

AFFIDAVIT OF NATHANIEL E FRANK-WHITE

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DATE: 07/25/2024

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Jurat form
for additional
Notary Events

Nathaniel Frank-White
Nathaniel E Frank-White



EXHIBIT A



<https://web.archive.org/web/20141001123733/https://www.dpreview.com/articles/0219950556/gopro-announces-hero4-lineup>



GoPro announces Hero4 lineup

Published Sep 29, 2014 | dpreview staff

Tweet

GoPro has announced its new lineup of Hero cameras. The Hero4 Black is a new flagship model capable of 4K video at 30 fps, 2.7K video at 50 fps and 1080 at 120 fps. It will also allow for extraction of 8.3MP still images from 4K video footage. The Hero4 Silver offers a touch sensitive display and records 2.7K at 30 fps, 1080 at 60 fps and 720 at 120 fps. Both cameras can capture 12MP stills at 30 fps, and GoPro claims to have improved Wi-Fi performance in both models.



Also introduced is an entry-level model, simply called the Hero. It offers 1080 at 30 fps at 720p at 60 fps with a built-in rugged, waterproof housing. All three models will be available October 5; the GoPro Hero4 Black will cost \$499 and the Hero4 Silver will sell for \$399.

Press Release:

GoPro Introduces HERO4: The Most Powerful GoPro Lineup, Ever



HERO4 Black: 2x the Performance of the Previous Black Edition GoPro, now featuring 4K30, 2.7K50 and Ultra High Speed 1080p120 Frames per Second Video Capture

HERO4 Silver: Professional Quality Capture with Built-in Touch Display Convenience

SAN MATEO, CALIF. (September 29, 2014) – GoPro, Inc. (NASDAQ:GPRO), enabler of some of today's most immersive and engaging content, today unveiled HERO4, the highest performance line of capture devices the company has ever made. HERO4 is available in two editions, HERO4 Black at MSRP \$499 and HERO4 Silver at MSRP \$399. GoPro's Emmy® Award-winning imaging technology combines with enhanced ease-of-use and powerful new features such as 4K30, 2.7K50 and 1080p120 video capture (Black) and built-in touch display convenience (Silver), to make it easier than ever for consumers to self capture and share stunning, professional quality content of their favorite experiences.

HERO4 Black delivers 2x the performance of its best-selling predecessor and now captures cinema-quality 4K video at 30 frames per second (fps), 2.7K video at 50fps and 1080p video at a blistering 120fps, virtually eliminating rolling shutter in most scenarios while allowing for time-bending slow motion effects. HERO4 Black also features an entirely redesigned audio system that captures high fidelity sound with 2x the dynamic range of previous models. Additional enhancements include improved image quality, low light performance, highlight moment tagging and an improved user interface that allows for easier discoverability and access to key features and controls. The HERO4 Black is simply the highest performance GoPro yet.

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HAVE YOUR SAY

What was the most interesting new camera at Photokina?

Canon EOS 7D II	18.2%
Canon PowerShot G7X	6.1%
Fujifilm X100T	7.1%
Leica X	2.6%
Nikon D750	15.5%
Olympus PEN E-PL7	1.4%
Panasonic Lumix DMC-LX100	24.4%
Panasonic Lumix DMC-GM5	2.8%
Pentax K-S1	2.6%
Samsung NX1	11.8%
Other / Don't care / What are 'cameras'?	7.5%
Total votes: 5,503	

LATEST REVIEWS

Panasonic Lumix DMC-LX100 First Impressions Review
September 2014



Canon PowerShot G7 X First Impressions Review
September 2014



Canon EOS 7D Mark II First Impressions Review
September 2014



Samsung NX1 First Impressions Review
September 2014



HERO4 Silver delivers the same professional image quality as HERO4 Black less some of the higher performance video capture modes including 4K30, 2.7K50 and 1080p120. HERO4 Silver includes a brilliant built-in touch display for those who value convenience and ease-of-use over the no-holds-barred performance of the HERO4 Black.

The new HERO4 line will be available October 5 on GoPro.com and at select retailers worldwide.

"For the past twelve years, our passion has been to make it easy for people to self-capture jaw dropping, professional quality footage of themselves engaged in their favorite activities," said GoPro Founder and CEO, Nicholas Woodman. "That passion led us to embark on our most ambitious design and engineering effort ever, and the result is nothing short of the ultimate GoPro—the HERO4 Black. We can't wait to see what the world captures with it."

HERO4 Black – 2x the performance, yet again.



The flagship HERO4 Black builds upon GoPro's Emmy® Award-winning technology to deliver the next level of GoPro image quality, versatility and performance:

- Incredible ultra high definition 4K video at 30fps allows for life-like video capture as well the ability to extract 8.3 megapixel video stills to use as photos
- Faster* high resolution frame rates of 2.7K at 50fps and 1080p at 120fps
- 12MP magazine cover-quality photos at burst speeds of 30 photos per second
- Updated user-interface with improved discoverability and access to key camera controls
- 50% faster Wi-Fi* combined with Bluetooth® delivers enhanced GoPro App performance and improved power management
- MSRP \$499
- For more information visit the HERO4 Black product page

"A common pain-point is deciding between capturing video or photos of an experience," remarked Woodman. "Each frame of 4K30 video is similar to an 8.3 megapixel photo. The result is that users can simultaneously capture eye-popping 4K30 video and impressive 8.3 megapixel photo-like video stills at 30 frames per second when using HERO4 Black. It's one of the many wild capabilities of this impressive new device."

HERO4 Silver – Professional quality capture. Touch-display convenience.



The HERO4 Silver sets a new precedent for convenience and ease-of-use with GoPro's first built-in touch

Panasonic Lumix DMC-GM5

hands-on

September 2014



See all reviews >

MOST POPULAR CAMERAS

Canon EOS 7D Mark II	6.0%
Canon PowerShot G7 X	3.2%
Panasonic Lumix DMC-LX100	2.9%
Canon EOS 5D Mark III	2.7%
Nikon D600	2.7%
Fujifilm X100T	2.6%
Nikon D750	2.2%
Canon EOS 100D (EOS Rebel SL1)	1.9%
Sony Alpha 7S	1.9%
Fujifilm X30	1.8%

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LIVE SHOW REPORT
Photokina 2014



FIRST IMPRESSIONS REVIEW
Canon EOS 7D Mark II

1.82K



HANDS ON WITH...
Leica X and X-E

91



FIRST IMPRESSIONS REVIEW
Fujifilm X100T

572



display:

- Brilliant built-in touch display allows for easy camera control, shot framing and playback
- Professional quality video capture at 2.7K30, 1080p60 and 720p120
- 12MP magazine cover-quality photos at burst speeds of 30 photos per second
- 50% faster Wi-Fi* combined with Bluetooth® delivers enhanced GoPro App performance and improved power management
- MSRP \$399
- For more information visit the HERO4 Silver product page

The most advanced GoPro cameras yet.

HERO4 Black and Silver share powerful new features that expand what's possible with a GoPro.

Protune™, now for photo + video.

- For those who prefer to take manual control of their GoPro to maximize versatility and performance, we've expanded our professionally minded Protune mode to include Color, Sharpness, ISO Limit, and Exposure controls for both photo and video capture.

New settings for after dark.

- Whether you're shooting the Milky Way or a campfire hangout, Night Photo and Night Lapse allow you to capture stunning images of ultra low-light scenes with customizable exposure settings of up to 30 seconds.

Mark your best moments.

- HiLight Tag enables you to mark key moments with the push of an on-camera button while recording, making it easy to find, playback and share your favorite clips in GoPro Studio or with the GoPro App. You can also HiLight Tag using the mobile GoPro App or the new Smart Remote accessory.

QuikCapture speed and convenience.

- QuikCapture makes it easy to power on and record with the press of a single button. When enabled, a single press starts video capture, while a press and hold engages Time Lapse photo capture.

High-performance audio.

- A totally re-designed internal audio system combines with a state of the art microphone to capture clean, high fidelity sound with 2x the dynamic range of previous models.

Introducing the HERO – The perfect entry-level GoPro.



GoPro is also proud to debut HERO, the perfect entry-level GoPro. Designed with simplicity in mind and built directly into a rugged, waterproof housing, HERO captures high-quality 1080p video at 30fps and 720p video at 60fps. HERO captures the same immersive, eye-popping footage that's made GoPro one of the best-selling cameras in the world—all in a simplified package that's accessible to everyone with an MSRP of \$129. For more information visit the HERO product page on GoPro.com.

New Mounts and Accessories that Help You Capture and Share Your World

October 5th also marks the availability of these new GoPro mounts and accessories:

- **Smart Remote** – Control your GoPro from up to 600' (183m) away with the wearable and waterproof remote. Conveniently mark key moments as they happen with the Smart Remote's HiLight Tag button when paired with a HERO4 Black or HERO4 Silver.
- **The Handler** – A compact floating handgrip. Lightweight, ergonomic and durable, The Handler is perfect for handheld shooting during any activity.
- **New BacPac accessories** – A new and improved Battery BacPac provides almost twice the battery power over the camera's internal battery alone. And a new LCD BacPac provides improved touch and swipe performance when used with HERO4 Black.

GoPro App and GoPro Studio

GoPro announced several updates to its popular GoPro Studio desktop editing software and mobile GoPro App.

GoPro Studio makes it easy to import GoPro footage from your camera to your computer to create professional-quality videos. GoPro Studio features GoPro Edit Templates, template versions of some of GoPro's most popular videos. All you have to do is replace the original GoPro video clips with your own favorite clips and the editing style that has made GoPro famous becomes your own. GoPro Studio now supports the HERO4's HiLight Tag feature, making it easy for GoPro Studio to identify your videos' best moments thereby allowing for faster and more convenient editing. Also new to GoPro Studio is Flux™, a powerful ultra slow motion and speed ramping tool that enables the dramatic time-shifting effects GoPro has become so well known for. What's more, the new GoPro Studio interface, which features a clean, modern design, makes it easier than ever to create professional-quality videos.



known for. Want to highlight a particularly awesome moment in one of your edits? Flux that thing and share it with the world.

The GoPro App for mobile not only gives you instant access to the GoPro Channel and all of the incredible content that has made it the number one brand channel on YouTube, it also gives you full control of HERO4 Black and Silver and allows for quick and easy changes to any mode or setting. Expanded GoPro App support for HERO4 also includes support for HiLight Tagging while recording, as well as searching for tags during playback. As always, the GoPro App also allows for shot preview, playback and sharing of your favorite photos and videos via email, text, Facebook, Twitter and more.

GoPro is committed to inventing innovative tools that make it easy for people to self-capture and share engaging and immersive experiences with others.

Learn more about HERO4 line and the entire GoPro ecosystem of software and accessories at GoPro.com, or visit your local retailer today.

*Than previous comparable HERO3+ models.

Tags: camera-news, gopro

YOU MAY ALSO LIKE



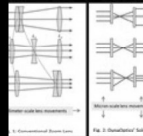
Updated Leica X (Typ 113) APS-C compact boasts F1.7 lens
Sep 16, 2014



Leica introduces D-Lux 24-75mm equiv compact with Four Thirds sensor
Sep 16, 2014



Leica announces the Leica M Edition 60 to honor sixty years of M rangefinders
Sep 16, 2014



DynaOptics wants to bring zoom lenses to smartphones
Sep 30, 2014

Comments

Sort: new first

Total comments: 84

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By Kendunn (32 min ago)

↑ LIKE

Nice specs, but Gopro has a bad reputation for buggy launches. I have an odd ball Hero 960 which has worked well in good light, but I remember the full 1080 that was its flagship at the time was really bad to freeze up. I have also heard some reports of the 3+ black not focusing to infinity or something along those lines. A drone and 4 Black makes my mouth water, but afraid to pull the trigger this early in unless I could find a retailer with a very long exchange period.....Costco?



By Alec (12 hours ago)

↑ LIKE 2

I'm a GoPro 3 Black user and needless to say haven't felt the need to upgrade to the "+". I think I'll skip this one too.

What would prompt me to upgrade:

1. Redesigned housing:
 - finned aluminum sides, thermally coupled to the CPU and battery inside
 - non-corrosive micro USB, HDMI pass-through ports to the outside of the housing (for external battery pack or charging, and HDMI monitor or recorder e.g. when not scuba-diving)
2. Global shutter. For an action cam it is an essential feature, I feel. Gimbals and shock absorbers and software add to the workflow and time/cost, plus global shutter can be combined with them for a better still solution. I use this for skiing, chest/helmet/ski mounted, and there are situations where a compact and simple/robust direct mount is the preferred or only solution.
3. Manually focusable lens. Noyt asking for a lot here - even just 3 click settings would do: infinity + what it is now + 1ft/30cm



By mpgxvcd (16 hours ago)

↑ LIKE 1

There are a couple of things that some of the articles have not made clear.

First the Hero 4 Black does not have a screen on the back at all. It also doesn't have a battery door there now. Instead the battery door is on the bottom which means you can't change the battery without taking it completely out of its housings.

This is a HUGE oversight by GoPro. The battery life on their cameras is nothing short of terrible. Changing the batteries is going to be a very significant problem now. With the GoPro 3 I could just leave the battery door off and easily swap batteries without taking it out of the case. It also helped cool the camera because they overheat very easily.



By Menneisyys (16 hours ago)

↑ LIKE 1

Just watched TechMoan's latest review on the SJ4000 WiFi. (<http://www.techmoan.com/blog/2014/9/22/at-last-its-the-real-sj4000-wifi-review.html>)

The GoPro 4 WiFi edition will have a hard time trying to beat it, after



NEED FOR SPEED
Nikon D810: Shooting sports

240



SHOOTING EXPERIENCE
With greater clarity: Nikon D810

1.53K



FEATURE
What is equivalence?

2.03K



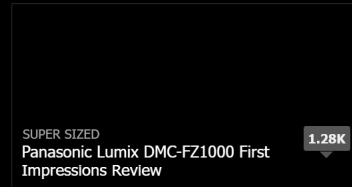
PUTTING THE CAMERA IN THE OVEN
Wireless K-3 control: Pentax FluCard review



IN-DEPTH REVIEW
OM sweet OM: Olympus OM-D E-M10



TRUE BLUE
In Photos: Iceland captured in infrared



SUPER SIZED
Panasonic Lumix DMC-FZ1000 First Impressions Review

1.28K

FINISHED CHALLENGES



The GoPro 4 white edition will have a hard time trying to beat it - after all, SJ4000 WiFi has both a built-in screen and, more importantly, Wi-Fi. And it's GoPro mount-compatible, of course. The only advantage of the GoPro 4 White, direct warranty notwithstanding, seems to be the true 720p60 recording.



By photosincali (20 hours ago)

↑ LIKE 1

That new Polaroid cam that is about 1x1 inches in size and costs \$99 is on my want list. I can see hardcore action sports people not agreeing, but for everyday awesome video and fun it is right for me :)



By virtuallykyr (21 hours ago)

↑ LIKE 1

I've really enjoyed my Hero2 for timelapses at weddings and in some cases, on stage work when lighting is good. This new 4 looks like a worthy upgrade.



By Sannaborjeson (21 hours ago)

↑ LIKE 1

I wish hard drive manufacturers were that fast to catch up :-)



By rinkos (22 hours ago)

↑ LIKE 1

im all for them but seriously

check out the sj4000 ..and no its not a chinese crap and there are a lot of comparison videos on youtube about this great camera .

costs 1/4 of the price of go pro



By Menneisyys (20 hours ago)

↑ LIKE 1

Yup, until now, the SJ4000 had the best price/performance ratio WRT inexpensive wearables.

However, the new GoPro 4 White edition seems to be pretty good at the (at last) vastly reduced price. It may have a better value than even the SJ4000.

^ Hide replies REPLY



By Biowizard (1 day ago)

↑ LIKE 2

Happy with my GoPro 3 Black - Can't see any reason to upgrade. 4K at 30fps will only have one result - filling my hard disk even more quickly than now!

Brian



By Juggler (1 day ago)

↑ LIKE 1

If they don't improve the sensor, 4k detail is very bad. I use 4k 15fps to take stills, but most of them (nearly all) are not useable. I don't plan to upgrade... (after 2 gopro hero 2 and a gopro hero 3+).. I don't like the company as they released the GoPro with flawed underwater case (they are blurry underwater) and then they did not bother recalling the cases, instead they sold another case.. So we had to pay their design fault.

If DJI would have made a gimbal for another action camera I wouldn't have got gopro 3..



By NeilJones (1 day ago)

↑ LIKE

I love how their marketing department using the phrase, "Most advanced GoPro ever"

I would hope a new camera is advanced!

Duh!



By tom1234567 (1 day ago)

↑ LIKE 1

better buy is the Samsung NX1



By dash2k8 (1 day ago)

↑ LIKE 2

4k@30p is nice, but if the price keeps getting higher and higher, I might not be willing to upgrade past the next version for my drone work.



By Random Asian Guy (1 day ago)

↑ LIKE 1

I'd love to know if

- The Hero 4 Silver has exactly the same still photo quality as the black without what ever this 'x2 performance' is.

- Is the new Remote included in either and is it the same size as the old one? or even if the old one can be used on the new one.

- Is the new Remote wifi signal strong enough to trigger gopro underwater.

- Can they make a wifi flash? not very useful for most people since they would most likely use video lights :)



Sleepy Little Cowboy by WhispyNodules
from My Best Photo of the Week

TOP THREADS

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- 32 Robust camera system.
- 32 * Wed C&C No Theme Thread #336 2014/10/01 *



 By Lee Jay (1 day ago) ↑ LIKE 3

The Debut Hero is twice the cost of a Möbius, doesn't have interchangeable lenses, and is about as aerodynamic as a brick. Hmmmm...which to choose for a fast R/C airplane...I think I'll get two Möbius cameras, a medium focal length for the plane and a long focal length for my hat so I can make my own flight videos from two angles.

 By MikeinBKK (1 day ago) ↑ LIKE 3

"•Brilliant built-in touch display allows for easy camera control, shot framing and playback" on the silver edition
Hmm ...I wonder what the screen display does to battery life !
and how do you use a touch screen when it's inside it's waterproof case ?

 By Aroart (1 day ago) ↑ LIKE 6

yeh all you stop complaining and start shooting....

 By mpgxsvcd (1 day ago) ↑ LIKE 4

I would rather have seen a faster aperture lens than 4K @ 30 FPS. The higher frame rates of the new camera will make low light shooting even worse than it already is.

 By mpgxsvcd (1 day ago) ↑ LIKE 2

Why do we need a touch screen if we have a perfectly good App to view and control the camera?

 By MikeinBKK (1 day ago) ↑ LIKE 3

perhaps because you don't have a spare hand free to hold your phone or a remote ? Or you don't want to take your smartphone in the sort of environment where you might be using a gopro ?

 By dash2k8 (1 day ago) ↑ LIKE 1

I myself hate the iPad app because of the lag.

^ Hide replies ♥ REPLY

 By steve_hoge (1 day ago) ↑ LIKE 1

What's a good site to look for shootout articles that would rigorously compare GoPro models with their Sony/Panny/Chinese competition?

 By matt1941 (1 day ago) ↑ LIKE 2

<http://gizmodo.com/sony-action-cam-as100v-review-gopro-finally-has-some-c-1593968678>

On techmoan.com you can find most of chinese competition cameras
such as the Sj4000
<http://www.techmoan.com/blog/2014/9/22/at-last-its-the-real-sj4000-wifi-review.html>

<http://www.techmoan.com/blog/2014/4/13/the-epic-sony-as100v-action-camera-review.html>

Comment edited 47 seconds after posting

 By dash2k8 (1 day ago) ↑ LIKE 1

I've heard from other users that the SJ4000 is basically a GoPro without the label. A total knockoff capable of doing the exact same things, even exhibiting slightly better flare control, all for a lower price. Not making a plug here for the SJ4000, just saying it's an option.

^ Hide replies ♥ REPLY

 By lordofthelints (1 day ago) ↑ LIKE 1

Bought a hero black 3+ 2 months ago, aargh darn it... just take my money for the second time! :)

 By AndreyT (1 day ago) ↑ LIKE 5

So, any information on the sensor performance? The bottleneck of Hero 3+ Black was that it could not produce good quality video at 1080p 60 fps simply because the sensor could not gather enough light during the 1/60 exposure. In very bright sunlight it worked well, but even in a slightly shady area it produced uselessly mushy and blockey video consisting of indiscernible splotches of color. Meanwhile, 30 fps suffered from a major rolling shutter effect, while 48 fps generated ugly jagged edges. This is what made Hero 3+ Black virtually useless.

Now they put out a model that will have even higher frame rates. But did



Now they put out a model that will have even higher framerates. But did they improve the sensor to make these high framerates even remotely useful?

Comment edited 3 minutes after posting



By matt1941 (1 day ago)

↑ LIKE 1

read somewhere they use sony sensor which give better low light capability.
Might be the same used in the Sony As100V...



By Sdaniella (1 day ago)

↑ LIKE 2

sony has no video sensor good in low light except in their FF 12mp A7S with much larger pixels
if such pixels were fitted in a tiny sensor area of a mobile gopro/smartphone/webcam would only offer 0.35mp (barely vga)
and still face limitations of mono-iso (mono-gain) sensor data processing

(dual iso/dual gain sensor processing being much better)

either way, downsampling from 12mp to 8mp (4k) could help a teeny bit with noisy shadow sensors.

Comment edited 2 times, last edit 1 minute after posting



By aut0maticdan (1 day ago)

↑ LIKE 4

Its a tough balance, Sdaniella.

If they were willing to sacrifice 4K and stills, they could do a 3-4MP sensor that would be much much better than their current offering and offer 1080p at different FOV. BUT, 4K is kind of interesting on a gopro due to the silly "catch everything" wideness of the lens. It allows for crop-ability in post to render a 1080 video that is framed right and more stable. In a sense, they may be steering towards being the lytro of frame of view.

Saying that the a7S has the only sensor sony makes that is "good" in low light is selling them quite a bit short. The a7S is absolutely astonishing in low light. I think the a7 line and the current nikon FX line are at least "good" in low light. The 16mp sony sensor that nikon uses even rivals the a7S but falls way short as a video platform (especially in the case of the Df).



By splendic (1 day ago)

↑ LIKE 1

Your criticisms are valid, but plenty of people still found them useful including big budget, film-tech geek directors like Peter Jackson.

The short answer is if you're shooting HFR footage and want it to look up to snuff they expect you to be using at least some amount of lighting gear.



By ZeisschBy Zeisschen (7 hours ago)

↑ LIKE 1

@ Sdaniella

You live in another world right? The Sony AS100v action cam smokes the GoPro in picture quality due to it's much better sensor. Not only in low light, in every light. The GoPro is successful because with their clever marketing they made it the actual standard for most who don't know anything about action cams.

^ Hide replies **REPLY**



By maxnimo (1 day ago)

↑ LIKE 4

I was just browsing the GoPro website and apparently all their cameras have a fixed super wide-angle lens. They don't even mention the focal length, nor do they give you a choice. They must think everyone wants, needs and loves super-distorted ultra wide angle views.

This probably explains why all GoPro videos look so terribly distorted.

"Eyes rolling in disbelief!"



By Photomoney (1 day ago)

↑ LIKE 2

And knowing the FL would do what for you? I suppose you can choose another action cam that has interchangeable lenses so you can put on a longer FL. Oh, wait! No one does that!



By ipecaca (1 day ago)

↑ LIKE 10

Action cameras need wide angle lenses to get all the action in the frame no matter where exactly the camera is pointed (to a large extent). Because the camera may turn accidentally, but more importantly action can happen in different directions and angles.
That said here offers wide, normal and narrow fields of view,



which allow for reasonable framing and zooming. Hope this helps.



By SDPharm (1 day ago)

↑ LIKE 16

To answer your question, maxnimo, try strapping any interchangeable lens camera to your head and go for a vigorous mountain bike ride or a freestyle ski run. Let us know how it turns out.



By CNY_AP (1 day ago)

↑ LIKE

The "#808" camera and perhaps Mobius can swap out their lenses...not a quick swap though. They are lighter, preferred for usage on R/C vehicles.



By matt1941 (1 day ago)

↑ LIKE 1

I dont understand why everybody expect from an ACTION CAM the flexibility of an interchangeable lens DSLR and maybe low-light capabilities such as you can only find on full frame camera with a big lens.

Come on we are talking of a TINY camera which is capable of incredible performance you could only dream few years ago.

And if you can stand the distortion, get yourself an aftermarket lens, I'll repost the info, first hit on google: <http://providecoalition.com/jfoster/story/gopro-replacement-lenses-for-hero3-3>

There are other lens which can do a similar job, look for them on ebay.

▶ Show remaining 5 replies (out of 10) REPLY



By WACONimages (1 day ago)

↑ LIKE 1

Probably still no raw photos?



By T 101 (1 day ago)

↑ LIKE 2

No 240 fps at 720? Iphone6 does it... and it can even bend :D



By aut0maticdan (1 day ago)

↑ LIKE 1

My bet is that it is actually capable of 720p240 but not in "protune" or whatever. I hat always reduces framerate and I think this is because it increases the amount of data being written to those crappy little cards.



By splendic (1 day ago)

↑ LIKE

Gizmodo review says according to GP, the sensor is capable, but chip isn't (or vice versa).

^ Hide replies REPLY



By misolo (1 day ago)

↑ LIKE 1

Why is it always near impossible to find out the sensor size and focal length on these things?



By awelch100 (1 day ago)

↑ LIKE 2

Because it's sensor size is not something they would want to advertise considering how small it is compared to many other camera sensors. The Hero4's sensor is almost certainly 1/2.3", just like the previous versions.



By Jogger (1 day ago)

↑ LIKE

I wouldnt be surprised if the lower-end versions use smaller sensors.



By Giklab (1 day ago)

↑ LIKE 1

Believe it or not, 1/2.3 is actually pretty large when it comes to camcorders and such.

^ Hide replies REPLY



By D1N0 (1 day ago)

↑ LIKE 1

They should call it 4Hero.



By Ozyxy (1 day ago)

↑ LIKE 3

Hmm in my mind I associate GoPro with this:





By peevee1 (1 day ago)

↑ LIKE 10

A great marketing exercise - how to sell a basic smartphone camera hardware for a lot of money. :-)



By aut0maticdan (1 day ago)

↑ LIKE 16

Interesting.

Can your smartphone shoot 1080p120 or 4Kp30?

Can it do that while being small and light enough to go on inexpensive gimbals mounted to inexpensive quadcopters?

Does your smartphone come with a case that allows it to shoot video and stills many meters under water and makes it tough enough to survive a drop from an airplane?

Is your smartphone under \$400 without a contract?

Do you actually know what a gopro is?

I'm weighing the pros/cons of a \$1600 camera and a \$2500 camera for video and neither of them can pull off a lot of the tricks that make the gopro 4 interesting, including its "basic" video recording functions.



By peevee1 (1 day ago)

↑ LIKE 2

"Can your smartphone shoot 1080p120 or 4Kp30? "

iPhone 6 can. Samsung Note 4 can.
But Hero 4 Silver (and simply Hero 4) cannot.

"Does your smartphone come with a case that allows it to shoot video and stills many meters under water "

Does Hero 4 Black COME with that case, or the case is sold separately? ;)

"and makes it tough enough to survive a drop from an airplane?"

I would not count on it. :)

"Is your smartphone under \$400 without a contract?"

You own a smartphone anyway. BTW, Hero 4 Black, the only one doing 4k, is NOT under \$400 without a contract. But many smartphones now are below \$200 without contract. Can your Hero make calls, send e-mail, play games and do everything else the smartphones can?

The fact is, GoPro 4 Black uses the hardware similar to good (but not the best) cameras in smartphones (far from Panasonic CM1 etc). Silver is at best average, and Simply GoPro is like a camera phone from many years ago.



By aut0maticdan (1 day ago)

↑ LIKE 1

actually, peevee, neither of those phones can shoot video at those specs. I can't name a device that can. Neither the GH4 nor the a7S can. At 1080p96, the GH4 had the highest 1080p framerate I'd ever heard of before reading this.

Why would my gopro make phone calls? I certainly wasn't likening the gopro to a smartphone.

The gopros are an engineering feat AND a marketing feat. Amazing marketing. I agree with you on that.

Their sensor size is crap, IMO. I'm spoiled by full frame. Low light and shallow depth of field are terrible. There is very little control over functions that are very basic in normal cameras. I have a hero black (non-plus) and its total garbage in lowlight when shooting 1080p60. Really frustrating.

That being said, they do a lot of stuff nothing else can and they can go places that very few other devices would be able to. Likening them to "basic smartphone hardware" is silly and pointless.



By Richard Shih (1 day ago)

↑ LIKE 5

"Does Hero 4 Black COME with that case, or the case is sold separately? ;)"

All GoPros come with their "standard housing" for 40m of waterproofing.

"and makes it tough enough to survive a drop from an airplane?" "I would not count on it. :)"

It can survive a drop from an airplane. Terminal velocity probably isn't that fast for the body to absorb.
<http://gizmodo.com/5943506/heres-what-happens-when-you-accidentally-drop-a-gopro-from-12500-feet>

It's just not worth comparing an iPhone 6 / Note 4 with a GoPro. Completely different segments. Even if you were willing to put your smartphone in a case and go over a waterfall - would you?





By aut0maticdan (1 day ago)

↑ LIKE 1

lol, Richard.

What's interesting from this video is it looks like the thing actually came out of its case. You can see it pull away from the front of it. So, I guess F the case. Its good to be light and boxy.

With the case on, I'm sure it could survive a fall from a plane on a much more massive planet, tho. ;)

^ Hide replies

REPLY



By peevee1 (1 day ago)

↑ LIKE

"Professional quality video capture at 2.7K30"

Another marketing invention? What is that 2.7K30, something like 1500p30? Or is it 2700 pixel wide, but the same 1080 lines high?



By matt1941 (1 day ago)

↑ LIKE

well, they have also 4k30.

2.7k=2716x1524

<http://abekislevitz.com/understanding-your-new-gopro/>



By awelch100 (1 day ago)

↑ LIKE 1

2704 x 1520 in 16:9 mode and 2704 x 2028 in 4:3 (4:3 on Black Edition only).

It's useful to shoot in "2.7k", apply software image stabilization in post and output at 2K.



By matt1941 (1 day ago)

↑ LIKE

yes, and you get also 2.7k at 50 fps, not bad at all...

<http://phillipbloom.net/2014/09/29/gopro4/>



By wallawalla (1 day ago)

↑ LIKE

How well will 50p scale to 30p? I'm used to shooting in 60p and then outputting the finally product at 30p, but I don't know how this will work with 50p.



By awelch100 (1 day ago)

↑ LIKE

You would use the 25/50fps option if you were shooting specifically for distribution in countries which use the DVB standards. This includes most of Europe and Asia. The 30/60fps options would be chosen for North American distribution.

► Show remaining 2 replies (out of 7)

REPLY



By matt1941 (1 day ago)

↑ LIKE 2

The Hero "basic" will kill all chinese knock-offs...

Great move.

now GoPro have an even stronger position all over the action camera market.

Very well done, I could not imagine how they could strengthen their position in the market but they did on both end.



By Menneisyys (1 day ago)

↑ LIKE

"The Hero "basic" will kill all chinese knock-offs..."

Yup, for \$129, it's indeed very well-priced. (Of course, the accessories still remain very expensive - for example, batteries cost 20 euros while, for the SJ4000, they cost some 3-4.) Too bad the two more advanced models saw a \$100 price hike.



By Rbrt (1 day ago)

↑ LIKE

I own 2 Hero 3s and I'm very happy to see the heightened FPS for 1080, as well as the high fps for higher resolution modes.

What I would really like to see is support for different lens configurations. Right now, the GoPro supports one fixed very wide angle lens. Some way to narrow the field of view would be welcome.



By matt1941 (1 day ago)

↑ LIKE

Sure, For my go pro i purchased Wasabi "compatible" battery on amazon (? batteries + charger for 24usd) and chinese mounting accessories on ebay.com



mounting accessories on banggood.com

The Silver4 is the black3+ with new sony sensor (lowlight capability) and rear screen, thus at the "same" price of the 3+ the value increases somehow.

Comment edited 21 seconds after posting



By matt1941 (1 day ago)

↑ LIKE

@Rbrt
you can buy some narrow lenses.

<http://videocoalition.com/jfoster/story/gopro-replacement-lenses-for-hero3-3>

^ Hide replies REPLY



By Menneisys (1 day ago)

↑ LIKE 2

So, \$100 rise. After all the bad news on their financial problems, this all means they don't really want to save their own business / make them significantly more profitable by just making use of the law of vastly increased sales at slightly decreased prices? (See <http://www.dpreview.com/articles/4919944138/gopro-points-to-increased-costs-as-it-reports-deeper-losses-in-financial-results-for-more-info-on-their-losses>.)

Their low-cost Chinese competitors pump out, for the price, unbeatable action cameras. I much prefer using a \$100 SJ4000 than a \$500 GoPro while, say, fishing, climbing or swimming, because I'm not afraid of it getting wet / damaged and can put up with the very slight decrease in IQ (the SJ4000 produces some very good-quality footage) and "only" 30p framerate. Against those competitors, they just shouldn't ask for so much money because 95% of their prospective clients will get the much cheaper camera.



By matt1941 (1 day ago)

↑ LIKE

Since that report go pro stocks have increased pretty much.

I own both a gopro3 and a couple of chinese cameras (Mobius and SJ1000).

Many people will buy the "real deal" (GoPro hero at 130 USD instead of the SJ4000) and hard core fans will upgrade to the Black4 (even at 500).

Despite sony is very aggressively upgrading their cameras with superior features (optical stabilization, splash resistance with no case & gps) they are still lagging behind in product recognition and availability (you can find go pro in nearly all sports shops).

GoPro marketing is still leading by far, sony-panasonic-drift-contour products are near to unknown to the general public.



By Menneisys (1 day ago)

↑ LIKE

The above only refers to the two more advanced models, not the indeed very comparatively priced (\$129) basic model. Hope the latter doesn't have worse IQ / significantly narrower Field-of-View than the GoPro cameras traditionally.



By Menneisys (1 day ago)

↑ LIKE

"opro hero at 130 USD instead of the SJ4000"

Yup, before posting my first remark, I hadn't noticed the price tag of the new low-end model. That IS indeed very competitive. At last.



By Photomoney (1 day ago)

↑ LIKE 1

I would presume that the basic would have the same quality as the earlier models just because it would actually cost more to make it poorer. Re-badging an earlier model means all development costs are covered.

^ Hide replies REPLY



By Jogger (1 day ago)

↑ LIKE

Still no optical image stabilisation.



By William Koehler (1 day ago)

↑ LIKE 1

I wouldn't expect it to. The way to make an action/indestructible cam is to eliminate as many moving parts as possible.



By matt1941 (1 day ago)

↑ LIKE

But Sony Av100V, AZ1vR Have it (optical stabilization)



By jaxson (1 day ago)

↑ LIKE





Sony have had this since the HDR-AS10/15 days. This was digital stabilisation though, so has something changed on the later models to include 'real' Optical stabilisation? (That means moving the sensor, which I doubt Sony actually do.)

Still, yes, sony do offer some in camera stabilisation, though you lose the wide angled view to allow for this. Sony now also offer the higher bit rate option in XAVCS so that's a plus to head towards (but not surpass) the higher end GoPro offerings. Still only limited to 1920x1080 resolution though.

Sony's are a weird shape though, so it's good for some mounts and silly for other. Same as the gopro, in that the flat approach is good at times, and the longer sony approach is better for some other times.



By splendid (1 day ago)

↑ LIKE

Do you really want to introduce moving parts into the sensor or lens of your action cam?

Sony has DIGITAL stabilization and it's OK. I still prefer to do it in post if it's going to be done via software.

^ Hide replies

♥ REPLY



By graffi (1 day ago)

↑ LIKE 2

1080p@120fps is awesome!!
Shut up and take my money!



By JWReagan (18 hours ago)

↑ LIKE

I agree %100. 1080p @ 120fps is the only reason I am interested in this. I started playing around with 720p @120fps on my phone and it is a lot of fun, with 1080p I would have room to stabilize the video and maybe do some cropping. I really wish they would have included 120fps 1080 on the mid level model and ditched the 2.7k.

^ Hide replies

♥ REPLY

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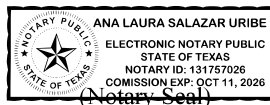
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