for street, travel, and everyday moments. With fast performance and intuitive control, it keeps you focused on what matters most: the shot.



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CANON EOS R6 MARK III



Construction is GRP body covers over magnesium alloy chassis with sealing against the intrusion of moisture or dust. The R6 III looks quite chunky, but handles very comfortably.

BIG SIX HIT

The previous model was already one of the most accomplished mid-range full frame mirrorless camera on the market, but the third-generation EOS R6 goes a lot further in a number of key areas, taking it upmarket and boosting performance to create an even more willing worker. There's a lot to like.

Canon enjoyed great success with its EOS 6D DSLRs and even more with the first two generations of R6 mirrorless cameras. The Mark III model was Australia's third best-selling mirrorless camera in 2025. Perhaps it's because of where they've been positioned in the respective model line-ups, all these '6' cameras have hit a particular sweet spot in terms of an appealing balance of capabilities, performance and price. Certainly, the EOS 6D Mark II got this just right and the R6 Mark II has obviously been an even better mix in a sector where the competition has always been stiff. However, this is also a sector that's all about walking a fine line in terms of luring buyers up from the model below while trying to make sure you don't take sales away from the model above. So, right now, it's easy to make the R6 Mark III a much more appealing prospect

than the R8 while there's plenty of room to move in terms of upgrading without hurting the R5 Mark II... which is actually quite a long way further upmarket. Consequently, Canon has had quite a bit of freedom in terms of making the third-gen R6 a much better camera than its predecessor... which is bad news for Nikon and Sony (both with new direct rivals) and very good news for potential buyers. The R6 II is still a very capable camera – so it's going to remain on sale for the time being – but the R6 III is ahead in quite a few areas and sufficiently so to make it the more appealing option despite being around a grand more expensive.

On the outside not a lot has changed from the previous model, but under the bonnet there's a new sensor mated with Canon's current-generation 'DIGIC X' processor. Unlike in the rival Nikon Z6III and Sony A7V models which both have 'partially-stacked' sensors, the R6 III's CMOS imager is a conventional design (i.e. not BSI and not stacked in any way either), but still has a faster read-out than the previous model which is why it's also at work in Canon's EOS C50 compact cinema camera. Notably, the effective resolution steps up to 32.5 megapixels from the Mark II's 24.2 MP which is actually a reasonable increase in terms of being able to notice a difference in image quality. In comparison, the Z6III stays at 24 MP resolution – as does the Panasonic Lumix S1 IIE which is also at a similar price point – while the A7V has 33 MP on tap.

Probably due to the slight reduction in pixel size (5.16 microns compared to 6.0), the R6 III's native sensitivity range is reduced to ISO 100 to 64,000 with extensions either side to ISO 50 and 102,400. The maximum image size is, of course, increased to 6960x4640 pixels for all file formats. These comprise 8-bit JPEG, 10-bit HEIF and 14-bit lossless compressed RAW with a cRAW option, also with 14-bit colour, but which employs lossy compression to give a file size that's roughly



▲ Rear control panel is dominated by the 'Quick Control Dial 1' which works in conjunction with the two top panel input wheels for menu navigation (and can be locked out if so desired). Also here is the joystick-type 'Multi-Controller' which also a range of navigational operations.

40 percent smaller. Both the JPEG and HEIF capture now comes with a choice of ten compression levels – as with the higher-end EOS R models – along with four image sizes and four aspect ratios – 3.2, 4.3, 16:9 and 1:1.

Despite the higher resolution – and hence bigger file sizes – the top continuous shooting speed is still 40 fps in all formats and with full AF/AE adjustment between the frames. The burst lengths are decent too, at up to 330 best-quality JPEGs, 300 HEIFs and around 140 RAW files or 280 with the cRAW compression. To handle the additional amounts of data flying around, the R6 III now supports the much faster CFexpress Type B memory cards in one of its two slots while the second is still for SD UHS-II speed devices. You'll get a slight increase in the full-fat RAW burst length – up to around 150 frames – with a CFexpress card, but they're essentially if you want to utilise the R6 III's

ability to record 12-bit RAW video internally or to use its 'open gate' (i.e. full frame) recording facility at the best possible image quality (see the Making Movies panel for all the details).

As per the R5 Mark III, there's now a proper pre-capture buffering function rather than the more restrictive 'RAW Burst Mode' of the previous model. Canon calls it 'Pre-Continuous' shooting and it's only available at the fastest speed of 40 fps, but it can be used with all the still capture formats and, unlike the old mode, all the files are recorded individually as normal. Up to half a second worth of frames (so that's 20 at 40 fps) are continuously buffered prior to full shutter release, and this is also available when shooting video with the choice of three or five seconds of recording.

Fortunately, because you're definitely not going to need 40 fps all the time, there's the choice of 20 fps and 5.0 fps slower speeds



▲ Large main mode dial also has positions for three custom camera set-ups, the subject/scene modes (now up to 14), and slow/fast video modes.



▲ New 'Color' capture function for the 'Rate' button gives direct access to the 'Picture Style' and 'Colour Filter' menus, by-passing the main menus.



▲ Hotshoe is Canon's 'Multi Function Shoe' interface which incorporates a set of connections along the front to provide both power and data communications for dedicated accessories.

with the sensor shutter. The top speed with the focal plane shutter is 12 fps and the burst length then extend considerably to a quoted “over 1000” best-quality JPEGs or RAW files when using a CFexpress Type B memory card. The latter drops to a still-credible 400 frames with a UHS-II speed SDXC card.

Sensor shift provides in-body image stabilisation (IBIS) with five-axis movement, driven by a gyro sensor and an acceleration sensor to give up to 8.5 stops of correction for camera shake at the centre of the frame and 7.5 stops at the edges. This is when combined with lens-based OIS – which Canon calls “Co-ordinated Control IS” – and is a marginal increase over the R6 II’s stabilisation specs. However, even without the assistance of OIS, the amount of correction can still be up to eight stops depending on the attached lens.

Carried over from the previous model is ‘Dual Pixel RAW’ capture which uses the photodiode pairs of the sensor’s ‘Dual Pixel CMOS AF’ architecture to capture images with a very slight variation in perspective which can then be used to make small adjustments. In-camera processing is provided for two adjustments – called Portrait Relighting and Background Clarity

CANON HAS HAD QUITE A BIT OF FREEDOM IN TERMS OF MAKING THE THIRD-GEN R6 A MUCH BETTER CAMERA THAN ITS PREDECESSOR... WHICH IS BAD NEWS FOR ITS DIRECT RIVALS FROM NIKON AND SONY.”



▲ On-grip controls include an ‘M-Fn’ button which provides quick access to key capture settings such as ISO, white balance, metering modes and ‘Picture Style’ presets. You can also customise what appears in the ‘M-Fn’ mini menus.

– but post-camera, the DPROW files can also be fine-tuned for resolution, reducing ghosting or applying a small shift to the camera viewpoint.

FIND YOUR STYLE

For processing JPEGs (or HEIFs) in-camera, there’s Canon standard set of eight ‘Picture Style’ presets – which include an Auto option – with six adjustable parameters. Three modified Styles can be stored as ‘User Defined 1-3’ and there’s a set of 14 ‘Colour Filter’ effects which can be applied when using the sRGB colour space. These are more cinematic in look so, for example, include Teal & Orange, Retro Green, Accent Red, Tasty Warm, Tasty Cool, Bright Amber, Clear Light Blue, Clear Purple, and Clear Amber. Not surprisingly, they can also be applied to video. The pictorial settings also include a Clarity adjustment over plus/minus four steps) and focus bracketing which can be set for sequences of up to 999 frames with up to ten steps of adjustment and exposure smoothing.

Multi-shot HDR capture has been rejigged on the R6 III so there’s the choice of either Dynamic Range or Moving Subjects modes and they’re available with both JPEGs and HEIFs. In each case three frames are captured and merged in-camera. The DR mode allows for manual exposure

adjustment – at +/-1.0, +/-2.0 or +/-3.0 stops – or it’s done automatically according to the brightness range of the scene. An auto image align function is available along with the option of saving the files individual files or just the final merged HDR image. With HDR PQ enabled – a.k.a. HEIF capture – there’s an additional option of limiting brightness to 1000 nits if you’re using a screen for viewing that isn’t any brighter. The gimmicky ‘Art’ edge effects have been deleted.

The in-camera corrections comprise both high ISO and long exposure noise reduction, Canon’s ‘Auto Lighting Optimiser’ and ‘Highlight Tone Priority’ processing functions for contrast control and dynamic range expansion respectively, lens corrections for vignetting and distortion, and the ‘Digital Lens Optimiser’ which collectively processes for chromatic aberrations, diffraction and the effects of the sensor’s low-pass filter on sharpness. The DLO processing is specific to the attached lens and there’s the option of Standard or High settings. It isn’t available when shooting video, but the lens correction list expands to include chromatic aberrations and diffraction (all are either on or off, there are no variables). Correction for focus breathing is available when shooting video, but requires a supporting lens. It employs digital correction (i.e. digital zooming) to maintain the image size (i.e. the angle-of-view) if should change as the lens is focused.

The R6 III also has an intervalometer (now programmable for up to 9999 frames or set to unlimited frames), a multiple exposure facility (for up to nine frames with either average or additive exposure regulation), flicker detection/correction, multi-shot noise reduction, and a bulb timer (for pre-setting long exposure times of up to 99 hours, 59 minutes and 59 seconds). The anti-flicker correction includes an ‘HF’ mode for high-frequency LED light sources (and displays), and the shutter speed can be fine-tuned – in one-tenth stop increments



▲ The focal plane shutter can be set to close over the sensor when the camera is switched off, providing protection during lens changes.



▲ EVF is unchanged from the previous model so it’s a 3.69 megadots res OLED panel with 0.76x magnification. In practice, it’s still very comfortable to use with good contrast, colour and definition.

– using the flickering seen in the live view feed as the guide. There's also an auto mode which detects the flickering frequency and adjusts the shutter speed accordingly.

RECOGNISE THE FACE?

The R6 III's autofocus system is largely unchanged from before in terms of its capabilities, but has the more advanced control algorithms from the R5 II (also used in the pro R1). Not surprisingly, it doesn't have all the additional AI-based subject recognition capabilities of these models, but it does gain the 'Register People Priority' facility which takes face recognition a step further. Specific individuals can have their faces stored in a database so they'll

subsequently be given priority whenever they appear in the frame. You can select up to ten people to register who will be ranked one to ten to prioritise the tracking, but you can also have another nine groups of ten registered faces that are stored on a memory card. This could prove very useful when shooting at social events such as weddings or parties, and also with team sports if you want to focus (no pun intended) on particular players.

The autofocus uses Canon's well-proven 'Dual Pixel CMOS AF II' technology which enables phase-detection distance measurements across virtually the entire frame by having a pair of photodiodes – side-by-side – at each pixel point. There's a total

of 6097 user-selectable points and 1053 of these are available for automatic selection. The subject recognition has three broad categories for people, animals and vehicles plus there's an Auto option which will look for anything in the frame that matches. The vehicles category encompasses racing cars (and so, of course, also normal road cars), motorcycles, aircraft (including helicopters) and trains. The animal category includes dogs, cats, horses and birds. There's eye-, face-, head- and body-detection for humans; and eye-detection for animals and birds. The eye-detection for humans can be fine-tuned to either the left or right eye, or set to auto which selects the eye that's closest to the camera. Furthermore, the face detection

MAKING MOVIES

As it shares the same sensor as the EOS

C50 compact cinema camera, it's not surprising that the R6 Mark III boasts some decent video capabilities. Consequently, it's much more of a hybrid camera than either of its predecessors and, consequently, the logical mirrorless successor to the late lamented EOS 5D IV (just recently discontinued).

The specs are topped by 12-bit RAW recording internally – in the proprietary Canon Cinema format – at 7K DCI (i.e. 17:9 aspect) and 24, 25 or 30 fps, with an 'open gate' (i.e. using the full frame area to give 6960x4640 pixels resolution) option at the 3:2 aspect for format flexibility such as vertical framing in 4K. There's a Canon Cinema Light alternative which delivers smaller file sizes – and allows up to 50/60 fps with 7K DCI – but with bit rates in the order of 2400 Mbps, you'll still need the faster CFexpress Type B memory card to handle the data transfer.

Using the MP4 format, there's 'open gate' (at 6912x4608 pixels res) at up to 30 fps and which again requires the CFexpress memory card, 4K DCI/UHD at up to 100/120 fps and 2K DCI/FHD at up to 180/150 fps. There are 'Fine' modes for 4K which record oversampled video (i.e. from 7K) for enhanced sharpness and better detailing. The codec options are Canon's XF-HEVC S and XF-AVC S which are extensions of H.265 and H.264 respectively. XF-HEVC S available with 10-bit 4:2:2 or 8/10-bit 4:2:0 colour subsampling and, with the XF-AVC S, there's the choice of 10-bit 4:2:2 or 8-bit 4:2:0 colour. XF-HEVC S is with LongGOP compression, but the XF-AVC S codec in 4K DCI/UHD also has ALL-Intra options – HQ, Standard and Light – available in both the Fine and Normal quality modes. With 10-bit 4:2:2 colour, the bit rates with the ALL-I HQ and Standard compression require the

CFexpress Type B memory card as they top 1200 Mbps.

The 'APS-C' or Super35 crop is available for 4K DCI/UHD up to 50/60 fps again and at 2K DCI/UHD up to 100/120 fps. Proxy recording between the two memory cards is available, with the main recording at up to 7K RAW and the proxy at either 2K DCI or Full HD depending on the aspect ratio set for the former (but open gate proxies are recorded at the 16:9 aspect).

Cooling is passive so high temperatures will be the key limiter of clip lengths when shooting at the highest bit rates – typically between 25 and 30 minutes – but given the R6 III is first and foremost a photography tool, the quoted clip lengths in these situations are unlikely to be restrictive. On the face of it, the fan-cooled EOS C50 might be the better bet if video is your main game, but it doesn't have a built-in EVF or IBIS so, given the closeness of the main video specs, the R6 III is arguably a better all-rounder.

There's no doubt though that it's a much more capable video camera than its predecessor and has a number of additional video-centric features – notably a waveform monitor display (either line or RGB), a false colour display, and downloadable 'Custom Picture' gamma profiles. The false colour display assists with exposure adjustments, and uses six colours (plus neutral) based on the brightness levels present from the brightest highlights to the darkest shadows (for example, red shows white clipping, green shows 18 percent grey and purple shows black clipping). The 'Custom Picture' profiles comprise six pre-assigned (namely Canon 709, C-Log2 and C-Log3, HDR HLG, HDR PQ and BT.709 Standard) along with 14 custom slots for applying downloadable LUTs. Alternatively, there's the customisable in-camera 'Picture Style' profiles and the 14 'Colour Filter' effects

which include more cinematic looks such as Teal & Orange, Retro Green, Accent Red, Tasty Warm, Tasty Cool, Bright Amber, Clear Light Blue, Clear Purple, and Clear Amber.

As before, the R6 III has time code support (rec run and free run with drop-frame correction), zebra patterns, focus peaking displays and HDR/C-Log view assist. The pre-capture buffering for stills is available for video too, selectable between either three or five seconds of recording when the camera is in the stand-by mode. Also new is a front tally lamp.

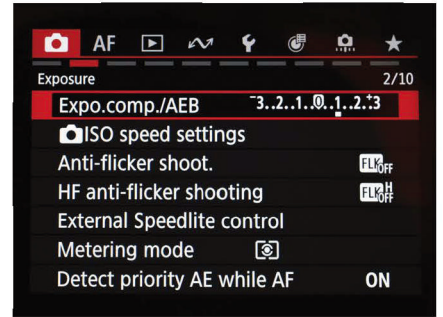
On the audio side, the camera has built-in stereo microphone with both an audio input and output (the latter with adjustable volume). Alternatively, the multi-function hotshoe supports dedicated external stereo microphones such as the DM-E1D model. These units are powered from the camera via the shoe and also relay data this way, so no cables or batteries are involved. Four-channel audio is supported via various combinations of the internal and external microphone. The in-camera audio controls comprise auto/manual levels adjustment, a wind-cut filter and an attenuator.

The upgrades to the R6 III's autofocus carry over to video, including more reliable subject tracking. The 'Register People Priority' function is also available and will be potentially very useful if you need to concentrate on selected individuals in crowd scenes (such as a bride and groom at a wedding).

With quite a lot of the C50 on board along with a number of upgrades sourced from the R5 II's video toolbox, the third-gen EOS R6 does a very solid job as a video camera. It's verging on pro-level if you use it judiciously in RAW or high-speed 4K with All-I HQ compression, and the pricing is definitely also appealing given the extensive capabilities.



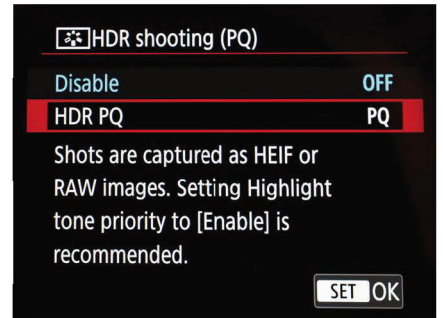
▲ The monitor-based 'Quick Control' screen is a very quick and convenient way of accessing and adjusting a lot of functions. You can have a standalone display or a set of function tiles superimposed over the live view image.



▲ As always, the main menus are well organised with various ways of navigating through them by chapter, page or settings... including via touch control.



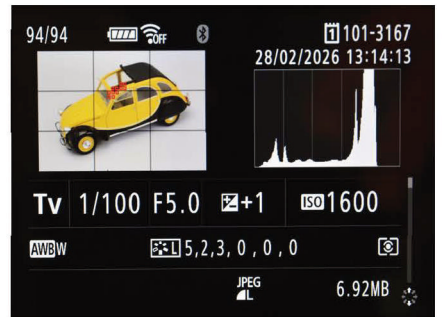
▲ There's virtually endless scope for configuring the live view info displays to suit your preferences, including showing selected read-outs and elements such as a real-time histogram (either brightness or RGB), a dual-axis level display, a focus distance scale (not shown here).



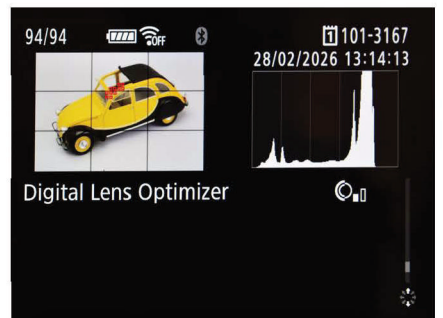
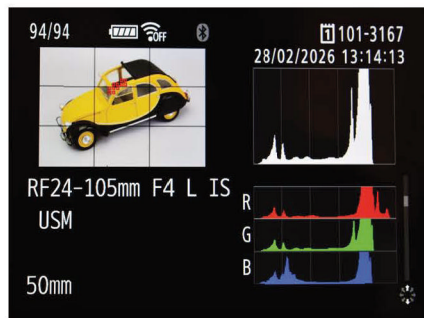
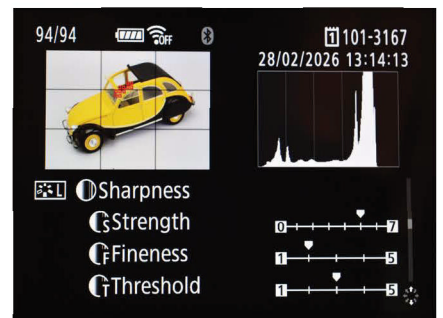
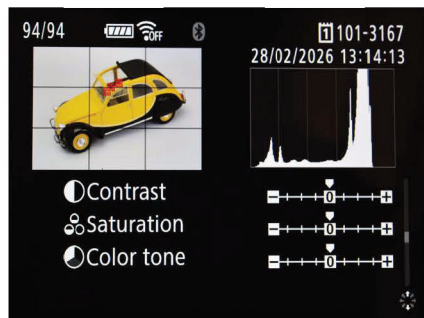
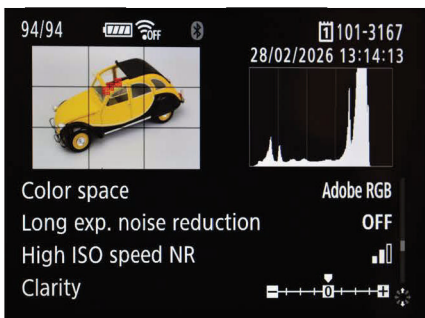
▲ For shooting video in HDR, the R6 III supports both the PQ (Perceptual Quantization) and the HLG (Hybrid Log Gamma) tone curve options. Stills (i.e. 10-bit HEIFs) are with HDR PQ.



◀ Active focus point display is very useful for determining what the autofocus system is actually doing.



▶▶ Replay thumbnail screen can be cycled through a total of ten info subpanels, but you can pick and choose which ones you want in the sequence. The options include RGB histograms, lens data (including the actual focal length used), the lens correction and 'Digital Lens Optimiser' settings and the 'Picture Style' parameter settings.





▲ Externally, not a lot has changed from the previous model, but on the inside there's a new sensor, updated processor and some significance performance enhancements.

will still work with somebody wearing a helmet or goggles (such as the driver of an open-wheeler racing car). Subject tracking can commence even when the selected focusing point or zone is only near to the subject, and is also available in any of the AF area modes.

Additionally, a set of four 'Case' scenarios is provided to better match the tracking parameters to the type of subject movement – Case 1 is the "Versatile multi-purpose setting"; Case 2 is for "Continue to track subjects, ignoring possible objects"; Case 3 is "Instantly focus on subjects suddenly entering AF points" and Case 4 is for "Subjects that accelerate or decelerate quickly". All four allow for further tweaking via plus/minus adjustments for Tracking Sensitivity and Accel/Decel. Tracking. The fifth option is an auto setting which adjusts if the subject's pattern of movement changes using any of the variables of the four preset Cases.

Low light sensitivity extends down to -6.5 EV at ISO 100 and f/1.2. The selection of area modes starts with 'Spot AF' and then progresses in size through to '1-Point AF' and 'Expand AF' which has two options – five points in a cross pattern or nine points in a 3x3 pattern. There are three customisable 'Flexible Zone AF' modes which are square, or either vertically- or horizontally-orientated rectangles as their default shapes, but can be changed in terms of both shape and size to better match the subject type. Finally, there's 'Whole Area AF' which, as you'd expect, uses the full set of automatically-selectable focusing points. Spot AF, 1-Point AF and the two Expand AF zones have the options of a fixed AF point or the facility for activating tracking.

A magnified image – at either 5x or 10x – is available to assist with both autofocus and manual focusing, but the latter can also be guided by a distance scale and a focus peaking display with the choice of red, yellow or blue colours at two levels of intensity. There's also the 'Focus Guide'

display which was introduced with the original EOS R model and provides an added manual assist by indicating the degree of back- or front-focus – via a trio of little pointers. When the subject is in focus, they merge into one and turn green. It's surprisingly precise and, consequently, in practice, actually works pretty well.

WORKING THE LIGHT

Exposure control continues to be based on the 384-zone metering of the previous model (while the higher-end cameras now have a great many more measuring zones) with the choice of evaluative (i.e. multi-zone), partial area (representing 6.2 percent of the frame area), spot (2.9 percent) and centre-weighted average measurements. The meter's sensitivity range is EV -3.0 to 20 at ISO 100. The auto exposure overrides are an AE lock, exposure compensation up to +/-3.0 EV and auto bracketing over two, three, five or seven frames with up to +/-3.0 EV variation per frame. Additionally, the AEB and exposure compensation can be combined so the bracketing can be shifted anywhere along the latter's range.

As was introduced on the R6 II, the Mark III model retains a set of point-and-shoot subject/scene modes which now number 14 with the addition of a Smooth Skin option for portraits. The list includes all the staples such as Portrait, Landscape, Sports and Close-Up; but also HDR Backlight Control and Silent Shutter plus panoramas with the frames stitched together in-camera. Alternatively, there's a 'Scene Intelligent Auto' mode (marked a 'A+' on the main dial) which automatically selects a subject program based on the analysis of the scene via the AF, AE and white balance systems. While it's still essentially all fully automatic, some manual control is provided via a set of 'Creative Assist' adjustments and effects which are significantly expanded from the previous models. There's a choice of 11 preset filter effects – such as Soft, Warm, Cool, Shine, Lime, Green, Peach, Blue, Purple, Soft and B&W – while the adjustments are Background Blur, Brightness, Contrast, Saturation, Colour Tone 1 (blue-to-amber), Colour Tone 2 (magenta-to-green), and Monochrome.

The standard 'PASM' exposure control modes are accompanied by the 'Flexible Priority Auto' mode – marked 'Fv' on the main mode dial – that was introduced on the original EOS R. This is another automatic

mode, but with full-time manual overrides applied by adjusting the aperture, shutter speed or ISO setting.

The R6 III's focal-plane type has a speed range of 30-1/8000 second plus 'B' and with flash sync up to 1/200 second. A Bulb Timer allows you to preset the exposure duration all the way up to 99 hours, 59 minutes and 59 seconds. It's now rated for 500,000 cycles compared to 400,000 previously. As on a number of the higher-end EOS R bodies, you can set the shutter so that, when camera is switched off, it automatically closes over the sensor to provide protection when there's no lens on the body.

The sensor-based shutter has a top speed of 1/16,000 second although this is only selectable manually (i.e. in the shutter-priority auto and manual exposure modes). Flash can't be used, but it can with the hybrid 'electronic first curtain shutter' operation which allows for flash sync up to 1/250 second (but, as the FP shutter is also involved, only allows for 12 fps continuous shooting). The R6 III has the 'Multi Function Shoe' hotshoe – introduced with the R3 – which incorporates a set of connections along the front to provide both power and data communications for dedicated accessories (such as the Directional Stereo Microphone DM-E1D). The downside is that you'll need an adapter if you own any of the Canon Speedlite flash units that predate the late-2021 R3.

The white balance controls offer a choice of either 'Ambience Priority' or 'White Priority' modes for automatic correction. The latter aims for neutrality while the former is a development of the old 'keep warm colours' correction, but works with whatever colour cast predominates in a scene. Alternatively, there are six lighting presets, one custom preset (with the convenience of direct measurement from the live view image), fine-tuning, auto bracketing (again over two, three, five or seven frames) and manual colour temperature setting over a

THE JUMP IN RESOLUTION COMPARED TO THE PREVIOUS MODEL – A FRACTION OVER A THIRD – IS ENOUGH TO MAKE QUITE A NOTICEABLE DIFFERENCE TO THE IMAGING PERFORMANCE."



Test images captured as JPEG/large/fine files with the Canon RF 24-105mm f4.0L IS USM zoom lens and using shutter-priority auto exposure control with multi-zone metering, and the Landscape 'Picture Style' preset. The out-of-the-camera JPEGs look pleasingly crisp and colourful with bags of detailing and silky smooth tonal gradations.





ISO 50



ISO 100



ISO 200



ISO 400



ISO 800



ISO 1600



ISO 3200



ISO 6400



ISO 12800



ISO 25600



ISO 51200



ISO 64000



ISO 102400

ISO RANGE

The EOS R6 Mark III's standard sensitivity range is from ISO 100 to 64,000 with extensions down to ISO 50 and up to 102,400. Noise reduction is well managed up to ISO 25,600, but there's some softening evident at ISO 51,200 and more again at ISO 64,000... but it's not dreadful and these settings are still usable for smaller-sized reproductions. While this is essentially the same sensor as is in the EOS C50, it has a single ISO base compared to the video camera's dual-base circuitry.

These test images are JPEG/large/fine files taken in the aperture-priority auto exposure mode with the aperture set to f/11 so the exposure time varies to compensate for the ISO adjustments. High ISO Speed and Long Exposure noise reductions are switched off. Canon RF 24-105mm f/4.0L IS USM zoom.

range of 2500 to 10,000 degrees Kelvin. And you can store up to four specific colour temperature settings.

IN THE HAND

Like its predecessor, is a chunky-looking camera which gives the impression it means business. The substantial handgrip is very comfortable and contributes to good manoeuvrability even with a heavier

lens fitted. It has to be said that Canon's EOS R camera ergonomics haven't been as well-organised as those of Nikon or Panasonic (with Sony somewhere in between), but it's been improving with each subsequent generation. Consequently, it's not hard to learn the ropes with the R6 III and everything works quite logically and efficiently. If you're graduating from an EOS DSLR, you'll feel right at home, otherwise

it might just take a bit longer to get into the swing of things.

An interesting new feature is a PIN code protection facility that requires you to set a six-digit PIN before the camera will start up. It's meant to provide an element of security should your camera be stolen, but it obviously won't stop the camera being stolen and it doesn't lock-out the memory card which is arguably more precious.



▲ A key upgrade is the inclusion of a memory card slot for the faster CFexpress Type B devices which are needed mostly to support the highest bit rate video recording (which tops 1200 Mbps).

What's more, it's downright annoying in practice – significantly slowing down getting the camera up and running – but fortunately it can be switched off in the Set Up menu which is what we suspect most users will do. Nice idea, but...

The R6 III's control layout is largely unchanged from the Mark II model (and also the R5 II) which means there's photo/video mode selector dial on the top panel, along with a substantial main mode dial plus front and rear input wheels. The front control is vertically-orientated and located on the top of the handgrip. The latter – which Canon calls the 'Quick Control Dial 2' – is a conventional dial and combined with the camera's on/off switch. This has an additional 'Lock' position which acts on the third control wheel – a.k.a. 'Quick Control Dial 1' – positioned on the rear panel and a Canon staple for a long time on both its DSLRs and mirrorless bodies.

The trio of control wheels are all used for menu navigation, enabling you to jump between chapters, pages or settings. The rear panel layout also includes joystick-type 'multi-controller' plus various function buttons related to the displays and playback. A button marked 'Rate' was introduced on the previous model and allows you to apply a star rating to an image on the spot when shooting rather than having to do it later in replay. However, on the R6 III it gains an at-capture function designated 'Color' which gives direct access to the 'Picture Style' and 'Colour Filter' menus, by-passing the main menus. When shooting video, this also accesses the 'Custom Picture' settings.

Rather than using dedicated buttons for directly accessing on-the-fly shooting

adjustments such as ISO and exposure compensation, the 'Quick Control' dials do this job. Functions such as white balance and the metering modes – plus more – are grouped under the 'M-Fn' button, also situated at the top of the handgrip. It works in conjunction with the control dials so there's a total of eight functions available as the defaults, including the three previously mentioned plus the metering modes, AF modes and area settings, drive modes (which includes the self-timer settings) and 'Picture Style' presets. These are the defaults, but you can customise the 'M-Fn' offerings from a list of close to 60 functions. A total of nine on-camera controls are customisable and separately for photo and video shooting, plus there's the 'L-Fn' button that's available on a number of RF mount lenses. Additionally, the operation of the front and rear input wheels can be switched between setting aperture or shutter speeds, and there's also the multi-function control ring on the RF lenses which has an expanded selection of functions beyond manual apertures or shutter speed adjustment, exposure compensation and ISO. These include the AF area options, the 'Picture Style' presets and white balance settings with the option of direct adjustment or only making it available when the shutter release is at its half-way position.

As before, the touch screen implementation is extensive, and includes the main menu pages, touch AF – with or without automatic shutter release – and a 'Touch And Drag' control (a.k.a. 'Touchpad AF') for selecting the focus points or zones when you're using the EVF. This can be fine-tuned in terms of the positioning method – either Relative or Absolute – and the active screen area which can comprise the whole panel or the right side only, left side, bottom, top right, bottom right, top left and

bottom left. Touch controls are also available in replay, including for browsing, zooming and accessing the thumbnail pages.

There's a monitor-based 'Quick Control' screen which is a very quick and convenient way of accessing and adjusting a lot of functions, either via the physical control wheels or using the touch screen which is even speedier. There's the option of monitor-only display or a set of function tiles superimposed along three sides of the live view image. Additionally, it switches to a dedicated video display in the movie mode.

In addition to the 'Quick Control' panel, the monitor's display can be cycled through five screens with progressively more read-outs and indicators. The latter can include a real-time histogram, a dual-axis level display, a focus distance scale and a guide grid (selected from a choice of three). Furthermore, you can choose between either brightness or RGB channel histograms and in either large or small sizes. All these configurable elements also appear in the EVF.

Both the monitor and EVF are unchanged from the previous model (and, in fact, the model before that too), so the former is a 7.62 cm TFT LCD panel with 1.62 megadots resolution and adjustable for both tilt and swing. The EVF is a 1.27 cm OLED display with 3.69 megadots resolution and 0.76x magnification. The refresh rate is selectable between 60 and 120 fps. Despite the vintage, both work well, although Nikon's rival Z6III has higher res displays (but has a lower-res 24 megapixels sensor).

Both the R6 III's EVF and monitor are adjustable for the colour balance with four settings – Warm Tone, Standard, Cool Tone 1 and Cool Tone 2 – but the viewfinder also has fine-tuning in the green-to-magenta and blue-to-amber colour ranges. Both are also adjustable for brightness with seven levels for the monitor and five for the EVF which also has an automatic adjustment based on the ambient light levels. Alternatively, you can select an 'Exposure Simulation' view

DESPITE THE HIGHER RESOLUTION – AND HENCE BIGGER FILE SIZES – THE TOP CONTINUOUS SHOOTING SPEED IS STILL 40 FPS IN ALL FORMATS AND, WHAT'S MORE, WITH FULL AF/AE ADJUSTMENT.”

which does exactly what it says on the label (with the option of depth-of-field preview) or an 'Optical Viewfinder Simulation' mode which does the opposite switches off all the previews and tweaks the brightness to replicate the look of an optical finder.

The live view screen can be configured with a real-time histogram, a dual-axis level display, a focusing distance scale and a guide grid (selected from a choice of three). Furthermore, you can choose between either brightness or RGB channel histograms and in either large or small sizes.

The image review screens can be either via a full image – with or without basic capture data – or a thumbnail display accompanied by a brightness histogram. The lower section of this screen can subsequently be cycled through a total of ten sets of info; including RGB histograms, lens data (including the actual focal length used), the main capture-related info, the lens correction and 'Digital Lens Optimiser' settings, the 'Picture Style' parameter settings (over two pages), the white balance settings (including any fine-tuning) and the noise reduction settings (plus the selected colour space). You can, however, select only the panels you want.

Additionally, the AF point (or, more likely, multiple points) used at capture can be shown superimposed over the image (on either the full screen display or the thumbnail), and there are the options of a grid guide and highlight warning for both too.

The thumbnail pages progress through four, nine, 36 and 100 images while, in the opposite direction, zooming is available at up to 10x and centred on the AF point/zone used to achieve focus. The in-camera editing functions include all the basics (such as cropping or resizing) plus RAW-to-JPEG/HEIF and HEIF-to-JPEG conversion and the same set of 'Creative Assist' filter effects and adjustments that are available at capture in the 'Intelligent Scene Auto' mode (minus Background Blur). These are available for editing RAW files and subsequently create a new JPEG file (as per your JPEG quality settings), and you can do it as many times as you like from the original RAW.

A 'Quick Control' menu is again available in image review/replay and with the convenience of function selection via the touch screen.

As before, the R6 III's body construction comprises GRP covers over a magnesium alloy chassis with sealing against the intrusion of moisture or dust. The size and weight are about the same too, with the new model a fraction under 30 grams heavier which, in practice, you aren't going to notice. The camera is powered by the higher-efficiency 'P' version of Canon's long-serving LP-E6 lithium-ion battery pack – introduced with the R5 II – and which

carries on from the previous LP-E6NH. Both the earlier 'N' and 'NH' versions are still compatible (but not the original E6), although they impose a number of restrictions including using the multi-function hotshoe, outputting RAW video over HDMI and, perhaps more critically for many users, the pre-continuous buffering. The R6 III can be fitted with the R5 II's BG-R20 battery grip that which holds two battery packs and duplicates all the key handgrip controls in the vertical orientation. The LP-E6P delivers around 270 shots when using the EVF, but up to 390 when using the R6 III's various power-saving measures for the viewfinder.

The camera's interfaces also gain an important upgrade, ditching the micro HDMI connection for the more robust full-size Type A port.

The USB Type C is the faster, 10 Gbps 3.2 Gen.2 connection which allows for video live streaming via UVC and UAC support, plus there's a 3.5 mm stereo audio in, a 3.5 mm stereo audio out (with adjustable volume) and a remote trigger (for RS60-E3). Wireless connectivity is via WiFi (in both the 2.4 and 5.0 GHz bandwidths) and Bluetooth LE Version 5.1. The multi-function hotshoe mentioned earlier supports the AD-P1 Smartphone Link Adapter which allows for a wired connection to an iOS or Android smartphone using the 5G network for more stable file transfers. This will also enable firmware upgrades to be made via your smartphone using the Canon Camera Connect app.

SPEED AND PERFORMANCE

Using a SanDisk Extreme Pro 128 GB CFexpress Type B memory card and the sensor shutter, the EOS R6 Mark III captured a burst of 246 JPEG/large/fine frames in 6.035 seconds which represents a shooting speed of 40.7 fps. Switching to the focal

plane shutter, a burst of 118 best-quality JPEGs was captured in 9.742 seconds to give a shooting speed of 12.1 fps. So no problems with the camera hitting its quoted speed specs. With the FP shutter timing test, the camera would have continued to shoot with no loss of speed, and we simply chose an arbitrary point to press 'stop' as the burst length can be in excess of 1000 frames. It'll likely be a rare situation where you'll hit the buffer limited, even shooting full-strength RAWs. The test files averaged 15 MB in size.

The performance of the 'Dual Pixel CMOS AF II' autofocus remains a key attraction of the higher-end EOS R cameras as it's close to infallible in just about every situation. The active AF points display is very educational as it shows you exactly how it's working and the accuracy is exemplary as is the lightning-fast responsiveness. With over 6000 measuring points on the job – and virtually full frame coverage – there isn't really any subject or situation that's going to confound or confuse. The camera simply snaps into focus without any hesitation and then, with the subject recognition active, stays doggedly locked-on even with quite small targets and erratic movements. Ultimately, the R6 III isn't quite in the same league here as the R5 II with its additional recognition smarts particularly for people and poses, but as noted earlier, it's still using the same highly-advanced control algorithms so it rarely misses. The bigger choice of AF area sizes and shapes allows for better fine-tuning of selectivity and, outside the specific recognition modes, the 'Case' movement parameters do the same thing for generic tracking. Consequently, even at the rapid-fire 40 fps shooting speed, you can expect every frame to be nicely sharp. With sensitivity down to -6.5 EV (at f/1.2 and ISO 100), the low-light performance is also excellent.





ONCE AGAIN, CANON PACKS ITS MID-RANGE FULL FRAME ILC WITH ALL THE ESSENTIAL INGREDIENTS SEASONED WITH A LIBERAL SERVING OF TASTY EXTRAS.”

The jump in resolution compared to the previous model – a fraction over a third – is enough to make quite a noticeable difference to the imaging performance in terms of both definition and detailing along with how these are maintained at higher ISO settings. The noise reduction for JPEGs (and HEIFs) is pretty well managed across the entire native sensitivity range so definition, saturation and contrast all hold up well, and all the way to ISO 25,600 and

are still pretty good at ISO 51,200. It's worth noting here that the R6 III's sensor has dual-gain output circuitry, but only when shooting video (with the base ISOs set at 800 and 6400 with the Canon Log3 gamma profile or when shooting in CRM RAW).

The sensor's dynamic range tops 14 stops at the lower ISOs with the result that there's plenty of exposure latitude when shooting RAW and subsequently recovering tonality in blown-out highlights and/or blocked-up shadows post-camera. Out-of-the-camera JPEGs look pleasingly crisp and colourful, but obviously there's now even more scope to play around with the look via the 'Colour Filter' settings which are really worth some experimentation.

THE VERDICT

Once again, Canon packs its mid-range full frame ILC with all the essential ingredients seasoned with a liberal serving of tasty extras. Yes, the R6 III is quite a bit pricier than its predecessor, but you get a lot more for your money too. The R5 II gives you more again, but for quite a few users, it's

probably too much camera whereas the R6 III will hit a sweet spot with a wider audience... and for both photography and video-making. Put simply, it's good at everything.

It also doesn't take long to feel very comfortable with this camera, and it's easy to set up a way of working that's effortless and efficient. As noted earlier, Canon has been doing things its own way in terms of the EOS R ergonomics, but with these later models, it's ironed out most of the wrinkles so it all becomes pretty intuitive pretty quickly. In fact, it's hard to pick any flaws. As a result, the R6 III is also immensely likeable because it does exactly what you want it to do – even when you're in a rush – and backs it up with truly excellent AF and IQ performances. Has Canon been a bit too generous? Well, the R5 II definitely has a lot more frills and a higher resolution too, but given the significant price difference, the R6 III definitely looks like the better balance of everything and, consequently, arguably the best value model in the current full frame line-up... maybe even a bit of a bargain.

VITAL STATISTICS



CANON EOS R6 MARK III \$4299 body only, recommended retail price

Type: Enthusiast-level digital full frame mirrorless camera with Canon RF bayonet lens mount.

Focusing: Automatic via 6097-points wide-area system using phase-difference detection measurements via 'Dual Pixel CMOS AF' giving 100 percent vertical and horizontal coverage. 1053 focus points available for automatic selection. Area modes are Spot AF, 1-Point AF, Expand AF (vertically/horizontally), Expand AF (around), Flexible Zone AF 1 (square), Flexible Zone AF 2 (vertical rectangular), Flexible Zone AF 3 (horizontal rectangular), Whole Area AF. Body, head/face/eye detection for tracking people and animals is available with each area mode. Eye dejection is selectable for right or left eye priority. Adjustable AF point size (small or large). AI-based subject tracking for People, Animals (dogs, cats, birds and horses) and Vehicles (cars/motorcycles, motorcycles, aircraft and trains). Auto subject recognition mode. 'Register People' priority (for up to ten stored faces). One-shot and continuous (AI Servo) modes with manual switching. Continuous AF with predictive function and acceleration/deceleration tracking and adjustable tracking sensitivity. 'Servo AF Character' configuration tool (four subject scenarios – 'Cases 1 to 4' plus an auto 'Case A'). Switching Tracked Subjects adjustments. 'Touch & Drag AF' operation via touchscreen monitor when using EVF. Low light AF assist via built-in LED illuminator. Sensitivity range is EV -6.5 – 21 (f/1.2, ISO 100). Manual focus assist via magnified image (6x or 15x), focusing peaking display (red, yellow or blue; high or low level) and 'Focus Guide' display.

Metering: Via 384-zones evaluative (linked to all AF points) via imaging sensor, selective area (6.2 % of image area), spot (2.9 %), centre-weighted average and E-TTL II auto flash. Metering range is EV -3.0 to 20 (ISO 100).

Exposure Modes: Continuously-variable program with shift, shutter-priority auto, aperture-priority auto, 'Scene Intelligent Auto', 'Flexible Priority' auto,

metered manual, E-TTL II auto flash. 14 subject/scene modes (Portrait, Smooth Skin, Group Photo, Landscape, Panoramic, Sports, Kids, Panning, Close-Up, Food, Night Portrait, Handheld Night Scene, HDR Backlight Control, Silent Shutter). Adjustable 'Creative Assist' filters and adjustments are available with 'Scene Intelligent Auto' shooting (11 Preset filters, Background Blur, Brightness, Contrast, Saturation, Colour Tone 1 – blue-to-amber, Colour Tone 2 – magenta-to-green, Monochrome).

Shutter: Electronically-controlled vertical travel focal plane type, 30-1/8000 second plus 'B' (with Bulb Timer facility). Flash sync up to 1/200 second. Exposure compensation up to +/-3.0 EV in either 1/2 or 1/3 stop increments. Sensor-based shutter has a speed range of 30-1/16,000 second (the top speed setting only available in the M and TV exposure modes). Electronic first curtain shutter (EFCS) has a speed range of 30-1/8000 second with flash sync up to 1/250 second.

Flash: No built-in flash. External flash units sync via a hotshoe. 'Multi Function Shoe' provides both power and communications for dedicated accessories.

Viewfinder: 1.27 cm OLED-type EVF with 3.69 megapixels resolution. Coverage = 100% vertical/horizontal. Magnification = 0.76x (50mm lens at infinity). Refresh rate selectable between 60 and 120 fps. Eyepiece strength adjustment built-in. Adjustable for brightness (five levels) and colour balance (Warm Tone, Standard, Cool Tone 1, Cool Tone 2) with fine-tuning, Exposure Simulation, Depth-Of-Field Simulation and OVf Simulation modes. HDR and C-Log View Assist for video. 7.62 cm TFT LCD monitor with 1.62 megapixels resolution, tilt/swing adjustments and touchscreen controls. Adjustable for brightness (seven levels) and colour tone (Warm Tone, Standard, Cool Tone 1, Cool Tone 2). Auto/manual switching between EVF and monitor.

Additional Features: Magnesium alloy chassis with

GRP body covers, weather sealing, auto exposure bracketing (over two, three, five or seven frames, up to +/-3.0 EV adjustment), depth-of-field preview, AE lock, bulb timer (up to 99 hours, 59 minutes and 59 seconds), dual-mode self-timer (two or ten second delays), audible signals, wireless (IR) remote control, wired remote control, silent shutter mode, shutter shields sensor on switch-off, 16 custom functions.

DIGITAL SECTION

Sensor: 32.5 million pixels (effective) 'dual pixel' CMOS with 35.9x23.9 mm area and 3:2 aspect ratio. Sensitivity equivalent to ISO 100-64,000 (expandable to ISO 50 and 102,400). An optical low-pass filter is fitted.

Focal Length Increase: None.

Formats/Resolution: Ten JPEG compression settings, ten HEIF compression settings (HDR-PQ shooting mode), RAW lossless compression and cRAW lossy compression. JPEGs captured with 8-bit RGB colour, HEIFs (HDR PQ) with 10-bit RGB colour and RAWs with 14-bit RGB colour. Four resolution settings at 3:2; 6960x4640, 4800x3200, 3472x 2320 and 2400x1600 pixels. Four resolution settings at 4:3; 6160x4640, 4256x3200, 3072x2320 and 2112x 1600 pixels. Four resolution settings at 16:9; 6960x3904, 4800x2688, 3472x1952 and 2400x1344 pixels. Four resolution settings at 1:1; 4640x4640, 3200x3200, 2320x2320 and 1600x1600 pixels. 1.6x crop capture with EF-S lenses in L and S2 image sizes. RAW and cRAW images captured at 6960x4620 pixels. RAW+JPEG and RAW+HEIF capture is available.

Video Recording: Canon Cinema RAW 12-bit (CRM) – at 6960x3672 pixels (7K DCI); 30, 25 and 24 fps at 17:9 aspect ratio (up to 2600 Mbps, requires CFexpress Type B card). Cinema RAW Light 12-bit (CRM) – at 6960x3672 pixels (7K DCI); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (up to 2410 Mbps, requires ▶

VITAL STATISTICS



Cfexpress Type B card). Canon Cinema RAW 12-bit – at 6960x4640 pixels (open gate); 30, 25 and 24 fps at 3:2 aspect ratio (up to 2600 Mbps, requires Cfexpress Type B card). Cinema RAW Light 12-bit – at 6960x4640 pixels (open gate); 30, 25 and 24 fps at 3:2 aspect ratio (up to 2410 Mbps, requires Cfexpress Type B card).

MP4 format with 10-bit 4:2:2 colour (XF-HEVC S/H.265 codec) – at 6960x4640 pixels (open gate); 25 and 24 fps at 3:2 aspect ratio (ALL-I HQ compression = up to 1730 Mbps, requires Cfexpress Type B card). At 6960x4640 pixels (open gate); 30, 25 and 24 fps at 3:2 aspect ratio (ALL-I compression = up to 1620 Mbps requires Cfexpress Type B card, ALL-I Light = 1080 Mbps requires Cfexpress Type B card, LongGOP = 486 Mbps).

MP4 format with 10-bit 4:2:2 colour (XF-HEVC S/H.265 codec) – at 6960x4640 pixels (open gate); 30, 25 and 24 fps at 3:2 aspect ratio (LongGOP = 360 Mbps).

MP4 format with 10-bit 4:2:2 colour (XF-HEVC S/H.265 codec) – at 4096x2160 pixels (4K DCI Fine); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 225 Mbps).

At 3840x2160 pixels (4K UHD Fine); 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP compression = up to 225 Mbps). At 4096x2160 pixels (4K DCI); 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 450 Mbps). At 3840x2160 pixels (4K UHD); 120, 100, 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP = up to 450 Mbps). At 2048x1080 pixels (2K DCI); 180, 150, 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 150 Mbps). At 1920x1080 pixels (Full HD); 180, 150, 120, 60, 50 and 30 fps and 16:9 aspect ratio (LongGOP compression = up to 150 Mbps).

MP4 format with 10-bit 4:2:2 colour (XF-HEVC S/H.265 codec) – at 4096x2160 pixels (4K DCI Fine); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 150 Mbps). At 3840x2160 pixels (4K UHD Fine); 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP compression = up to 150 Mbps). At 4096x2160 pixels (4K DCI); 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 300 Mbps). At 3840x2160 pixels (4K UHD); 120, 100, 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP = up to 300 Mbps). At 2048x1080 pixels (2K DCI); 180, 150, 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 105 Mbps). At 1920x1080 pixels (Full HD); 180, 150, 120, 60, 50 and 30 fps and 16:9 aspect ratio (LongGOP compression = up to 105 Mbps).

MP4 format with 10-bit 4:2:2 colour (XF-AVC S/H.264 codec) – at 4096x2160 pixels (4K DCI Fine); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (ALL-I HQ compression = up to 1200 Mbps – requires Cfexpress Type B card at 50/60 fps, ALL-I = up to 900 Mbps – requires Cfexpress Type B card at 50/60 fps, ALL-I Light = up to 600 Mbps, LongGOP = up to 250 Mbps). At 3840x2160 pixels (4K UHD Fine); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (ALL-I HQ compression = up to 1200 Mbps, ALL-I = up to 900 Mbps, ALL-I Light = up to 600 Mbps, LongGOP = up to 250 Mbps). At 4096x2160 pixels (4K DCI); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (ALL-I HQ compression = up to 1200 Mbps, ALL-I = up to 900 Mbps, ALL-I Light = up to 600 Mbps, LongGOP = up to 150 Mbps). At 4096x2160 pixels (4K DCI); 120 and 100 fps at 17:9 aspect ratio (ALL-I compression = up to 1800 Mbps, ALL-I Light = up to 1200 Mbps, LongGOP = up to 500 Mbps). At 3840x2160 pixels (4K

UHD); 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (ALL-I HQ compression = up to 1200 Mbps, ALL-I = up to 900 Mbps, ALL-I Light = up to 600 Mbps, LongGOP = up to 150 Mbps). At 3840x2160 pixels (4K UHD); 120 and 100 fps at 16:9 aspect ratio (ALL-I compression = up to 1800 Mbps, ALL-I Light = up to 1200 Mbps, LongGOP = up to 500 Mbps). At 2048x1080 pixels (2K DCI); 180, 150, 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (ALL-I compression = up to 900 Mbps, LongGOP = up to 150 Mbps). At 1920x1080 pixels (Full HD); 180, 150, 120, 100, 60, 50, 30, 25 and 24 fps and 16:9 aspect ratio (ALL-Intra compression = up to 900 Mbps, LongGOP = up to 150 Mbps).

MP4 format with 8-bit 4:2:0 colour (XF-AVC S/H.264 codec) at 4096x2160 pixels (4K DCI Fine); 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 150 Mbps). At 3840x2160 pixels (4K UHD Fine); 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP compression = 150 Mbps). At 4096x2160 pixels (4K DCI); 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 300 Mbps). At 3840x2160 pixels (4K UHD); 120, 100, 60, 50, 30, 25 and 24 fps at 16:9 aspect ratio (LongGOP compression = 300 Mbps). At 2048x1080 pixels (2K DCI); 180, 150, 120, 100, 60, 50, 30, 25 and 24 fps at 17:9 aspect ratio (LongGOP compression = up to 105 Mbps). At 1920x1080 pixels (Full HD); 180, 150, 120, 100, 60, 50, 30 and 25 fps and 16:9 aspect ratio (LongGOP compression = up to 105 Mbps). Built-in stereo microphones with auto/manual levels adjustment, attenuator and wind-cut filter (Auto/Off). 16/24-bit 48 kHz sampling. Stereo audio input and headphone output (with adjustable volume).

Video Features: Canon C-Log2 and C-Log3 gamma profiles, HDR PQ or HLG, 'Movie Digital IS' electronic image stabilisation (On, Enhanced, Off), proxy recording, zebra patterns (choice of three with adjustable levels), false colour display, wave form monitor, time code support (with drop-frame correction), time-lapse movie mode (2K and 4K), auto flicker detection and correction, tally lamp, 'Movie Servo AF', adjustable 'Creative Filters' effects (Dream, Old Movies, Memory, Dramatic B&W and Miniature Effect), aspect ratio marker frames, focus peaking display, in-camera focus breathing correction (with supporting RF lenses), dedicated video 'Quick Menu', video 'Frame Grab' (8.8 MP from 4K DCI and 8.3 MP from 4K UHD).

HDMI Output: ProRes RAW 7K 3:2 with 10-bit 4:2:2 colour, at 30, 25 or 24 fps. 4K DCI 17:9 at 60, 50, 30, 25 or 24 fps. 4K UHD 16:9 at 60, 50, 30, 25 or 24 fps; Full HD at 60, 50 or 24 fps (60 and 60 fps = interlaced or progressive). Uncompressed output – 4K UHD and Full HD, with 10-bit or 8-bit 4:2:2 YCbCr colour.

Recording Media: Dual memory card slots; one each for Cfexpress Type B and SD UHS-II/Video Speed V90 devices.

Continuous Shooting: Over 1000 frames at 12.0 fps with JPEG/large/fine or RAW capture using the focal plane shutter and a Cfexpress Type B memory card. Over 1000 frames at 12.0 fps with JPEG/large/fine capture or 400 frames with RAW capture using the focal plane shutter and an SD UHS-II memory card. Up to 330 JPEG/large/fine frames at 40 fps with the sensor shutter and a Cfexpress Type B or an SD UHS-II memory card. Up to 160 frames with RAW capture using the sensor shutter and a Cfexpress Type B memory card, up to 140 frames with an SD UHS-II memory card. Pre-continuous shooting mode captures up to 20 frames prior to shutter release (for all still formats).

White Balance: Auto/manual with six presets and one custom setting, white balance bracketing, white balance correction (blue-to-amber and/or green-to-

magenta) and manual colour temperature setting (2500-10,000 degrees Kelvin) with four preset options. Auto correction can be set to either Ambience Priority or White Priority.

Interfaces: USB Type C (10 Gbps, USB 3.2 Gen.2), micro HDMI (Type A), 3.5 mm stereo audio input, 3.5 stereo audio output, E3 remote control terminal.

Additional Digital Features: In-body image stabilisation with five-axis movement and up to 8.5 stops of correction (when paired with lens OIS), 'Dual Pixel RAW' capture modes (Portrait Relighting, Background Clarity), sensor cleaning, sRGB or Adobe RGB colour spaces, eight 'Picture Style' presets (Auto, Standard, Portrait, Landscape, Fine Detail, Neutral, Faithful and Monochrome), three user-definable 'Picture Styles', six adjustable 'Picture Style' parameters (Sharpness – Strength, Sharpness – Fineness, Sharpness – Threshold, Contrast, Saturation and Colour Tone), B&W filter effects (Yellow, Orange, Red, Green), B&W toning effects (Sepia, Blue, Purple, Green), three User Defined 'Picture Styles', 14 'Colour Filter' effects (with sRGB colour space only – Teal & Orange, Magenta, Blue, Pale Teal & Orange, Retro Green, Sepia, Accent Red, Tasty Warm, Tasty Cool, Bright Amber, Bright White, Clear Light Blue, Clear Purple, Clear Amber), Clarity adjustment (plus/minus four steps), focus bracketing (up to 999 frames and ten adjustment steps, with exposure smoothing), intervalometer (up to 9999 frames or unlimited), grid guides (choice of three), highlight warning, 'Exposure Simulation' display, flicker detection/correction, high-frequency (HF) flicker detection/correction, in-camera panoramas, dual-axis level indicator, real-time histogram, long exposure noise reduction (Auto, On, Off), high ISO noise reduction (Low, Standard, High), multi-shot noise reduction (four frames), 'Highlight Tone Priority' dynamic range expansion processing (Disable, Enable, Enhanced), 'Auto Lighting Optimiser' settings (Low, Standard, High, Off), in-camera lens corrections (Peripheral Illumination, Distortion and 'Digital Lens Optimiser'), multiple exposure facility (up to nine with Additive/Average/Bright/Dark exposure adjustments), multi-shot HDR capture for JPEG/RAW (Dynamic Range mode = Auto, +/-1.0, +/-2.0, +/-3.0 EV with auto align. Or Moving Subject mode), customisable 'My Menu' (up to five pages), in-camera editing functions (Creative Assist, RAW-to-JPEG conversion, HEIF-to-JPEG conversion, DPRAW Processing, Image Copy, Print Order, Cropping, Resize, Star Rating, Protect), slide show (with adjustable display time), auto image rotation, 4/9/36/100 thumbnail displays, side-by-side two image display, zoom playback (up to 10x), voice memo recording, copyright information, IPTC information, auto power-off (adjustable duration), WiFi (2.4 or 5.0 GHz) and Bluetooth 5.1 LE wireless connectivity. Compatible with GP-E2 GPS receiver.

Power: One rechargeable 7.2 volt 2130 mAh lithium-ion battery pack (LP-E6P type). In-camera charging via USB C (with LP-E6P and LP-E6N/NH batteries only). Optional BG-R20 battery grip can be fitted and accepts two LP-E6P/E6N/E6NH lithium-ion packs.

Dimensions (WxHxD): body only = 138.4x98.4x88.4 mm.

Weight: 609 grams body only (without battery pack or memory card).

Price: \$4299 body only. \$6149 with the Canon RF 24-105mm f/4.0L IS USM zoom lens. Canon Australia provides a five-year warranty for EOS R system cameras and lenses purchased from an authorised reseller.

Distributor: Canon Australia Pty Ltd, telephone 1800 021 167, www.canon.com.au



▲ *The Icing On The Cake* by Harriet Harcourt (Australia), finalist in the Food Portraiture category.

APPETISERS

WORLD FOOD PHOTOGRAPHY AWARDS 2026 FINALISTS

Feeling a bit peckish? Here's a look at some of the finalists in this year's World Food Photography Awards to whet your appetite ahead of all the winners being announced at the beginning of June.

▼ *Stone, Smoke & Tradition* By James Ward Breen, finalist in the Champagne Taittinger Food For Celebration category.



▲ *Rocky Road* by Emma Sheldrake (Australia), finalist in the Food Portraiture category.

The annual World Food Photography Awards was launched back in 2011 and has steadily grown to attract many thousands of entries from all over the world. It is open to both amateur and professional photographers as well as students and children (in two age categories, sponsored by Jamie Oliver).

Food is, of course, an essential part of life and so it's a huge subject with many diverse aspects from production to presentation to consumption. This is reflected in the competition's many categories – 27 in all – which currently include Bring Home The Harvest, Food Portraiture, Cream Of The Crop, Street Food, Politics Of Food, Food For The Family, World Of Drinks, Food Stylist Award and the Cake Award. The Claire Aho Award For Women Photographers category is named after who a trail-blazing Finnish photographer. Claire Aho (1925-2015) was given her first camera at the age of ten, and she then worked as a commercial photographer from the late 1940s and at a time when almost no other women were practicing in this field.

There are also dedicated categories for winemaking which cover the people, places and products involved in this industry, along with a category for wedding food photography.

To see all the finalists in the 2026 competition go to <https://www.worldfoodphotographyawards.com/> The winners will be announced on 2 June at a ceremony in London hosted by renowned chef and food writer Gennaro Contaldo.



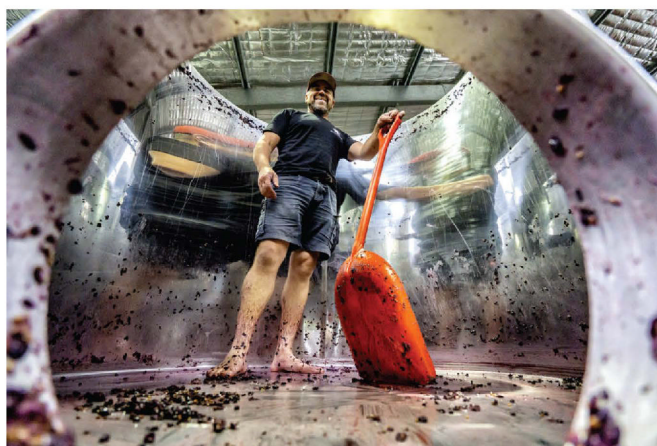
▲ *Foraged Still Life* by Gavin Johns (Australia), finalist in the Cream Of The Crop category.



▲ *Travelling High Tea* by Leeanne Mason (Australia), finalist in the Claire Aho Award for Women Photographers category.



▲ *A Shepherd, A Newborn Lamb, And Hundreds Of Lives In Front Of Them* by Peggy Man (Australia), finalist in the Bring Home The Harvest category,



▲ *The Tank Is Finally Empty* by Victor Pugatschew (Australia), finalist in the Louis Jadot Wine Photographer Of The Year – People category,



▲ *Summer Chocolate Oyster Mushroom Fans* by Kate Ireland (Australia), finalist in the M&S Food Rising Star category.

▼ *Cherry Bombe* by Aggie Banks (United Kingdom), finalist in the Cake Award category,





▲ *No Hands, No Cutlery* by Simon Biffen (United Kingdom), finalist in the Champagne Taittinger Wedding Food Photographer category.



▲ *Posy Of Goldenberries* by Ania Matczuk (United Kingdom), finalist in the Cream Of The Crop category.



▲ *Goat's Day Out* by Arun Saha (India), finalist in the Food In The Field category.



▲ *Transit* by Květa Trčková (Czech Republic), finalist in the MPB Award For Innovation category.



▲ *Science And Spice* by Athul Prasad (United Kingdom), finalist in the RPS Student Food Photographer Of The Year category.



▲ *Frankenstein's Cocktail* by Chloe Hardwick (United Kingdom), finalist in the World Of Drinks category.

▼ *Cook At Phuktal Monastery* by Gavin Burnett (United Kingdom), finalist in the Philip Harben Award for Food in Action category.



COMPETITION



▲ *Harvesting Hope* by Regina Merl (Germany), finalist in the Food InThe Field category,



▲ *The Perfect Smoked Old Fashioned* by Orly Catz (USA), finalist in the World Of Drinks category.



▲ *Bring Them Chocolate* by Anne Pluijms/Annenas Photography (Netherlands), finalist in the Hotel Art Group Food Stylist Award category.

Lemongrass Harvest by Valery Rizzo (USA), finalist in the Bring Home The Harvest category.

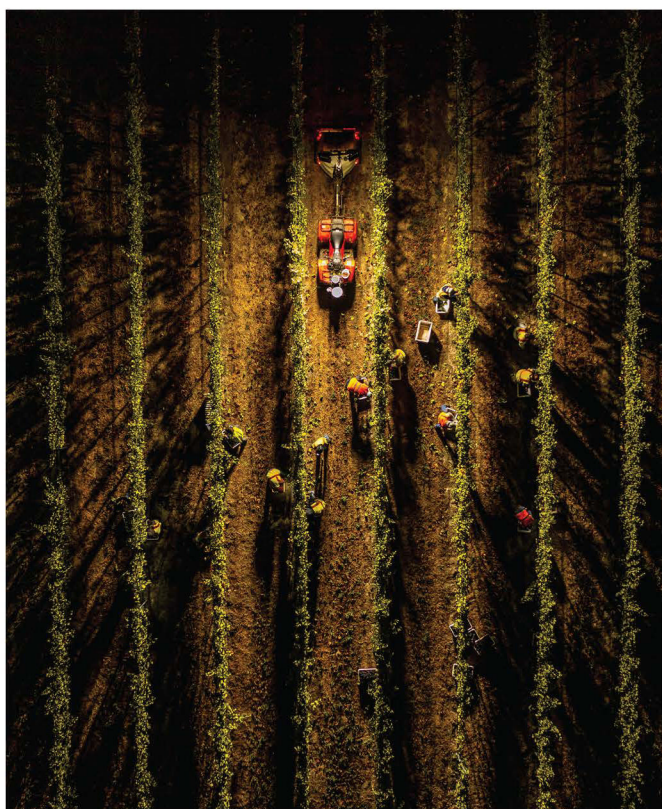




▲ *La Perseverancia Market* by Sebastian Kahnert (Germany), finalist in the Philip Harben Award For Food In Action category.

▶ *Liquid Rubies* by Yesim Yavuz (Germany), finalist in the Food Influencer category.

▼ *Night Harvest From Above In Los Carneros* by Andrew Lincoln (USA), finalist in the Louis Jadot Wine Photographer Of The Year – People category.



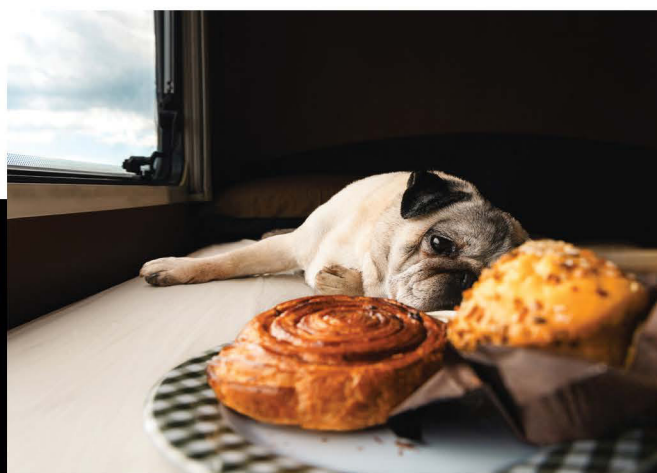
COMPETITION



▲ *Bird's Eye View Of The Hill* by Alessandro Anglisandi (Italy), finalist in the Louis Jadot Wine Photographer Of The Year – Places category.



▲ *The Quiet Act Of Cooking* by Judith Balari (Italy), finalist in the Claire Aho Award For Women Photographers category.



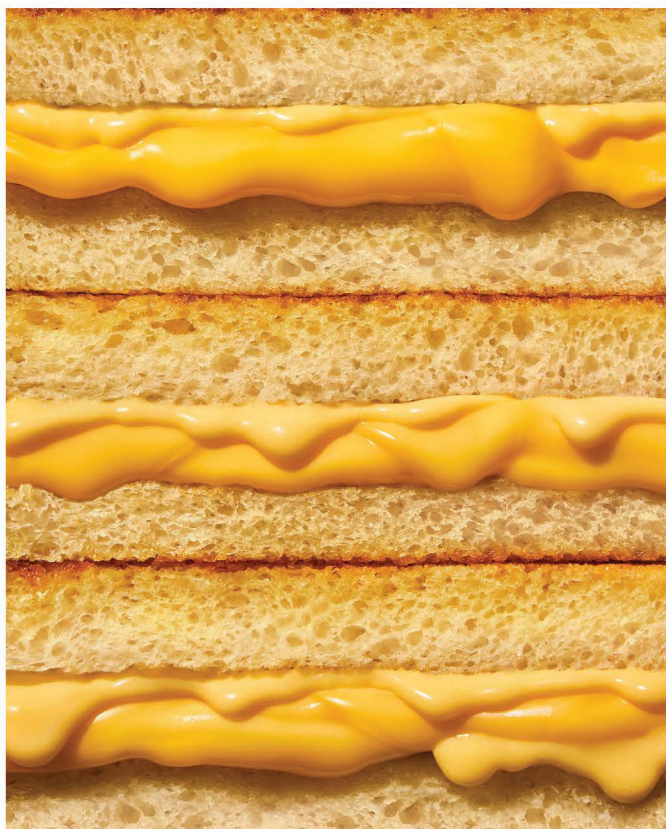
▲ *Paws And Pastries* by Sylvie Pabion Martin (Spain), finalist in the Food Influencer category.



▲ *Distributeur de rue à Osaka* by Marlyse Changeas (France), finalist in the Street Food category.



▲ *Saying Grace* by Sue O'Connell (United Kingdom), finalist in the Fortnum & Mason Food At The Table category.



▲ *Cheese It* by Grzegorz Klukowski (Poland), finalist in the Production Paradise Previously Published category.



▲ *Fish Cake* by Tracey Rose-Innes (South Africa), finalist in the MPB Award For Innovation category.



▲ *A Village Woman Crafting Rice Noodles By Hand* by Peggy Man (Australia), finalist in the Philip Harben Award For Food In Action category.



▲ *First Offering* by Viet Van Tran (Vietnam), finalist in the Champagne Taittinger Food For Celebration category.



▲ *Jean-Michel Deiss Foot Treading His Pinot Noir In Bergheim, Alsace, France* by Claes Lofgren (Sweden), finalist in the Louis Jadot Wine Photographer Of The Year – People category.



BACK TO BASICS

ALL ABOUT LENSES

Pinhole photography aside, lenses are an essential part of making an image and make critical technical and creative contributions to the process. The basic principles remain unchanged from the very first optical instruments dating back to the early 17th century. Understanding how a camera lens works will help you make the most of their potential to deliver great results.

The earliest camera lenses were simply a single element of high-quality glass ground and polished into a spherical shape so the curved surfaces bent the light rays which passed through them in order to focus an image. More sophisticated designs added more elements – both concave and convex in shape – to improve the optical quality across the image frame, and allow for adjustable focus. Over time, optical designs have become a lot more complex, involving larger numbers of elements arranged in groups which can be moved independently to facilitate focusing and zooming.

The key specification of a camera lens is its *focal length* which is expressed in

millimetres (although you'll occasionally see vintage lenses with the focal length marked in centimetres). The focal length – or focal range, in the case of zooms – forms the lens's model number and is always marked somewhere on its exterior, either on the barrel or around the front, along with other key specifications such as the maximum aperture.

The focal length of a lens is actually the distance from its optical centre – also called the rear nodal point – to the focusing point in the camera which, obviously, coincides with the focal plane (or the plane of sharp focus).

The focal length of a lens controls the image size (or magnification) and the angle-of-view. Thus a short focal length – which

means the light rays have to be bent at more acute angles to focus them at a point – has more wide-angle characteristics. A shorter focal length lens therefore produces a closer or smaller image.

In a long focal length lens, the light rays are bent at much shallower angles and so converge over a much greater distance, giving telephoto characteristics. A longer focal length lens therefore produces a larger (or more magnified) image. Telephoto lenses are physically longer than wide-angle types, and this is true of both zooms and primes. A prime lens has a fixed focal length such as 24mm, 35mm, 50mm, 85mm, 200mm, etc. A zoom has a variable focal length such as 24-70mm, 70-200mm or 100-400mm.

All these focal lengths relate to the



▲ This cutaway – of Fujifilm’s XF500mm f/5.6 super-telephoto prime lens – reveals the optical construction with elements arranged in groups. The coloured elements indicate special types which are designed to help with optical correction and overall sharpness.

full frame sensor format – based on the diagonal measurement – which is derived from the 35mm film frame. If the sensor size (or film format) is different, a magnification factor comes into play and determines an *effective* focal length. Consequently, the digital cameras which use sensors smaller in size than a 35mm frame produce an effective increase to the focal length that’s marked on the lens... as the image size will be bigger on the smaller format. The Micro Four Thirds (M43) sensor format has a 1.97x magnification factor compared to 35mm while the ‘APS-C’ size sensors have a 1.5x magnification factor (except for Canon mirrorless and DSLR bodies where it’s 1.6x). Thus an M43 lens with, say, a focal range of 12-35mm is effectively a 24-70mm (i.e. 12x2.0 and 35x2.0) and an ‘APS-C’ lens with a focal range of 16-60mm is effectively a 24-90mm (i.e. 12x1.5 and 60x1.5). Likewise, if you’re using a 35mm format lens on a camera with a smaller sensor (either directly or via mount adaptor), the effective focal length will also increase. For example, a 24-70mm zoom on an M43 camera becomes effectively a 48-140mm and, on an ‘APS-C’ camera, becomes a 36-105mm. When the sensor is larger than 35mm or full frame such as the “33x44” imager currently used by Fujifilm and Hasselblad (which is actually

“As the focal length decreases, the angle-of-view increases and the subject size becomes smaller relative to the whole frame area being recorded.”

32.9x43.8 mm in area), the effective focal length will be reduced as, in this case, the magnification factor is 0.79x.

This may all seem a bit confusing at first, but it’s related to the size of the imaging area (specifically the diagonal length), the standard or normal lens focal length for this size, and its angle-of-view. There are various mathematical formulae involved which you really don’t need to know. All you do need to know is that lens focal lengths in photography are always expressed for the 35mm format (either film frame or digital sensor size) so, to recap, if the imaging area is smaller, the effective focal length will increase and, if its larger (as in digital medium format) it will decrease.

A Matter Of Perspective

Another important point to understand here is that the focal length of a lens doesn’t directly control perspective. The reason the two are so often erroneously linked is that perspective is related to the distance of the lens from the subject and, in turn, this distance can be a factor of the focal length (i.e. you may choose to move closer to a subject when shooting with a wider angle lens).

However, if a subject was photographed from the same distance with both a telephoto lens and a wide-angle lens, the perspective would be the same. True, the wide-angle lens will make the subject same further away, but if you enlarged the centre of this image so it matched the telephoto’s field-of-view, the two pictures would look exactly the same.

Changing the subject distance changes the perspective... i.e. the spatial relationship between objects in the foreground and background of an image. Move in closer when using a wide-angle lens, and the distance between the foreground and background is exaggerated. Move further away from the subject when shooting with a telephoto lens and the between the foreground and



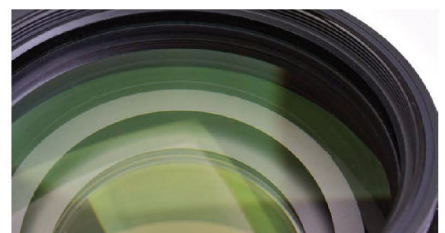
▲ These markings tell you all you need to know about a lens... brand, mount, focal range (or focal length with a prime lens), maximum aperture (in this case a constant f/2.8) and the screwthread filter fitting in millimetres.



▲ On this OM System 50-200mm zoom, there are additional markings which indicate the inclusion of optical image stabilisation (‘IS’ here, but other brands use other different terms) and the grade of the optical design and the physical construction (‘PRO’ as in professional). As this is a Micro Four Thirds system lens, the effective focal length is 100-400mm due to the 1.97x crop factor. Weather sealing has become common on higher-end lenses to match the protection levels of the camera bodies.



▲ The focus distance scale on the OM System 90mm f/3.5 Macro also includes the magnification factors.



▲ Ultra-thin coatings are applied to the surfaces of many elements to reduce reflections and optimise transmission. These are visible as slight colorations, in this case green on the surface the front element.

IN PRACTICE



▲ Here's the optical construction of the OM System M.Zuiko Digital ED 90mm f/3.5 Macro IS PRO. It's optimised to maintain image quality when working at very short focusing distances.



▲ Tilt/shift lenses allow for more control over perspective via their tilt/swing movements and the plane of sharpness via their up/down and left/right shift adjustments. This is the Fujinon GF110mm f/2.0 R LM WR for Fujifilm's GFX medium format camera system.

background distance is compressed, an effect known as foreshortening.

Zoom Lenses

The earliest zoom – or variable focal length – lens designs date back to the mid-1940s, but it wasn't really until the mid-1970s that modern optical design and manufacturing techniques allowed for more compact and affordable zooms which delivered an acceptable level of optical performance. Today, zoom lenses are more popular than primes (i.e. lenses with a fixed focal length) and range from ultra-wide-angle to extreme telephoto models.

As mentioned earlier, all lenses incorporate a number of elements – made from either optical glass or optical-grade resins (or both in some cases) – which bend (or refract) light to a point of focus. Zoom lenses incorporate an extra set of elements to vary the focal length, and this used to mean big and bulky designs with quite a number of aberrations which degraded the image quality.

Essentially, every additional element in a lens's optical construction has the potential to create extra problems which require some form of correction. This used to be done primarily by adding more elements, but obviously this could also lead to more problems, so it's easy to see how zoom lens designers faced real challenges. A key development was the creation of aspherical lens elements with surfaces shaped to provide what amounts to 'built-in' optical correction. Initially, this required a time-consuming process of precision grinding and polishing by hand which limited production. A breakthrough came in the early 1980s with the perfecting of glass moulding techniques which enabled quite complex surface shaping – created via computer-aided design – to correct for various aberrations and also enhance overall sharpness.

Today, aspherical elements are also often made from optical-quality resins or, in some instances, use a spherical glass core over which is coated a resin to create the aspherical surfaces. These are known as hybrid aspherical elements.

Aspherical lens elements – along with those made from special formulations of optical glass – allow complex zoom designs to now be achieved with a high degree of correction for various aberrations, excellent optical performance across the focal range, compact and lightweight constructions and affordable prices.

There are wide-angle zooms (17-35mm, for example), medium range zooms (such as 28-105mm) and telephoto zooms (100-300mm, 100-400mm or 100-500mm). However, there are also zooms with much longer focal ranges such as 28-300mm which spans wide-angle to telephoto in one lens. Ultra-wide zooms are also becoming more commonplace thanks

to both optical technologies and the design freedoms now possible with the mirrorless camera configuration.

The downside to zooms is that they are generally slower than any prime lens within their focal range. Lens *speed* refers to the maximum aperture or the maximum amount of light the lens will let in to reach the imaging sensor. Because of the additional elements and the nature of a zoom's optical design, more light is lost internally and there are limits to the diameter of the diaphragm (which controls the aperture size). So, for example, a 24-70mm zoom may have a maximum aperture of f/2.8 at 24mm and f/4.0 at 70mm whereas a 50mm prime lens may have a maximum aperture of f/1.4 or even f/1.2 (remember that the smaller f-numbers indicate a larger aperture opening).

As a general rule faster lenses are more expensive (and also bulkier) because of the measures taken to increase their light transmitting efficiency. For example, a 24-70mm zoom with a constant maximum aperture of f/2.8 may well cost twice as much as one with the f/2.8-4.0 maximum aperture range just quoted above or, indeed, a constant maximum aperture of f/4.0.

Wide-Angle Lenses

Traditionally, a wide-angle lens is one with a focal length shorter than the 50mm which is generally considered the 'standard' focal length. However, in practice, a wide-angle is any lens with a focal length between 20mm and 35mm.

As the focal length decreases, the angle-of-view increases and the subject size becomes smaller relative to the whole frame area being recorded. Lenses with a focal length shorter than 20mm – i.e. 14mm, 15mm or 19mm – are described as 'ultra-wides'. Beyond this, you move into the area of the fisheye lens which has an angle-of-view of 180 degrees – or even greater – and gives a distinctive 'bulbous' look. Ultra-wide angle lenses (and fisheyes) need to be used with care as the degree of distortion they produce doesn't work with all subjects.

The more 'general purpose' wide-angle focal lengths are 21mm, 24mm or 28mm, with the first two providing a good balance between an expansive angle-of-view (for landscapes, street scenes, interiors, etc.) and practicality in pictorial terms.

Wide-angle lenses have inherently

“An important point to understand is that the focal length of a lens doesn't directly control perspective.”



▲What a difference an extra stop of aperture makes. This is the Nikon Z 35mm f/1.4 (left) seen alongside the Nikon Z 35mm f/1.2 S model.



▲They're generally known as 'fast' lenses because the larger maximum aperture allows more light to reach the sensor which also makes for a wider front diameter. This is Sigma's 135mm f/1.4 DG Art prime lens which is the first time the focal length of 135mm has been combined with an aperture of f/1.4 in an autofocus model.

▼The focal length of a lens is the distance from its optical centre to the focusing point in the camera which, obviously, coincides with the focal plane. Consequently, long focal length lenses – otherwise known as telephotos – are also physically long. Sigma's 300-600mm f/4.0 supertelephoto zoom is just a shade under 47 centimetres in length (and, for the record, weighs 3.97 kilograms).



▲True macro lenses deliver at least a 1:1 magnification ratio – which means the subject is reproduced at life size. A growing number of models, however, allow for a greater-than-life-size reproduction. This image is of Japanese windflower stamens photographed at 2:1 with the OM System 90mm f/3.5 Macro.

increased *depth-of-field* which means that, when you focus on a particular point, more of the scene in front of, and behind, this point will also be sharply rendered. Ultra-wide lenses actually have such long depth-of-field you don't really have to worry about focusing at all. Depth-of-field is also varied according to the selected aperture, with smaller apertures (i.e. f/16 or f/22) giving much greater depth-of-field than wider apertures (i.e. f/2.8 or f/2.0).

Telephoto Lenses

Again, the definition of a telephoto lens is one with a focal length greater (or longer) than 50mm, but the telephoto range is generally accepted to begin at around 85mm which would be classified as a 'short telephoto' lens. Beyond 300mm you move into the 'supertelephoto' range which includes 400mm, 500mm and 600mm lenses. Anything longer than 600mm is generally for specialised applications such as wildlife or some sports.

As a rule, image brightness decreases as the focal length increases so many telephoto lenses or telezooms are described as being 'slow' because they may only have a maximum aperture of f/5.6 or even smaller. Image brightness can be increased by increasing the diameter of the aperture, but this results in a bulkier and more expensive lens. For example, a 300mm f/2.8 lens can cost up to \$8000 or more, but a 300mm f/5.6 model could be as cheap as \$500. Professional sports photographers need 'fast' telephoto lenses especially if they're shooting in indoor locations, but as they're earning money from their pictures it's easier to justify the investment.

Long telephoto lenses are inherently big and heavy (due to the longer focal length) which makes them more difficult to handle. Additionally, the higher magnifications increase the risk of camera shake which causes blurring of the image... as any tiny movements during an exposure are also greatly magnified. This is why you see sports photographers always using tripods or monopods to support the camera and lens. If you want to hand-hold the lens, the general rule is that the shutter speed should not be slower than 1/the focal length – so, for example, with a 300mm lens you shouldn't select a shutter speed slower than 1/300 second or, with a 500mm lens, slower than 1/500 second. Of course, if you use a tripod, then you can select slower shutter speeds, but always make

IN PRACTICE



▲ The mirrorless camera configurations – chiefly the shorter back focus distance – allows for greater freedoms in lens design, including more compact and lighter models. For example, Panasonic's Lumix S 100-500 f/5.0-7.1 OIS telezoom is both smaller and lighter than many 100-400mm models.



▲ Here's another example of the size and weight reductions that are possible when designing a lens for a mirrorless camera. Canon's RF 70-200mm f/2.8L IS USM telezoom is 27 percent shorter and 28 percent lighter than the equivalent EF mount DSLR lens (which, incidentally, is still available).

sure the tripod is securely set-up so there's no possible source of vibration. A good idea is to use the self-timer to trigger the shutter (or a remote control) so you can avoid actually pressing the button which could cause vibrations.

An increasing number of telephoto lenses incorporate optical image stabiliser mechanisms which are designed to correct for a certain amount of camera shake movement and allow for hand-held shooting at slower shutter speeds. Alternatively, many mirrorless camera bodies have sensor-shift image stabilisation which also provides correction for camera shake. Some systems combine both in-camera and optical image stabilisation to provide enhanced compensation for camera shake.

Telephoto lenses have an inherently shallow depth-of-field which means focusing can be critical if you need particular parts of a scene to be reproduced sharply.

Macro Lenses

The term 'macro' appears quite frequently on modern zoom lenses, but is actually often used incorrectly. The true definition of a macro lens is one that focuses sufficiently closely to the subject to give a life size reproduction (i.e. the object, or part of the object, is the same size in the image as it is in real life). Most so-called macro zooms are actually better described as 'close focusing' and rarely give a reproduction ratio greater than 1:4 (i.e. quarter life size).

In a true macro lens, the optical design is fully corrected for the aberrations which occur when focusing at such short distances.

Macro lenses are mostly prime designs with focal lengths of 50mm, 90mm – or 100mm – and 200mm (in the 35mm/full frame format). However, closer focusing capabilities can also be achieved with 'normal' lenses by using either extension tubes which fit between the camera body and the lens, or close-up 'filters' which screw to the front of the lens. Both are available with various magnification powers, but this arrangement won't have the same level of correction as a dedicated macro lens.

Perspective Control (PC) Lenses

Perspective control lenses – also called tilt-shift lenses because of the way they work – are fairly specialised tools, primarily designed for architectural work, but with applications elsewhere, including landscape photography.

The design principle is the same as that of the traditional large format film view camera which compromised a lens standard and a film standard connected by a set of bellows. The flexibility of the bellows enabled the lens and film to be tilted, swung or shifted independently of

each other, enabling much greater control over both perspective and sharpness than is possible with a rigid-bodied camera.

However, the same effects can be achieved with a rigid-body camera fitted using a perspective control (PC) or tilt-shift lens. These lenses incorporate a mechanism which allows the lens's optical axis – the image plane – to be moved in relation to the focal plane (i.e. either tilted or shifted). A vertical shift adjustment allows for the correction of *convergence* which otherwise makes tall buildings appear as if they're toppling over. Most PC lenses allow for shifts to be made in either the vertical or horizontal planes.

The tilt adjustment allows the plane of sharpness to be adjusted (literally tilted from the normal perpendicular) which will give infinite depth-of-field without the need to select smaller apertures. If you think of the plane of sharpness as a sheet of paper, held vertically, then only the thickness of the paper represents what would be sharply rendered in the image. If you then lay the sheet of paper down, which is the effect of the tilt adjustment, then everything covered by it, from front to rear, would now be sharply rendered... which, in photographic terms, represents greater depth-of-field. Again, a tilt can be applied in either the vertical or horizontal plane. A tilt adjustment that's applied in the horizontal plane is called a swing and enables sharpness control in this plane.

Design Freedoms

Thanks to the introduction of mirrorless cameras, there are now more freedoms when it comes to designing lenses for these systems. For starters, the shorter flange back distance – or back focus distance – makes it easier to achieve more uniform centre-to-corner sharpness. Additionally, there is more flexibility with what lens designers can do with an optical construction, especially for wider angle models... and particularly with the smaller format 'crop' sensors. There's also the potential to make a lens much more compact compared to the same model designed for use on a reflex camera body.

Consequently, this is a very exciting time in lens design with a much greater choice of brands – notably from China – and a wider variety of models than ever before.

“Thanks to the introduction of mirrorless cameras, there are now more freedoms when it comes to designing lenses.”



▲ Modern lens design is allowing for more exotica such as Canon's RF 7-14mm f/2.8-3.5L Fisheye STM which allows for both circular and diagonal fisheye views

In addition to the mirrorless revolution, there are new lens technologies which enable specifications and capabilities that could only be dreamt about a decade or so ago.

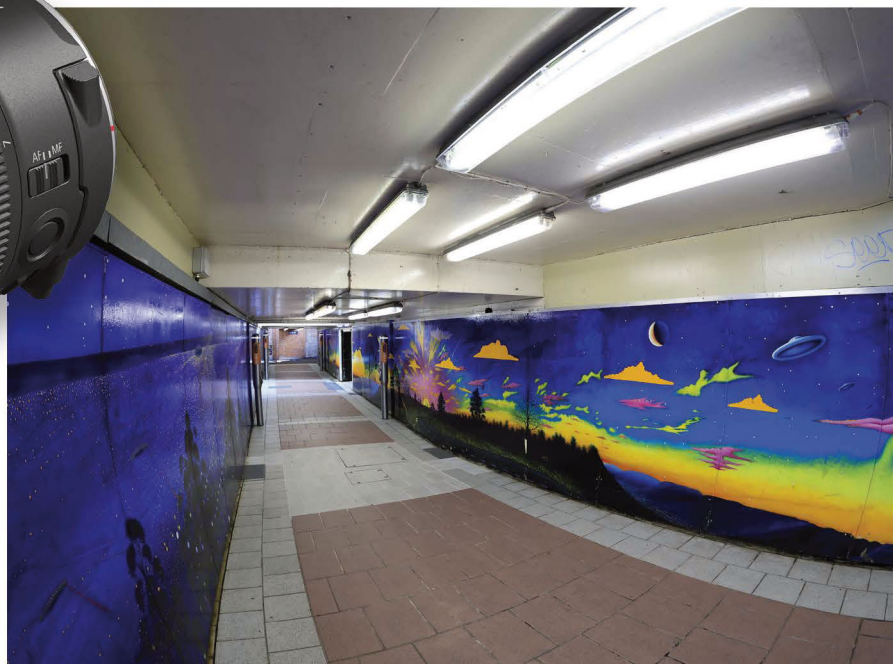
Developments in design processes, more advanced materials (particularly engineering plastics of various types) and manufacturing techniques have enabled many of the technical challenges which were restrictive in the past to be overcome. These have allowed for more compact and lightweight lenses without compromising performance, either optically or mechanically. Additionally, more 'exotic' designs – in terms of the focal length, zooming range, maximum aperture or close-up capabilities – can now be achieved... and, importantly, at affordable prices.

Let's take a look at some of the key technologies which feature in modern camera lenses and significantly contribute to enhanced image quality.

Anti-Reflection Multicoating

When light hits the surface of a lens element some of it is transmitted and a small amount is reflected... or it would be if it wasn't for special multi-layered coatings. Not only would the reflected light – between four to ten percent at each lens surface – be lost to the exposure, it would also bounce around inside the lens, creating ghosting and flare which compromises both colour and contrast. Multi-layer antireflection coatings – better known simply as multicoating – are designed to ensure the widest possible spectrum of light wavelengths are passed through the lens elements. Methods of applying these coatings to the surfaces of a lens element continue to evolve with the aim of improving their effectiveness at suppressing reflections.

As the name indicates, these are multiple coatings generally applied via a vacuum deposition process so they're incredibly thin. The layers comprise dielectric materials – primarily metal oxides and fluorides – which



▲ A comparison of the circular and diagonal fisheye views available from Canon's RF 7-14mm. The angles-of-view are 190 and 180 degrees respectively.

each have a different refractive index, optimised to complement the element's refractive index. The refractive index of an optical material refers to its efficiency at bending – or refracting – light. The higher the refractive index, the more efficient it is at transmitting light.

Internal reflections within a lens became more of an issue with digital cameras as sensor surfaces are highly reflective and this has demanded the development of more effective coatings. Likewise, modern zooms which use a large number of elements. A lot of work has gone into devising ultra-thin coatings – at the nanometer level – which are also formulated to the design a particular lens. The number and type of coatings applied to each element's surfaces is

individually calculated to match the lens type and the glass used.

Optical Image Stabilisation

Before in-body image stabilisation (IBIS) became largely standard on mid-range and higher-end interchangeable lens cameras, optical image stabilisation (OIS) in lenses helped extend hand-held shooting, especially with the longer focal lengths. Most telephoto primes and zooms still incorporate OIS and most camera systems allow for OIS and IBIS to work together, extending the overall effectiveness (primarily for the pitch and yaw corrections). It's worth noting that IBIS operates over five axes, OIS over just two – tilt (pitch) and pan (yaw).

Tiny gyros – also known as angular

IN PRACTICE



▲ Reviving what was a classic telephoto prime for 35mm SLRs and full frame DSLRs, combines the telephoto focal length of 200mm with a fast maximum aperture of f/2.0 – comparatively speaking – which makes this lens more workable in low-light situations.



▲ Lenses primarily designed for video applications have some differences including, as seen here, a geared focusing ring so that they can be connected for a follow focus drive for more accurate control. Note also the maximum aperture is marked here as T1.2. The 'T' stands for 'Transmission' and T-stops are actual light transmission values (as tested for the lens) while f stops are theoretical values



▲ As the focal length becomes smaller, the angle-of-view increases and the subject size becomes smaller relative to the whole frame area being recorded. Hence, short focal length lenses are wide-angles, but are also physically shorter. This is Sony's FE 16mm f/1.8 G – actually more of an ultra-wide-angle because its angle-of-view is 107 degrees – which measures just 75 millimetres.

velocity sensors – within the lens detect the small movements associated with camera shake. This information is fed to a microprocessor which translates it into drive commands for the image stabiliser itself. This comprises a small group of lens elements that can be moved in any direction around the lens's optical axis to counter camera shake. It all happens very rapidly and, with steadily more powerful microprocessors and micromotors, can now provide up to five or even six stops of correction for camera shake.

The rule-of-thumb for the 'safe' hand-holding of a lens is that the slowest shutter speed usable equates to 1/focal length... so, for example, this would be 1/200 second with a 200mm lens. Image stabilisation enables you to use slower speeds and, with four stops of correction, you could feasibly go as slow as 1/15 second. In reality, it's advisable to experiment as there are other factors involved such as the physical challenges of holding a bigger and heavier lens absolutely steady, but image stabilisation undoubtedly provides extra leeway. It's worth noting here that if you're using a camera with an 'APS-C' or Micro Four Thirds size sensor, the 1/focal length rule is still based on the effective (i.e. 35mm equivalent) focal length.

Optical image stabilisation first appeared in longer focal length lenses which made sense given their higher magnification power (which also amplifies any movements), but it's now becoming more common in wider-angle lenses, extending the hand-held shooting possibilities in low-light conditions. The latest stabilisers can also automatically detect when the camera is mounting on a tripod, recognising the action of panning and disabling the correction for movement in that direction. This eliminates the need to manually switch between IS modes.

The benefits of image stabilisation aren't just limited to enabling the use of slower shutter speeds when shooting hand-held. Alternatively, it allows for the selection of a smaller aperture – for example, f/8.0 rather than f/2.0 – which, in turn, provides greater depth-of-field. Furthermore, there is also the possibility of shooting at lower ISO settings to optimise image quality.

Special Glass Elements

Visible light is made up of the different colours which all have their own wavelength within the visible spectrum.

All these wavelengths bend at slightly different angles when they pass through a lens element which means they become dispersed... in other words, they do not converge at the same point. You can see dispersion at work when a beam of white light is passed through a prism and subsequently splits into a rainbow effect.

In photography (and video-making) dispersion is a problem as it creates chromatic aberrations, either transverse (also known as lateral chromatic aberration) and axial (or longitudinal).

Transverse chromatic aberration manifests itself as colour fringing predominantly along high contrast edges at the edges of the frame. It's a characteristic of shorter focal length lenses and cannot be reduced by stopping down the aperture (since it's related to lens magnification). It can be easily corrected post-camera, but optical correction via elements made from special glass formulations help minimise the amount of processing that might subsequently be needed.

Axial chromatic aberrations can be seen as colour fringing around high-contrast subjects either in front of or behind the focal plane. It's common with longer focal lengths and can be visible across the entire frame. It's harder to correct post-camera (and also via in-camera processing for lens aberrations), but can be reduced in-camera by stopping down the lens.

Historically, Nikon was the first lens manufacturer to devise special formulations for its optical glass which created low-dispersion characteristics. Oxides of various rare earth elements are used in the glass to minimise the differences in the refraction of the colour wavelengths. Subsequent refinements have produced extra-low dispersion (ED) glass which is also called ultra-low dispersion (UD) glass by some lens makers (Canon, for example) and super-low dispersion (SLD) by others. These formulations have to be very precisely calculated so ED/UD glass is quite expensive to make, but nowhere near as costly as creating fluorite elements which inherently have the lowest dispersion characteristics of any optical material, but have to be painstakingly grown from synthetic fluorite crystals. A number of very high performance telephoto lenses employ fluorite elements – they also have a very low refractive index – but these are very expensive indeed. Many lens makers have tried to come up with alternatives such as Sigma's 'F Low Dispersion' (FLD) glass – which was co-developed with Hoya – and is claimed to have very similar transmission and dispersion characteristics to fluorite, but is much cheaper to manufacture.

It's common to see the term 'APO'

in a lens's model number and this is short for apochromatic (or apochromat) which refers to any optical design incorporating special elements to correct for chromatic aberrations by focusing the red, green and blue wavelengths at the same point. APO lenses also correct for spherical aberrations – where the light rays passing through the edges of an element converge at a different focal point those passing through the centre, causing a loss of sharpness particularly towards the edges of the frame – primarily by employing aspheric (or aspherical) elements.

Some lenses also employ high-refractive index (HR) optical glass which bends the light rays more efficiently and so can be made thinner – and hence also lighter in weight – than an ordinary glass element. Consequently, they're used in more complex optical designs to help reduce the size and weight of a lens. The HR glass formations use heavy metal oxides – such as lanthanum or niobium – to achieve a higher refractive index. As a result, these elements also inherently have low dispersion characteristics and high transmittance.

Finally, we've already discussed aspherical elements, but it's worth repeating here that they also play a very important part in enhancing optical performance. To recap, an aspherical lens element corrects for distortion and spherical aberrations by continually changing the refractive index from the centre of the element (i.e. its optical axis) to the edges via the precise non-spherical shaping of its surfaces.

Weather Protection

Weather-proofed lenses employ seals at the various barrel tube junctions and a rubber gasket around the lens mount plus, in some cases, a special fluorine coating is used on the exposed surface of the front element (and sometimes the rear element as well) to help repel moisture and also allow for easier cleaning.

The degree of weather sealing provided can vary from brand to brand and across models with the precise degree of protection often hard to pin down. It ranges from being essentially only splash-proofing through to the capacity to withstand longer-term exposure to constant rain or heavy seaspray. Additionally, not all so-called weather-protected lenses allow for operation in sub-zero temperatures (which, among

“Ultra-wide lenses actually have such long depth-of-field you don't really have to worry about focusing at all.”

other things, affects the lubricants) so there could be issues when shooting, particularly for prolonged periods, in the snow or in icy conditions.

Microprocessors

Today's lenses are as much electronic devices as they are optical ones, given so much of what they do is handled by one or more high-speed microprocessors.

As a basic level, the microprocessor delivers information about the lens (focal length/range, aperture range and the minimum focusing distance) back to the camera body. This determines autofocus operation, exposure control and, increasingly, in-camera corrections for lens aberrations, including distortion and vignetting. Most digital cameras, mirrorless or D-SLR, are performing some level of lens correction on-the-fly at the point of capture, in addition to allowing for manual selection of certain functions.

In-lens processors also control the AF drive and handle an image stabiliser's operation. A number of lens makers – among them Sigma, Samyang and Tamron – offer the facility to customise these operations via a USB interface or dock and dedicated software. Sigma's USB Dock, for example, is essentially a lens mount adapter which enables connection to a computer via a USB cable. Once this is done, the Sigma Optimisation Pro software allows for firmware upgrades as well as adjustments to the autofocus speed and distance limiter range, corrections for front/back focusing, changes to the image stabilisation as monitored in the viewfinder, and set the custom operating modes for the lenses which have this capability (and which can be tailored to specific subjects or situations).

In-Camera Lens Aberration Corrections

Obviously not a lens-based feature, but one that can have an influence of the optical performance of a lens. On the surface, in-camera lens corrections would seem like the perfect solution, absolving lens designers from having to work so hard to achieve high levels of optical correction. In practice, though, there are some limitations. Firstly, there needs to be a lens profile that the camera recognises which obviously won't be a problem if you stay with a brand's system, but may not be available with third-party lenses.

Secondly, the in-camera corrections are only applied to JPEGs and embedded as metadata in RAW files for subsequent processing post-camera using supporting software. So, of course, RAW files have to be processed post-camera anyway so applying lens corrections won't add much to the workload. RAW file processing programs such as Adobe Lightroom and Capture One make it easy to apply lens aberration corrections – and also more precisely control



▲As Hasselblad's X system cameras use a sensor that's larger than 35mm/full frame, the effective focal of the XCD 35-100mm f/2.8-4.0 zoom is equivalent to 28-76mm due to the focal length magnification factor being 0.79x.

the degree of correction – but you'll need to make sure that the camera's corrections aren't also being automatically applied as overcorrection will then likely be the result. However, remember too, that the in-camera correction of chromatic aberrations is for the transverse/lateral CA and axial/longitudinal has to be manually corrected post-camera in, for example, Lightroom.

Thirdly, while in-camera lens corrections for JPEGs can enhance an image in technical terms – by eliminating vignetting, distortion, diffraction and lateral CA – it can also have negative effects such as a loss of resolution (particularly corner sharpness), an increase in noise and a distortion of bokeh whereby the out-of-focus effects become more oval-shaped than uniformly rounded. With many applications, these side-effects will have negligible effects, but they can potentially become an issue with more technical subjects such as astrophotography.

Depending on the brand, mirrorless cameras employ varying approaches to lens corrections with some performed automatically 'behind the scenes' and some available for manual adjustment, either on/off or with a choice of levels such as low, medium and high. It can sometimes be the case that a lens design prioritises some corrections optically and leaves the others to be handled by in-camera processing.

In generally, higher-end lenses – such as Sony's G Master series or Nikon's S line Nikkor Z models – will be designed with as much optical correction as is feasible in order to give the best possible starting point for any subsequent software processing. 📷

AUDIO-TECHNICA ATV-SG1 ON-CAMERA VIDEO MICROPHONE



in a variety of applications including live concerts, recording studios, music venues and theatres.

It's made on-camera microphones in the past, but with the use of hybrid mirrorless cameras for video-making across a much wider range of productions, it was time for something new which leverage the latest audio technologies and microphone design features. The first two models are the ATV-SG1 and the ATV-SG1LE which both share the same basic acoustic configuration, but the latter has fewer features and, consequently, is simpler to use and more affordable. Audio-Technica sees this model as mainly appealing to content creators and vloggers as it essentially offers simple plug-and-play convenience.

However, we're concentrating on the ATV-SG1 here because we reckon its extra features are well worth the extra money, and make it better suited to a wider range of recording situations and output applications.

The shared design configuration is a 100 millimetres long acoustic tube with a newly-designed 14 millimetres large-diameter diaphragm condenser-type microphone. This arrangement gives a very directional pick-up pattern which basically means that most of its sensitivity is concentrated in the direction that it's pointed and sounds from the sides or behind you are suppressed to reduce background noise. Ambient noise isn't entirely eliminated, but a little is still a good thing in terms creating context and atmosphere while not distracting from your main subject.

This type of microphone is commonly termed 'shotgun' – mainly because of its long barrel – and it's great for recording voices, instruments or sounds coming from a single source (such as a car engine, for example). You'd use it at a wedding, for example, when shooting the couple taking their vows and the speeches at the reception afterwards.

AUDIO CONTROLS

Both the ATV series models are solidly built with metal tubes and metal mesh grilles and have built-in shock mounts to isolate the

TRACK WORKER

If you're serious about recording video, you need to be serious about recording audio and that means investing an external microphone which will always do a better job than your camera's built-in ones. Broadcast audio expert Audio-Technica has introduced its first on-camera microphones for video-makers.

Nothing makes a video clip – even one that's been very well shot – appear more amateurish than poor quality sound so the reality is that you'll need to invest in a bit of audio knowledge and some audio hardware. The key requirement in terms of the latter is an on-camera microphone and, while you can go further and have external recording, an external mic alone will make a big contribution to better soundtracks for your videos. As hybrid still/video cameras have proliferated – especially in the mirrorless era – the choice of video mics has increased

enormously so Japanese professional audio company Audio-Technica is boosting its presence in this market with an all-new series of compact on-camera microphones. Audio-Technica started out in 1962 making bespoke cartridges for record players and today its turntables, headphones and microphone systems are used all over the world

► The ATV-SG1 is compact and well-built with a mostly-metal construction.





▲It's also well-equipped with several useful audio controls to optimise performance when shooting outdoors or inside.

microphone itself from handling noise or vibrations. Both connect to the camera via a coiled 3.5mm TRS-to-TRS cable which is supplied in the box, along with a 'fluffy' (also, less charmingly, known as 'dead cat') which is a furry windshield that fits over the tube in windy conditions to reduce buffeting noise.

The SG1 comes with an additional USB cable (Type C to Type A) which is for recharging its built-in battery with a full charge giving up to 24 hours of recording time (the LE model is powered from the camera). Conveniently, the SG1's power turns on and off with the camera, although it also has its own on/off button. It also has several other controls that aren't provided on the LE model and these are related to features which provide you with more control, particularly in terms of dealing with specific recording situations. They comprise a mode selector, a low-cut filter switch and a gain control plus there's the USB C port for battery recharging, a 3.5 stereo audio output for headphones (with a volume control) and an 'EXT IN' external audio input (more about this shortly).

The audio mode selector has three settings which configure the stereo output

and are labelled 'Normal', 'Safe' and 'Ext'. The 'Safe' mode is a particularly interesting feature and records the main audio on the left channel along with a secondary back-up or safety track that's recorded on the right channel with -6 dB reduction in level to deal with any sudden spikes in volume which would cause harsh distortion (known as 'clipping' in audio terms). The 'Ext' mode is also interesting and allows you to use a wireless microphone – such as a lavalier type – along with the SG1's own mic, each recording simultaneously to their own channel. The lav mic's wireless receiver couples to an accessory shoe atop the SG1's body and plugs into the external audio input mentioned a moment ago. Why might you want this arrangement? Well, it's a quick and easy way for a solo operator to have a second microphone on set or on location and it'll also be handy if you want to shoot dialogue or a PTC (piece to camera) from further away which is when the shotgun mic won't work so well. With wireless lavalier mics clipped on your subjects, the voices will still be loud and clear.

Using the mic's gain knob, you can choose to set the levels yourself according to the where and what you're recording and guided by the level meters displayed in the camera's monitor screen. Put simply, you want to avoid the meters going into their red zones too often and which means very high volumes that will result in distortion. Located at the rear of the mic, the knob's adjustment is stepless with a range of 37 dB, and there's a neat little shield along the outside edge to prevent it being accidentally

nudging off a setting.

The low-cut filter switch – a little obscurely marked if you aren't familiar with these things – can be engaged to filter out lower frequency sounds such as wind buffeting, the rumble of traffic or trains in the background, crowd noise or the hum of heating or ventilation systems when shooting indoors. On the SG1, it's set at 160 Hz with 24 dB roll-off slope.

On both models, Audio-Technica's patented A-T noise-immunity technology eliminates RF interference or hum from nearby smartphones or other electronic devices.

Another thoughtful feature of the SG1 is a sliding mount so the whole unit can be moved backwards on the camera's hotshoe. The adjustment range is around 40 millimetres and, if you're using a very wide-angle lens, allows you to reposition the mic so the front of the acoustic tube doesn't appear in the frame. The hotshoe mount itself has a 12-sided plate so the mic's angle can be set at 30-degree increments for a more precise 'aim' if your subject is offset in the frame. This, incidentally, is also a feature of the LE model.



An audio mode selector and manual gain knob are located at the rear of the SG1.

PERFORMANCE

Clearly, quite a bit of thought has gone into the ATV-SG1's design with attention to the particular requirements for video shooters using it on-camera and often working solo. There are no hidden complications with setting up – you simply secure it to the camera hotshoe, plug it into the camera's audio input and switch the camera on (the mic will switch on automatically with it). In many situations that's all you'll need to do and



BOTH THE ATV SERIES ON-CAMERA MICS ARE SOLIDLY BUILT WITH METAL TUBES AND METAL MESH GRILLES, AND HAVE BUILT-IN SHOCK MOUNTS."

►Novel sliding-rail mount allows the SG1 to be moved back on the camera hotshoe to avoid it appearing in the frame when using an ultra wide-angle lens.



AUDIO-TECHNICA

ON TRIAL

you're ready to roll. Otherwise, depending on the conditions, set the gain manually or the low-cut filter or, if you're unsure what's going to be happening with volumes and don't want to be continually adjusting levels, select the 'Safe' audio mode and the SG1 do the rest.

The audio quality is rich and detailed – especially for vocals – but it also reproduces

stringed instruments, such as a solo acoustic guitar or mandolin, with exceptional clarity and character. However, it also copes well with higher volume levels – as you'd expect with a maximum input level of 126 dB which is properly loud – and the dynamic range of 60-20,000 Hz ensures a solid bass reproduction along with crisp high frequencies. Perhaps not surprisingly given the target applications, the mid-range frequencies are a little brighter in emphasis, but Audio-Technica itself says the ATV design philosophy is to primarily deliver a "lifelike reproduction of the human voice and other sources." It certainly succeeds in terms of the excellent audio quality, further assisted by a pretty well perfect balance between the directional sound and the ambient sound.

THE VERDICT

Compact but solidly built, the ATV-SG1 is cleverly designed with an emphasis on the

◀'External' mode allows for a wireless microphone – such as lavalier lapel types – to be added to the set-up with the receiver mounted on the SG1's accessory shoe



▲ATV-SG1LE model shares the same basic acoustic design and sturdy construction as the SG1, but lacks the audio controls, the sliding mount and the accessory shoe.

particular demands of on-camera usage hence the flexible mounting options and the versatility inherent in the 'Safe' and 'External' modes. However, Audio-Technica gets all the fundamentals right too, so the audio performance is exceptional with enough additional controls for when the recording conditions are less than ideal. The key word here is "enough" so the SG1 isn't so complicated that the novice user will be overwhelmed and, instead, it doesn't take long for you to be operating it like a pro and subsequently getting better results without needing to be an audio expert. Given its capabilities, it's well-priced too, but the LE version is even more affordable if you're happy to let A-T's know-how do all the work. Either do a brilliant job, but the SG1 is the one to have if you want superior video soundtracks in any recording situation. 🎧



VITAL STATISTICS



AUDIO-TECHNICA ATV-SG1

\$369

Design: 14 mm large-diameter diaphragm housed in 100 mm acoustic tube to give highly directional shotgun pick-up characteristics (i.e. hypercardioid polar pattern). Integrated shock mount.

Frequency Response: 60-20,000 Hz.

Low Frequency Roll Off: 160 Hz, 24 dB/octave.

Dynamic Range: 109 dB (1.0 kHz, THD 3.0 percent, at maximum gain).

Sensitivity: -35 dBV at gain setting 5, -28 dBV at maximum gain.

Maximum Input Sound Level: 126 dB SPL (1.0 kHz, THD 3.0 percent, at maximum gain).

Signal-To-Noise Ratio: 77 dB (1.0 kHz at 1.0 Pa, A-weighted, at maximum gain).

Interfaces: 3.5mm minijack stereo audio output to camera, 3.5 mm minijack stereo audio input (with plug-in power), 3.5 mm minijack stereo audio output (with adjustable volume), USB Type C (2.0 High Speed).

Power: Built-in 3.85 volts lithium-ion battery recharged via USB C.

Features: Patented noise-immunity technology (to prevent the pick-up of RF noise/hum), gain adjustment (37 dB stepless), low-cut filter switch, safety track recording mode (to avoid clipping), external mic recording mode (for use with a wireless lavalier mic, 12-side mounting shoe (enabling angled positioning in 30-degree increments), adjustable slide rail, accessory/cold shoe, auto power on/off with the host camera, 24 hour continuous operation per battery charge. Furry windscreen/muff supplied, USB charging cable supplied (Type A to Type C), coiled audio cable supplied (stereo 3.5 mm mini plug to stereo 3.5 mm mini plug).

Dimensions (WxHxL): 35.0x82.0x127.1 mm.

Weight: 155 grams.

Price: \$369.

Distributor: Technical Audio Group, www.audio-technica.com/en-au

VITAL STATISTICS



AUDIO-TECHNICA ATV-SG1LE

\$189

Design: 14 mm large-diameter diaphragm housed in 100 mm acoustic tube to give highly directional shotgun pick-up characteristics (i.e. hypercardioid polar pattern). Integrated shock mount.

Frequency Response: 20-20,000 Hz.

Dynamic Range: 102.5 dB (1.0 kHz at maximum SPL).

Sensitivity: -38 dBV at gain setting 5, -28 dBV at maximum gain.

Maximum Input Sound Level: 114 dB SPL (1.0 kHz, THD 3.0 percent).

Signal-To-Noise Ratio: 82.5 dB (1.0 kHz at 1.0 Pa, A-weighted, at maximum gain).

Interfaces: 3.5mm minijack stereo audio output to camera.

Power: Derived from the camera.

Features: Patented noise-immunity technology (to prevent the pick-up of RF noise/hum), 12-side mounting shoe (enabling angled positioning in 30-degree increments), furry windscreen/muff supplied, coiled audio cable supplied (stereo 3.5 mm mini plug to stereo 3.5 mm mini plug).

Dimensions (WxHxL): 35.0x59.0x127.1 mm.

Weight: 100 grams.

Price: \$189.

Distributor: Technical Audio Group, www.audio-technica.com/en-au

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↑ **Top left:** Yasnaya Elena Aguilar
Top right: Mitzy Violeta Cortez
Bottom left: Luna Maran
Bottom right: Maestra Lety Gallardo

Images from the series *Bilha, Stories Of My Sisters* by Citali Fabián (United Kingdom), Photographer of the Year, Sony World Photography Awards 2026. This portfolio won the Professional – Creative category.

The project tells the stories of iconic women from indigenous communities across Oaxaca, Mexico, whose advocacy work generates meaningful impact across a range of fields.

SONY WORLD PHOTOGRAPHY AWARDS 2026

BY FAR the world's largest photo competition, attracting hundreds of thousands of entries from all over the globe, the Sony World Photography Awards winning images once again shine a light on the myriad highs and lows of life on Earth.

NOW IN ITS 19TH EDITION, the Sony World Photography Awards sets the standard for international photography recognition and brings into focus stories and images with profound resonance, offering an authoritative perspective on the ever-evolving art of photography. Over 430,000 images from over 200 countries were submitted across the Awards' competitions and, amazingly, was whittled all the way down to the winner of the prestigious Photographer of the Year title.

This was awarded to Citlali Fabián from Mexico for her series *Bilha, Stories Of My Sisters*. Citlali is a visual artist from the Yalalteca Indigenous community in Mexico and is currently based in London. She uses photography to explore ways of addressing identity and its connections with territory and community bonds. Citlali receives a US\$25,000 cash prize, a range of Sony Digital Imaging equipment, and the opportunity to present a solo showcase at the Sony World Photography Awards 2027 exhibition.

The Sony World Photography Awards comprises the main Open and Professional competitions – each with ten categories – along with Student and Youth prizes. The Professional competition is judged on a portfolio of between five to ten images while the Open competition is for single images.

Bilha, Stories Of My Sisters tells the stories of iconic women from indigenous communities across Oaxaca, Mexico, whose advocacy work generates meaningful impact across a range of spheres – for example, in law, linguistics, the arts and ecology. Conceived as a project to inspire young girls with positive role models, and created through close, sustained collaboration with the women in the photographs, the images

"The digital drawings applied to the portraits comprise symbols and motifs that reflect the sitters' personal trajectories and celebrate their cultural heritage."

in this series highlight their achievements as well as their lived experiences and motivations. The digital drawings applied to the portraits comprise symbols and motifs that reflect the sitters' personal trajectories and celebrate their cultural heritage.

Commenting on her win, Citlali says, "It is a massive honour to receive this award for *Bilha, Stories of My Sisters*, a series that is deeply connected to my heart and my people. I hope this recognition will help to spread the voice not only about my work, but also about the amazing efforts and work of the women in this project. They are truly inspiring and a force of hope for their communities and beyond."

Citlali's portfolio won the Creative category in the Professional competition. This year's remaining nine professional competition category winners were;

- **Architecture & Design** – Joy Saha (Bangladesh) for *Homes Of Hoar*
- **Documentary Projects** – Santiago Mesa (Colombia) for *Under The Shadow Of Coca*
- **Environment** – Isadora Romero (Ecuador) for *Notes On How To Build A Forest*
- **Landscape** – Dafna Talmor (United Kingdom) for *Constructed Landscapes*
- **Perspectives** – Seungho Kim (Republic of Korea) for *Sunny Side Up: A Portrait Of The Most Average K-Parenting Today*
- **Portraiture** – Jean-Marc Caimi and Valentina Piccinni (Italy) for *The Faithful*
- **Sport** – Todd Antony (New Zealand) for *Buzkashi*
- **Still Life** – Vilma Taubo (Norway) for *Talking Without Speaking*
- **Wildlife & Nature** – Will Burrard-Lucas (United Kingdom) for *Crossing Point*

Open, Student And Youth Awards

The Open competition in the Sony World Photography Awards is a celebration of the photographic image in all its power, recognising standout images for the way they distil a moment into something that resonates far beyond it.

The winner of the Open Photographer of the Year 2026 is Australian photographer Elle Leontiev who receives a US\$5000 cash prize and Sony Digital Imaging equipment. Titled the *Barefoot Volcanologist*, Elle's winning image a striking portrait of Phillip Yamah who is an internationally recognised,

self-taught volcano scientist who is photographed standing atop a volcanic rock bomb on the island of Tanna, Vanuatu. Elle explains, "In 2018 I stood in a London gallery at the Sony World Photography Awards exhibition and dreamed of being featured. Years later, my dream has become real. Seeing my work win has filled me with overwhelming gratitude and tears of joy. It's a reminder that quiet dreams, nurtured and pursued with heart, can come true."

Elle has been a practicing photographer for ten years, working across digital and fine-art darkroom techniques. She believes in photography's power to influence society, exploring humanity, nature and our place in the universe through her images. Her photograph won the Portraiture category of the Open competition. The winners of the other nine categories are;

- **Architecture** – Markus Naartiijärvi (Sweden)
- **Creative** – Siavosh Ejlali (Iran)
- **Landscape** – J Fritz Rumpf (USA)
- **Lifestyle** – Vanta Coda III (USA)
- **Motion** – Franklin Littlefield (USA)
- **Natural World & Wildlife** – Klaus Hellmich (Germany)
- **Object** – Robby Ogilvie (United Kingdom)
- **Street Photography** – Giulia Pissagroia (Italy)
- **Travel** – Megumi Murakami (Japan)

The Student competition for 2026 was won by Jubair Ahmed Arnob from Bangladesh and who is studying at Counter Foto – A Centre for Visual Arts. His series titled *The Place Where I Used To Play* visually narrates the changing landscape of the Green Model Town in Dhaka, Bangladesh, where urban development is altering daily life and the suburban topography.

"Winning this Sony World Photography Award feels like a dream come true," says Jubair. "Years of passion, memories and stories finally being seen and recognised. It fills me with gratitude, joy and a renewed drive to keep capturing the world through my lens."

The Youth competition – open to anybody aged 19 or younger – was won by Philip Kangas from Sweden who is aged 16. His winning photograph is titled *Saving History from the Flames* and captures two firefighters as they carry an artwork out of the Royal Academy of Fine Arts in Stockholm during a fire.

Philip comments, "I was very surprised when I heard that I was a winner in this year's Sony World Photography Awards. I am very happy, as it gives confirmation to my hard work"

To see all the Sony World Photography Awards finalists and category winners for 2026 visit <https://www.worldphoto.org>

COMPETITION



▼ *Saving History From The Flames* by Philip Kangas (Sweden), Youth Photographer of the Year, Sony World Photography Awards 2026.



▲ *The River Without Fish, The Migration Of Dreams and Where The Water Once Was* (top to bottom) by Jubair Ahmed Arnob (Bangladesh), Student Photographer of the Year, Sony World Photography Awards 2026.



▲ *Industrial Layers* by Markus Naartijrvi (Sweden), winner of the Open – Architecture category, Sony World Photography Awards 2026.

▼ *Shapes And Patterns OfThe Desert* by J Fritz Rumpf (USA), winner of the Open – Landscape category, Sony World Photography Awards 2026.



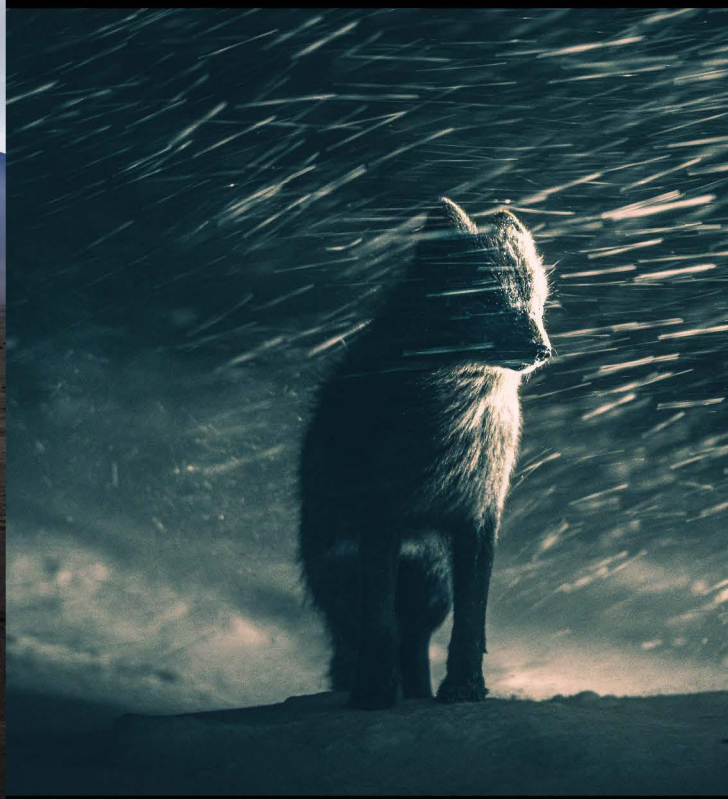
▲ *Lost Hope* by Siavosh Ejlali (Iran), winner of the Open – Creative category, Sony World Photography Awards 2026.

▲ *Colour Divides* by Robby Ogilvie (United Kingdom), winner of the Open – Object category, Sony World Photography Awards 2026.

COMPETITION



▼ *Arctic Fox In Blizzard* by Klaus Hellmich (German), winner of the Open – Natural World & Wildlife category, Sony World Photography Awards 2026.



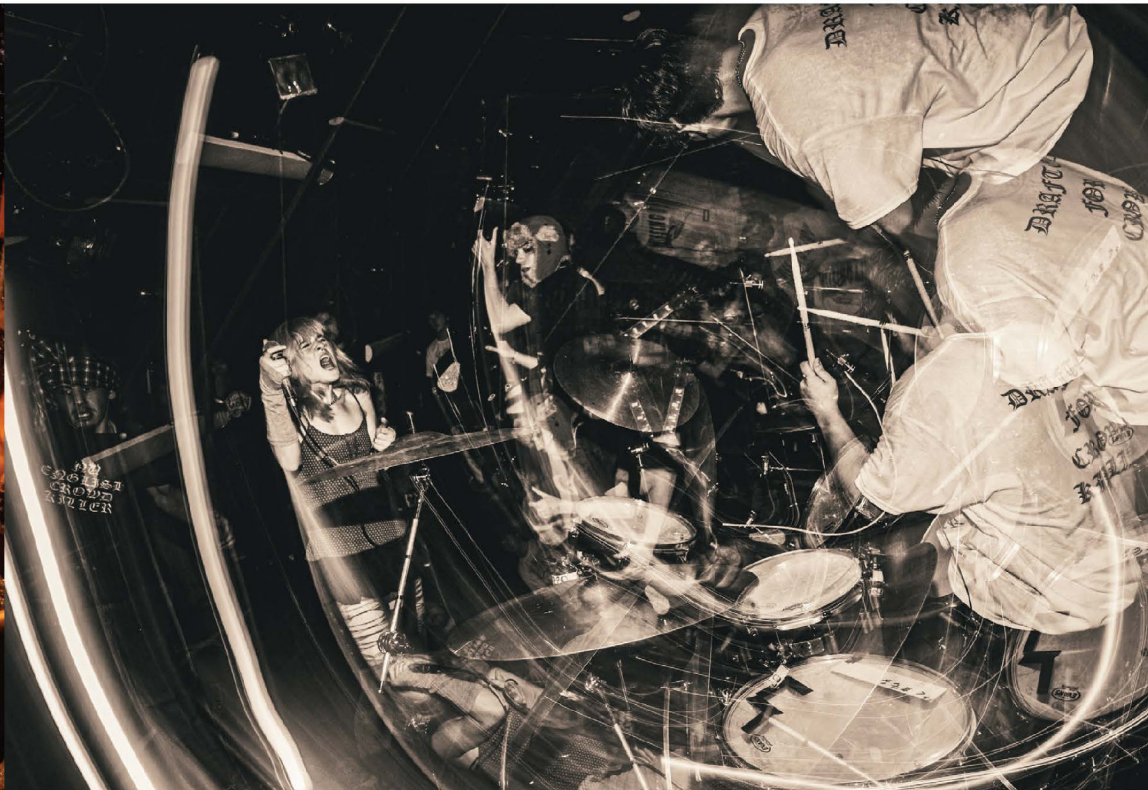
▲▲ *The Barefoot Volcanologist* by Elle Leontiev (Australia), Open Photographer of the Year, Sony World Photography Awards 2026. This image won the Open – Portraiture category.

▲ *Charlotte And Dolly* by Vanta Coda III (USA), winner of the Open – Lifestyle category, Sony World Photography Awards 2026.



▲ *Men's Passion* by Megumi Murakami (Japan), winner of the Open – Travel category, Sony World Photography Awards 2026.

▼ *Between The Lines* by Giulia Pissagroia (Italy), winner of the Open – Street Photography category, Sony World Photography Awards 2026.



▲ *Sailboat* by Franklin Littlefield (USA), winner of the Open – Motion category, Sony World Photography Awards 2026.

COMPETITION



◀ *Isolated Island Homestead, Elevated Homestead Layout and The Embankment Road* (top to bottom) from the series *Homes Of Hoar* by Joy Saha (Bangladesh), winner of the Professional – Architecture & Design category, Sony World Photography Awards 2026.

▼ *Notes On How To Build A Forest* from the series *Notes On How To Build A Forest* by Isadora Romero (Ecuador), winner of the Professional – Environment category, Sony World Photography Awards 2026



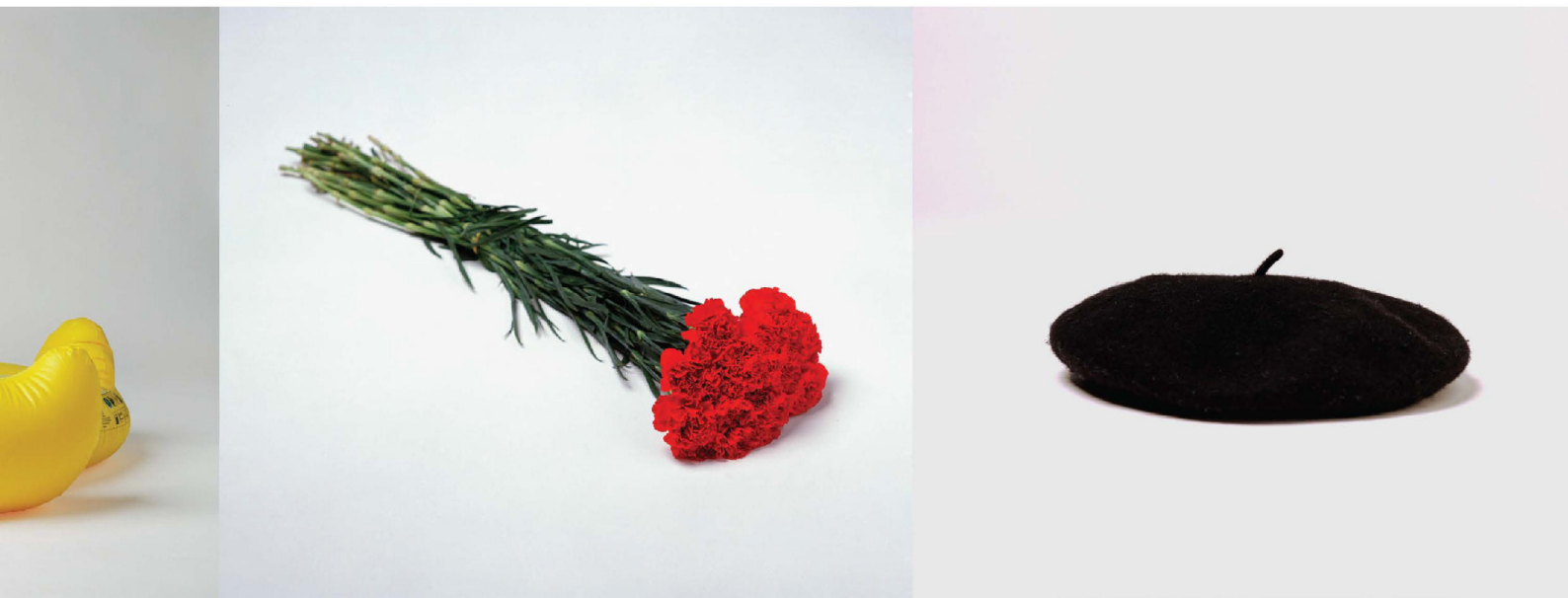
▲ *Sunny Side Up, The Partnership and The Water Melon War* (left to right) from the series *Sunny Side Up: A Portrait Of The Most Average K-Parenting Today* by Seungho Kim (South Korea), winner of the Professional – Perspectives category, Sony World Photography Awards 2026.



◀ Untitled from the series *Under The Shadow Of Coca* by Santiago Mesa (Colombia), winner of the Professional – Documentary Projects category, Sony World Photography Awards 2026.

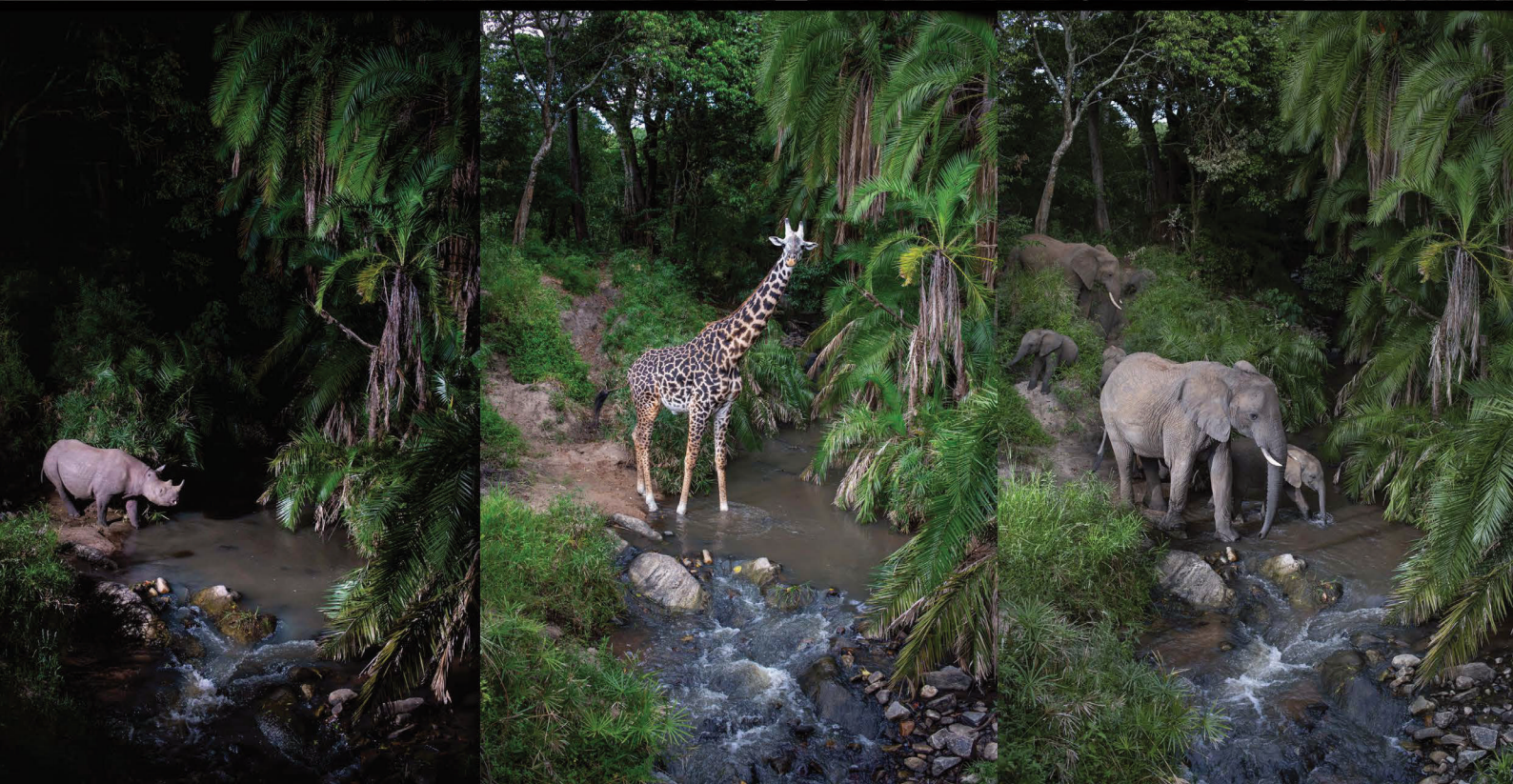
COMPETITION

▼ *The Faithful* from the series *The Faithful* by Jean-Marc Caimi and Valentina Piccinni (Italy), winner of the Professional – Portraiture category, Sony World Photography Awards 2026.



▲ *Rubber Duck, Carnation and Beret* (left to right) from the series *Talking Without Speaking* by Vilma Taubo (Norway), winner of the Professional – Still Life category, Sony World Photography Awards 2026.

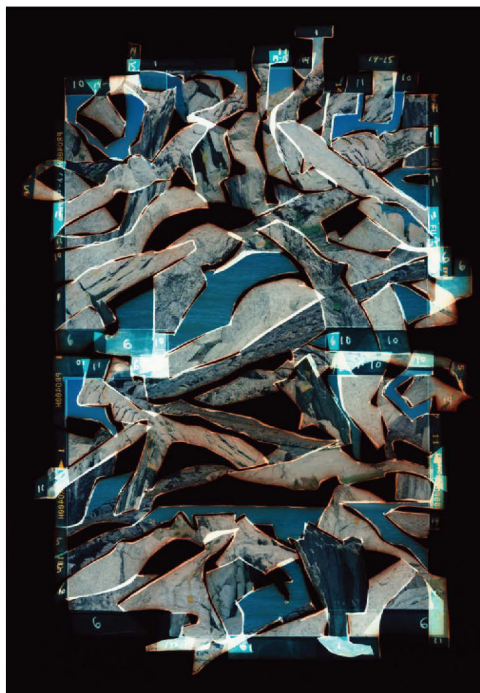
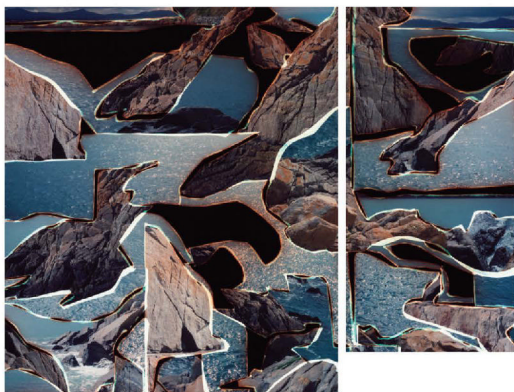
COMPETITION



▲ *Black Rhino, Giraffe and Elephant And Calf* from the series *Crossing Point* by Will Burrard-Lucas (United Kingdom) winner of the Professional – Wildlife & Nature category, Sony World Photography Awards 2026.



▲ *Marengo, Against The Reins* and *Abdulqadir* (left to right) from the series *Buzkashi* (literally meaning “goat pulling” in Persian) which is a fierce and ancient sport of Tajikistan by Todd Antony (New Zealand), winner of the Professional – Sport category, Sony World Photography Awards 2026.



▲ *Untitled* from the series *Constructed Landscapes* by Dafna Talmore (United Kingdom), winner of the Professional – Landscape category, Sony World Photography Awards 2026.

NIKON FM2

REPORT BY PAUL BURROWS



THE PURITY OF SIMPLICITY

By the early 1980s, the race for increased automation in 35mm SLRs was well and truly off and running, but one new model stayed resolutely manual and mechanical. Nikon's FM2 was all about the photographer staying in full control and it stayed in production all the way to the start of the 21st century.

I hadn't been reviewing cameras for very long when, in March 1982, Nikon launched the FM2 followed shortly after in May by the FG. Consequently, they arrived for testing together. The FM2 was magnificent and the FG horrible, and I said as much in my reviews. The then distributor of Nikon cameras in Australia – and a regular advertiser in the magazine – wasn't happy with my summation of the FG and I was duly summoned to the publisher's office for a talking-to. We went through the motions and, after the Nikon man had left, I was told to keep doing what I was doing. Later I learned that,

back at the distributor's offices, the FG was known as "the homing pigeon" because so many of them came back for one repair or the other.

No such issues with the FM2 which was all-metal, all-mechanical and all-manual... something that was starting to become rarer as 35mm SLRs became increasingly automated with a much greater use of plastics in their construction. Even Nikon's pro-level model at the time – the F3 which had been launched in 1980 – had an electronically-controlled shutter to enable aperture-priority auto exposure control. As is always the case with change, there was some resistance to

the camera making decisions, especially from professionals so Nikon was very much targeting these users with the FM2. It was billed as "The Perfectionist's Nikon" and the camera's brochure opened with these words, "It's the age of innovation and technology. But you won't allow them to intrude on your art, your life. You're a perfectionist. Automation is fine, but you want to be in command. Period."

Then there was a tag line which read, "The all-new FM2: the camera that puts everything in your hands". Nikon had certainly read the room because, with just a few minor revisions along the way, the FM2 stayed in production until 2001 which means it survived through the introduction of programmed exposure control (the FA in 1983), motorised film transports (initially for frame advance only, but also with rewinding by the time the F-801 came along in 1988) and autofocus (the F-501 in 1986). Yes, there was the F3 AF – which can claim to be the world's first successful autofocus 35mm SLR – but the better-integrated and certainly more commercially-viable F-501 brought Nikon into line with what was happening at Canon, Minolta and Pentax. The FM2 also outlived the pro-level F4 (1988 to 1997) and was still on sale when Nikon introduced its first 'home-grown' DSLR, the D1, in June 1999.

TIMELINE

Going back in time, the FM2 was a direct descendent of the FM which appeared in May 1977 and marked the end of the famed Nikkormat/Nikommat line of rugged 35mm SLRs and introduced an updated version of the F mount. It incorporated a facility called Automatic Maximum Aperture Indexing – Ai for short – which allowed for the lens's largest aperture setting to be automatically conveyed to the camera's metering system. This replaced a clunky manual operation which required the lens's aperture collar to be first twisted to the minimum (i.e. smallest) aperture and then to the maximum aperture to communicate this range to the camera's meter. The Ai coupling meant everything was relayed to the metering system as the lens was being mounted. Nikon maintained the Ai arrangement on its lenses – updated in 1981 to AiS to allow for fully automatic aperture control – right up until the G type lenses were introduced in 2000 and which no longer had a manual aperture collar.

The FM – and later FE model with aperture-priority auto exposure control – also had more compact and lighter weight bodysells (although still all-metal) which were carried over largely unchanged to the FM2 and companion FE2 which appeared in 1983. It's worth noting here that the FE2

only lasted to 1987 when it was essentially replaced by the FA. The FM2, meanwhile, was updated to the FM2n (although they are still just badged FM2) in March 1984 which is also known as the Model II. It introduced a faster maximum flash sync speed of 1/250 second (up from 1/200 second), but was otherwise identical to the first model (a.k.a. the Model I). In October 1989, the Model III was introduced – still just badged FM2 – and replaced the shutter's titanium blades with aluminium ones which could now be made just as lightweight but were more durable. To further enhance durability, the FM2 Titan – badged FM2/T – was introduced in September 1993 with titanium top, bottom and rear covers replacing the standard model's brass and aluminium components. But it wasn't all over in 2001 because then Nikon introduced the FM3A which was essentially an FM2 with an electronically timed shutter and aperture-priority auto exposure control. Everything else was manual at a time when there was not just full automation in SLRs, but the DSLR was on the rise (Nikon's ground-breaking D1 was introduced in June 1999 and had been followed by the D1X and D1H in February 2001). The FM3A remained in production until 2006.

Of course, there were legions of mechanical 35mm SLRs before the FM2, but this was different not just because of its timing when electronics were already commonplace, but because Nikon applied current technologies and manufacturing techniques to improve every aspect of its operation. This manifested itself in a faster shutter, a quieter reflex mirror assembly, a smoother film transport, a brighter viewfinder and more accurate exposure metering.

BUILT TOUGH

Like its predecessor, the FM2's bodyshell is cast from an alloy of silumin-copper-aluminium with a tensile strength of 33.5 kg/mm² which is very strong indeed. The thickness of the casting is never less than 1.4 millimetres and around the lens

IN TERMS OF PURITY OF PURPOSE, IT DOESN'T GET MUCH MORE PURE OR PURPOSEFUL AS NIKON'S FM2."

mount, it's 2.0 millimetres. The top and bottom plates are brass, the camera back is aluminium and all the important stuff on the inside – such as the film transport gears – is also made of metal. In terms of styling, Nikon carried on with including a leatherette insert on the pentaprism housing... a design element it had been using since its very first 35mm SLR, the legendary F, was launched in March 1959... and now used on the Zfc and Zf digital mirrorless bodies.

A key upgrade over the FM was the introduction of interchangeable focusing screens with a choice of three that could be swapped by the user (Nikon even supplied tweezers for this operation). The standard Type K screen provides a split-image rangefinder surrounded by a micropism collar and with a matte outer field... which can all be used as focusing aids.

The most important new feature of the FM2, however, was its shutter which was the first focal plane type to have a fastest speed of 1/4000 second. Today, 1/4000 second is no big deal, but back in the early 1980s, achieving it entirely mechanically was quite a challenge. It was primarily achieved by using much lighter weight titanium shutter blades – Nikon claimed a 58 percent reduction compared to other metal alloys – and which were etched with a honeycomb pattern to add strength and prevent warping. At their thinnest section, these blades are just 0.02 millimetres in thickness. Nikon also introduced a self-lubricating "oil-less" shutter bearing to minimise friction and enable more reliable operation in low temperatures. Additionally, there was a new

braking arrangement for both sets of blades which eliminated any speed variations and the shock that was otherwise caused by a sudden stop. The reflex mirror mechanism was also given a complete overhaul to help minimise vibrations, noise and bounce. Titanium was again used for the mirror's frame to make it lighter and so promote smoother, more precise movement.

The FM2's TTL metering was upgraded to a pair silicon photodiodes (SPD) from the previous model's less sensitive gallium arsenide phosphide (GPD) cells. The centre-weighted average measurement pattern – the only option obviously – employed a 60 percent weighting on the central zone which has a 12-millimetres diameter. A three-point LED display uses various combinations to show under/over by 0.2-1.0 EV, under/over by more than 1.0 EV and 'correct' exposure. The ISO film speed setting range is from 12 to 6400, although the highest settings were really there for pushing the fastest films then available. There never was an ISO 6400 speed film for general photography, and the fastest B&W film was ISO 3200 which were actually either ISO 800 (Kodak TMax P3200) or 1600 speed (Ilford Delta 3200) and pushed during development.

Following Nikon's pro-level SLRs, the FM2 was at the heart of an extensive system of accessories which could adapt it to various applications. With sports photographers high on the list of potential users, a motordrive could be fitted to give 3.2 fps continuous shooting. However, it required *eight* AA-size batteries, adding substantial weight to the camera in return for auto film advance (but rewinding was still manual). However, there wasn't ever a bulk film back for the FM2 which was considered more 'prosumer' than purely professional.

The rest of the feature set is distinctly no-frills, but included everything considered essential by the discerning photographer of the day – depth-of-field preview, a multiple exposure facility, self-timer, cable-release socket and a flash hotshoe supplemented with a PC sync terminal. What more do you need? Exactly.



▲ Film advance lever acts as the shutter lock when folded in. Small lever at its top enables multiple exposures.



▲ The FM2's shutter speed dial was the first ever to have a 1/4000 second setting. The shutter itself initially employed super lightweight titanium blades.



▲ Film speeds are set by lifting the outer rim of the shutter speed dial and turning.

IN THE HAND

Not surprisingly given all the metal used in its construction, the FM2 maybe compact – very much so by today's standards – but it still has a reassuring 'heft'. Weighing 540 grams (body only), it's certainly nowhere near as heavy as the earlier Nikkormats which were all in the region of 750 to 790 grams. As was standard for the time, there wasn't a handgrip, but the MD-12 added one – with its own shutter release – so you could better manage the additional bulk and weight.

Being fully manual, the FM2 relies entirely on your inputs of ISO, shutter speed and aperture plus, of course, focus. You're it, and indeed these are the only controls as varying the exposure settings for visual effect (i.e. depth-of-field, etc.) is also entirely in your hands. Consequently, the control layout is simplicity itself. The shutter speed dial incorporates the ISO selector (an arrangement since reprised on Fujifilm's X-Pro3) and this is essentially the camera's 'command centre' working along with the aperture collar on the lens. Everything else is dials or levers – the multiple exposure facility, depth-of-field preview, self-timer and film advance – along with the fold-out crank handle for rewinding. Also to keep things simple, the film advance lever serves as the on/off switch as, when folded in flush with

the camera back, it locks the shutter release. In terms of purity of purpose, it doesn't get much more pure or purposeful as Nikon's FM2.

Everything you need to know is provided in the viewfinder with the focusing aids, the LED exposure display and read-outs for both the selected aperture and shutter speed. The light meter is activated by pressing the shutter release to its half-way position and then stays active for 30 seconds which Nikon considered "long enough for the creative-minded photographer to compose his picture". Obviously, the exposure meter and its LED display are the only things on the FM2 that require power – either a single 3.0 volt 'button' cell or two 1.5-volt types – and the camera is still fully operational without it.

Loading 35mm film is something that the photographers of the day could do blindfolded and, provided the leader was correctly threaded on the take-up spool at the start, the procedure was rarely ever problematic. Seasoned pros could do a 35mm cassette changeover in under ten seconds. There was, however, always the risk of accidentally opening the camera back mid-roll (or before rewinding) and fogging all the exposed frames so Nikon made this less likely to happen with the FM2. The back is opened by lifting the film rewind crank which

pops the lock, but there's a locking ring which needs to be operated first, making it much less likely that the camera back will be popped by mistake.

THE VERDICT

The Nikon FM2 will undoubtedly be a bit of a culture shock for anybody whose camera experience has been solely the feature-laden DSLRs or mirrorless models of the last decade or so. But as the absolute essence of an only-the-essentials design, it is immensely refreshing to use even if it can be hard retraining the brain to expect all the frills and gimmicks that we've now become accustomed to on modern cameras.

As noted at the outset, you're solely in charge and nothing will happen without you taking charge... as Nikon put it at the time, "You take everything in your hands". Beyond framing and composition, you have just apertures, shutter speeds and focus to work with which still remain all the vital ingredients of photography. You need to fully understand the principles involved and how they'll apply to any given subject or lighting situation. In other words, with the Nikon FM2, you will be first and foremost a photographer. Now, as then, this camera's uncompromised simplicity is its absolute strength. 📷



▲ Clockwork self-timer has a ten-second delay.



▲ Flash sync is via an ISO-type hotshoe or PC terminal.



▲ Film rewind crank has a safety catch to prevent you from unthinkingly popping open the camera back.



▲ Automatic Maximum Aperture Indexing tab – Ai for short, and introduced with the earlier FM and FM models – allows for the lens's largest aperture setting to be automatically conveyed to the camera's metering system.



▲ The Model III version of the FM2 – introduced in October 1989 – replaced the titanium shutter blades with more durable aluminium ones.



▲ Film memo holder on the camera back accepts the torn-off end of a 35mm film box so you can remember what's been loaded.

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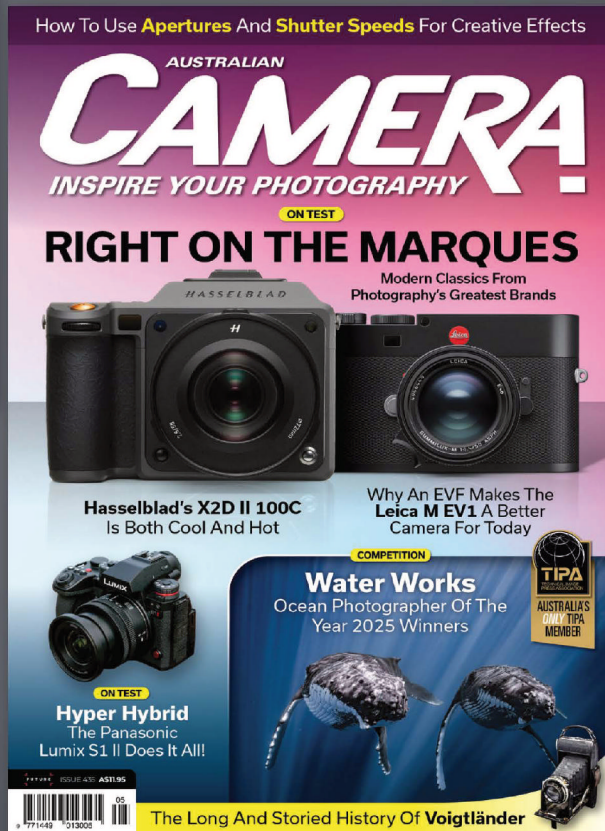
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2026 SIGMA SHOWCASE – SECOND ROUND WINNERS

WINNER

A pair of Boobook owls peer out at the photographer from among the branches of their daytime roost. Not only did photographer **Steven Genesis** do well to spot the partially-hidden birds, but he's framed and cropped the image to give a pleasing balance as well as getting the exposure spot-on. Steven used an Olympus/OM System OM-1 fitted with the Olympus M.Zuiko Digital ED 100-400mm f/5-6.3 IS telephoto zoom.



Tell us how you did it! When you enter the Sigma Showcase, remember to explain any tips and techniques you used to achieve the result. Also, let us know the type of camera and lens. Enter by email (see next page).

1. Title _____ Camera _____ Lens _____

2. Title _____ Camera _____ Lens _____

3. Title _____ Camera _____ Lens _____

4. Title _____ Camera _____ Lens _____

Name _____ Telephone _____

Address _____ State _____ Postcode _____



HIGHLY COMMENDED

There are great photos to be had from a high-flying airliner and here **John Hart** has captured the last light of a sunset somewhere over north-western Australia. The light hitting the leading edge of the wing and an engine cowling helps frame the image as well as giving it context. John used a Nikon D850 with an AF-S Nikkor 24-120mm f/4.0G ED VR zoom while on a Qantas A380 flying from Sydney to Singapore.

2026 SIGMA SHOWCASE

Sigma lenses is the sponsor for our Showcase competition, made possible through the generosity of the Australian distributor, C.R. Kennedy & Company Pty Ltd. The grand prize for the 2026 Sigma Showcase is a Sigma lens to the value of \$1000 and the winner can pick the model and the mount that they'd like.

Additionally, the winner of each round receives a complimentary six-issue subscription to *Australian Camera* magazine. If you already subscribe, your prize subscription will commence upon the expiry of your existing paid one.

You can enter the Sigma Showcase as many times as you like during the year, submitting up to four photographs each time. The entries

received after the 2025 competition's closing date of 31 December 2026 will be automatically entered in the 2027 Sigma Showcase which kicks off on 1 January 2027.

Note that it is not a requirement that entries to the Sigma Showcase be taken with a Sigma camera or lens. Read the accompanying rules carefully and get snapping.

ENTRY GUIDELINES

You can enter the Sigma Showcase by emailing your entries as attachments to camera@futurenet.com. Please note that we are no longer accepting physical entries.

The requirements for submitting digital files are as follows.

300 dpi resolution, and at a file size which enables a reproduction of up to 20x15 cm. Please avoid submitting overly large file sizes, especially when emailing the images. Up to 2.0 MB in file size is more than sufficient.

- Digital retouching and manipulation is permitted, but the judges will continue to reward good in-camera techniques.

- Full details of the camera, lens and any retouching must be supplied with the image. Images can be titled if you wish, but this isn't essential.
- Up to four images may be permitted per entry.

What We Need To Know: We'd like to know a bit about your entries, so supplying the details below will help the judges better assess your images. Please feel free to add any other information that you feel is important.

- Title (optional)
- Camera
- Lens
- Exposure - shutter speed, aperture and ISO
- Location and/or situation
- Post camera processing (if any)
- Additional Comments
- Your mailing address

THIS CHECKLIST is designed to allow direct comparisons between different camera models, listed here in price order within each brand. The published prices are mostly supplied by the distributors as recommended retail prices (RRPs). However, some distributors no longer supply RRP's to the media, so it has become necessary to determine an 'estimated street price' derived from the range of prices for a model published by retailers. Where this has been necessary, the letter 'E' appears at the start of the entry.

A dot appearing in a column indicates that the feature is available on the camera model listed. Where a specification or product detail hasn't yet been published or confirmed, the letters TBA (to be announced) or TBC (to be confirmed) are used. If a feature is irrelevant to a particular model – such as mirror lock-up for compact system cameras – then n/a (not applicable) is used. Every effort is made to ensure accuracy; please send any corrections to camera@futurenet.com.



Model	Price (Body Only Unless Noted With Asterisk *)	Megapixels (Effective)	Sensor Size		Sensor Type		File Formats		Memory Cards		Continuous Shooting Speed (fps)	Buffer Length (Unlimited) Max. Resolution	Autofocus Points	Metering Pixels/Zones	Exposure Modes					Features					Weight (Body Only)	Review Issue						
			Full-Frame	Four-Thirds	APS/DX	CCD	CMOS	Foveon	RAW	TIFF					JPEG	CF/SD/CFast	Memory Stick	SD/SDHC/SDXC	Shutter Speeds	Manual	Shutter Priority	Aperture Priority	Subject Programs	Built-In Flash			Anti-Dust	FHD Video	4K Video	Anti-Shake In Body	Wi-Fi	Weather Proofing
Canon EOS 1500D*	\$849	24.1	•								3	150	9	63	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	475	Jul/Aug '18
Canon EOS 5D Mark IV	\$3,699	30.4	•								7	U	61	150K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	890	Jan/Feb '17
Nikon D7500	\$1,599	20.9	•								8	100	51	180K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	640	
Nikon D780	\$3,599	24.5	•								7	100	51	180k	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	755	Jul/Aug '20
Nikon D850	\$4,549	45.7	•								7	200	153	180K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	915	Nov/Dec '17
Pentax K-3 Mark III	\$2,995	25.73	•								12	37	101	307K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	735	Issue 423
Pentax K-1 Mark II	\$3,399	36.4	•								4.4	70	33	86K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	925	
Pentax K-3 II Monochrome	\$3,499	25.73	•								12	55	101	307K	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	735	

DIGITAL NON-TTL OV/EFV INTERCHANGEABLE LENS CAMERAS

Leica M EV1	\$14,200	60.3	•								4.5	100	MF	TBC																	7.5	413	Issue 435		
Leica M11	\$16,500	60.3	•								4.5	100	ME/RF	TBC																		7.5	455	Mar/Apr '22	
Leica M11-P	\$16,500	60.3	•								4.5	100	ME/RF	TBC																		7.5	455	Issue 425	
Leica M11-D	\$17,300	60.3	•								4.5	100	ME/RF	TBC																			457		
Leica M11 Monochrom	\$17,500	60.3	•								4.5	100	ME/RF	TBC																			7.5	461	

MIRRORLESS CAMERAS

Canon EOS R100*	\$1,099	24.1	•								6.5	97	3975	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.5	309	
Canon EOS R50*	\$1,399	24.2	•								15	28	4503	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.5	328	Issue 423
Canon EOS R50 V	\$1,169	24.2	•								15	28	4503	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.5	323	
Canon EOS R10*	\$1,649	24.2	•								23	123	4503	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	429	Issue 419
Canon EOS RP	\$1,819	26	•								5	U	4779	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	440	May/June '19
Canon EOS R7	\$2,299	32.5	•								30	184	5915	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	612	Jul/Aug '22
Canon EOS R8	\$2,599	24.2	•								40	1000+	4897	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.5	414	Issue 423
Canon EOS R6 Mark II	\$3,299	24.2	•								40	190	4897	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	588	Issue 421
Canon EOS R6 V	\$3,599	32.5	•								40	330	6097	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	598	
Canon EOS R6 Mark III	\$4,299	32.5	•								40	330	6097	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	609	Issue 437
Canon EOS R5	\$4,799	45	•								20	350	5940	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	650	Sept/Oct '20
Canon EOS R5 Mark II	\$6,699	45	•								30	760	5850	6144	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	588	Issue 428
Canon EOS R3	\$8,199	24.1	•								30	540	4779	384	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	915	Jan/Feb '22
Canon EOS R1	\$10,990	24.2	•								40	500	4368	6144	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	920	
Fujifilm X-T30 Mark III	\$1,679	26.1	•								20	127	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	329	Issue 436
Fujifilm X-M5	\$1,449	26.1	•								20	127	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	307	Issue 430
Fujifilm X-S20	\$2,299	26.1	•								20	256	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	410	Issue 424
Fujifilm X-T50	\$2,399	40.2	•								20	168	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	389	Issue 428
Fujifilm X-E5	\$2,699	40.2	•								20	168	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	396	Issue 433
Fujifilm X-T5	\$2,899	40.2	•								15	119	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	476	Issue 422
Fujifilm X-H2	\$3,399	40.2	•								13	1000+	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	579	Issue 420
Fujifilm X-H2S	\$3,999	26.1	•								40	1000+	425	256	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	7.62	579	Jul/Aug '22
Leica SL3-S	\$9,190	24.6	•								30	175	779	TBC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	768	Issue 433
Leica SL3	\$12,190	60.3	•								15	70	315	TBC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	769	Issue 429
Leica SL3 Reporter	\$12,890	60.3	•								15	70	315	TBC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.1	769	



Photo: Seichi Nakamura

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Model	Price (Body Only Unless Noted With Asterisk*)	Megapixels (Effective)	Sensor Size	Sensor Type	File Formats	Memory Cards	Continuous Shooting Speed (fps)	Buffer Length (Unlimited) Max. Resolution	Autofocus Points	Metering Zones	Exposure Modes				Features							Weight (Body Only)	Review Issue							
			Full-Frame	APS/DX	Four Thirds	CMOS					Foveon	RAW	TIF	JPEG	Compact Flash	Memory Stick	SD/SDHC/SDXC = microSD	Program	Subject Programs	Aperture Priority	Shutter Priority			Manual	Shutter Speeds	Built-In Flash	Anti-Dust	FHD Video	4K Video	Anti-Shake In Body
Nikon Z30*	\$1,549	20.9	•	•	•	•	•	11	71	209	TBC	•	•	•	•	30-1/4000	•	•	•	•	•	•	•	•	•	•	7.5	350		
Nikon Z50II	\$1,599	20.9	•	•	•	•	•	30	200	231	TBC	•	•	•	•	900-1/4000	•	•	•	•	•	•	•	•	•	•	•	8.1	495	
Nikon Zfc*	\$2,049	20.9	•	•	•	•	•	11	71	209	TBC	•	•	•	•	30-1/4000	•	•	•	•	•	•	•	•	•	•	•	7.5	390	Nov/Dec '21
Nikon Z5	\$2,399	24.3	•	•	•	•	•	4.5	100	273	TBC	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	590	Jan/Feb '21
Nikon Z5II	\$2,699	24.5	•	•	•	•	•	30	120	299	TBC	•	•	•	•	900-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	620	Issue 431
Nikon Z6II	\$3,699	24.5	•	•	•	•	•	14	200	273	TBC	•	•	•	•	900-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	615	May/June '21
Nikon Zf	\$3,499	24.5	•	•	•	•	•	30	120	273	TBC	•	•	•	•	900-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	630	Issue 425
Nikon Z6III	\$4,499	24.5	•	•	•	•	•	60	1000+	299	TBC	•	•	•	•	900-1/16,000	•	•	•	•	•	•	•	•	•	•	•	8.1	660	Issue 429
Nikon Z7II	\$5,549	45.7	•	•	•	•	•	10	200	493	TBC	•	•	•	•	900-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	615	
Nikon Z8	\$7,449	45.7	•	•	•	•	•	20	1000+	493	TBC	•	•	•	•	900-1/32,000	•	•	•	•	•	•	•	•	•	•	•	8.1	820	Issue 424
Nikon Z9	\$9,899	45.7	•	•	•	•	•	30	1000+	493	TBC	•	•	•	•	900-1/32,000	•	•	•	•	•	•	•	•	•	•	•	8.1	1160	Jan/Feb '22
Olympus OM-D E-M10 IV	\$949	20.3	•	•	•	•	•	15	49	121	324	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	7.62	335	Nov/Dec '20
OM System OM-5	\$1,499	20.4	•	•	•	•	•	30	20	121	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	366	Issue 421
OM System OM-5 Mark II	\$1,699	20.4	•	•	•	•	•	30	TBC	121	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	370	Issue 433
OM System OM-1	\$2,699	20.4	•	•	•	•	•	120	92	1053	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	511	Mar/Apr '22
OM System OM-3	\$3,199	20.4	•	•	•	•	•	120	90	1053	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	413	Issue 430
OM System OM-3 ASTRO	\$3,399	20.4	•	•	•	•	•	120	90	1053	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	413	Issue 430
OM System OM-1 Mark II	\$3,599	20.4	•	•	•	•	•	120	219	1053	324	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	511	Issue 427
Panasonic Lumix G100D*	\$1,299	20.3	•	•	•	•	•	10	480	49	1728	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	7.62	303	
Panasonic Lumix G97*	\$1,599	20.3	•	•	•	•	•	9	300	49	1728	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	7.62	484	Nov/Dec '19
Panasonic Lumix GH5 II	\$2,099	20.3	•	•	•	•	•	12	999	225	1728	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	7.5	647	Sept/Oct '21
Panasonic Lumix S9	\$2,699	24.2	•	•	•	•	•	30	36	779	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.62	403	
Panasonic Lumix S5II	\$3,199	24.2	•	•	•	•	•	30	300+	779	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.62	657	Issue 422
Panasonic Lumix G9 II	\$3,299	25.2	•	•	•	•	•	75	225	779	1728	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.62	575	Issue 427
Panasonic Lumix S5IIX	\$3,499	24.2	•	•	•	•	•	30	300+	779	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.62	657	
Panasonic Lumix GH7	\$3,899	25.2	•	•	•	•	•	75	260	315	1728	•	•	•	•	60-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.5	721	
Panasonic Lumix S1 IIE	\$4,199	24.1	•	•	•	•	•	30	300	779	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.62	712	
Panasonic Lumix S1 II	\$5,299	24.1	•	•	•	•	•	70	300	779	1728	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	7.62	718	Issue 435
Panasonic Lumix S1R	\$5,299	47.3	•	•	•	•	•	9	50	225	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	898	Sept/Oct '19
Panasonic Lumix S1R II	\$5,499	44.3	•	•	•	•	•	40	80	779	1728	•	•	•	•	60-1/16,000	•	•	•	•	•	•	•	•	•	•	•	8.1	712	Issue 432
Panasonic Lumix S1H	\$5,999	24.2	•	•	•	•	•	9	999	225	1728	•	•	•	•	60-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	1052	Mar/Apr '20
Sigma BF	\$3,995	24.2	•	•	•	•	•	8	1000	49	TBC	•	•	•	•	30-25,600	•	•	•	•	•	•	•	•	•	•	•	8.1	388	Issue 431
Sigma fp L	\$3,899	61.2	•	•	•	•	•	10	14	49	TBC	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	8.1	375	
Sony Alpha ZV-E10	\$849	24.2	•	•	•	•	•	11	99	425	1200	•	•	•	•	30-1/4000	•	•	•	•	•	•	•	•	•	•	•	7.5	343	
Sony Alpha 6400	\$1,149	24.2	•	•	•	•	•	11	115	425	1200	•	•	•	•	30-1/4000	•	•	•	•	•	•	•	•	•	•	•	7.5	403	Sept/Oct '19
Sony Alpha ZV-E10 II	\$1,499	26	•	•	•	•	•	11	1000+	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	292	
Sony Alpha 6700	\$1,999	26	•	•	•	•	•	11	143	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	409	
Sony Alpha 7 III	\$1,999	24.2	•	•	•	•	•	10	163	693	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	650	Sept/Oct '18
Sony Alpha ZV-E1	\$2,699	12.1	•	•	•	•	•	10	1000+	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	400	
Sony Alpha 7C II	\$2,499	33	•	•	•	•	•	10	88	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	429	
Sony Alpha 7 IV	\$2,899	33	•	•	•	•	•	10	1000+	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	658	
Sony Alpha 7R IV	\$3,799	61	•	•	•	•	•	10	68	567	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	665	Jan/Feb '20
Sony Alpha 7CR	\$3,899	61	•	•	•	•	•	8	48	693	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	430	
Sony Alpha 7S III	\$3,999	12.1	•	•	•	•	•	10	1000+	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	699	Mar/Apr '21
Sony Alpha 7R V	\$4,499	61	•	•	•	•	•	10	1000+	693	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	8	638	
Sony Alpha 7 V	\$4,699	33	•	•	•	•	•	30	185	759	1200	•	•	•	•	30-1/16,000	•	•	•	•	•	•	•	•	•	•	•	8	610	
Sony Alpha 9 II	\$5,790	24.2	•	•	•	•	•	20	361	693	1200	•	•	•	•	30-1/32,000	•	•	•	•	•	•	•	•	•	•	•	7.5	678	May/June '20
Sony Alpha 1	\$6,499	50.1	•	•	•	•	•	30	165	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	7.5	725	
Sony Alpha 7R VI	\$6,999	66.8	•	•	•	•	•	30	215	759	1200	•	•	•	•	30-1/8000	•	•	•	•	•	•	•	•	•	•	•	8	622	
Sony Alpha 9 III	\$7,999	24.6	•	•	•	•	•	120	192	759	1200	•	•	•	•	30-1/80,000	•	•	•	•	•	•	•	•	•	•	•	8	617	
Sony Alpha 1 II	\$8,999	50.1	•	•	•	•	•	30	400	759	1200	•	•	•	•	30-1/32,000	•	•	•	•	•	•	•	•	•	•	•	8	658	

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