How reliable is your PC? We asked you, our readers, to tell us about your experiences and we give some advice on what to do if the worst happens

When the chips are down

What goes without saying is that when you buy a PC you expect it to work – and to continue working for as long as you need it to. As with any other product though, the simple fact is that computers can, and do, go wrong.

Obviously, we all hope it won't happen to us, but there's no point burying your head in the sand. If your computer breaks down what will be the likely effect? Will you lose all your important documents, or are PCs now at such an advanced stage of development that your work is quite safe regardless? And just how likely is a breakdown in the first place? Do you own one of the most reliable brands, or if you've yet to buy, is that shiny new PC you've got your eye on likely to cause you no end of problems?

Over the past few months we've been investigating the whole issue of reliability as it affects PCs, from the smallest chips to the biggest monitors. Using a combination of data gathered from you, our readers, and other industry sources, we've compiled the following report highlighting the good, the bad and the plain unacceptable aspects of the PC industry.

What goes wrong?
Looking at your PC from the outside it might seem as though there's very little to go wrong – it's just a box, accompanied by a monitor, a keyboard and a mouse. However, inside your computer there are plenty of parts that can fail. And the hard-to-swallow fact revealed by our reader reliability survey is that, at some point or other, nearly half of all PC owners will experience a problem.

We don't recommend that you actually open up your PC unless you have a specific reason for doing so (such as installing a new expansion card), but if you did you'd find dozens of components ranging from tiny microchips to the comparatively giant power supply unit. However, the ones that are the most obvious also happen to be those that

you'll use most often; namely the hard and floppy disk drives, the CD-ROM drive and, at some prominent point on the motherboard, the processor.

Along with the processor, the hard disk undoubtedly sees more action than any one of the other components. However, although they're both constantly on the go, the two parts couldn't be more different. For a start, the processor is solid-state – meaning it has no moving parts – whereas

the hard disk is a mechanical device, as are the CD-ROM and floppy drives.

The obvious disadvantage of mechanical devices like this is that they can wear out and fail – not something that's likely to happen to solid-state components. This is borne out by the results of our survey, which showed that 47 percent of your reported faults were related to the CD-ROM, floppy or hard disk drive. In contrast, only 10 percent of those who had experienced a problem linked it with either memory or processor.

Other hardware faults reported in significant numbers included motherboards, monitors, and power supply units. Sound cards (just) managed to notch up double-figured failure percentages too. Internal modems, keyboards and mice made appearances at the bottom end of the failure league,
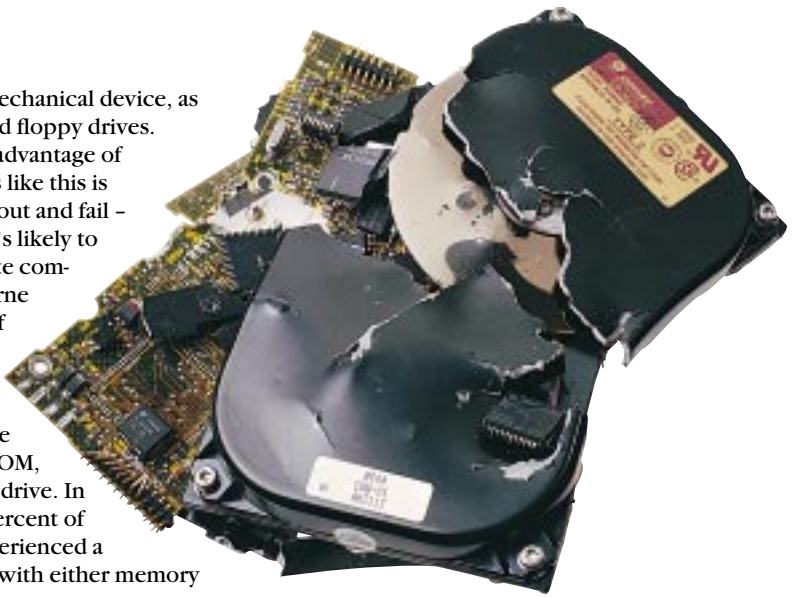
while cooling fans barely registered – but then when was the last time you checked to see if yours was working?

Our survey indicated that a very large number of you own a printer of some kind – the vast majority being of the inkjet variety – but only a quarter of you have been unlucky enough to suffer a breakdown, suggesting that printers are more reliable overall than the PCs they connect to.

Hardware is not the sole cause of your problems, though. At some point or another, nearly half of the troubled respondents had suffered software headaches – with the majority of those pointing to Windows as the cause. On the other hand, leisure software, such as games and multimedia titles, accounted for only one out of every 10 of your problems. This figure might come as a big surprise to anyone who's tried to run a game under DOS recently, but over the past few months there has been a definite shift towards Windows-based titles, which might help to explain why it's relatively low.

What do manufacturers say?
According to Chris Bakolas of Dan Technology, his company tests all newly built machines before they are shipped to customers. 'For example,' he begins, 'our monitors are burned in for 24 hours before they leave us.'

Bakolas goes on to say that, although Dan employs a respectable courier company, many so-called DOA (Dead On Arrival) faults occur because of a bumpy ride in transit.
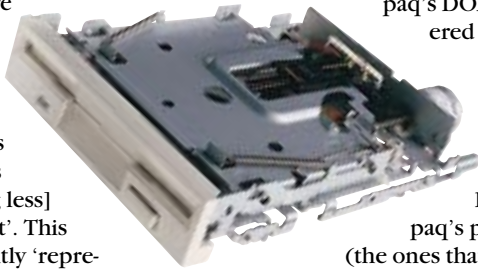
But exactly how many of Dan's machines turn out to be DOA? 'As far as our customers are concerned it's about 0.2 percent,' declares Bakolas confidently, after a swift interrogation of the company's service database. As far as your customers are concerned? 'Of all

the machines we ship,' he adds, '0.2 percent are reported as being DOA. However, often the problems are in fact very minor.'
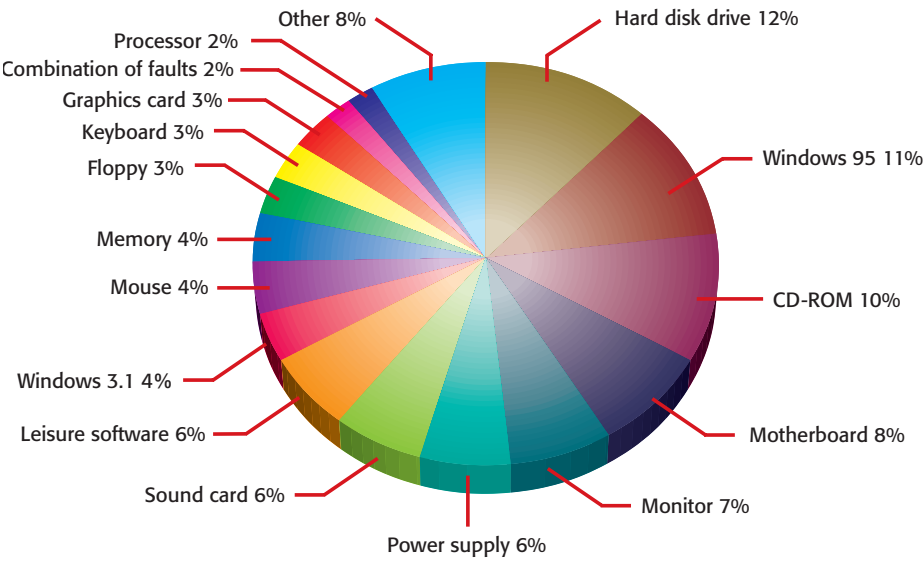
'Very minor' is naturally open to interpretation, but to Bakolas it means straightforward problems like leads not being connected and other similar teething problems, generally caused by lack of experience or knowledge. When pressed for an all-encompassing day-one failure figure Bakolas came up with 'around four percent'. This is better than our survey results would suggest but, even so, Dan Technology's systems turned out to be the most reliable overall.

What's the biggest problem Dan Technology has encountered over the years? Perhaps predictably, Bakolas points to software, rather than hardware, as his bane: 'Well, we had lots of problems last Christmas with Microsoft's DirectX graphics drivers. People were buying these games, installing them and overwriting their DirectX drivers. We had to spend a lot of time sorting out customers' problems, even though they were not problems with our machines.'

Switching our sights from the mail-order channel to the big-name high-street brands we quizzed Dr Paul Gardener, director of customer services for Compaq, over the reliability of the company's market-leading Presario PCs. Though not as precise as Bakolas with his company's failure figures, Gardener did say that the overall DOA failure rate of Compaq's desktop PCs was 'better [meaning less] than one percent'. This number apparently 'represents the combined in-channel

and post-delivery product'. In plain English, this means some of Compaq's DOA machines are discovered by in-store checks that retailers might carry out – the 'in-channel' DOAs. If Gardener is to be believed, the DOA rate for Compaq's post-delivery machines (the ones that will actually end up on your desktop) is therefore even better
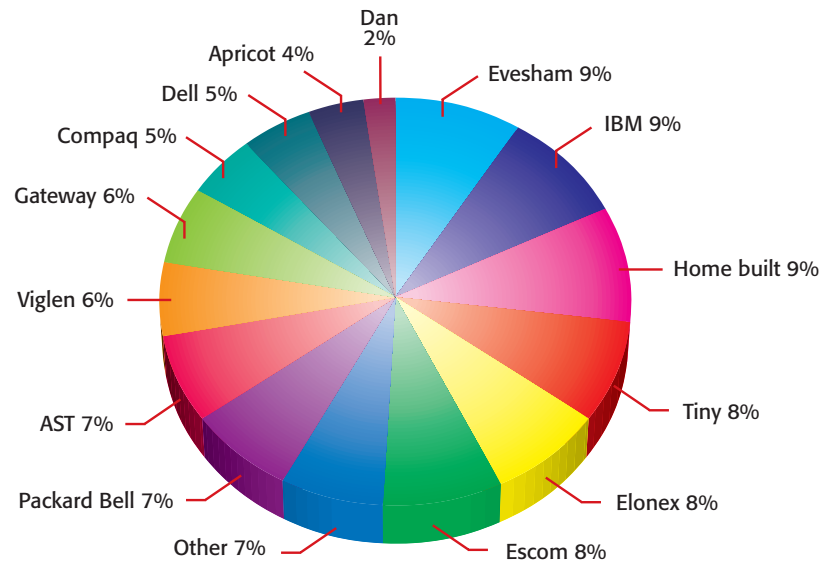
than 'better than one percent'.

And high street retailers?
The Dixons Group, which comprises Dixons, Currys, The Link and PC World stores, is unquestionably the largest electrical retailer in the country. All the desktop PCs it sells come with a one-year on-site service contract as standard, regardless of store or location. A customer who wanders into a Dixons store in Cardiff to buy a Compaq will receive exactly the same type of cover as some-

Breakdown of all faults

Other 8%
Processor 2%
Combination of faults 2%
Graphics card 3%
Keyboard 3%
Floppy 3%
Memory 4%
Mouse 4%
Windows 3.1 4%
Leisure software 6%
Sound card 6%
Power supply 6%
Monitor 7%
Motherboard 8%
CD-ROM 10%
Windows 95 11%
Hard disk drive 12%

This pie chart gives a breakdown of all the problems reported by the respondents to our reliability survey. To keep it as clear as possible we have gathered minor faults under the heading of 'Other'. Some respondents reported more than one problem – these have been represented as 'Combination of faults'.

It's interesting to note that most problems were attributed to the failure of mechanical devices such as hard disk and CD-ROM drives, although a large chunk of you also cited Windows 95 as the cause of headaches.

Which brands are the most reliable?

PCs are much, much more reliable than they used to be, but are certain brands more failure-prone than others? The answer, of course, is yes: some companies' systems do have a better track record than others. Our survey shows that this must be seen in context: the difference between the top and bottom companies is just a few percentage points, and the amount of machines that go wrong in the first place is not worryingly high.

However, according to our readers, Dan Technology manufactures by far and away the most reliable PCs of any of the named suppliers. Apricot comes a not-too-distant second, with Compaq and Dell battling it out for third place.

Dan 2%
Apricot 4%
Dell 5%
Compaq 5%
Gateway 6%
Viglen 6%
AST 7%
Packard Bell 7%
Other 7%
Escom 8%
Elonex 8%
Tiny 8%
Home built 9%
IBM 9%
Evesham 9%

● Percentage of complaints received from *What PC?* readers about their systems. A lower figure equals fewer complaints.

How to keep your PC running smoothly

You wouldn't expect your car to keep on running smoothly without regular attention, and in the same way your PC can benefit from the occasional once-over. Keep in mind the following simple guidelines to ensure that your PC stays in tip-top condition:

● Keep all parts of your system clean and dust-free. An annual spring-clean is not good enough – you should regularly give it a thorough wipe with a damp (but not dripping!) cloth. Be very particular around the fan inlet – dust gathered here will soon find its way inside the machine. Investing in a dust cover could be a wise move.

● If you have to transport the PC any distance, make sure you pack it away in its original packaging. Computers are fairly

resilient nowadays, but taking steps to avoid knocks and bumps is simply common sense.

● If your hard disk drive goes wrong you might feel like strangling the supplier but that won't get your important files and documents back, so be sure to take regular backups of your work.

● Today's super-fast processors can get very warm and often have fans attached to the top of them in an effort to cool them down. Ensure your machine has plenty of ventilation on all sides.

● If the electricity supply to your home is prone to voltage surges (often called 'spikes') you might want to consider using a surge protection plug. These cost from around £20, and they can stop sudden the voltage increases from damaging your PC.

What helplines can offer

We talked to the helpline staff at six major vendors to see what they were willing to help with, what it costs the customer and how long you can expect to wait for a response.

Dan and Mesh run almost identical schemes using standard-rate telephone lines. In each case an operator takes your call and records details of the problem. A member of the support staff calls you back, both companies aiming to return calls within the hour, or at least on the same day.

Viglen's support line (which is available even to owners of second-hand Viglen products) puts you in a queue and calls are dealt with in the order they are received. As soon as you join the queue you are told how long you are likely to have to wait, while Granville's (Time/MJN/Colossus) hardware helpline just goes on ringing until someone picks it up. This saves you the cost of the call until someone answers it but leaves you feeling unwanted. Granville also runs a premium-rate line for software queries, a free helpline for the first 14 days after purchase and has a bank of printed answers to common queries.

Compaq's special helpline for Presario owners is a premium-rate call but you do get an instant response from a human operator and both hardware and software problems can be dealt with. Olivetti's warranty helpline is also premium-rated but with a target three-second pick-up time and an average eight-minute call time, it doesn't cost the earth. It's worth keeping in mind, however, that most premium-rate lines cost 50p per minute or more to use.

All the helplines keep logs of the calls they receive and can refer to previous advice you have been given for an ongoing problem. Compaq installs diagnostic software on all Presarios to help with problem solving and Dan uses Microsoft's Emergency Recovery program on every PC before despatch, making it easy to reinstate a completely fouled system.

Tips
● Support lines will help with software problems that stop hardware working, but the staff don't have the time or training to answer queries about how you use a particular program.

● Have your computer's serial number written down before you call.

● The most frequent reason for users to make support calls at present is that installing a game has overwritten the pre-installed version of Microsoft's high-tech DirectX graphics drivers, so if you're asked whether you want to install DirectX – don't – unless you're absolutely sure you know what you're doing.

● It is unfair to expect a company to call out and service your machine unless you have an on-site contract. If that's the sort of service you want, make sure you arrange it when you buy the machine.

● You could end up paying a call-out charge if the fault turns out to be software-related. Before an engineer is despatched to your home or office, try and get an assurance from the service provider that you won't have to pay this charge if software turns out to be the cause of the problem.

● Be sure to keep all the packaging that came with your computer. If you have to send the machine back for repair, you will need it. Also, should you find yourself demanding a refund, the supplier will rightly ask that the machine be returned in the same state in which you received it.

one who walks out of Norwich's PC World carrying a Packard Bell machine.

Interestingly, the manager at one of the group's flagship Dixons stores flatly refused to talk to us, citing as the reason a command from Head Office that restricts Dixons Group staff from talking to journalists.

Unperturbed, we went 'undercover' to another Dixons outlet where, unaware that we were from *What PC?*, the sales assistant talked freely about the company's after-sales services. These, we were told, range from a telephone support line, charged at normal rate, to five-year on-site service contracts costing anything up to £500, depending on the chosen system. When we raised the subject of reliability, the assistant brushed over it impressively before later going on to extol the advantages of the said on-site contracts.

When we contacted the Dixons Group Head Office, a spokesperson declined to give a precise figure for DOA machines, but eventually concurred with a suggestion of less than five percent. We also found out that, although telephone support for PCs is indeed charged at normal rates, software support is reached on a separate, premium-rate line, currently charged at 50p per minute.

When things go wrong...
The first thing to do is keep calm – few problems are as serious as they first seem and acting without due thought could lead to further problems.

Take stock and go through the basics: is the computer plugged in and switched on at the mains? Has one of the kids turned the monitor's brightness down? Are all the leads in place and firmly connected? These might sound like blatantly obvious things to check, but a large proportion of calls to support lines turn out to be related to such straightforward problems. Taking a couple of seconds to investigate could save you the time and indignation of being asked to do so by a support line operator.

Naturally, there are dozens of things that could be the cause of your problem and you will more than likely end up calling the supplier or a support line. Before you do, make sure you've read through our hints and tips on contacting helplines, and our guidelines on keeping your machine in good order might just save you the trouble in the first place. ●