

Is Blu-ray Ready for Storage?

It's really fortunate that as our storage needs rise at an exponential rate the cost of storage remains essentially unchanged. Every year when I buy a new hard drive it costs me around \$100. The difference is the capacity keeps increasing, which is really fortunate in today's world where a single image can easily reach 20MB and you can quickly fill 12GB of space in a day.

Those of you who were using computers back in the mid-90s will remember that \$100 would only buy a hard drive with a capacity of 100MB. About the same time CD-R writers appeared and they were a godsend as it was possible to get 640MB of storage on one CD. Agreed, the initial cost was high. If my memory serves me correctly it cost about \$600 for a burner and blank discs were initially about \$25. Prices dropped pretty quickly so that by the turn of the century you could get a burner for \$100 and a blank disc was around 50 cents.

The beauty of a CD-R in those days was that they were economical and efficient as a backup device as their storage capacity was much greater than a hard drive and the cost per MB was substantially lower.

Today though, we have the opposite situation. For \$100 you can buy a hard drive with a capacity of 1TB (1000 GB). A DVD burner might only cost \$40 and a blank DVD-R is only 20 cents, so the cost ratio is still in favor of a DVD at around 5 cents per GB compared to 10 cents per GB for the hard drive. But instead of getting six hard drive's worth of data on one optical disc, as you did back in the late 90s, you now need about 250 DVDs to hold the data contained on a single 1TB hard drive. You could use dual-layer DVDs but it seems they are not as reliable and they cost more. Neither is very efficient.

Of course, technology has marched on and now we have Blu-ray discs, which hold 25GB or 50GB if dual-layered. This makes them a tad more efficient as you'll only need 20 dual-layer discs to back up one 1TB hard drive. However, at a cost of around \$3–\$5 for each single-sided Blu-ray disc or \$20+ for a dual-layer one, it'll cost two to five times more per GB.

If optical disc technology had progressed at the same rate as hard drives, we would have optical discs that hold two or more TB per disc. Hope is on the horizon as new holograph technology promises discs with 1TB capacity by 2012. However, the same technology will also mean we'll get hard drives with multiple terabytes of storage capacity!

OWC Mercury Pro Blu-ray writer

Some *Rangefinder* readers have probably been following the Blu-ray saga since the newest optical storage system was introduced back in 2006. Most of you, though, probably haven't and probably don't care! Essentially Hollywood hoped that the format would

become a new standard that would quickly replace DVDs as the preferred delivery method for HD movies. But after a protracted war with the rival HD-DVD format that only ended last year, the uptake of Blu-ray has been slower than expected.

It's been a similar story with Blu-ray as a storage device. The cost of drives and the ease of writing data to a Blu-ray disc have stunted its growth. Even Apple, which has always been at the forefront of new storage systems, has not yet included them on any Mac com-



The OWC Mercury Pro Blu-ray writer can record up to 50GB on a dual-layer BD-R disc. Blank media costs anywhere from \$3 to \$25.

puters. Rumors are that Blu-ray will finally appear later this year but don't hold your breath as Steve Jobs has stated that Blu-ray is "a bag of hurt."

He's probably correct. More than a year ago I planned to review a Blu-ray burner but the company I was hoping to borrow one from never followed through. Six months ago another company said they'd loan me one for review—but nothing yet.

Finally, a third company, Other World Computing (OWC) has loaned me a Mercury Pro 8X Blu-ray Pioneer BDR-203 external writer for review. It's still pricey as it costs \$450, but others have come down to \$250 so expect prices to continue to drop.

Despite what I said above about Blu-ray and DVDs being far less suitable for long-term storage, there is still a real need for burning data onto optical discs. The problem with Blu-ray is that few people have a suitable reader. However, for anyone who has kids with a Sony Playstation 3, the console has a Blu-ray reader built in. It can be used to display JPEG images on a TV monitor. And, if you create an HD movie, it can be burned onto the Blu-ray disc for playback. That's a whole other story.

I tried the Blu-ray writer on my iMac and was pleasantly surprised that Toast 8, which is two versions old, immediately recognized the drive and happily burned without any glitches. I used a 2X Verbatim BD-R single-layer disc and it took about 45 minutes to

burn 23GB of image files. I'd have needed six DVDs to copy this amount.

Personally I am happy to use hard drives for my backup and storage needs at this time. I do burn DVDs as a tertiary backup, but I must admit I am not backing everything up, especially after I do a shoot that produces more than 4GB worth of files. It's just too inconvenient to burn multiple discs. Currently, I do not deliver many jobs on discs although I did have to burn two DVDs for a client recently with 5GBs of files. I should have asked if they had a Blu-ray reader!

Although I don't feel the need to invest in a Blu-ray writer at this time I bet I will once a writer drops below \$100 and blank dual-layer discs drop below \$5 each. The time will come, perhaps not as quickly as we hoped, but it will come.

Hard Drive Docks

With all the hassles of backing up on DVDs, it's no wonder most photographers, in fact most computer users, have elected to back up onto multiple hard drives. It is easiest and most economical and as long as you store them carefully it should be reliable. Regular readers of this column will remember that I've tested the Drobo unit in the past and talked about external drives such as the Western Digital MyBook. These are excellent choices for immediate backup, especially where you need quick access to stored work.

However, for long-term storage these systems are not as efficient or economical. Instead, I just use bare drives. Until recently this meant wiring up a drive or using an external case and removing the drive for storage. Recently several compa-



The Newertech Q (left) dock station has four different interface connections while the BlacX (right) has only a USB 2.0 and eSATA connection.



Left: Interfit's Super Cool Lites use 5 or 9 fluorescent bulbs for cool continuous lighting. The kit includes a high contrast reflector and a softbox. **Right:** Each bulb in the Super Cool Lite can be turned on or off to control the amount of light output.



nies have introduced docking stations in which you can easily insert a SATA hard drive, just as you would a storage card in a reader.

I tried the Voyager Q from Newer Technology (\$90 at Macsales.com), which has a choice of four different connections—USB 2.0, eSATA, Firewire 400 and Firewire 800. It is an ideal unit for those with Macs. It's easy to use—you just plug in the external power pack, connect the included cable to the port on your computer, push in a SATA drive and it shows up on your computer as an external drive—truly plug and play. There is an eject lever on the dock to disconnect the drive so it can be lifted out after you have dismantled it on the computer. This drive can then be stored in its original anti-static bag offsite for maximum security.

The other unit I tried was the BlacX (retails for \$60) from Thermaltake and it is very similar to the Voyager Q although it lacks the Firewire connections, making it less versatile for Mac users. Otherwise, operation is identical. I can't vouch for the reliability as I only tested each unit briefly, but as they are so simple and SATA connections appear to be robust I see no reason for concern.

Continuous Lighting

For the past 40 years a majority of photographers have used electronic flash systems for lighting in their studios. I bought my first Bowens system in 1976 from Bowens, the UK company that claims to have invented studio flash systems in 1966 and am still using one of the monolights along with newer White Lightning units.

Since switching to digital I found a major



Left: The newest Litepanels MicroPro LED light contains 96 LED light bulbs for continuous lighting, on or off camera. **Right:** This high contrast black-and-white photo of Michigan model Melissa Swain was captured on an Olympus E30 camera using the built-in art filter and lit by a Litepanels MicroPro mounted on the camera.



problem with flash is that they overheat and blow a fuse or worse yet, blow up, because one tends to shoot more rapidly and there's no break to change film every 36 exposures! Even the newest units have this problem, as witnessed by on-camera flashguns overheating. It's a problem I have had with all my flashes in the past few years.

Fortunately, I find I am using flash less

and less as I have started to switch back to continuous lighting, which was of course the norm before flash systems were developed. I guess it's a case of going from "digital" lighting back to "analog?"

The beauty of continuous lighting is that one can see exactly what the lighting looks like at all times. The major disadvantage of continuous lighting used to be heat and

Further Information

OWC Mercury Pro Blu-ray writer
www.macsales.com

BlacX docking station
www.thermaltakeusa.com

Voyager Q docking station
www.macsales.com

Super Cool Lite
www.interfitphotographic.com

MicroPro lighting
www.litepanels.com

the short life of powerful light bulbs required to produce enough illumination.

Of course, moviemakers have always had to use continuous lighting and it is this industry where new technologies have taken over. First it was halogen and tungsten lighting, then fluorescent and now LED lighting.

Most important, as efficiency goes up, heat output goes down. Consequently, fluorescent and LED lighting is almost free of heat issues.

I have been using a fluorescent setup for some of my model shoots recently and have found it much easier for the models, who don't always like the intense flashes from flashguns. The Super Cool Lite from Interfit comes in two sizes and I have been using one with nine bulbs (about \$250) and one with five (around \$400 for kit of two). The disadvantage is that the light is still less than that produced by a flash, so one ends up shooting at slower shutter speeds, which can of course lead to blurred images if the subject moves or the camera shakes. Fortunately, modern DSLRs are capable of shooting at increasingly higher ISOs, so this problem is going away.

I found the Interfit lights worked well when shooting with the soft-focus filter on an Olympus E30, which has become a firm favorite with my models.

LED-powered Litepanels are the other lighting system I have been using when traveling and it's impractical to take the Interfit system on a plane! I tried the original Litepanels Micro at first (reviewed in the September 2008 issue of *Rangefinder* by Bruce Hamilton Dorn) but I found it did not produce enough light for anything other than really close-up portraits. Litepanels, which is now distributed by Bogen, recently introduced a bigger version that has 96 LED bulbs instead of 48. With double the light output it has proven to be more useful.

Both units run on AA batteries and even the MicroPro will last for over one hour on six alkaline batteries. Both units include gels for altering the standard daylight white balance. The smaller Micro model sells for \$300 while the larger MicroPro costs \$475. Hopefully these prices will drop as LED bulbs drop in price.

I recently used the MicroPro as the solo light source when shooting some artsy black-and-white images for a model

with a friend. It produced enough light that I was able to shoot with the E30 at $\frac{1}{50}$ of a second and an ISO setting of 800. Yes, the pictures are somewhat dark and grainy but that was the mood she was looking for.

As we all begin to shoot video as well as stills, more and more pro photographers will have to return to using continuous lighting. As LED lights get more powerful

and less expensive it sure looks like this is the future for photographic lighting, just as LED headlights are taking over the automotive market.



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