

SHUTTER ANGLE, SHUTTER SPEED AND THE 180 DEGREE SHUTTER RULE

Your shutter speed determines how long your shutter stays open during each frame of your video. This in turn affects two things. One being the exposure of your image. The longer the shutter is open the more light hits your sensor, resulting in a lighter image. And two, your shutter speed affects the amount of motion blur your video will have.



Shutter angle is a term that comes from film based motion picture cameras. Traditional analog film cameras had a circular rotational shutter that you could change the exposure time by changing the angle of the opening in the shutter disc.



Digital cameras do not have a rotational circular shutter. Instead they have an electronic "shutter". It simply tells the camera how long to expose the camera's sensor, this is where shutter speed comes from.

The 180 Degree Shutter rule states that your shutter speed should be twice your frame rate. For example if your frames per second is 24fps then your shutter speed should be 1/48th, equaling 180 Degrees.

The reason for this rule is that when shooting in 24fps having a 180 degree/1/48th shutter creates motion blur that is most like the motion blur we see with our eyes in real life.

The reason to deviate from this rule is when you move past 24fps to faster frame rates, like 60fps for example. If your frames per second was 60fps (the standard for live production) and you followed the 180 degree shutter rule your shutter speed would be 1/120th.

This would leave you with less than half of the motion blur than you had when you were shooting at 24fps at 1/48th.

So if you are shooting in 60fps and had a 1/60th shutter speed (360 degree shutter), the motion blur would actually be closer to the motion blur that most resembles how our eyes see motion.

***You will still want to have a 180 degree shutter if you are filming in 60 frames and are planning to playback in 24 frames.**



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