

what's in store

Storage options are numerous, so choose wisely or risk losing your precious data. **BY BRYAN LINDEN**



FORTRESS SHOCK PROTECTED MOBILE HARD DRIVES

If you travel a lot, like I do, and need a way of safely taking data with you, look into the Fortress line of portable hard drives. Available with capacity up to 100MB, these FireWire/USB 2.0 combo drives aren't cheap, but, boy, can they protect your data. The Fortress drive with its patented shock protection can even survive a 6-foot drop onto concrete, which I have tested several times, always without data loss. The drive's casing is a high-grade aluminum with non-skid pads on the top and bottom of the unit. If you regularly need to take a mobile drive on the road or tackle extreme location shooting conditions, the Fortress is worth considering. The cross-platform drives support Windows, MAC, and Linux OSs. MSRP for 4,200 RPM versions: 30GB \$499; 40GB \$569; 60GB \$699; 80GB \$799; 100GB \$899. The 5,400 RPM versions with 8MB disk cache instead of 2MB: 40GB \$619; 60GB \$749; 80GB \$849. www.4tress.com

Whether captured on film or digitally, the majority of images now end up in some digital format on their way to final output. That makes it important for photographers to consider the type and brand of media to use in their digital cameras, the kind of backup hard drives to use, and which long-term storage solution to go with, such as CD or DVD.

After many years as vice president of marketing and sales for a high tech company that sold digital storage products (among other things), I've probably had more exposure to these considerations than most photographers. Even so, I recently had a near major catastrophe in my workflow. In just over a year's time I had five hard drives fail, all of them the same make and recent model.

I don't want to scare anyone unnecessarily, but the one true thing that can be said of any hard drive is that at some point it will fail. This is true of many other electronic devices, but few others have the potential to so permanently and adversely affect our businesses if they fail. Lucky for me, I *always* have at least two copies of all client files, so the only images I lost were personal work that I had yet to back up. Even so, for me, any data loss is unacceptable. I've made changes in my workflow to prevent the loss of data in the future.

If you never want to have to tell a client, "Sorry, but I lost your images," read on for some safety tips and information about products that will help you protect your data.

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MIRRA PERSONAL SERVER

The Mirra Personal Server protects your files and photos with continuous hands-free backup and file synchronization, and provides secure two-way file sharing via local networks/Web with a free Internet service. The unit itself connects to an open Ethernet port on a wireless or wired hub or router. Files on the connected Mirra device can then be made available to other computers in a wired or wireless network.

The Mirra server can synchronize information, backup files, and allow for secure remote access to information from any Internet-connected PC. You can set Mirra to automatically backup images from a desktop PC, thus providing redundancy. When you access files from Mirra and make changes, the new files are saved as new file versions, which can automatically backup versions of the files on other authorized Mirra-connected PCs. You can save up to eight different versions of a file on Mirra. This can be especially useful in studios with multiple people working on files, as in wedding/portrait studios with more than one retouch artist.

All backed-up folders are instantly available for remote access via the free Mirra Internet service. You can securely share files with clients and colleagues by setting up access to a particular folder of images and sending an e-mail message to the authorized party. Mirra will then allow downloads and uploads

depending on the settings. Arranging access requires just a couple of clicks.

Mirra is available for Windows XP and Windows 2000 systems only, but the company is considering adding support for other platforms. Remote access and remote sharing require only a Web browser. Other system requirements include a high-speed Internet connection, a wireless or wired home gateway with an available Ethernet port, a PC running a Pentium III (or higher) processor, 256MB RAM, and 25MB available hard disk space.

The new M-250 Mirra Personal Server lists for \$749. The Mirra Personal Server line now includes the 80GB version at \$399, the 120GB version at \$499, and the 250GB version at \$799. www.mirra.com



LACIE HIGH PERFORMANCE HARD DRIVES

The LaCie Extreme series features FireWire 800/400 interfaces and the high performance Oxford 912 FireWire chipset, the fastest on the market. Extreme series drives come pre-configured as Level 0 RAID; purchase two and use the included software to easily configure them to mirror each other as in Level 0+1. The units in the series are named according to drive capacity: d2 Extremes (120-250GB); Big Disk Extreme (320-500GB); and Bigger Disk Extreme (1-1.6TB). As an example, a 500GB Level 0+1 setup would cost about \$998—two

500GB Big Disk Extremes at \$499 each. You could always opt for just one drive if you dare forego drive redundancy.

For users who do not have FireWire, there's a triple interface system available that includes FireWire 400, FireWire 800, and USB 2.0. Though more flexible, this triple interface system has the slightly slower Oxford 922 bridge. A better option would be to add a PCI FireWire 800 card to your PC, for about \$69 or less.

LaCie manufactures many other products, including FireWire and USB 2 Mobile hard drives, Ethernet Disk storage and color management friendly LCD displays. www.lacie.com

RAID storage: why it's important to photographers

RAID stands for redundant array of independent (or inexpensive) disks, a system of two or more disk drives used in combination for fault tolerance and/or enhanced performance. Among the many types of RAIDs, Levels 1 and 0+1 are especially useful for photographers.

Level 0—Striped disk array without fault tolerance: This system increases disk read/write performance, and can speed up opening, working with and saving files to hard drives. In this array, data simultaneously writes and reads to multiple drives striped together as one, thus leveraging the capacity of each for greater throughput. While providing a substantial boost in disk performance, Level 0 provides no redundancy or fault tolerance. If one drive in the array fails, then all data across the array is lost.

Level 1—Mirroring and duplexing: In this arrangement, data copies redundantly to multiple drives to serve as automated backup. If a drive in a Level 1 RAID fails, the remaining functioning drive/s will retain an exact copy of the data, and can be restored and used right away—much more efficient than restoring manually backed-up data from tape, CDs and VDs. Level 1 provides the same write transaction rate as single disks, and twice the read transaction rate.

Level 0+1—A mirror of stripes: This RAID system combines the speed benefits of Level 0 with the redundancy of Level 1. A typical setup includes four drives, which the computer sees as a single drive. There are two sets of Level 0 striped arrays that are set to mirror each other as a Level 1 array. This arrangement offers the best of both Level 0 and 1, but it's more costly to implement. Even so, storage costs are continually falling, and today's RAID 0+1 systems can cost about the same as the single-drive systems of the recent past. The performance and data protection of these RAIDs make them appealing to professional photographers, especially in high-volume studios.

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DELKIN DEVICES BURNAWAY

This mobile CD burner combines a number of popular digital electronic devices in one unit. It features a Slim Type DVD(8X)/CD-R(24X) read/write drive, and works as a memory card reader, a digital slideshow player for television display, and a DVD/MP3/CD player. The unit can operate sans computer, which makes it viable for photographers on location or on the road who need a quick way to burn their memory card files to CD. Two built-in memory card slots support CompactFlash Types I and II, microdrives, SD, MMC, SmartMedia, Memory Sticks and MS PRO. With the optional adapter, the BurnAway also supports XD cards.

BurnAway can connect to a computer via High-Speed USB 2.0, and can also function as a card reader and external DVD/CD-R/RW drive. You can share photos in seconds by directly connecting the BurnAway to any television (NTSC or PAL),

and displaying a slideshow of your images directly from either your memory card or CD-R. The unit's included remote control allows you to customize your slideshow presentations with zoom, rotate and transition features. The BurnAway also functions as a DVD-ROM drive. You can burn up to six 700MB CD-R disks or play up to two hours of a DVD on a single battery charge.

BurnAway supports multi-session and disk spanning, so you can add photos to the same CD until it's full. Cards with capacity over the CD limit will automatically be burned over multiple CDs.

Optional accessories include a car charger and rechargeable back-up batteries. The BurnAway comes with a two-year warranty and is

available at consumer photography and electronic stores worldwide, and online at the Delkin Web site. MSRP is \$299.99. The DVD-R version (its release imminent at press time) will feature an 8X DVD burner, and list for \$399.99. BurnAway works with Windows 98, ME, 2000 SP3 and XP and Mac OS X.3 and later. www.delkin.com



SANDISK EXTREME III, THE HIGH-SPEED LEADER FOR DIGITAL CAMERA DEVICES

Even though SanDisk Extreme and Ultra II CompactFlash media already held all of the top spots in performance (according to the CF Performance Database featured on www.robgalbraith.com), SanDisk again upped performance with the introduction of the new Extreme III CF, SD, and Memory Stick Pro cards. Previously, the fastest cards delivered sustained write speed of 9MB per second and read speed of 10MB per second. The new cards are said to deliver up to 20MB-per-second write/read speed, a dramatic improvement in in-camera media write speed. Presently there are no cameras that can move data that fast, but many models will display some improvement, and as new models come out, users can expect to realize even more speed.

These cards have the industry's widest range of guaranteed operating temperatures, from minus 13 to 185 degrees F. SanDisk is also releasing card readers that can take advantage of the faster new Extreme III cards.

Extreme III cards include RescuePRO software, which allows photographers to recover accidentally deleted or damaged files. Purchasers of Extreme III cards also get access to priority technical support by phone. SanDisk Extreme III CompactFlash cards will be sold in versions of 1-, 2- and 4GB capacity, with MSRPs from \$139.99 to \$559.99. Memory Stick PRO Extreme III cards in 1- and 2GB capacities



will have an MSRP of \$279.99 and \$559.99, respectively. www.sandisk.com □

Bryan Linden is a digital imaging expert who's been capturing digitally since 1993. He is a consultant to many leading technology companies in the areas of color management, product development and workflow. Find more information on Bryan Linden at www.lindenphoto.net.



Workflow and data protection boosters

1. At minimum, set up a RAID Level 1 for your image data. This will give you data redundancy without having to use backup software and doesn't require any special monitoring to make sure backups happen. This is the best way to protect your images on hard drives. Use a RAID Level 0+1 to get the fastest disk access and protection.
2. Don't skimp on hardware quality. Trying to save a buck or two will only cost you in the long run.
3. Use fast media readers, either FireWire or USB 2.0, to transfer images to your computer. If your system doesn't have one of these ports, then add a PCI card or Cardbus PC card. USB 1.0 is many times slower, and transferring directly from a camera to PC is often even slower and consumes camera battery.
4. To get maximum digital camera burst rate, use a high-speed professional level media card that can keep up with your camera. It's also best to format cards in your camera instead of erasing files on the card via computer.
5. Use a program like **iView Media Pro** or **Extensis Portfolio** to manage your digital assets and embed keywords and captions that will help you

locate files years down the line. It is also a good idea to rename files to something that makes sense instead of using the camera naming. I use YYYYMMDD_Client_1234.jpg (20041027_Jones_1234.jpg) so that my files are always in chronological order. Many applications, including Media Pro, Portfolio and Photoshop, allow batch renaming.

6. When backing up to CD or DVD, always make at least two copies and keep them in different locations in case of fire or other disasters.

Practice the tips above and you're sure to save your data and have it easily available when you need it. We've all learned new techniques and ways of working as we've transitioned into digital imaging. It's more work than shooting analog on the asset management side, but the instant feedback and control of images that we get is worth it.

