



Why do inkjet cartridges cost so much?

You can buy an inkjet printer for less than £50, but when it runs out of ink it will cost you almost as much as a new printer to buy replacement cartridges from the same manufacturer. Andrew Charlesworth finds out whether we are being ripped off for our brand loyalty

Inkjet printers are ridiculously cheap, while replacement cartridges seem to cost the earth. It's no surprise to find, then, that manufacturers are subsidising the very tiny profit they make on the printer with a very fat margin on the cartridges. In fact, inkjet cartridge pricing seems so wildly out of proportion to the cost of the printer that in some cases you can literally buy a brand-new printer for less than it costs to replenish your existing model's ink supply.

Naturally, the companies involved in producing printers want us to buy their proprietary replacement ink cartridges, but the cost of doing so has led to a healthy market for unbranded but compatible cartridges as well as do-it-yourself refill inks. And, of course, shopping around in this way saves the consumer a significant amount of cash.

All this may lead you to conclude that the printer companies are ripping us off, but this isn't necessarily the case. There are other examples of this business model where a loss made on the sale of equipment is compensated for by the profit made on consumables – for example, razors and blades.

A closer analogy is provided by cartridge-style games consoles of the early 1990s, such as Sega Megadrive and Super Nintendo, where each game was stored on a cartridge of read-only memory chips and was effectively a hardware upgrade to the console.

This, argue the printer manufacturers, is precisely the case with inkjet cartridges.

A set of new manufacturer-branded cartridges is a hardware upgrade to the printer.

There are about 200 patents in the manufacture of a printer cartridge. In some cartridges, namely those in Lexmark and HP printers, the precision-engineered printhead is part of the cartridge, so every time you buy a new set of cartridges you buy a new set of printheads. And, according to the manufacturers, this means you get the same high quality of output from the 50th set of cartridges as you did from the first.

Quality control

The manufacturers maintain that they and they alone can make cartridges that guarantee this level of print quality. To use cloned cartridges or refills is to compromise quality to the point where some of them say that using non-branded refills invalidates the printer's warranty.

Rubbish, argue the cartridge cloners, you don't need a new printhead every time you renew the cartridges. Nor, they claim, do the printer manufacturers have a monopoly on quality. For example, Afic, which makes compatible inkjet and laser cartridges under its ImageMaster brand in a factory in Newcastle-under-Lyme, has a roster of quality awards longer than a wet Sunday afternoon.

It's not just cost-conscious home users who are willing to chance their arms with third-party consumables and refills either. Large companies – local government offices, banks and the like – buy laser

and inkjet cartridges from 'recyclers' in bulk because they are well aware that the manufacturers' prices provide such poor cost-per-page ratios.

Measure for measure

Inkjet cartridge prices were mentioned in a recent OFT (Office of Fair Trading) report on consumer IT good and services. While the report stopped short of saying cartridges are a rip-off, it did say that there should be more information at the point of purchase for consumers, specifically about the relative output of cartridges.

The OFT said the printer manufacturers need to agree on a standard measure of output so consumers can compare like with like. Clearly, a simple measure of capacity in millilitres is insufficient because it doesn't relate to the number of pages that can be printed.

There is already a standard of sorts. The big five manufacturers – HP, Lexmark, Epson, Brother and Canon – all quote a standard printed letter page as five percent black ink coverage and a page of graphics as 15 percent colour coverage.

But, some argue, that won't work for consumers who don't know what 15 percent coverage looks like. And if you are buying a set of inkjet printer cartridges to print a mixture of letters, photos and your children's geography school project illustrated with colour maps and diagrams, it becomes a complex calculation.

Furthermore, even if the five and 15 percent coverage figures are acceptable,



what about the quality of the output? To make their cartridges look more capacious than others, some suppliers might be tempted to reduce the quality of the output and thus squeeze out more pages per cartridge.

The chances of the rival printer manufacturers co-operating voluntarily to produce an easily comprehensible standard is remote. "This issue will only be resolved when there is a universal standard for page yield and that means defining what a page is and at what quality it should be printed. It will only become universal when the market leader decides to help build it," says Lexmark's European consumer supplies product manager Tony Hall.

HP is that market leader and it absolutely refuses to be drawn on the subject of the OFT report.

Less is more

Bothering to think about the relative output of inkjet cartridges seems to be beyond most consumers; all they see is the price. Lexmark makes high-yield inkjet cartridges that it sells to businesses. They fit in the same printers and are the same size as

the consumer cartridges but they are filled with more ink and cost more.

For example, a colour cartridge for Lexmark's Z65 is listed at £25.10. For the Z65Pro (the business version of the printer) a colour cartridge costs £30.84. The cartridges are the same size and cost Lexmark the same to manufacture, but the more expensive one contains more ink (a marginal part of the cost) resulting in a lower printing cost per page.

Lexmark tried selling high-yield cartridges to consumers two years ago but they bombed, according to the company, because the consumer only looks at the purchase price not the price per page. Maybe businesses are more savvy – or perhaps some customers simply balked at the cost of keeping their printer running and switched allegiance to a brand whose printers don't cost so much to run.

Either way, consumers who have a high print requirement would do well to buy the higher-yield cartridges, saving themselves money and being more environmentally friendly.

One good reason for not buying high-yield cartridges if you don't print

very often is that the ink tends to dry up. Even the best ink will show signs of deterioration after about eight weeks, say industry insiders.

So if you're a consumer that prints only a few pages per month, you're better off with the low-yield cartridges even though you're paying more per page.

Smart thinking?

Another factor is the addition of intelligence – so-called smart chips – to the cartridges by HP and Lexmark. When this was first mooted there was something of an outcry stirred up by the refilling companies and cartridge clone-makers who said it would prevent refilled or cloned cartridges from being used in the printers.

This isn't the case and printer manufacturers swiftly protested their innocence, saying the chips were there to make the printer more user-friendly. They provide services such as a simple level meter to tell you how much ink is left, as well as more sophisticated functions such as automatically routing you through to a website where you can reorder cartridges when ink is running low.



Sample printer and cartridge pricing

HP DeskJet 3820c colour inkjet printer; £66.99 from Dabs.com

• HP original model 15 black cartridge	capacity 25ml	£17.95 from www.inkraider.co.uk or £24.99 from Argos Home Office catalogue
• HP-compatible model 15 black cartridge	capacity 25ml	£11.25 from www.inkraider.co.uk or £20.99 from Argos Home Office catalogue
• HP original model 78 large capacity colour cartridge	capacity 38ml	£37.35 from www.inkraider.co.uk
• HP-compatible model 78 large capacity colour cartridge	capacity 38ml	£20.95 from www.inkraider.co.uk

All prices include VAT

Letters of the law

Printer manufacturers are very zealous when it comes to protecting the designs of their printers and cartridges. In February Lexmark gained an injunction in the US against Static Control Components, under the controversial Digital Millennium Copyright Act, preventing SCC making or selling Lexmark-compatible chips on Lexmark-compatible toner cartridges.

SCC responded with an antitrust lawsuit against Lexmark, seeking \$100m in damages and accusing the printer maker of violating federal US law and stifling competition.

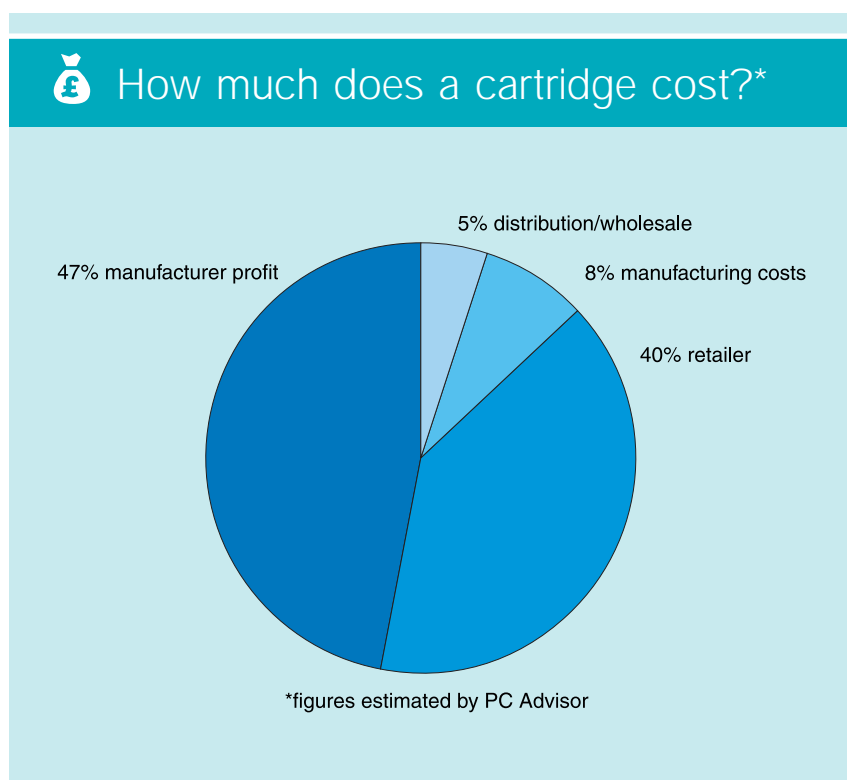
In Europe the legislation often cited in the cartridge debate is the WEEE (Waste Electrical and Electronic Equipment) directive, which promotes environmental responsibility. The European Parliament has set firm targets for recycling 6kg of waste electronics per person per household per year by December 05. A voluntary target of 4kg per person per household per year by November this year has also been suggested.

WEEE makes the disposal of waste electrical and electronic equipment the responsibility of manufacturers. It was recently ratified by the European Parliament and is soon to be enacted as secondary legislation in the UK. Are inkjet cartridges covered by the WEEE directive? That depends on whether a cartridge is defined as a consumable or a 'specific item', a decision that will be made later this year. Either way, adding a chip to a cartridge doesn't prevent the cartridge from being reused or recycled.

The manufacturers are keen to be seen to be green and are working with the EC to ensure the intelligence they build into the cartridges doesn't contravene WEEE. HP is consulting with the DTI on a range of issues regarding the enactment of the WEEE directive in UK legislation along with aspects of the closely related Reduction of Hazardous Substances legislation.

Make the effort

Recycling cartridges is possible but not easy to organise on an economic scale. Consumers like the idea of being green but when it comes to making the effort of walking bottles to the bottle bank or keeping cartridges for collection, they



can't be bothered and just throw them away, says Lexmark's Hall. Despite this, Lexmark has started a laser cartridge recycling operation and wants to do the same for inkjet cartridges, though the need to harvest a significant number of cartridges to make this viable means it's more difficult.

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Who's the baddie?

Lexmark complains it's being made out to be the evildoer, accused of stifling competition and preventing green practices such as recycling cartridges. Naturally the other printer manufacturers are tarred with the same brush, especially when it comes

to controversial issues such as adding chips to cartridges and fiercely protecting their intellectual property.

Undoubtedly the recyclers and refillers have stirred up the debate, raising money to lobby the European Parliament and other bodies. For their part the printer makers have started to employ people with job titles like Lexmark's government affairs manager Beatrice Marneffe and HP's WEEE directive programme manager Kirstie McIntyre to counterlobby or 'advise the relevant bodies' as they would put it.

It's not just a case of the big printer companies against the small recyclers. Though there are some philanthropic companies that recycle laser printer cartridges and donate the proceeds to charity, in the main the so-called inkjet 'recyclers' and cloners are large firms in their own right and have as big an axe to grind as the manufacturers.

With more transparency of information, the wrangle between printer companies and third-party consumable resellers ought to be good news for customers. The OFT report on cartridge costs isn't due until November and prices continue to vary widely, but shop around and look carefully at what you're getting and you could make some real savings. ■