

# Storing your images

As your digital image collection grows, it takes up more and more space on your computer. Here we look at how to free-up your hard drive and keep your images safe at the same time WORDS RAY ALLEN

**FOR CONVENIENCE** of access and retrieval, most people keep their entire image collection on their internal hard drive. This is fine in the short term, but a hard drive is a precise piece of mechanical hardware that spins around at thousands of revolutions per minute, and like all equipment with moving parts, it can fail. Don't let this send you into a panic, because most drives perform flawlessly for many years but be aware that if your hard disk does die, there's a good chance that all of the files on it will die too. So, if your files – and your photos – are precious, it makes sense to store them elsewhere.

Storage devices are separate digital filing cabinets where you can file your data. They are especially pertinent to those involved in digital imaging, because along with music, it's

a branch of computing that is famous for using huge file sizes. An A4 sized, photo-quality picture takes up 25Mb of space and if you're toying with the idea of A3-sized prints, you need around 50Mb per image. With files of this size, it will only take 20 to 40 pictures to fill a whole gigabyte of hard disk space, so unless you can archive your pictures somewhere else, at some stage you're soon going to run out of space.

Storage devices come in a number of different guises, but basically fall into three categories: magnetic, solid state and optical.

## Animal magnetism

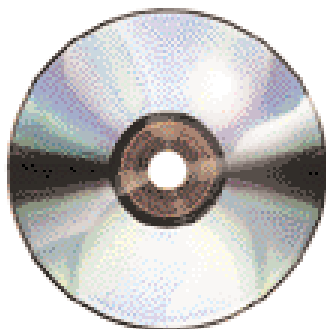
Magnetic devices include hard drives themselves. You can buy additional internal or external drives relatively cheaply with a

capacity of up to 80Gb in size (that's this month!). ZIP cartridges are popular and come in two sizes – 100Mb and 250Mb. Both are good for moving files around but for long-term storage they become restrictive due to their small capacity and fairly high cost. JAZ cartridges work in the same way as ZIP but offer bigger capacities of 1Gb or 2Gb. Because of their higher capacities, these are better suited for archive use and they have fast data transfer rates approaching hard disk speeds, making them practical for day-to-day use. Magnetic media also includes the humble floppy disk, but with a small capacity of 1.44Mb they're not suitable for imaging work.

Though it reads and writes data quickly, magnetic storage is generally an expensive option and, because it's magnetic, it is also more susceptible to damage from strong magnetic fields. Never store magnetic media – and that includes audio and videocassettes – on or near speakers, because the data they contain can become corrupted and unreadable.

Solid-state storage isn't affected by magnetic fields and the most popular forms are SmartMedia, CompactFlash and MemoryStick. Though this kind of format is ideal for digital cameras and MP3 players, its small data capacity and high cost makes them unsuitable for long term storage.

Optical storage has a number of formats, including Magneto Optical discs (MO). This is the same technology that the audio industry uses in the form of MiniDisc. MO has been the choice of the graphics industry for many years due to its extremely high data integrity and high data capacity. 5.25 inch disks can hold up to 2.6Gb and the smaller and more affordable 3.5 inch disk can hold up to 1.3Gb. This very



## tips for handling CDs

- Always return to jewel case or keep in a quality wallet.
- Pick up disc by the edges.
- Don't leave discs out in the sun.
- Keep away from strong heat or the disc may deform.
- Use a lint free cloth to clean the disc.
- Use a special CD pen for writing on the surface.



## Hints & tips for making your own CDs

- Make sure the CDR drive is installed correctly.
- SCSI drives need to be terminated correctly. Move the drive to the first in the SCSI chain, make sure your SCSI cables are as short as possible.
- USB drives will perform better if plugged directly into the computer rather than via a USB hub.
- Make sure that all the connecting cables are tight and not stretched taut like piano wires!
- If your computer is old and you have a new CD-RW drive don't make CDs at the maximum speed. Your computer may not keep up with the transfer rate needed.
- If you use a portable computer for CD burning, turn off any energy saving software during the burn. If your computer sleeps or slows down, the disc will fail.
- Shut down any software in the background that you don't need running, any interruption to the data flow may make the disc fail.
- Always use discs that have been verified to run at the speed of your drive. This will be indicated on the packaging.
- If you do encounter any disc problems try a slower write speed for the next attempt.
- If it's important data, always copy the entire disc back to your hard drive before deleting the original files. Your CD writing software may verify the disc but you should always check in the drive that will be used to read the disc, just in case.
- If the disc fails during verification don't be tempted to use it, the files will appear to be on the disc but some portions of it may be unreadable.

robust storage has been on the decline in recent years due to DVD-RAM but this may change in the near future, as mass storage specialist lomega have announced a new portable drive using the 1.3Gb 3.5 inch disks. DVD-R and DVD-RAM have been building momentum recently owing to price reductions in the necessary drives, and with a capacity of up to 9.2Gb the future could be very bright for this format.

### There's only one way...

If you want a storage format that's reliable and cheap there's only one real option – the recordable Compact Disc (CD-R). It comes in two forms – the use-once CD-R and the reusable CD-RW (rewritable) – and the

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majority of drives now handle both types. As the data is stored optically your data is secure, and magnetic fields have no effect. Shelf life for optical formats is very good and recorded CDs have a life expectancy of 15-30 years. Some manufacturers are claiming 100 years, which is very impressive but probably irrelevant. Just a few years ago the floppy disk was the standard means of file storage and software distribution. It's now so outdated that Apple don't bother to include a floppy drive on their computers.

In 100 years, the CD will more likely be a subject of discussion on *Antiques Roadshow* than a means of data storage!

When making a CD-R it is important not to use your computer for anything else and to

## Does the colour of your CD-R matter?

Quite recently, it has been suggested that the colour of a disc is an indication of its reliability. Unfortunately, this is all a myth, and whether the disc has a blue or a green surface has absolutely no bearing on its performance or quality. The colours you see are the result of different combinations of the dye and the reflective coating used, and nothing more. Besides, even if you have relied on the 'colour test' to predict the quality, then things are about to get very difficult from now on, because some manufacturers are making funky coloured blanks for the more colour conscious archivers amongst us!

shut down all unnecessary programs and files. Software that runs in the background and performs any sort of check on a timely basis like e-mail or virus software should be disabled. The reason is once the disc burning process starts any interruption to the data stream can cause the disc to fail – especially

with faster writers like 8 or 12 speed. Writing speed can affect how the disc performs and if you suffer from failed burns or CDs reading incorrectly, try slowing down the burn speed. Also remember that if your computer is a few years old and you have just bought a new burner, don't expect to be able to use the fastest setting because the computer may not be able to keep up. All burners will work more reliably if directly connected to the computer and not last in a chain. If your chosen writer has a USB connection, don't use a hub but plug in directly for more reliable operation.

The price of blank discs is falling all the

## Things to do with failed CDs

- A stylish tabletop drinks coaster.
- A small but shiny Frisbee.
- Stick them on the wall for a unique mirror.
- Use them as festive Christmas decorations.
- Try them as a bird scarer for the veggie patch.



time, but the very cheapest, unbranded discs don't have the high quality protective layers that the more expensive products contain.

Having said that, they should still last a good ten years if well cared for, but may not make it intact into the next century.

But like most things, you get what you pay for, and our advice is to stick with branded discs for work that matters, and always make more than one copy. Always return them to their cases after use, and store them in a cool, dark place. ■

Turn the page for our CD writers buyers' guide →