

## There are ways to recover damaged data

Bad things can happen to good data. Hard drives can crash. Memory cards can be formatted accidentally. CDs or DVDs on which important files are stored can become scratched and unreadable. But there are steps you can take to try to retrieve damaged data.

The course you take will depend upon the type of media on which the data is stored as well as how severe the damage is.

If the scratches aren't deep, it's likely that you can at least improve the playability of the disks simply by cleaning them. Just mix up a solution of water and window cleaner or other gentle detergent, such as baby shampoo. Then use the solution to dampen a soft, lint-free cloth.

Use the dampened cloth to wipe the data side of the CD. Sometimes what appear to be scratches are actually just smudges, and these can often be removed in this fashion.

For more stubborn smudges and superficial scratches, another homemade remedy can work wonders. First, locate the scratches on the disk by looking at the data side at an angle under a bright light. Then place a small bit of toothpaste, which contains a gentle abrasive, on a cotton swab. Use the cotton swab to gently scrub the disk in the area where it's scratched.

After a few seconds of scrubbing, rinse the disk off with water and then dry it with a soft cloth. You might want to perform this entire operation in the bathroom, where you'll usually have all the supplies - and light - that you need.

At a computer store, you'll find plenty of CD and DVD cleaning kits. Some of these can be quite effective for stubborn scratches. Generally these kits consist of one or more cleaning solutions along with a micro-fibre cloth. Some even automate the cleaning process for you. Don't expect miracles, however: it's possible to scratch a disk beyond any means of repair.

Sometimes you can't. Hard drives occasionally just go bad, refusing to start up one day, either emitting a clicking sound or no sound at all.

Other times, though, there are warning signs. If your hard drive starts making noticeable clicking noises or you begin to experience random data loss or have very slow drive performance, a drive failure may be imminent. It's best to begin copying all-important data off of the drive immediately.

Sometimes shutting down your PC for a while or rebooting the computer may eliminate the problem. But don't assume it won't return. Take any opportunity to safeguard your data as a gift, and start preparing to replace the drive.

Most drive manufacturers have drive diagnostic software tools that are freely downloaded from the manufacturer's Web site. These can run exhaustive diagnostic tests to determine the health of a hard drive.

You can also try the free HDD Health utility, which should work with all recent-vintage hard drives, regardless of manufacturer. HDD Health uses the self-monitoring and reporting technology (S.M.A.R.T) built in to all recent-vintage hard drives - those made within the past few years - to

predict hard drive failure.

PhotoRescue has been around a long time now and has a good reputation. It can recover photos that have become damaged on flash cards, and it will even recover photographs from a flash card that has been formatted. There are versions available for Windows and Mac, and you can try it before you buy it. A license is a reasonable \$29.

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