

Small can be beautiful

The rise of the digital camera has spawned a new breed of small printers for producing prints

With digital cameras it's easy to post your photos online. But if you still like to have prints in your hand, you might be tempted to buy one of the new breed of printers, costing between £50 and £200, that produce 6x4-inch pictures, similar to those you can get printed on the high street.

All the models we tested are PictBridge enabled, which allows you to print directly from your digital camera using a special type of USB cable (see 'What you should look for', p62). Some allow you to slot your digital camera's memory card directly into the printer to produce photos. And all the printers, except the Lexmark P450, can be connected to a computer; this lets you enhance or edit your photos with the many software packages now available.

They may not be as versatile as a standard inkjet printer, as they can't print on A4-sized paper and aren't suitable for printing plain black and white text, but these small photo printers are easy to use.

The main benefit of these compact machines is the convenience of being able to print photos whenever and wherever you choose, particularly if you pick a model that has a battery.

Printing speed varies enormously – the fastest model we tested printed a seven-megapixel image direct from a digital camera in 42 seconds, but the slowest took a frustrating 222 seconds. There's no point in printing something quickly if it ends up looking awful, so we took both image quality and speed into account when picking our Best Buys.

Two types of small photo printer are available: inkjet and dye sublimation. Inkjet printers squirt ink on to the paper to produce a print, while the noisier dye-sub models put down layers of colour film.

We didn't find any difference in print quality between the two but dye-sub makes a whining sound when printing. A more detailed explanation of how each printer works can be found in the 'Jargon buster' box, opposite.

You might have seen some small photo printers for sale at a reduced price when bought alongside, or 'bundled' with, a digital camera. Buying one like this typically saves you about £20.

But we think you should approach such deals with caution and check out the latest set of digital camera results on our website, before parting with your cash, to make sure you're getting a decent camera as well as a good printer. Go to www.which.co.uk/digitalcameras for up-to-date information.



67% HP Photosmart 475 £120

The best printer in our test, this inkjet allows you to edit your pictures and produces good quality prints. When printed directly from a memory card, images were particularly impressive – sharp and with realistic colour.

It wasn't the quickest printer we tested, taking 121 seconds to print a seven-megapixel image from a camera, but it did have a very quick start-up time of just 17 seconds.

The optional integrated rechargeable battery and

internal 1.5GB hard drive, which allows you to store up to 1,000 images, make this a good choice for those looking for a printer that can be taken out and about.

You can get this printer from Jessops, John Lewis and PC World.

WE LIKE The large, angled LCD screen makes it easier to view an image when editing it for printing.

Cheapest store PC World **Memory cards accepted** Compact Flash, Memory Stick, MultiMedia Card, Secure Digital, xD Picture Card **Size when open** 19.1x24.4x29.8cm **Weight** 1.67kg **Handle** Yes **Panoramic pictures** Yes **LCD viewer** Yes **Internal hard drive** Yes **Ink type** Inkjet **Battery** Yes



How we test

Our experts assess how well your photos will stand up to light and moisture

Print quality

We take pictures of people, houses and test charts, and then print them directly from a digital camera, memory card and computer.

An expert panel examines the pictures closely to assess the quality of the colour, the detail and whether there are any imperfections.

Fading

You don't want your pictures to fade at the first sign of sunshine. So using

a box containing an artificial light similar to natural daylight, we subject part of a picture from each printer to six weeks of direct light, while the other part is left in darkness. Then we see how much the picture

has faded by comparing the amount of light reflected by the image kept in the dark with that reflected by the image from the light box.

Smearing

We leave a print-out to dry for at least 24 hours and then spray it with several droplets of water. The droplets are dabbed with a paper tissue, both with and without rubbing. This allows us to judge whether the ink will smear or run.





66% Canon Selphy CP600 £140

We were really impressed by the speed of this dye-sub Best Buy: it printed a seven-megapixel image direct from a digital camera in a lightning 65 seconds.

The picture quality was generally good, although we found sometimes that skin tones looked a little red.

Canon printers generally have reasonable running costs and, at 26p per page, this model is no exception. Although it doesn't have an LCD screen or take memory cards, we think it's good for printing directly from a digital camera.

It's widely available online. **WE LIKE** This model is really compact when it's closed, making it ideal if you're short on space at home.

Available Online Memory cards accepted None
Size when open 5.7x17.8x40cm Weight 1.45kg
Handle No Panoramic pictures Yes LCD viewer No
Internal hard drive No Ink type Dye sublimation
Battery Yes

WHICH?
BEST
BUY



65% Samsung SPP-2040 £60

Good picture quality and speedy printing helped this dye-sub printer gain Best Buy status. It took only 76 seconds to print a seven-megapixel photo direct from a digital camera and the images produced were very lifelike.

Although cheap initially, the Samsung does have the highest cost per print of our Best Buys – 27p – so it might work out pricier in the long run, depending on how much you plan to use it.

This printer is available from Argos, Comet and PC World.

WORTH KNOWING The Samsung SPP-2040 doesn't operate on battery power, so if you're looking for a portable printer, this one isn't for you.

Cheapest store PC World **Memory cards accepted** Compact Flash, Memory Stick, MultiMedia Card, Secure Digital, SmartMedia, xD Picture Card **Size when open** 10.8x18.4x40.3cm **Weight** 1.6kg **Handle** No **Panoramic pictures** No **LCD viewer** Yes **Internal hard drive** No **Ink type** Dye sublimation **Battery** No

WHICH?
BEST
BUY

The main benefit is being able to print photos whenever and wherever you choose



64% HP Photosmart 428 £130

This inkjet printer is a good choice if you want to use it on picnics or holidays, as it can print 114 pictures from a fully-charged battery. It also has a sturdy handle and weighs just 1.39kg.

It produces good-quality pictures directly from a camera but portraits printed via computer were sometimes a bit too red.

This printer can't use memory cards so you'll have to rely on PictBridge or the camera docking station if you don't want to use a computer.

It's available from Jessops. **WORTH KNOWING** This printer is available only as a package with the HP M517 digital camera, which scored 54 per cent in a recent Which? test.

Cheapest store Jessops **Memory cards accepted** None
Size when open 18.4x22.5x27cm Weight 1.39kg
Handle Yes Panoramic pictures Yes LCD viewer No, but you can use the LCD screen on the camera that comes with the printer **Internal hard drive** No **Ink type** Inkjet **Battery** Yes

WHICH?
BEST
BUY

Jargon buster

How to tell the difference between the two types of printer

■ DYE SUBLIMATION

Dye-sublimation printers use one large 'ribbon cartridge', which contains three panels of colour film. The paper runs in and out of the printer three times and is coated in a different colour by the cartridge each time. Photos from a dye-sub

printer are touch-dry as soon as they are produced and tend to be slightly more water resistant than those produced by an inkjet printer.

■ **INKJET** Inkjet printers use a series of nozzles to shoot minuscule droplets of ink directly on to paper

to build up an image. The images they produce consist of thousands of tiny dots, each smaller than the diameter of a single human hair.

Inkjets tend to be quieter than dye-sublimation models, which can whine while printing.

Contacts

Canon
0870 514 3723
www.canon.co.uk

Epson 0870 241 6900
www.epson.co.uk

HP 0870 010 4320
www.hp.com

Kodak 0870 243 0270
www.kodak.co.uk

Lexmark
0870 444 0044
www.lexmark.co.uk

Olivetti 01908 547980
www.olivetti.com

Olympus 0207253 0513
www.olympus.co.uk

Samsung
0870 242 0303
www.samsung.co.uk

Sony 0870 511 9999
www.sony.co.uk

MEMBER BENEFIT

Members' helpline

01992 822800/0845 307 4000

For one-to-one phone support on queries about Which?, the latest Best Buy information and advice on consumer issues, contact our members' helpline.

Mon-Fri 8.30am-8pm; Sat and bank holidays 9am-1pm

Please give your Which? membership number and daytime phone number. Calls may be monitored or recorded for training. All correspondence to Which? Ltd, PO Box 44, Hertford X, SG14 1SH. You can also fax 020 7770 7485 or email which@which.co.uk

Don't buy

OLIVETTI MY_WAY

This printer is one to avoid at all costs. The pictures it produced were grainy, dull, slightly green and sometimes streaky. It took a long 222 seconds to print a seven-megapixel image from a camera via PictBridge so, if you wanted to print ten photos, it would take more than half an hour. To top it all off, it warned us that the ink was running low when the cartridges were still nearly half full, which could mean that you waste money by needlessly replacing cartridges. We say a big 'no way' to the MY_Way.



Safe storage

Keep your photos in top condition by using our tips for storing them safely

- Don't leave your photos in direct sunlight – it accelerates fading.
- Keep your photos in a cool, dry room. Big fluctuations in temperature, and dampness, can damage them.
- If you want to display your photos in a frame, make sure they are kept behind glass, which ideally should have an anti-UV coating to protect the image from the sun's rays.
- Buy a photo album that's acid- and lignin-free. These chemicals can cause photographic paper to yellow over time.
- Archive your digital images on CD, DVD or computer. Store the discs safely to avoid damage.

How to buy

When you're shopping for a

■ CAMERA COMPATIBILITY

One of your main priorities when selecting a small photo printer should be whether it's compatible with your digital camera. Check the type of memory card that your camera

Facts & scores

Interesting snippets of information uncovered by our tests

Light as a feather

The HP 335 and HP 385 were the lightest printers we tested, weighing only 1.3kg each.

Mac users beware

The Sony FP50 is the only model in this test that works with PCs but not with Apple's OSX operating system. So if you're a Mac computer user, give this printer a wide berth.

Quick off the mark

The Olympus P11 surprised us with the quickest start-up time on test: only eight seconds between turning on and producing a print.

MEMBER BENEFIT

Free website access

Details of more printers online

Go to www.which.co.uk/printers for free information about a range of printers that we've tested, from inkjets and lasers to printers with built-in scanners.

What you should look for

PICTBRIDGE LOGO

PictBridge allows you to connect your printer to your digital camera, and print photos without having to use a computer



COLOUR LCD SCREEN

Built-in LCD screens preview the image you're printing. Some let you edit images or reduce red eye when printing from a memory card

BATTERY

Some printers come with batteries, which gives you more flexibility and allows you to print away from a mains power supply

BLUETOOTH

If you like taking photos with your Bluetooth-enabled mobile phone, you could buy a printer that allows wireless printing via Bluetooth

MEMORY CARD SLOTS

An easy way to print snaps is to use the memory card slots on the printer. Take the memory card out of your camera, slot it into the machine and press print

DOCKS

Some printers have docks that let you click your camera directly on to the printer to select and print your photos. Docks work only with particular cameras, usually from the same manufacturer



small photo printer, think about whether it will work with your camera, portability and running costs

takes and ensure the printer you want has the right card slot. If the model you're considering doesn't take memory cards and you want to print without using a computer, the easiest way is via PictBridge. Some older cameras aren't

PictBridge compatible, so check yours is before buying anything. **■ PORTABILITY** If you want to take your printer on holiday with you or use it in the garden, you must ensure it's battery powered. Is the printer too heavy or bulky to

carry easily? Some weigh little more than a bag of sugar, while the heaviest weighs more than double that. Try lifting the printer in the shop.

■ PRINT COSTS The cost of printing your photos doesn't

stop when you've bought your printer. You need to buy photo-quality paper and ink cartridges, which can be quite expensive. See our cost per print figures below for the running costs of the printers we tested.

MODEL	SPEC			FEATURES				WHICH? TEST PERFORMANCE				SCORE %
	PRICE (£)	INK TYPE	APPLE	MEMORY CARDS	BLUETOOTH	BATTERY	LCD SCREEN	COST PER PRINT (p)	PRINT QUALITY	PRINT SPEED	RESISTANCE	
1 HEWLETT-PACKARD Photosmart 475	120	I	✓	CF, MMC, MS, SD, xD	Opt	✓	✓	11	★★★★★	★★★★	★★★★★	67
2 CANON Selphy CP600	140	D	✓			✓		26	★★★★	★★★★★	★★★★★	66
3 SAMSUNG SPP-2040	60	D	✓	CF, MMC, MS, SD, SM, xD	Opt		✓	27	★★★★★	★★★★★	★★★★★	65
4 HEWLETT-PACKARD Photosmart 428	130	I	✓		Opt	✓	✓ ^a	11	★★★★★	★★★★	★★★★★	64
5 CANON Selphy DS810	100	I	✓	CF, MMC, MS, SD, SM	Opt		✓	40	★★★★	★★★★	★★★★★	62
6 HEWLETT-PACKARD Photosmart 335	50	I	✓	CF, MMC, MS, SD, SM, xD	Opt	✓	✓	11	★★★★★	★★	★★★★★	62
7 HEWLETT-PACKARD Photosmart 385	80	I	✓	CF, MMC, MS, SD, SM, xD	Opt	✓	✓	11	★★★★★	★★	★★★★★	62
8 SAMSUNG SPP-2020	70	D	✓		Opt			27	★★★★★	★★★★★	★★★★★	62
9 CANON Selphy CP710	120	D	✓	CF, MMC, MS, SD	Opt	✓	✓	26	★★★★	★★★★	★★★★★	61
10 EPSON PictureMate 100	100	I	✓	CF, MMC, MS, SD, SM, xD	Opt	✓	✓	28	★★★★	★★	★★★★★	60
11 CANON Selphy CP510	100	D	✓		Opt	✓		26	★★★★	★★★★	★★★★★	59
12 EPSON PictureMate 500	100	I	✓	CF, MMC, MS, SD, SM, xD	Opt	✓	✓	29	★★★★	★★★★	★★★★★	58
13 SONY PictureStation DPP-FP50	180	D		CF, MS, SD				24	★★★★	★★★★★	★★★★★	58
14 KODAK EasyShare Photo Printer 500	170	D	✓	CF, MMC, MS, SD, xD	✓		✓	25	★★★★	★★★★	★★★★★	56
15 KODAK EasyShare Printer Dock Plus Series 3	110	D	✓	MMC, SD	✓			25	★★★★	★★★★	★★★★★	55
16 KODAK EasyShare Printer Dock Plus	120	D	✓	MMC, SD	Opt			25	★★★★	★★★★	★★★★★	54
17 OLYMPUS P-11 Digital Photo Printer	120	D	✓					30	★★★★	★★★★★	★★★★★	54
18 LEXMARK P450 Photo Printer	75	I	n/a ^b	CF, MMC, MS, SD, SM	Opt		✓	43	★★	★★	★★★	44
20 OLIVETTI MY_Way	60	I	✓	CF, MMC, MS, SD, SM, xD	✓	✓	✓	34	★	★	★★★★	22

^a No separate screen, although the LCD screen from the bundled camera can be used ^b This model does not print from any computer, whether PC or Apple

USING THE TABLE

We tested best-selling and new models from leading manufacturers. The more stars the better.

Specification

Price For Best Buys we give the cheapest widely available high-street price as we went to press. Prices for others are a guide to what you can

expect to pay. Prices of models available online only are in *italics*. **Ink type** The ink cartridge used by the printer. D = dye-sub, I = inkjet. **Apple** Whether the printer works with Mac computers using Apple's OSX operating system.

Features

Memory cards Which memory cards the printer

takes. CF = Compact Flash, MMC = MultiMedia Card, MS = Memory Stick, SD = Secure Digital, SM = SmartMedia, xD = xD Picture Card. **Bluetooth** Whether the printer has integrated Bluetooth. Opt indicates that Bluetooth is optional and requires an adaptor. **Battery** Whether the printer can use batteries

as well as mains power.

Test performance

Cost per print Costs are for one 6x4-inch print, taking into account the price of ink and high quality photo paper at the time of publication. **Print speed/Print quality** How long it takes to print one colour 6x4-inch photo and the quality of the picture.

Resistance Prints' overall resistance to both moisture and light.

Score

This ignores price and is based on:
 Print quality **40%**
 Ease of use **22%**
 Versatility **14%**
 Time **10%**
 Print resistance **9%**
 Environmental **5%**