

Sony a6300 review

By Jim Decker



PANASONIC LX100

SONY α6300

PANASONIC GH4

The Sony a6300 is a 24MP APS-C sized mirrorless camera that also shoots 4K video at a bit rate of 100mbps. You can shoot it like a compact with the kit lens and add wet lenses for wide angle and macro, or go totally pro with top grade dedicated SLR type optics. With a price tag of \$999 can it live up to the high performance levels one would expect from its specs? Read on to see images and video from the latest mirrorless camera from Sony.

SLR Level Control Set

While not having as many dedicated buttons and dials as the Sony a7R II, there's enough customization that can be done to the camera to meet the underwater photographer's needs. I chose to assign focus to the AF/MF button on the back of the camera to be AF-ON and remove focus from the shutter,

assigned white balance to the C1 button, and made the center button AF/MF toggle. This is pretty much the same way I set up shooting on the Sony a7R II, so there wasn't much of a learning curve to getting up to speed on shooting.

Impressive Image Quality and Performance

The image quality is excellent and is in the top range of any APS-C size sensor camera on the market today. It has great low light performance, dynamic range, and smooth transitions in the blue water gradients. Looking at images zoomed in at 1:1 in Lightroom show extremely sharp detail. The AF system has 425 focus points with super quick AF performance. Just like its big brother Sony a7R II, the a6300 can also use Canon lenses with pass thru AF by using either a Metabones or Fotodiox



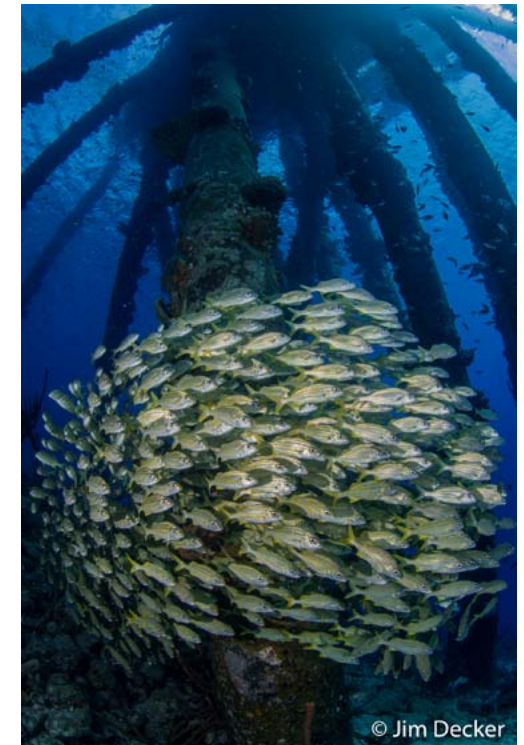
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The Sony a6300 image quality is impressive with low noise in shadows and very sharp detail. Tokina 10-17mm at 10mm, ISO 100, f/10, 1/100.

adapter. Rounding out the impressive spec list, it can shoot 11fps in RAW, with a 21 shot buffer.

Lens Selection

With the advent of a Metabones or Fotodiox adapter, the Sony a6300 isn't just limited to shooting Sony lenses. The a6300 can shoot Canon mount lenses. This is a good thing as there isn't a whole lot of Sony APS-C optimized lenses that are great for



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Setting up focus on the AF-ON button instead of the shutter allows focusing and shooting to be separated from each other, allowing one to concentrate on shooting multiple frames, while not needing to focus for every shot. Tokina 10-17mm at 10mm, ISO 100, f/9, 1/60.

underwater work, especially on the wide angle fisheye side. I've divided the lens selection into two different paths--the Sony 16-50 kit lens with wet changeable lenses and going with a more traditional SLR style of dedicated wide angle and macro lenses.

The Sony 16-50mm with the Nauticam WWL lens can pull off impressive wide angle in the 130 degree angle range, yet still have zoom thru capability for tighter shots. More advanced shooters might want to get wider shots with a dedicated fisheye lens.

While being able to switch lenses underwater seems like the ultimate flexibility in theory, in practice it can be a bit of a pain. Managing multiple lenses underwater can be a distraction. Most wet mount wide angle lenses are quite heavy and attaching one to an arm for storage when not in use can be unwieldy when trying to position strobes. However, it does make for a great 1 kit lens solution without the need to change ports. Changing from a true wide system to a macro system has the convenience of not needing to worry about o-ring maintenance or risk water intrusion into the housing while changing ports on a wet boat. It also makes for a less expensive and smaller travel system.

While there are gains in quick change flexibility and a smaller system, there are disadvantages in both wide and macro. On the wide lens the angle of coverage is a little narrow for my tastes, coming in about the 120-130 degree range while dedicated fisheye lenses are in the range of about 170-180 degrees, allowing one to get closer and have a



wider field of view. There was a little bit of zooming that was needed to avoid vignetting, generally needing to zoom in to about 19mm. For most novice shooters and people whose shooting style doesn't find themselves shooting in extreme wide scenes, the angle of coverage will be more than adequate. For macro shooting with the Nauticam CMC lens, the system will be able to shoot macro scenes, but at a reproduction ratio of less than 1:1. This is probably fine for most general and novice macro shooters, but if you're into super macro photography and want to fill the frame with the smallest critters on the reef, you'll



The Nauticam WWL-1 and Sony 16-50 make a versatile combination that allows wide angle to fish portrait type shots without needing to remove the lens. Sony 16-50mm, at 50mm, Nauticam WWL-1, ISO 200, f/13, 1/80.

need a dedicated macro lens.

Shooting Dedicated Wide and Macro Lenses

Shooting a dedicated lens, by definition, limits the types of subjects you'll be able to shoot with that particular lens. Using a lens for a dedicated purpose will yield the best results compositionally and optically for that style of shooting by being optimized for the particular purpose it was designed for.

For wide angle the Tokina 10-

17mm has been THE favorite APS-C wide angle lens since it came out. We've used it for years on both Nikon and Canon mounts. It is a fisheye zoom lens with an angle of coverage that ranges from 100-180 degrees, making it the most ideal lens for underwater wide angle photography. The Sony a6300 can use the Canon mount Tokina 10-17mm with either the Metabones or Photodiox adapter. Autofocus works quickly and accurately.



I had no problems focusing a Canon mount Tokina 10-17mm lens. The Tokina 10-17mm lens has been our favorite APS-C fisheye lens with an angle of coverage of 100-180 degrees since it was introduced.

For macro, the favorite choice is the Sony 90mm macro. This lens will do a 1:1 reproduction ratio with a respectable working distance of 11 inches. External macro lenses can be added to the lens port to be able to do greater than 2:1 macro photography.

Flash--Optical or Electrical Connections?

The a6300 has the ability to use the pop up flash to trigger external strobes optically or use the camera's hot shoe to connect to strobes electrically.

While the optical connection can be used to trigger slave strobes that have either manual or TTL modes, the speed of shooting is limited by the recycle time of the internal flash which can be quite long. There's nothing more frustrating than being



The Sony 16-50mm with the Nauticam CMC macro lens (left) is a great combination for normal macro shooting while allowing flexibility to shoot larger subjects on the same dive, but it falls short of being a true super macro lens. The Sony 90mm with the SMC (right) will get super tight pro level macro shots of the tiniest critters on the reef.

in the heat of action and having a flash icon blink at you on the screen of the camera while frantically pressing down the shutter button to no avail, which I personally experienced.

In most other cameras with pop up flashes, you can set the flash to manual and a very low power (usually around 1/64 power) to trigger the strobes and allow a quick recycle.

Unfortunately the a6300, along with other Sony cameras with pop up flashes, has no ability to set a manual flash power. If you want to fire strobes in quick successive shots, you'll need to use an electrical connection.

After a day of shooting with the very slow recycle of the pop up flash, I switched over to an electrical connection for quick shooting. When shooting with an electrical connection, keep in mind the fastest flash sync speed of the camera is 1/160. With an electrical connection, the camera will allow



you to set a faster shutter speed than the flash sync limit of 1/160, thus resulting in black areas at the top of the frame from catching the shutter travel.

When the pop up flash is deployed, the camera will not allow a shutter speed faster than 1/160. In practice there were times that I had the shutter speed set faster than the max sync speed at 1/250 by accident and I did not see any shutter travel in the image.

When I got home I experimented with shutter speeds and flash sync. I had no shutter travel in the image at 1/250, but it did creep in the top part of the frame when set at 1/320.

4K Video

The a6300 records 4K 30p video at a 100mbps data rate. This is the same pro level video codec that is also found in the Sony a7R II and Sony a7S II. The 6300 captures 4K 30p video in 6K resolution



Sony a7R II
Full Frame (1.0x Crop)



Sony a7R II
Super 35 Mode (1.5x Crop)



Sony a6300
(1.8x Crop)

The Sony a6300 shoots 4K 30p footage from a smaller area of the sensor, leading to super tight 4K macro video. While this will also lead to narrower wide angle video, the Tokina 10-17mm will yield about 140 degrees, and the Canon 8-15mm will get back to around 180 degrees, at their widest settings.

from a smaller section of the imaging sensor and then down samples it to 4K resolution with no pixel binning. This results in a very sharp image that has reduced moire and really great detail. The camera can be shot at 4K 24p from the full sensor width, but I suspect most users will want to shoot the 30p option which has smoother motion.

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back to around 180 degrees, at their widest settings.

The disadvantage is shooting wide angle. The lens won't be as wide as it is for photo mode. If shooting a Tokina 10-17mm lens for video, having the lens set at 10mm (which normally will result in a 180 degree angle of coverage in photo mode) will have an approximate angle of coverage of having the lens set to 12mm. The crop effect can be completely eliminated by using the Canon 8-15mm lens. Setting the Canon 8-15mm at 8mm will yield an approximate angle of coverage set at 10mm, getting an angle of coverage of about 180 degrees.

Focus Peaking

The Sony a6300 has the same exact focus peaking features as the Sony a7R II. When in manual focus, focus peaking will show areas that are in focus as a color. This makes critical focus super easy to see. For those who can't see critical focus on a screen or optical viewfinder very well, this is a must for macro shooting.

Focus peaking also works with depth of field (DOF) preview. The gain on the screen compensates for any loss of light stopping the lens down, but it is still important to use a focus light to help see subjects clear and help with AF performance



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Tokina 10-17mm at 10mm, ISO 100, f14, 1/160.

in low light. This is an advantage over SLRs, as most cameras either don't have access to the DOF preview button, or when you do, the viewfinder is too overly dark to actually see anything when the lens is stopped down. Plus there is no focus peaking in an optical viewfinder.

Underwater White Balance Performance

Up to this point Sony has not been able to execute a custom underwater white balance with ambient light shooting. Unfortunately the a6300 is no different. The white balance tops out at 9900K, which is nowhere near where us underwater shooters need to be. I used a Magic Filter in the back of the lens to execute a custom white balance underwater. The red color of the magic filter knocks down the color temperature of the scene and gets it into a range that the camera can white balance in.

I found that in the range of 30-50 feet there was no need to re-execute custom white balances, as I found that the camera always pegged out at the color temperature and tint limits in this depth range. The camera can be set to the max 9900K and the tint at M7 and the colors look really good. Above about 25-30 feet a custom white balance will result in a kelvin temperature under 9900K, so executing multiple white balances at different depths will be necessary above 30 feet.

Unfortunately after about 50 feet, the blue background starts to lean more to purple. The tint can be dialed back a little but it doesn't look as good as it does at shallower depths with ambient light. Most cameras top

out around 60 feet max for working well with ambient light, so this isn't too unusual. I recommend using a filter for wide video all the time and using cyan lights when shooting below about 50 feet and white blancing to the lights.

Being able to white balance without a color correction filter is a huge advantage, allowing one to do photo and video on the same dive, or do video lights and ambient light on the same dive. You'll get great color with the Sony a6300, but you'll need to go in the water dedicated with either a color filter or lights.

Conclusion

The Sony a6300 can almost be any camera you want it to be. Moving up from a compact and want better quality images and video, but don't want to deal with port changes and the o-ring maintenance while traveling around with a whole bunch of lens ports and extra lenses to keep the whole rig really small? You can get the 16-50mm kit lens and use wet lenses for wide angle and macro. Want the ultimate wide angle and macro shooting rig to be right up there with SLRs in image quality? Shoot the Tokina 10-17mm and Sony 90mm macro and you'll have some of the best images out there for the price. If you're a macro video shooter

that wants to move to 4K, there isn't a better system out there that will provide the combination of quality 4K video and reproduction ratio.

All these positives aren't to say that there aren't a few negatives. The 1/160 flash sync speed is a bummer and makes pulling in tighter sun balls and bright ambient light backgrounds while using strobes a little bit harder, but it can be done by getting really close to the foreground and using bright strobes. Although our testing shows we can shoot 1/250 with our camera, I don't feel comfortable saying that it works for all cameras until I see it for myself. The 4K 30p crop video can be a positive or negative depending if you are shooting macro or wide, but the wide disadvantage can be overcome by using the Canon 8-15mm lens, although it does come at a premium price.

Everything considered, you are getting a lot of camera for \$999, making this one of the best values in the crop sensor mirrorless range of cameras.

Pros

Many lens options
Can use the Tokina 10-17mm with a Metabones or Photodiox adapter
Excellent video image quality in 4K
Super sick tight macro in 4K video
Razor sharp images

Excellent low noise performance and image quality to rival leading APS-C mirrorless and SLR cameras.
Extreme high level of performance you get for \$999

Cons

Slow 1/160 flash sync speed according to spec, but we were able to shoot 1/250 with a manual electrical strobe connection
Needs a color filter for underwater manual white balance
Built in flash can only be shot in TTL, leading to slow internal flash recycle times when using optical cables
Need to change battery each dive if shooting a lot of 4K video

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