GoPro Fisheye: Why It Happens and How to Remove It

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Part 1: What Is GoPro Fisheye

<u>Fisheye</u> (aka barrel distortion) is a strong wide panoramic or hemispherical visual distortion effect produced by an ultra wide-angle lens. The GoPro has been designed to capture as much content as possible in front of the wide view angle. This means that the edge of the lens could distort the light that comes into it. The light blends, then projects onto the sensor, creating an almost circular distortion around the edge of the image. Thus your camera could capture more contents from a wider perspective.



What is GoPro Fisheye

Fisheye effect has been a trademark of GoPro. And most of the times it comes very in handy, allowing you to capture more of the actions through a wide-range lens. While there are also sometimes fisheye look gets annoyed since it distorts what the camera is seeing with wide view angle.

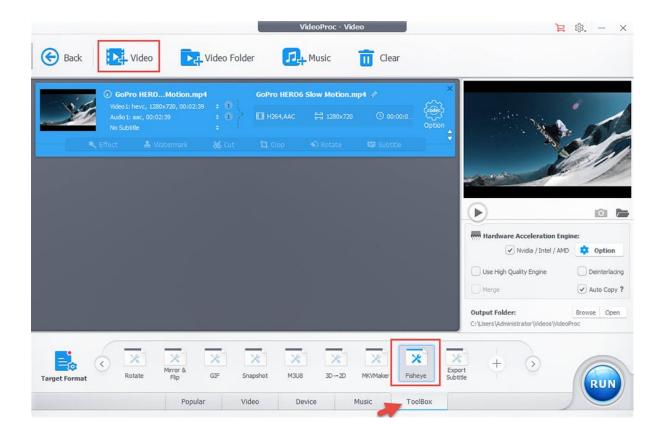
And as you change the lens on your GoPro, the resolution will be the same, but your angle of view will vary, leading to a various degree of fisheye distortion. Whereas, if you pick a narrower FOV, you will not lose quality but simply in a narrower perspective.

Part 2: Why Does Your GoPro Footage Have Fisheye Effects

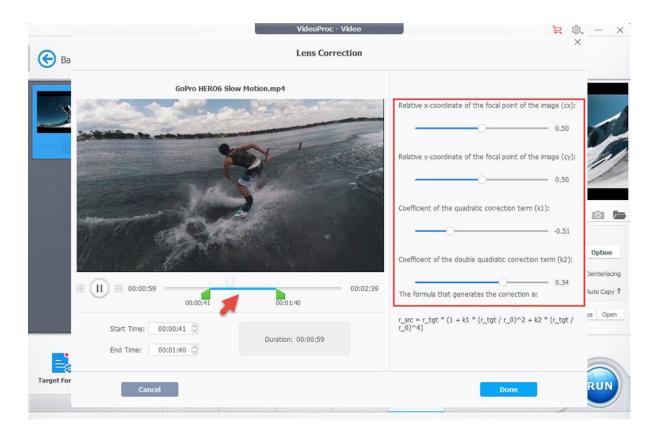
There is a Field of View (FOV) option in Video Settings for GoPro HERO11/10/9/8/7/6/5. It has 3 modes: Linear, Wide, and SuperView, enabling you to shoot videos in various view angles. Depending on which FOV you're using, the angle will change.

- Superview FOV captures the widest angle possible, up to 170-degree angle, giving you a symbolic GoPro fisheye look. It's a great option when shooting action or shaky occasions. The wider the frame, the more stable your footage looks. Besides, it gives your more flexibility for <u>GoPro video stabilization</u> in post-production.
- Wide FOV allows you to record in a 120-degree angle, which still has a slight fisheye effect but it's acceptable comparing with the widest Superview. Thus, it's usually used to lessen the fisheye look of Superview FOV.
- Linear FOV is more comparable to DSLR footage because it shoot GoPro videos in 90-degree angle. This is the best option for non-action shots such as vlogs, interviews etc.

Obviously, Superview and Wide FOV will lead to fisheye distortion, but Linear FOV won't. You absolutely can choose Linear FOV to avoid fisheye look, yet Linear FOV is not supported in certain cases like 2.7K and 1080p Time Lapse recording and 4K UHD videos recording, which yells out you to shoot in Wide or SuperView mode and then make a lens distortion correction in post-processing.



Remove GoPro Fisheye Effect



Gopro Fisheye Correction

Part 4: GoPro Tips on How to Shoot Videos with No Fisheye Look

Post-production could be an unskippable step to get rid of fisheye on recorded GoPro videos. While for videos to be recorded, you have another choice to avoid fisheye look radically, which is to adjust GoPro camera FOV.

If you're using GoPro HERO11/10/9/8, you can use Linear mode. This is the quickest way to get rid of fisheye look, but not the best in my opinion, as it doesn't apply in all resolutions and frame rates, as well as time-lapse videos. Meanwhile, if you ignore the <u>best settings of FOV for different activities</u> and insist on using Linear mode, you may lose the best visual effect of your GoPro footage. Here are the video modes that Linear FOV is unavailable.

- 4K (24 25 30 50 60FPS), 4K 4:3 (24 25 30FPS) | GoPro Hero 8 and earlier
- 2.7K (100 120FPS), 2.7K 4:3 60FPS | GoPro Hero 7 and earlier
- 1080p (200 240FPS) | GoPro Hero 6 and earlier

Whenever you are using any of the other FOV settings except Linear, the fisheye effect will still be there, but it will be more or less dramatic depending on which one you use. The wider the shot is, the greater the fisheye effect will be. Comparatively, Narrow and Medium mode will reduce the fisheye effect, but you will capture less of actions in GoPro HERO4 Black or earlier. So, if you're OK with a little bit fisheye effect you can use such modes. Check how the GoPro footage looks in Normal, Narrow and Medium FOV settings.







Normal Medium Narrow

Shoot GoPro Videos with No Fisheye Look