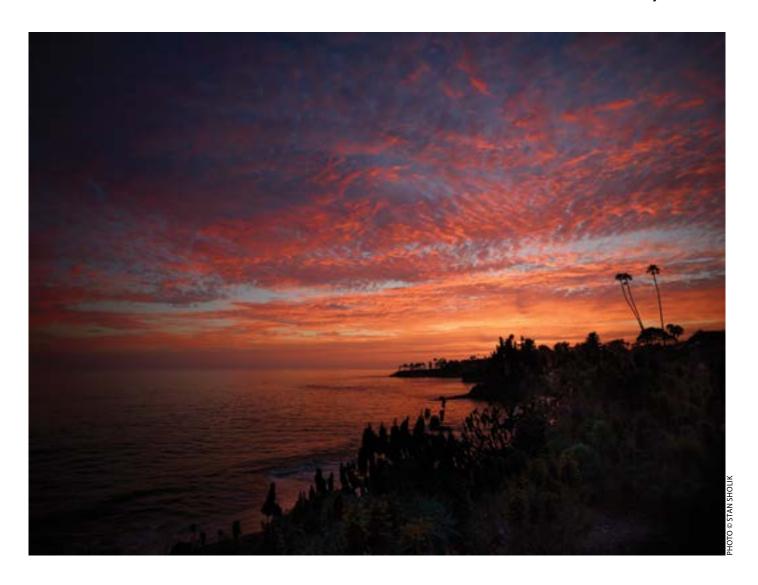
## Phase One IQ2 Digital Back

By Stan Sholik



**Above:** The additional 0.5EV of dynamic range in the IQ 280 and IQ 260 backs will be appreciated by landscape photographers. From a single IQ 280 exposure of this sunset, I was able to recover so much information in the highlights and shadows using Capture One software that I didn't need to create an HDR from the three bracketed exposures I captured.

hotographers often take pleasure in criticizing high-end photo hardware and software, and the severest critics it turns out have often never used the gear. Having spent weeks with the new Phase One IQ260 and IQ280 digital backs, I can report that they deliver superb image quality, and the new features extend the capabilities of the backs for the photographers who need them. That's not to say that there isn't room for improvements and tweaks in some areas. And

as a Nikon D800E user on a daily basis in my commercial studio work, I find the dynamic range and the ability to capture fine detail at low ISOs visibly better with the IQ280, despite a popular report to the contrary.

The IQ260 and IQ280 backs share many of the features of the previous IQ series, whose backs remain in production. Sensor size is the same, resolution (both full and Sensor+) remains the same, as do ISO speeds and imagecapture rate.



**Above:** When you turn on the IQ2 backs, you are greeted by an opening screen similar to this one for the IQ280. The touch screen displays icons for the four buttons surrounding the screen. You can navigate using the touch screen or the buttons.



**Above:** Phase One 645DF body with 80mm lens and IQ280 digital back.

## **IQ280**

While CMOS sensors have an advantage with lower noise, faster capture time and a smoother live view, CCD sensors without anti-aliasing filters have many other technical advantages for medium-format backs. The IQ280 incorporates the same Teledyne DALSA 80-megapixel CCD sensor as the IQ180 back. The dynamic range of the IQ280 increases by 0.5EV to 13 stops, and the images are captured in full 16 bits. While I don't have a way to confirm the dynamic range increase, I did shoot a spectacular sunset, and bracketed the exposure +/-2EV so that I could do an HDR. To my astonishment, by adjusting the middle exposure of the bracket with the HDR tools in the Exposure panel, and by painting a simple exposure mask with the Local Adjustments masking tool of Capture One v7 software, I was able to adjust the image to retain detail in both the sunlit clouds and the underexposed foreground. There was no need for me to process the three exposures to create a high-dynamic-range image.

While landscape photographers can achieve this same result with an IQ180 back, advertising, commercial and fashion photographers shooting both in the studio and on location will be interested in the new wireless capabilities of the IQ2 backs. In the studio, with Capture One connected to my studio wireless network and my iPad running Capture Pilot also connected, a preview of every capture is sent from the camera to the iPad. Well, almost every capture. The connection wasn't particularly stable, which could have been the fault of my studio network, not Phase One. When it was working, however, my client was able to see and approve the captures I was making of a vintage 1953 Fender Stratocaster while remaining out of the shooting area.

I had even better luck with the wireless connectivity away from my studio. The IQ2 backs are also capable of creating a direct (ad hoc) wireless connection to an iPhone or iPad, without connecting through a computer running Capture One. The image on the 3.2-inch, 1.15-megapixel IQ2 touchscreen is very nice, but evaluating

your capture on an iPad is far easier. In theory, you can even adjust exposure and trigger the camera using Capture Pilot running on your iPhone or iPad, but this wouldn't work for me in the studio and was hit or miss on location.

I use tethered capture for my Windows 7 computer exclusively in the studio, and I was happy to see that the IQ2 backs use USB 3 for this. The FireWire 800 port is still available, but I don't have FireWire 800 on my computer. Thanks to tech support, I finally found the USB 3 port on the left side of the IQ280 back below the CF card door. But, the USB 3 connection, at least on Windows machines, is still a work in progress. While captures transferred quickly and reliably, I was unable to use Live View, adjust settings, or trigger the camera with Capture One software through the Windows USB 3 connection. By the time you read this, the problem may be sorted out for the IQ280. These features would have been nice to have with the camera suspended 6 feet directly above the guitar. But even without them, the final images are stunning in their detail.

## **IQ260**

Unlike with the IQ280, the IQ260 has a new version of the DALSA 60-megapixel sensor. As with the IQ280, the dynamic range is extended to 13EV and the captures are full 16 bit. While the IQ280 is limited to a two-minute maximum exposure, the maximum exposure time with the IQ260 is 60 minutes. There are several qualifications for this spec. You must first set the back to the long exposure mode in the menu. You are cautioned to do this any time you choose an exposure longer than 10 seconds. When not using Sensor+, you are limited to ISO speeds of 140, 200, 400 and 800 (ignore the fact that there is no such thing as ISO 140), rather than the full range of ISO 50-800 that is usable for shorter exposure times. Using Sensor+, you can extend the ISO range to ISO 3200. You are limited to the shutter speeds you can use. Set aside two hours for a one-hour exposure. The good news is that the long exposure feature works beautifully.

The bad news is that you need a lot of experience to determine the exposure. Even the Sekonic L-758DR only meters in incident mode to EV-2 (at ISO 100), which is the light level of moonlight from a full moon. For areas darker than that, you must rely on experience or luck.

**Left:** Phase One IQ280, IQ260, and IQ260 Achromatic backs.







I relied on luck and captured an 8-minute exposure at f/5.6 and ISO 400 underneath a pier where all I could really see was the white of the breaking waves. The image quality is amazing. When I guessed badly, the IQ 260 had so much dynamic range that I was able to process an overexposed 8-minute photo at f/11 of the pier to a usable image in Capture One.

I had great luck with the IQ260 in the studio, both with tethered capture and in the wireless mode. In tethered mode with the USB 3 connection, I was able to trigger the camera and adjust shutter speed, aperture and ISO. The connection was not as stable as it should be, and Live View would not work, but Phase One says it is sorting this out.

It took me a few minutes to sort out the wireless connection. The iPad Capture Pilot app kept attempting to connect to the IQ280 that I had previously used. After manually entering the host name and IP address and selecting the IQ260 address in the iPad Settings panel, I was able to connect. With the IQ260, I am able to adjust the camera setting and trigger the camera. Now all we need is a technological leap so that we can transfer the 55-70MB IQ2 RAW files wirelessly to our computers.

## **IQ260 Achromatic**

There is another IO2 back I haven't had the opportunity to test yet—the IQ260 Achromatic-that is designed to deliver the highest-quality monochrome images. At the core of this system is a 60-megapixel sensor with no color filter array mounted, which means that no interpolation is necessary. Every pixel of the sensor is focused purely on capturing the finest details of an image. The IQ260 Achromatic is capable of capturing images in three light spectrums: infrared, visible and ultraviolet—permitting photographers to experiment with a wide range of their choice of filters to create unique images for artistic and scientific purposes.



Above: The wireless capability of the IQ2 backs allows you to transfer preview images to iPads and iPhones running the free Capture Pilot app through a studio wireless network or through an ad hoc connection if no wireless network is available.

Phase One goes to great lengths to create videos to demonstrate the capabilities of their backs and their Capture One software. These videos and full specs on the IQ2 backs are available at www.phaseone.com. MSRP of the IQ260 is \$39,990, the IQ280 is \$43,990, and the IQ260 Achromatic is \$44,990. RF

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