

GoPro Tips

Available cameras as of March 2015:

Hero - \$129

- 5 MP sensor
- 1080p @ 30fps / 720p @ 60fps
- Up to 5 frames per second

Hero 3 White - \$199

- 5 MP sensor
- 3 frames per second
- 1080p @ 30fps / 960p @ 30fps
- Built in Wi-Fi (allowing viewing and control from smartphone)
- Waterproof housing

Hero 3+ Silver - \$299

- All the features of the White model plus:
 - 10 MP sensor
 - 1080p @ 60fps / 960p @ 60fps
 - Up to 10 frames per second
 - Simultaneous photo and video (photo every 5,10,30 or 60 seconds or manually)

Hero 4 Silver - \$399

- 12 MP sensor
- Up to 30 frames per second
- 1080p @ 60fps / 720p @ 120fps
- Full HD 1080p video up to 60 frames per second (allowing slow motion playback)
- Built in touch LCD display
- Built in Wi-Fi and Bluetooth (allowing viewing and control from smartphone)
- Waterproof housing
- Protune (lets you get higher quality through post-production) – see below

Hero 4 Black - \$499

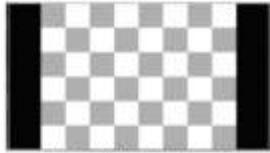
- All the features of the Silver model plus:
 - Professional video up to 4K (four times the resolution of full HD) at 30 fps
 - 1080p @ 120 fps

Viewing angles

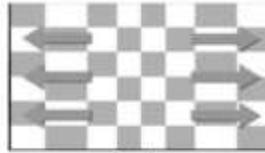
- Ultrawide (14mm equivalent) – 12 MP
- Medium (21mm equivalent) – 7 MP
- Narrow (28mm equivalent) – 5 MP
- Superview – Hero 3+ Black and Hero 4 only

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- SuperView captures an immersive wide angle perspective. What this mode does is it takes a 4:3 aspect ratio and dynamically stretches it to a 16:9 aspect ratio.
- The camera automatically stretches out the sides of the video to fit into the 16:9 frame. The center of the frame is unchanged, only the edges are adjusted.



Standard 4:3 Aspect Ratio image
• Footage is captured in a tall 4:3 aspect ratio to frame all the action but does not fill the screen when played back.



SuperView
• The camera dynamically stretches the footage to a wide 16:9 aspect ratio for full screen playback.

Accessories

- Mounts – over 25 different mounts to strap it to yourself or your equipment
- Poles – Go Pole – Great for getting the camera away from your body
- LCD Back for 3+ and older models (otherwise, built into the Hero 4 model)

Smartphone app

- Control all functions on the camera remotely
- Best for changing settings on the camera because you can do it much faster

The GoPro chooses ISO and shutter speed based upon lighting conditions (There is a Protune mode which lets the user change exposure compensation)

Protune - enables manual control of White Balance, Color, ISO Limit, Sharpness and Exposure for advanced control and customization of your **video** footage with the Hero 3+ Black or Hero 4. These manual controls can also be used for still shots but only with the Hero 4 models.

GoPro Studio

- Free software that comes with the GoPro for editing all your photos and video
- Not required for editing video but it has some nice features, such as:
 - Slowing down or speeding up video
 - Modifying the exposure, contrast, saturation, sharpness, wide angle distortion
 - Zoom in to a portion of the video
 - Flip the video horizontally or vertically
 - Automatically creates a video from a time lapse sequence

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Resolutions:

- Use 1080p 60fps – it looks great at normal speed and great slo-mo at 50% speed
- If light is low, switch to 1080p 30fps
- For really slo-mo, shoot at 720p 120fps and slow it down 75%
- If you use 2.7K resolution for video, screen captures of individual frames can make pretty good still shots.
- 1440 resolution is a square format

Taking still photos of yourself or with the camera away from your hand:

- The best method is to use the GoPro app on your smartphone
- There is no self-timer. Instead, you could use time-lapse or choose video and photo mode. In video and photo mode there is no glitch in the video when it takes a photo. It is seamless.
- If using time-lapse for this, put the interval and one half or one second. You'll get way more photos than you need but you can choose the best and delete the rest.

No need to change the Upside Down setting on the camera

- It is meant for when you position the camera upside down for video. You can always use the GoPro Studio software to flip the video after the fact. That saves you time changing the setting back and forth while you are shooting.

For time lapse:

- If you have a GoPro that is 10 MP or higher, use 7mp size for time lapse. That is all the resolution you need since they will be seen only briefly in the time lapse video

Import videos into Lightroom first to keep the mp4 versions. Then import them to GoPro Studio, as GoPro will write out any videos you convert to avi format.

Batteries and O-Ring Maintenance

Unfortunately, the battery life for these cameras is fairly short. The best solution is to have several, fully charged batteries on hand to swap out when needed.

- As with any camera housing, it is crucial to inspect the rubber seal for debris (sand, hair, lint etc.) and to ensure that nothing (like your anti-fog insert) is inhibiting the housing lid from obtaining a tight seal.

To save camera battery, turn on Auto-Off and turn off Wi-Fi.

Best **not** to charge the batteries or the remote overnight because once charged, they turn themselves on and start searching for Wi-Fi which drains the battery.

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The remote is waterproof to about 9' but it is mainly just meant to resist splashing water. GoPro doesn't recommend keeping it submerged for long periods. The key does not need to be in it to be waterproof.

The LCD Touch Bac with the touch sensitive back is waterproof to about 10' but it is also mainly just meant to resist splashing water. They don't recommend keeping it submerged for long periods.

Great web site for video tutorials – Search YouTube for [MicBergsma](#)

Recommended Settings

Most users shooting video prefer to run the GoPro in 1080p 60fps wide mode, and sometimes in the 2.7K resolution 30fps mode. Here's why: If you wish to slow down some fast action you've captured, the 1080p 60fps will allow you to put that footage into a 30fps timeline in your video editing software, and it will playback at super-slow motion speed.

If you want to have the latitude to reframe your footage and crop in a little tighter, or run image stabilization on the clip, the 2.7K resolution can be used on a 1080p timeline. For the Hero3 Silver or White models, users prefer to use the 1080p 30fps wide mode (these cameras will run 60fps in 720p mode only and do not support any of the higher ultra HD resolutions).

- Turn Spot mode OFF to let the camera evaluate the entire scene for better exposures.

Here are some tips to get the best footage from your GoPro while in the water:

- Shoot with the sun at your back for the best color in your images.
- Compose your shots with a slight downward angle to achieve richer color and contrast for your images.
- While snorkeling, on the surface, there is no need for use of the filter.
- Try the appropriate red color correction filter(s) if diving deeper than snorkeling
- If you have video lights, use them deeper than 10 feet. The best results come from the brightest lights.
- Make sure your subject is 12 inches or more away from your camera's lens for a sharp image.
- Be as steady as possible when depressing the shutter button.

LCD Touch BacPac and Anti-Fog Inserts

For underwater shooters, the LCD Touch BacPac is a must have for framing your shots. The touch screen doesn't work underwater, but can be used to set your settings prior to insertion into the housing. Never use the 'Touch Door' or 'Skeleton Door' that comes in

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the box with the LCD Touch BacPac. Use of either of these will immediately flood your camera or be the source of a flood while on a dive.

Setting up FOV

New users often find setting up a Field of View (FOV) settings to be difficult. These cameras feature super wide lens, perfect for shooting action and high intensity shots, as the wide lens provides a huge field of view. Its fisheye effect also enhances action shots. However, for everyday use or video-logging, the wide lens view simply isn't appropriate. While it provides 2 FOV settings, it doesn't offer a simple solution to the problem of too-wide shots. If you want to reduce the field of view to the minimum, a 127 degree semi-wide angle mode, that mode is available only in 1080p, and image quality is dramatically reduced. The effect is that it seems the camera crops the image sensor in order to change the FOV, similar to a digital zooming in a compact camera. In the process, the quality of the footage is dramatically reduced and the images acquire a grainy flavor.

Nonetheless, there is a simple solution to this- simply record the footage using the standard 1080p settings, then export that footage to video editing software and convert it to 720p format. By doing this, the footage will still have the same FOV as the narrower mode of GoPro, but the video will be high quality. While shooting the video, remember to not to frame the shots too closely as the warped areas will be lost during the conversion process.

Improving Audio Quality

Likely the biggest downside of that GoPro users discover is its weak audio quality. Basic usage will not be hampered by this drawback, but using the unit as standard video camera will not be possible without purchasing Skeleton Housing and using that to affix an external mic. Various types of mics are available, and the choice of mic, like the choice of your camera itself, depends largely on your requirements and budget. A lot of people go for the Sony ECM-DS70P Electret Condenser Stereo Microphone at \$50.

Shooting Tips

Shooting Photos of Yourself

If you want to shoot yourself with the GoPro, make sure that the device is positioned a bit away from your body. If you point the device directly at yourself, you will get a ton of headroom, and this simply doesn't look good. In order to capture that million dollar face of yours, point the device a bit down ensuring that your head is close to the upper frame of the camera, not the middle. If you want to shoot a profile perspective of yourself, place your head against directly against the frame of the camera. For best results, use

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the GoPro app on your phone to check the composition and control the camera remotely.

Optimizing Hardware

Some of the most popular accessories are mounts, which allow you to position it in various positions. Perhaps the most popular mount is the helmet mount, which allows users to record anything they see. Other mounts include the suction grip mount, which can be attached to your snowboard, the side of your car, front of your boat or even the outside of an airplane. There are also panoramic mounts available for purchase as well. Basically the way a panoramic mount works is that it is a mount that rotates 360 degrees over a period of several minutes, allowing you to capture a full 360 degree shot. (You can just as easily make one yourself using inexpensive kitchen timers!)

If you want to build a GoPro mount yourself, you might want to buy an adjustable bar clamp, which is available at discount stores and hardware stores. Drill a hole through the shaft for holding the GoPro mount. Try to find a bar clamp with a quick release and a hand grip. The quick release will allow you to remove the camera easily and the hand grip will ensure solid positioning of the device. When attaching mounts to the device, you can use a screwdriver to tighten the arms. While this will yield better output than tightening them by hand, this is especially necessary if your footage includes bumpy rides or plenty of movements.

If you have purchased the HERO3, along with a WiFi remote, the company has built dedicated apps for Android and iPhone users, which allows them to control their camera from the mobile devices. Last but not the least; try to use a tether, leash or some kind of grip while shooting with GoPro. If the suction cap or the adhesive fail for any reason, you will have a backup this way.