

## Sony a7R II Field Report by E.J. Peiker

After months of anticipation, Sony has finally shipped the a7R II. I have now had extensive use of the camera and file the following field report. Here is a quick rehash of some of the new features of the camera:

- A new back-side illuminated (BSI) 42.2 megapixel sensor that allows nearly 100% of the surface of the sensor to be used for light collection thereby not increasing noise due to the higher pixel count.
- In-body image stabilization allowing any lens, regardless of manufacturer to be stabilized
- 399 on sensor phase-detection autofocus points covering the vast majority of the full frame
- Largest image size viewfinder in a 35mm format camera ever made
- Fully electronic shutter capability and Electronic First Curtain shutter capability enabling no movement inside the camera at the time of exposure. The fully electronic shutter is totally silent for noise sensitive shooting situations.
- 5 frames per second in all AF modes
- Internally recorded 4K video (full frame and Super 35)
- Improved ergonomics including repositioning of the shutter button to a more natural position and a deeper hand grip
- Redesigned all-metal and totally rigid lens mount



Many of the original a7R usability issues have been addressed including the following:

- The camera now comes with a standalone battery charger and it even includes a second battery
- The very long power-on time after changing a battery has been slightly improved and the normal power-on time is now a total non-issue
- AF performance is now very quick and responsive and dramatically more accurate shot to shot than off-sensor phase detection systems used in DSLR's and there is never a need to AF Fine Tune or AF Microadjust the autofocus since focusing is achieved on the sensor plane.
- Auto ISO now gives you the option to select minimum shutter speeds that are appropriate for the focal length in use and also allows you to have the camera automatically change the longest shutter speed allowed based on one over double or triple the focal length to insure sharp shots with any lens.
- Auto bracketing was so ridiculously handicapped on the original a7R that it was almost useless. These restrictions have been eliminated allowing multiple stop brackets across multiple frames.

After extensive use of the new a7R II, including several trips where it was the only camera I used, it has become my only landscape photography body completely replacing my D810. I can simply see no reason to use a camera that weighs nearly twice as much, has less resolution and less accurate autofocus. Additionally, to complement the three native full frame E mount lenses that I own (16-35 f/4, 24-70 f/4, and 70-200 f/4), I can use any of my Nikon mount lenses including my world class Zeiss primes or any other manufacturer's lenses for that matter with

the use of an adapter. Canon lenses can even be auto focused with the right adapter and have fully electronic aperture control (this capability is under development for Nikon lenses). In most shooting situations, you give up very little in AF performance with Canon lenses and since focus is done on the sensor plane, it is inherently more accurate than using those same lenses on a Canon DSLR.

The electronic shutter is a boon for sharpness. Similar to when Nikon introduced an Electronic front-curtain with the D810, the a7R II ups the ante in image quality at the pixel level since there is absolutely no movement of the camera internally at the moment of shutter release as long as a delayed shutter is used or a cable release is used. Resolution, when using these shutter options and when the camera is coupled with first class optics such as the Zeiss prime lenses or Sigma Art prime lenses, is the closest thing to a Phase One, Hasselblad, or Pentax medium format camera that I have seen or used but technique is absolutely paramount. One must be mounted on a very sturdy tripod, with a first rate tripod head fully tightened down and use the 2 second shutter delay with the electronic first curtain shutter. This is no different than the D810 or Canon 5Ds R for maximum image quality. Even the sometimes maligned Sony-Zeiss 24-70mm f/4 lens shines when shooting it like this but for really amazing results, use the Sigma 35mm f/1.4 Art, Sigma 50mm f/1.4 Art, and Zeiss 25mm f/2 for mind boggling results in this focal length range or the amazing Loxia and Batis prime lenses from Zeiss.

Adding a fourth user customizable button is also a welcome change. I have had a number of people plead for me to reveal how I have customized the camera. While this is a very individual thing, I have found the following to work well. You might notice a slight bias to a Nikonesque button layout with my customization:

Function Menu:

Upper 1 - Steady Shot Focal Length

selection for non-Sony lenses

Upper 2 - Smile Face Detect

Upper 3 - Flash Mode

Upper 4 - Flash Exposure

Compensation

Upper 5 - DRO/Auto HDR selection (I use this when doing JPEG Real Estate shoots)

Upper 6 - Steady Shot On/Off (make sure you turn it off when on a tripod)

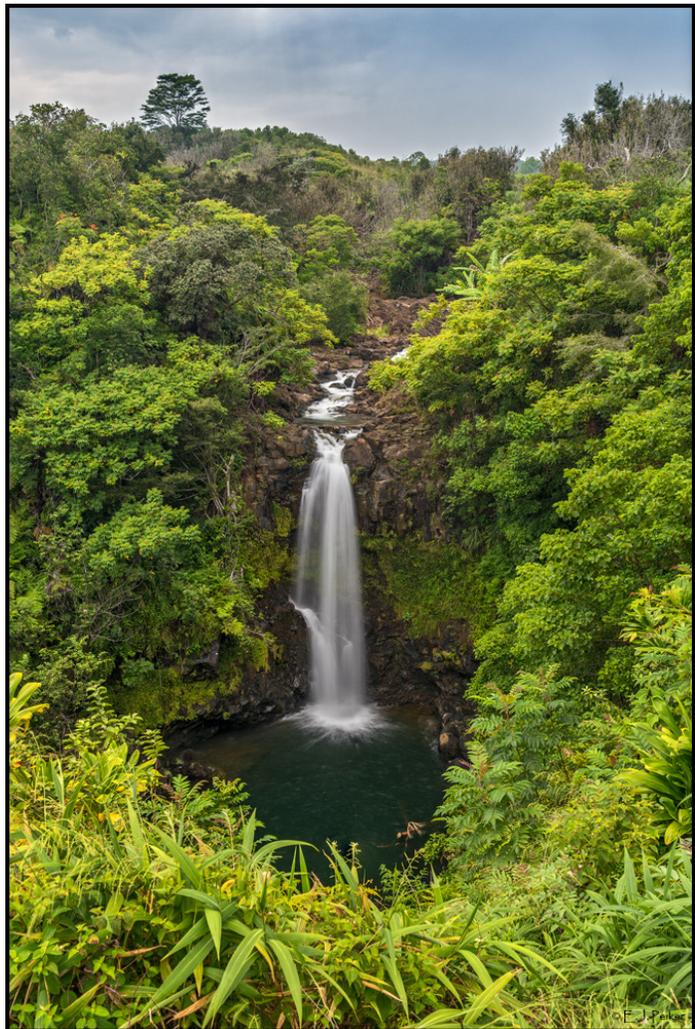
Lower 1 - Zebra

Lower 2 - Grid Line

Lower 3 - Metering Mode

Lower 4 - Quality

Lower 5 - Focus Mode



Kamae'e Falls, HI (a7R II, 24-70mm)



Pu'uohonua o' Honaunau (a7R II, 16-35mm)

#### Lower 6 - Creative Style

By far my most used functions are Steady Shot Focal Length selection when not using Sony lenses and Steady Shot On/Off

#### Now for the Custom Buttons (Keys):

Control Wheel - Not set (way too easy to accidentally roll it to allow anything to be assigned to it)

Custom Button 1 - ISO

Custom Button 2 - White Balance

Custom Button 3 - Focus Magnifier

Custom Button 4 - Bright Monitoring

Center Button - Focus Settings

Left Button - Drive Mode

Right Button - Focus Area

Down Button - AF/MF Control Toggle

AEL Button - AEL Hold

AF/MF Button - AF On

Focus Hold Button - Focus Hold

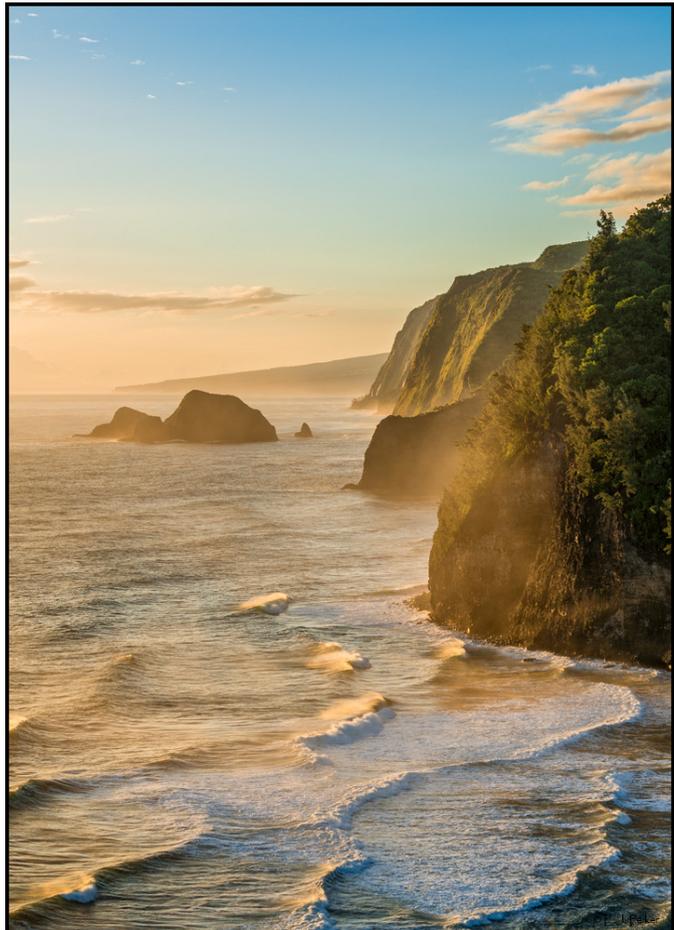
Additionally I have turned off the AF function on the shutter button by Setting AF w/ shutter to OFF. This allows the camera to operate just like a DSLR with back button focus using the button in the AF/MF control, right under your thumb to perform autofocus functions independent of the shutter button - my preferred way of shooting landscapes.

Unfortunately, like the original a7R, the a7R II allows only shooting functions to be assigned to the function menu or custom buttons so it is still necessary to go menu diving for things like formatting a memory card, changing the time zone, or any other set-up type function. I would much prefer being able to assign anything I want, to the function menu. Alternately, Sony could allow a My Menu page like other manufacturers have done to place some of these often used, non-shooting type functions in one place. In general, the whole menu system is still a mess and, if anything, due to the addition of new menu options, is an even bigger mess than before. Even if you have memorized which menu all of the different things are located on the a7R, be prepared to relearn them on the a7R II since the addition of various items has moved others. Sony defenders will say that all camera manufacturers menus have to be learned and it just takes time. While true, this does not excuse incoherent menu layout methodology. Only Olympus is worse than Sony in this regard. Let's just take a look at Autofocus related items - they should all be together on one or two pages of the menu tree but on the a7R II they are spread across 9 different menu pages across 4 major menu groups, in many cases non-contiguous pages. It's almost as if the firmware designers took all of the menu functions, wrote them on little pieces of paper, put them in a hat, and then mixed them up and pulled out one at a time and then constructed the menus in that order. Any experienced photographer, sitting down with the firmware designer could come up with a logical redesign of the menus in about an hour. It should not be necessary to memorize different places in the menu tree on different Sony cameras just to format a memory card...

While we are on the shortcomings of the a7R II, lets cover the other significant ones and please remember that one can construct lists of problems or poor design choices that are just as long for any camera on the market:

- Battery Life is absolutely abysmal. It is significantly worse than the a7R and I am getting from a low of 190 shots to a high of 260 shots per battery with WiFi turned off, about a 50/50 use of the EVF and the Rear LCD to frame shots, a 1 minute camera off delay and a 2 second image review. I usually have the in-body stabilization off since I am usually on a tripod. This is about 100 shots per battery worse than the a7R. Furthermore, the camera drains about 5% per day with the camera turned off where the a7R drains less than 2% per day. Fortunately, Sony included 2 batteries and a small external charger and the camera can now be used while charging so in a pinch you can use an external battery such as the ones made to recharge your phone on the road while shooting. Just put the battery in your pocket and run a USB cable to the camera.

- Sony continues to prioritize file size and card writing speed over image quality by forcing a lossy compression scheme on its users to make the files smaller and write to cards faster. There is no lossless compression or uncompressed file option. In most cases this isn't a problem but at ultra-high contrast edges and with some forms of night photography, it can be visible. It also results in a streaky shadow area when doing some more extreme shadow recovery and compromises the ultimate dynamic range of the camera by about 1 stop. Compared to the D810, a7R II files are nowhere near as malleable in RAW. While Sony has acknowledged this as a problem for some photographers, many of us are anxiously awaiting a firmware fix for this - but then again we have been waiting for this for a couple of years on the a7R too. It is simply mind boggling for a camera manufacturer that makes what are easily the world's best digital photography sensors to then degrade the image quality coming off of those sensors with a lossy software compression scheme. To further degrade ultimate image quality in extreme situations, Sony also knocks it's readout (before compression) down from 14 bits to 12 bits in just about any mode other than single frame modes using AF-S. In bracket, continuous focus, continuous frame rate and virtually any other mode, the camera is dropped to 12 bits. Again, it seems Sony is prioritizing frame rate and card write speed over ultimate quality on what is the best 35mm full frame sensor in the world - simply incomprehensible. (Late news: Sony has just announced a firmware upgrade in the future that will provide uncompressed RAW. While this eliminates the artificially degraded image quality, it does so with



Pololu Valley (a7R II, 70-200mm)

huge file sizes. The, translated from Japanese, news release is unclear on whether the 14bit compressed RAW option will be lossy or lossless. What is needed is lossless compression)

- While on card write speed, the card write speed is very slow compared to other cameras I have used. If you do a multishot bracket, you have to wait several seconds before you can do anything with those files on the rear LCD while the writing process completes.

- The a7R II has gained weight. While there is still a major advantage in both size and weight to professional DSLRs, the difference isn't quite as big as it was from the weight perspective.

- Sony has replaced the hinged metal door access to the connector compartments with new rubber plugs in an effort to make the camera more moisture and dust resistant. Personally I prefer the much more elegant hinged metal doors to the rubber plugs which will likely come off and get lost at some point.

- As stated above, the viewfinder image size is now the largest of any 135 format camera on the market. This is fantastic for those that do not wear eye-glasses. But for those of us that do, the eye-relief isn't long enough to be able to see the entire viewfinder without having to significantly move one's head and eye around to see everything.

- The internal level in my camera is off by 0.8 degrees. Of all of the cameras I have had with internal levels, this is the first one that is not accurate and there is no documented way of calibrating it.



Onomea Falls, Hawaii (a7R Mk II, 24-70mm)

- As is the case with all Sony cameras, the exposure system is biased towards underexposure to protect JPEG file highlights. Even with Zebras set to 100% +, you still have nearly 2/3 of a stop of headroom above the initial appearance of zebras in the viewfinder available to you if you are shooting RAW. My technique is to adjust the exposure until I see the first signs of zebras and then add another 1/3 of a stop. I have never overexposed a RAW file doing this.

- The documentation that ships with the camera is still a joke and barely worth the paper it's printed on. there is a much better and more comprehensive online manual available on the Sony website.

- Some cameras have added a shutter option that allows one click to open the shutter and another to close it. This is preferable to the traditional Bulb mode where the shutter stays open as long as the button is held down. The a7R II has the traditional type bulb shutter capability but not the on/off toggle capability.

- The rear control dial on my camera sometimes does nothing, it seems if I have even the slightest downward pressure on the dial, it does not function - my thumb has to be squarely centered on the dial for it to function properly - not a problem now that I am used to it but it was initially disconcerting. I much prefer the more prominent and responsive rear dial of the a7R.

The Sony a7r II ups the ante in mirrorless cameras with its 42 megapixel BSI sensor which retains the same excellent dynamic range and noise levels as its predecessor even though it could even be better if the camera stayed in 14 bit mode all the time and did not use lossy RAW compression. The new camera also addresses some of the biggest issues the original camera had - shutter shock is eliminated with a newly designed shutter and a full electronic shutter option and the poor autofocus system is replaced with one that performs dramatically better and is more accurate than any AF system on any DSLR without the need to calibrate focus with each individual lens. The relatively wobbly lens mount has been redesigned and made rigid. It also comes in an all metal weather-sealed body. As is usually the case, not every complaint of the original a7R has been addressed, most notably the poor battery life and the inexplicable lossy compression of RAW files. But it is an excellent upgrade that really propels this camera to the next level and brings it closer to medium format territory than any other camera on the market in a smaller form factor than full frame DSLRs. My D810 has not been touched since I received this camera!



Goldfield Mountains over Salt River (a7R Mk II, 24-70, stacked panorama)