

UPGRADE TIME



DIFFICULTY



WHY UPGRADE?

A new hard disk provides more room for documents, applications and other files. An internal upgrade means you can carry all your data around with you without having to use external disks.

CAN I UPGRADE?

2007-PRESENT
You'll be able to fit any modern SATA hard disk.

2003-2006
You'll be able to upgrade your hard disk easily.

PRE-2003
You should be able to fit a larger hard disk, but you'll need to find out the maximum disk size that your computer can support.

Upgrading your laptop's hard disk

WITH APPLICATIONS, VIDEO and even operating systems taking up more and more room, disk space is a continual headache for PC users. Disk space is a particular issue with laptops, as their hard disks have far smaller capacities than their desktop counterparts. Fortunately, you can easily upgrade a hard disk to prolong your laptop's life.

Desktop hard disks store data on 3½in-wide platters, but most laptops use drives with 2½in platters. Netbooks and ultra-portable laptops may use even smaller disks, which can be hard to buy online. These days, laptop disks cost little more than 3½in disks, with the cheapest working out at around 16p per gigabyte.

Hard disks have a small memory cache to speed up read and write operations. Drives with 8MB or 16MB caches cost more than those with 2MB but

perform quicker. Drive spin speeds are measured in revolutions per minute (rpm). Pricier 7,200rpm disks tend to be faster, but use more battery power than 5,400 or 4,200rpm models. It's important to choose a disk that will work in your laptop (see the Compatibility Checklist, opposite).

Before upgrading, you need to decide what you'll do with the data on your old disk, since this will have to be removed permanently from your laptop in order to fit the new disk in its place. A disk upgrade is a good opportunity for a fresh Windows installation or a chance to upgrade your operating system, but make sure you save your documents and files first, as discussed in the Compatibility Checklist box. If you're planning on creating a new installation, make sure you have your laptop's restore disc or Windows CD, or buy a new operating system.

CADDY Most laptops have a drive caddy, of which there are many types. Usually the hard disk screws into the caddy, which slots or clips into the laptop and is then secured by further screws.

DIMENSIONS Most laptop hard disks are 69mm wide and contain spinning platters that are 2½in wide. Modern disks are 9mm tall, so don't buy a 12.5mm model unless you know your laptop can accept one. A 9mm disk will generally fit a caddy of either depth.



IDE ADAPTOR
Many laptops connect to the hard disk through an adaptor. You can re-use the one from your old disk.

2½in IDE CONNECTOR This IDE connector has been used with laptop disks for over 10 years, as a regular desktop IDE ribbon is too big. Some recent laptops use SATA disks (see Compatibility Checklist, opposite).

SATA CONNECTOR Modern laptops use a SATA interface for power and data, which is identical to the SATA connections on a desktop PC. There's usually no need for an adaptor.

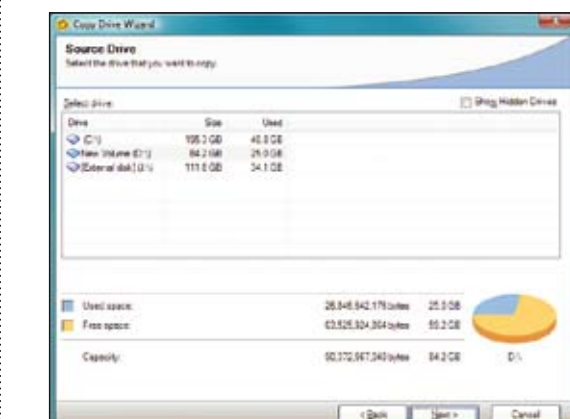
COMPATIBILITY CHECKLIST

INTERFACES
Older laptops have 2½in Parallel ATA (PATA) drives with a small IDE connector, as shown in the annotation opposite, but recent laptops use 2½in SATA disks. These two interfaces aren't compatible and no converters are available for laptops as they are for PCs, so make sure you buy the correct type of disk. Compare your new disk to the old one before opening its anti-static bag, just in case you've made a mistake.

Laptop SATA hard disks use exactly the same connectors as desktop SATA disks. This can be useful, as you can put your new or old disks into your desktop PC and use that either to back up or restore your files. You could even put your old disk into your PC permanently, although you'll need to buy a drive bay adaptor in order to be able to screw it in place.



BACK UP YOUR DATA
If you're installing a new disk from scratch, consider how to back up any important files from your old drive. We recommend buying an external USB 2½in disk enclosure for your old hard disk. You can copy data directly from it to the new drive. After upgrading, you can use your old drive as an external disk, giving you somewhere to back up your files to when your laptop is at home. An external disk is also an easy way to carry around lots of files.



Some laptops keep System Restore information in a hidden disk partition. Windows applications can't see this, so it isn't normally possible to copy it to a new drive. If you're planning to use a restore CD, check first with your laptop's manufacturer to make sure that it doesn't rely on information stored on your original hard disk.

GETTING AT THE DISK

Most laptops have removable panels that provide easy access to the hard disk. These are usually held in place by a few small screws. Once you've unscrewed them with a jeweller's screwdriver, unclip the panel. Read your laptop's manual to see if it tells you how to access the hard disk.

It's easier to get at the hard disk in a smaller PC manufacturer's laptop. These companies buy laptop cases in bulk and then fit components such as the hard disk later, so they need easy access. Most laptops from the big manufacturers also have easy-access panels. These companies tend to build a single model, but then offer it with different specifications, such as a larger hard disk.

However, you may have trouble with ultra-portable laptops or ruggedised notebooks. These tend to be carefully designed for a specific job, and ease of access to components isn't usually a primary concern.

Check that upgrading the hard disk doesn't invalidate your warranty. A lot of manufacturers put stickers over the access screws; breaking these tells an engineer that you've been inside the laptop, thereby invalidating your warranty.

INSTALLATION

To keep your existing operating system, use a disk-imaging program such as Norton Ghost to clone your entire hard disk to the new drive. You'll need an external 2½in disk enclosure or caddy. These cost around £15. There are versions for IDE and SATA laptop drives, so make sure you get the one that fits your computer. You'll also need a spare USB port on your laptop into which you can plug it. Once your caddy arrives, fit your new disk according to its manual.

In our walkthrough on page 104, we're assuming you have valuable data to transfer to your new drive – if not, you can skip Step 1. If you're cloning your disk, we'll assume you're using Norton Ghost 14, but you could use a similar program such as Acronis True Image instead.