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SanDisk Announces

Speedier Ultra® II and Extreme™ CompactFlash®

by Rob Galbraith

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Earlier this summer, SanDisk revamped its Ultra line of CompactFlash cards, dramatically improving both write and read speeds in the 256MB and 512MB capacities as well as adding a 1GB card to the Ultra family. The new cards signaled that, for the first time ever, SanDisk was playing the CompactFlash speed game to win: the 512MB and 1GB Ultras we tested were by far the quickest in card-to-computer transfer speed, and at or near the top of the charts in most of the digital SLR cameras populating the CompactFlash Performance Database.

The Ultra II CompactFlash cards announced today, as well as their extreme temperature-tested counterparts in SanDisk's new Extreme line, push the performance envelope even further. SanDisk promises a minimum write speed of 9MB/sec and a minimum read speed of 10MB/sec for both the Ultra II and Extreme CompactFlash cards. This represents a significant performance jump from even the revamped Ultra line, which was rated at 6MB/sec writing to the card and 9MB/sec reading from the card.

In our testing of 1GB Ultra II and 1GB Extreme CompactFlash cards, write speed does in fact click past the 9MB/sec mark with several common Windows benchmarking utilities. Actual throughput in a range of digital SLR cameras is much lower, however, as it is for all cards that push the upper limits of today's CompactFlash technology. Even with the cameras themselves putting the brakes on, however, SanDisk's Ultra II and Extreme are the quickest in all current Canon digital SLR models and the Fujifilm FinePix S2 Pro.

Write Acceleration (WA) technology keeps Lexar's best firmly in the lead in the Nikon D1X and D1H, both of which support Lexar's enhanced camera-card communication protocol. WA support isn't enough to completely overcome the raw speed of SanDisk's new flash memory and controller in the Ultra II and Extreme cards in all WA-capable cameras, though. SanDisk's newest performance cards trail the just-released Lexar 1GB 40X WA by less than 2% in the Kodak DCS Pro 14n, and are effectively tied with it in the Nikon D100 (though the Lexar card retains a slight lead in writing NEF format files).

In short, the SanDisk Ultra II and Extreme cards wring about as much write speed performance as possible from today's digital SLR cameras, eclipsing perennial performance leader Lexar in cameras that don't support Write Acceleration, and nipping at the heels of Lexar's speediest offerings even in some of the cameras that do. The Ultra II and Extreme are also quicker across the board than the revamped Ultras, which are being phased out in favour of their higher-performing replacements.

Note: To compare the write speed of several dozen CompactFlash cards, including 1GB models of the SanDisk Ultra II and Extreme, in your digital SLR camera, take a peek at the CompactFlash Performance Database.

SanDisk

Looking Beyond Write Speed

The Ultra II and Extreme models are the latest in a series of CompactFlash cards to offer write speed performance that exceeds what any camera we've tested can deliver. As a result of this growing trend, our criteria for evaluating CompactFlash cards has shifted from concentrating solely on in-camera write times to also including card-to-computer transfer rates. This shift in focus couldn't be better timed, since it coincides with the availability of a number of speedy FireWire and USB 2.0 card readers that are capable of soaking up every ounce of speed a top-performing CompactFlash card might offer.

It also coincides with the release of cards like the Ultra II and Extreme, which provide absolutely blistering CompactFlash read speed. Transferring about 225MB of Nikon D1X JPEG and NEF files from the 1GB Extreme card to a Windows XP PC via a Microtech FireWire CameraMate card reader takes about 24 seconds. This works out to an average throughput of 9542K/sec. The 1GB Ultra II we tested wasn't far behind, at 9323K/sec. This compares to 6084K/sec for the Delkin PRO 256MB and 5952K/sec for the Lexar 512MB 40X WA, two cards that previously occupied the read speed front ranks around here. If being able to move pictures to the computer as quickly as possible is important in your workflow, you'll want to look hard at SanDisk's Ultra II and Extreme.

Note: Read speed data for a range of CompactFlash cards can be found in the Card-to-Computer section of the CompactFlash Performance Database.

Read speed is emerging as an important differentiator between cards. In this regard SanDisk's newest CompactFlash models are in a class by themselves, at least when coupled with a fast reader and a Windows PC.

Ultra II and Extreme: Capacities, Price and Availability

SanDisk's Ultra II cards are being produced in 256MB, 512MB and 1GB capacities, all CompactFlash Type I in size. The 256MB and 512MB cards begin shipping to dealers this week, while the 1GB is promised within 30 days, says a SanDisk press release. These cards will be available in all SanDisk regions worldwide, and have suggested list prices (MSRP) of US$105 for the 256MB, US$210 for the 512MB and US$430 for the 1GB. Actual selling prices are set by the dealer, and are usually less than MSRP. For those frustrated by the difficulty of discerning an original Ultra from a revamped Ultra on the store shelf over the past couple of months, you'll be happy to hear that the cards in the Ultra II line are labeled Ultra II, to distinguish them from what has come before.

SanDisk's Extreme cards contain the identical controller and flash memory as the Ultra II. Though the 1GB Extreme card we evaluated was consistently faster than the equivalent Ultra II, the difference was small enough to fall within typical production tolerances. SanDisk's claim that Ultra II and Extreme offer the same performance is likely to be true.

The Extreme line is not identical to the Ultra II, however. Extreme cards are individually tested and certified to withstand operating temperatures ranging from minus 13°F below/minus 25°C to 185°F/85°C. Therefore, while Ultra II cards may (and almost certainly can) operate in the same range of temperatures, SanDisk says Extreme cards will work right up to the outer limits of the temperature spec. To better withstand the bumps and bruises of pro use, the internal circuitry of an Extreme card is coated with a vibration-absorbing RTV silicone as well.

Extreme cards are also bundled with SanDisk's new RescuePRO data recovery software, which the company has licensed from LC Technology International. RescuePRO will work with a range of card readers and its use is not restricted to SanDisk cards, Extreme or otherwise.

Versions for both Windows and Mac are planned; as of this writing we haven't been able to confirm if the software will be included for both platforms simultaneous with the release of the Extreme line. We've also not yet determined how broad its RAW file support is; the included Help file lists only Canon CRW in addition to a whack of standard image, sound and video formats.

Owners of SanDisk Extreme cards will be given priority access to toll-free tech support through a dedicated tech support number, which is printed on the card's back label. They also come with a lifetime guarantee.

Produced in 256MB, 512MB and 1GB capacities (all CompactFlash Type I), SanDisk's Extreme line begins shipping to dealers this week. There are two other important differences between Ultra II and Extreme: Extreme cards will be available through photo retailers in the US and Canada only, whereas Ultra II cards will sell worldwide. Plus, SanDisk expects the Extreme line to cost slightly more than Ultra II, with suggested list prices (MSRP) of US$110 for the 256MB, US$230 for the 512MB and US$440 for the 1GB. As with the Ultra II's, actual selling prices are set by the dealer, and are usually less than MSRP.

SanDisk has also announced Ultra II and Extreme 256MB and 512MB SD cards.

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http://www.robgalbraith.com/bins/content_page.asp?cid=7-6270-6330

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