The Best Mirrorless Camera for Video in 2019

The esteemed camcorder finds itself increasingly pushed to the side in favor of modern digital cameras. Both DSLR and mirrorless cameras are increasingly capable of providing professional video results. However, mirrorless cameras are pushing the boundaries of hybrid photography/videography work due to the amount of technology put into their advanced sensors.

Today’s mirrorless cameras have their autofocus points right on the sensor, as well as advances like backside illumination. And now that even full-frame mirrorless cameras are extremely affordable, camcorders are increasingly out of favor when you can have a more advanced sensor for the same or less money.

Weatherization is another strength of modern mirrorless cameras. Weatherizing (or dust and splash-proof) isn’t all created equally. Fujifilm, Panasonic, and Olympus’ weatherization tends to be fully functional in downpours and storms, while Sony cameras are infamous for having issues in the worst conditions. But, being able to shoot knowing a

drizzle isn’t going to have much impact is great for peace of mind and workflow.

Lastly, mirrorless cameras tend to be quite trim compared to DSLRs and especially camcorders. As the name suggests, mirrorless cameras do away with the internal mirror system DSLRs use to channel light to their optical viewfinders and phase detection array. Instead, the autofocus pixels sit right on the sensor and the sensor sends a preview image to the electronic viewfinder.

This cuts down on internal camera space and slims down the camera body, making a full frame camera like the Sony A7SII slimmer than many popular DSLR video cameras despite the larger sensor. So without further ado, let’s take a look at the best mirrorless cameras for video work.

What Should I Be Looking for with a Mirrorless Camera for Video?

Sensor Size

Sensor size is a very contentious issue because there are so many technological advances that can mitigate or negate the advantages of one size over another. Backside illumination, larger pixels, resolution, lens quality, and many more factors play into the quality of your video.

How large or small the sensor of your video camera is will affect the field of view, the depth of field, and how much light it collects. For interchangeable lens cameras, the three major formats are:

- Micro 4/3rds (sized 17.00 x 13.00mm)
- APS-C (23.60 x 15.60mm)

- Full frame (35 x 24mm)

It’s so easy to say that large sensors are best because they collect more light, generate a shallower depth of field, and create a larger field of view. But honestly, it depends on your needs as a videographer.

If you need a light travel kit with reach for wildlife, then a Micro 4/3rds camera will check far more boxes for you then a Sony A7 series camera due to the 2.0x crop factor. If you’re a low-light concert shooter or a documentary interviewer and don’t mind heavier lenses, then the superior light gathering capacity of a full frame sensor is your best bet. If you want a bit of both worlds, perhaps APS-C is better for you.

Dynamic Range

How much dynamic range the sensor can capture is important to consider. Part of the cinematic look consists of how much detail can be retained in the highlights and shadows. Without good dynamic range capture (~12-14 stops) you’ll tend to see highlights washed out and deep shadows instead of rich details in combination with each other. In effect, the camera sensor will register those parts of the scene as purely black or white without resolving detail.

The cameras here not only have excellent native DR capture but often have DR boosts for additional resolution. They all also offer log gamma which creates a high dynamic range video file with a flat color profile. The flat colors may not look attractive right out of the box but are an advantage. It allows you to tweak the colors to suit your aesthetics perfectly. Combined with the high DR of the log gamma files you can achieve stunning results.

Sensor Stabilization

In the past few years, mirrorless manufacturers (pioneered by

Olympus) started designing cameras with image stabilization built into the body. Previously, stabilization was limited to stabilization motors and gyroscopes within the lens, and the tripod, of course. But by stabilizing the camera's sensor itself, every lens you now pair with the camera benefits from some level of stabilization.

Image stabilization is very helpful in reducing camera shake while shooting stills hand held but it's just as useful for videography. While handheld gimbals do a great job, sensor stabilization will work in tandem with gimbals to create smooth video that can compete with professional studio work.

That's why several of the cameras here feature hardware sensor stabilizing technology over the inferior digital IS many manufacturers bake into their cameras. Stabilization is particularly handy for vloggers and other videographers on the move.

Video Resolution

What video resolution do you need? 4K is currently the highest resolution offered by prosumer video cameras. It is seen as a must-have for videographers.

On the one hand, 4K displays are still not the standard (yet). Which means that Full HD has a place for most videography work. 4K files are also that much larger than Full HD ones, meaning the time it takes for editing and the amount of storage space taken up by those files increases as well.

On the other, having 4K master copies means your work is future-proofed for when 4K displays are the norm. Downsampling video from 4K to Full HD gives better results compared to natively recording in Full HD resolution.

So if you can sacrifice the space and workflow for it, then 4K is great to have. If your work is more casual or you want to maximize the processing power of your computer, then 4K is not

necessary. Odds are your camera can record 4K; other than Canon, most camera manufacturers know its extremely high in demand right now.

Best Mirrorless Cameras for Videography

Sony A7S II

Sony A7S II is one of the best video cameras on the market today. While it’s a bit dated compared to the Fuji X-T3 and the Lumix Gh5S, it still offers the best low light performance on the market. It also has all of the videography features you’d expect in a hybrid stills camera geared more towards video.

Full Frame Low-Light Machine

The Sony A7S II has the largest sensor out of the three manufacturers listed here. At 35 x 24mm, the full frame sensor of the A7S II is unmatched regarding low light shooting and focusing. The individual light-gathering pixels are huge in comparison to those of the Fuji X-T3 and other high resolution sensors.

This means that the A7S II is not quite as good for hybrid shooters who plan to make larger prints of their work because the image resolution is just too low. The Sony A7S is still a competitive choice, with the same base statistics as the A7S II.

While the Mark II uses the same sensor as its predecessor the

A7S, the second iteration has a few improvements. This includes more magnesium to reinforce the toughness of the exterior as well as a reinforced lens mount. While quite trim for a full frame camera, it also offers a deeper grip compared to the A7S for more secure one-handed operation.

Additional Features

The Sony A7S II offers S-log 2 and 3, which provides up to 14 stops of dynamic range for detail preservation in the highlights and shadows. Color grading in post-production will then correct the flat color look of the recorded video.

It also records in 4K at full pixel readout and no pixel binning (combining adjacent pixels for video information) or skipping (skipping lines of pixels, which can create moire). 4K can be recorded internally at up to 30 fps or via uncompressed HDMI to an external recorder.

The 5-axis in body image stabilization system of the A7S II is one of the best on the market. And despite being a stabilized full frame sensor, the body size remains quite trim in comparison to DSLR video cameras. If you aren’t using a gimbal then having a bit of stabilization baked into the camera is extremely handy.

Sale

Sony a7S II ILCE7SM2/B 12.2 MP E-mount Camera with Full-Frame Sensor, Black

- Full-frame camera with 5-axis image stabilization
- Fast and effective, enhanced Fast Hybrid AF
- 12.2 megapixels 10 35mm full-frame Exmor CMOS sensor Lens Compatibility – Sony E-mount lenses
- BIONZ X image processing engine ; Clear Image Zoom :Still/Movie: Approx. 2x
- In the box: Rechargeable Battery NP-FW50; Cable

Protector; AC Adaptor AC-UUD11; Battery Charger BC-VW1; Shoulder strap; Body cap; Accessory shoe cap; Eyepiece cup; Micro USB cable

---

Honorable Mention: Sony A7R III

Despite the higher resolution sensor (and thus smaller pixels), the Sony A7R III has comparable low light and dynamic range capture despite its 42-megapixel sensor thanks to its backside illuminated design. The BSI sensor places wiring behind the sensor photodiode substrate, allowing more light to strike the sensor. The A7S II still edges out the RIII in keeping noise low and focus accuracy when things get dark.

As the newer camera, the A7R III does come with several significant upgrades. The in-body image stabilization system is improved in the newer model as well (5.5 vs. 4.5 stops of IBIS) and dual memory cards grant more space for internal recording. The battery life is also drastically improved (650 vs. 340 shots per charge for still images) and has significantly more autofocus points (399 vs. 169 phase detection points, 425 vs. 25 contrast detection points) for easier composition and subject tracking.

If you’re looking to dip into HDR video for HDR TV displays, then the Hybrid Log Gamma function of the A7R III is a must-have but it comes with some downsides. Mainly that color grading HLG footage is still incredibly difficult and expensive, making it more of a niche feature. S-Log 2 and 3 are still more than enough for the workflow of most videographers.

Fujifilm X-T3

Fujifilm is not known as a video-centric brand. However, their X-series of mirrorless cameras has been paving the way for Fuji to create a new identity for itself. The Fujifilm X-T3 is one of the hottest commodities on the mirrorless market right now, both for stills and video. Let’s take a look at what it has to offer.

Fuji Film Simulations

Fuji’s film simulations are precisely what they sound like. As a premiere film manufacturer, Fuji’s color science is the result of decades of research. And their film simulations duplicate the color, highlight, shadow, and grain effects that photographers and videographers have come to love.

The results are a delight to behold because the majority of in-camera edits provided by manufacturers tend to be rather gaudy. Colors and highlights get blown out of proportion to please a mass audience, but they aren’t meant for a subtle palate.

Astia gives a soft rendering to the tones of an image or video while boosting the saturation slightly, so colors stand out. Astia is an excellent choice for scenes with people because it’s especially flattering for skin tones. Classic chrome enhances the shadows while desaturating the overall image.

ProNeg Standard and High are similar to Astia in that they’re meant for scenes with people to create realistic skin tones. ProNeg Standard creates a flat image or video that’s great for future color correction. ProNeg High is similar but adds a

touch of contrast for flavor. Acros is a version of monochrome with enhanced contrast (as well as R+G+Y filter versions).

Lastly, we have Eterna, the newest film simulation that's modeled after the motion picture film. Originally released with the X-H1, Eterna is perfect for videographers because it creates a flat color profile and a film-like look without having to spend time color grading.

The Fujifilm X-T3 also offers F-Log recording to capture as much highlight and dynamic shadow range as possible as well as a flat profile for color correction in post-processing. F-Log and Eterna may seem redundant, but F-log is more flexible, providing two stops more dynamic range in comparison.

Additional Features

The X-T3 is the first of the line to offer 10-bit video at an incredible 400 Mbps. Coupled with Eterna and F-log, you have tons of leeway in post-processing for creating cinematic results. DCI 4K (4096 x 2160p) at up to 60 fps (though not in H.264) as well as slow-motion HD video at 120 fps. There is no crop factor at 4K 30 fps or below but creates a 1.18x crop when higher.

The new APS-C sensor of the X-T3 is a back-side illuminated sensor (BSI), similar to those used by Sony. The BSI design allows more light to strike the sensor without sensor elements interfering and boosts the high ISO performance.

While the X-T3 can't see and focus in near darkness like the Sony A7SII, it still performs better compared to the X-T2 or X-H1. Fuji also listened to criticism around the X-T2 and X-H1 so zebra patterns to see overexposed areas are included in the X-T3.

Sale

Fujifilm X-T3 Mirrorless Digital Camera (Body Only) – Silver

- New 26.1MP X-Trans CMOS 4 sensor with X-Processor 4 image processing engine
- 4K movie recording – internal SD card 4K/60P 4: 2: 0 10bit recording and the first Mirrorless digital camera with APS-C or larger sensor that is capable of 4K/60P 4: 2: 2 10bit HDMI output.
- 2.16M phase detection pixels across entire frame and Low-light phase detection limits has been increased over X-T2 by 2 Stops, from -1EV to -3EV
- 3.69 million dot OLED Color viewfinder with 0.75x magnification and blackout-free burst shooting
- 16 film Simulation modes: including eterna/cinema, B & w adjustment: -9~+9

Honorable Mention: Fujifilm X-H1

Released earlier in 2018, the Fujifilm X-H1 is a camera often touted as video-centric and is absolutely a competitive choice. One strength that’s completely lacking in the X-T3 is the 5-axis in-body image stabilization. IBIS allows you to use stabilization with any lens attached to the X-H1 and will pair with your gimbal setup for clean, smooth video results.

There’s quite a bit of contention as the X-H1 is supposedly Fuji’s “flagship” camera. The X-T3 was released in the same year and has a better sensor, faster processor, and even better video features. Fuji claims the X-H1 is constrained due to using the X-T2’s older processor and sensor.

However, DCI 4K at up to 200 Mbps is still incredibly good, but it’s 8-bit video at 24 fps (up to 60 fps with the X-T3)

and a 15-minute recording limit. With the booster grip the recording limit jumps to 30 minutes which places it on par with the X-T3. H.265 is also not an option with the X-H1.

Lastly, the X-H1 is a sturdier camera. Many find the X-T series to be just a bit too trim. The DSLR styling of the X-H1 with its rugged grip, extra-thick magnesium chassis, and top LCD panel give it a body that users with large hands may prefer.

Because the X-T3 is massively popular, the price on the X-H1 is falling and will continue to do so into 2019. This makes it a fantastic grab for videographers looking for Fuji quality, but don’t need a BSI sensor or 60 fps 4K. If you’re a hybrid shooter, then IBIS is fantastic for pushing shutter speeds lower than you otherwise would, making it more competitive with the X-T3’s BSI sensor.

Sale

Fujifilm X-H1 Mirrorless Digital Camera w/Vertical Power Booster Grip Kit

- 5.5-Stops In-Body Image Stabilization. Compatible with all XF and XC lenses.
- New High-Resolution EVF – Magnification ratio of 0.75x and 3.69M dot resolution. The VF display is extraordinarily smooth, with a display time lag of just 0.005 sec and a frame rate of 100 fps.
- Comprehensive video features – new external film Simulation ideal for shooting movies, f-log SD card recording and 1080/120P high-speed video mode (1/2, 1/4 and 1/5 speed).
- Flicker reduction mode and improved AF Algorithms.Shutter type : Focal Plane Shutter
- 25% Thicker magnesium alloy body than X-T2, increased scratch-resistance and surface hardness, dust and water-

resistant properties, ability to operate in temps down to -10 Degree C/-14 Degree F.

Panasonic GH5S

The Lumix GH5 was one of the most exciting video-centric hybrid cameras to be released in some time. It provides top of the line video features and remains a favorite for content creators worldwide. But Panasonic capitalized on the success of the GH5, listened to feedback from consumers, and came out with the Panasonic GH5S, which not only competes with the likes of the A7S II, but even its predecessor the Gh5.

A7S II Micro 4/3rds Competitor

The Panasonic GH5S is a Micro 4/3rds camera designed to compete with the full frame legend that is the Sony A7S II. And it does a great job of it. The low resolution of the sensor (10.2 megapixels) means it has a comparable pixel size (and thus low light performance) to the Sony A7S II.

The pixels of the A7S II are still quite a bit larger, so the high ISO performance remains superior. But both cameras will outperform the high resolution 26.1 MP Fuji X-T3 in similar settings.

One strength of the GH5S (and the Fuji X-T3) over the A7S II is that it can record internal 10-bit 400 Mbps 4K rather than 8-bit 100 Mbps video. All that extra video information creates higher quality video results in terms of sharpness and color. It also records DCI 4K at 60 fps, one of the first mirrorless cameras to do so.

Micro 4/3rds System

As a system, the Micro 4/3rds offers some unique advantages. Because the sensor is so small (sized 17 x 13mm), the camera body size is also very compact. However, it remains large enough for good low light performance compared to compact cameras and excellent depth of field with the right lens apertures. Because the lenses also create a smaller image circle, they are not only lighter and more compact but also significantly cheaper compared to APS-C and full frame glass.

Panasonic and Olympus are the two leading manufacturers of Micro 4/3rds gear with significant support from third-party manufacturers like Rokinon. The lenses are cross-compatible between the two manufacturers. Olympus lenses (like their high-quality f/1.2 primes) are useable on Panasonic bodies and vice versa.

Micro 4/3rds cameras also pioneered the in-body image stabilization system. If you're a hybrid shooter or do handheld videography, then IBIS performance is something to consider. Sony's A7 line also provides IBIS, but with up to 6.5 stops of performance on their higher end cameras, Micro 4/3rds is still king of the IBIS world.

Sale

PANASONIC LUMIX GH5S Body 4K Digital Camera, 10.2 Megapixel Mirrorless Camera with High-Sensitivity MOS Sensor, C4K/4K UHD 4:2:2 10-Bit, 3.2-Inch LCD, DC-GH5S (Black)

- PROFESSIONAL PHOTO AND VIDEO PERFORMANCE: 10.2-megapixel Micro Four Thirds sensor and a significantly higher photoreceptive surface per pixel deliver an ultra-wide dynamic range; Dual Native ISO provides ultra-sensitive video capture with impressively low noise
- RUGGED SPLASH/FREEZEPROOF DESIGN: Durable magnesium

alloy body withstands heavy use out in the field and is freezeproof down to -10-degrees; Splash/dustproof construction with weather sealing on every joint, dial and button
- UNLIMITED IN-CAMERA RECORDING OF C4K: Capable of internal SD card capture of 60p50p 8-bit, 30p25p24p 4:2:2 10-bit, 4K: 60p50p 4:2:0 8-bit, 30p25p24p 4:2:2 10-bit; 1080p up to 240fps and C4K 60p VFR
- ANAMORPHIC VIDEO MODE: 4K Anamorphic professional video production interchangeable lens camera system enables high performance, durability and mobility
- CONNECTIVITY AND PORTS: TC In/Out/Synchro Terminal (via included BNC cable), 3.5mm mic jack with line input, 3.5mm headphone jack, 2.5mm remote socket, HDMI Type A Socket and USB-C 3.1 Socket; Available twin SD Card slots (UHS-II U3 compatible)

Honorable Mention: Panasonic GH5

While the Panasonic GH5 is undeniably a great video camera, there is no denying the specialization of the GH5S. It strips away even basic Panasonic features, like the 4K and 6K Photo modes (which are great for hybrid photography) and IBIS, in favor of more video specialization.

The higher resolution sensor of the GH5 struggles to perform in low light settings, given the pixels are twice as small compared to the GH5S. This is a typical problem with Micro 4/3rds given the sensor area is less than half that of a full frame, but the GH5S is mostly immune to this.

The GH5 does record DCI 4K, but at 24 fps maximum and UHD 4K

at 60fps (it was the first mirrorless camera to offer this setting). Both cameras have no recording time limit on 4K video, marking them as true video cameras to many people.

The Dual Native ISO feature of the GH5S is also handy. The camera optimizes the ISO performance depending on whether you want to maximize dynamic range (ISO 160-640) or low light noise performance (ISO 800). It also uses a multi-aspect sensor to reduce the crop factor compared to the GH5 when shooting in 4K. This means that you have a wider field of view when using the GH5S.

While the in-body image stabilization of the Panasonic GH5 remains a great feature for run and gun style videography as well as hybrid photographers, the GH5S does without it entirely. The design of the GH5S precludes the standard IBIS design Panasonic employs, but a proper gimbal setup will mostly negate the advantages IBIS provides.

Lastly, V-log is an innate feature of the GH5S while it costs an extra $99 to unlock it in the GH5. But given that the GH5S is the more expensive and video-centric camera of the two, that should be expected.

Sale

PANASONIC LUMIX GH5 4K Digital Camera, 20.3 Megapixel Mirrorless Camera with Digital Live MOS Sensor, 5-Axis Dual I.S. 2.0, 4K 4:2:2 10-Bit Video, Full-Size HDMI Out, 3.2-Inch LCD, DC-GH5 (Black)

- PROFESSIONAL PHOTO AND VIDEO PERFORMANCE: 20.3-megapixel Micro Four Thirds sensor with no low pass filter to confidently capture sharp images with a high dynamic range and artifact-free performance
- RUGGED SPLASH/FREEZEPROOF DESIGN: Durable magnesium alloy body withstands heavy use out in the field and is

freezeproof down to -10-degrees; Splash/dustproof construction with weather sealing on every joint, dial and button
- CLASS-LEADING DUAL IMAGE STABILIZATION: 5-axis dual image stabilization corrects all lenses, including classic lenses not equipped with O.I.S, to eliminate blur and nearly eliminate body and lens shake in both photo and 4K video recording
- 4K VIDEO CAPTURE WITH VARIABLE FRAME RATE: Records silky smooth 4K 60p/50p (QFHD 4K: 3840 x 2160 / MOV or MP4) video with internal 4:2:2 10-bit 4K video recording, plus exclusive LUMIX 6K PHOTO and 4K Post Focus allows you to record photos up to 60fps
- CONNECTIVITY AND PORTS: Listen to headphones with a 3.5mm audio port, connect to devices with USB 3.0 and connect to an external monitor or external recorder with a full-size HDMI port; Available twin SD Card slots (UHS-II U3 compatible)

Conclusion

The Sony A7S III is looming around the corner and will probably provide a new benchmark for every hybrid video camera out there. Until then, the Panasonic GH5S is most likely your best bet if starting fresh and looking for the best video camera on the market. But if the size and lens limitations of Micro 4/3rds aren’t your style, the Sony ecosystem with its full-frame performance, continual body upgrades, and diverse glass choices may be right for you.

If you want a balance in body size and sensor performance, the Fujifilm X-T3 is competitive. It’s also the best choice if you do more photography work due to the higher resolution 26.1 MP sensor. The X-Trans sensor creates a unique color and noise grain that’s appealing to many people. The film simulations

also provide a tasteful color experience that is perfect for people not looking to color grade log footage or RAW photography – especially Eterna for the instant cinematic flavor.

It’s a simple fact that there is so much saturation in the photography market that there aren’t *bad* camera choices nowadays. Even going beyond this list, there are striking choices like the Black Magic Pocket Cinema and even the GoPro series for those looking for a simple first person recording situation. It depends on your needs as a videographer, so consider that first before getting too lost in the tech specs like sensor sizes, bit rates, and megapixels. Happy shooting!

https://www.apogeephoto.com/best-mirrorless-camera-video/