

**Berg Kaprow Lewis**

Computer printers

There is a huge choice of printers available to businesses. Different models of laser, inkjet and impact printers offer different speeds, qualities — and prices.

Every business must have at least one printer to produce high-quality letters. Most will also benefit from a fast, reasonable-quality printer for drafts and long documents. The key is to get the printer or printers which match your needs.

This briefing covers:

- Matching your printer to your work.
- Choosing the right-quality printer.
- How to connect and share a printer.
- How to judge a printer's running costs.

1 Day-to-day printing

Every business needs to produce letters, memos, reports and address labels.

The amount you need to spend on a printer will largely depend on the quality, speed and versatility you require.

1.1 Compare the **quality** of different printers.

Printers with more dots per inch (dpi) produce crisper, more detailed images.

- Any letters you send out should be printed at a minimum of 600dpi. A basic laser printer will print at 600dpi. A good one will print at 1,200dpi, or more.
- Inkjet printers are cheaper than laser printers and produce good output. But they tend to be slower (see **1.2**).
- The low-quality output of dot-matrix

(impact) printers makes them unsuitable for printing letters and documents.

But you will need a dot-matrix printer if you want to use multi-part stationery or carbonless paper (see **3.2**).

1.2 Compare the **speed** of different printers.

- Small laser printers are suitable for small businesses with one to three people using them. They print at a speed of eight to 16 pages per minute (ppm) and are designed to produce 1,000 to 5,000 pages per month.
- Heavy-duty laser printers are suitable for larger networks. Some expensive, fast laser printers are network-ready; others connect to a print server (see **5.2**). These large laser machines will print at 12 to 40ppm.

Directors' Briefing

a book in four pages

More than 160 briefings are
now available.

If you need further information or help,
ask the distributor of this briefing
about the services available to you.

The volume the printer is designed to handle is usually matched to the speed of the printer.

- Inkjet and dot-matrix printers are generally slower than laser printers. They produce two to eight ppm (they take longer to print pages with more ink on them).

1.3 Consider the **versatility** of different printers.

- Large-capacity feed trays cut the number of times you have to refill a network printer. They can hold thousands of sheets of paper.
- Two or more paper feed trays make it easier to switch between different kinds of paper, such as ordinary printing paper, letterheads and labels.
- Some large laser printers have separate trays for envelopes and labels.
- Use an inkjet printer to print on card or film (eg for business cards or OHP slides). They are the cheapest way to print in colour and do not distort the card or film.
- Use a dot-matrix printer to print on multi-part or carbonless paper (see 3.2).
- Check before using a laser printer to print on film or glued paper. The heat may melt them and damage the printer.
- Some laser printers can work with both PC-compatible and Macintosh computers, but most are designed to work with one or the other.

1.4 Compare the **running costs** of different printers.

A checklist for buyers

These prices are rough estimates of the amount you will have to pay to purchase different printers (May 2005).

Additional functions will push up the price.

- From £45 for a colour inkjet printer.
- From £100 for a general-purpose office laser printer or photo-quality inkjet printer.
- From £240 for a colour laser printer.
- From £500 for specialist label and bar code printers.
- From £700 for a heavy-duty shared network laser printer.
- From £5,000 for plotters and other specialist, high-performance printers.

- For example, a page printed on a laser printer costs less than one printed on an inkjet printer. So if you have large print runs you may find it cheaper to buy a laser printer, even though the initial costs are greater.

1.5 Consider using a **multifunctional device** which combines a laser or inkjet printer with a photocopier, scanner and fax.

This can save you both time and money.

- A combined machine reduces the number of different consumables (for example, toner cartridge) that you will need.
- Consider whether the expected workload for one of the functions is likely to be much greater than the others. A printer bottleneck can easily arise if this is the case.

Remember that the office may be without some of the machine's functions if it breaks down.

2 Design and desktop publishing

You will need a high-end machine to reproduce designs and layouts created on your computer at a standard that is good enough for publication.

2.1 Consider how much **colour printing** you will need to do.

- Colour laser printers cost from £240 and should be considered seriously in an office environment. This proves most cost effective for a large volume of colour printing. Print speeds are significantly faster than inkjets.
- For low-run colour printing, an inkjet is useful and inexpensive. Prices start from £45. However, specialist papers and inks make day-to-day running costs higher.

If you only occasionally need colour printing, take your artwork on disk to a colour-printing bureau.

2.2 Consider how often you print documents in **different sizes**.

- Most printers use A4 paper as standard.
- Some specialist laser and inkjet printers can use A3 paper.
- To print on paper larger than A3, use a wide-format inkjet printer or a plotter. A plotter writes with a pen on large sheets (eg for architects' plans).

“Do not expect to achieve manufacturer's ratings for printer speed. It's more likely to be 60 to 65 per cent of this value.”
John Harris,
Business Link
Cheshire and
Warrington
Technology
Centre

“Do not rely on dpi figures alone to select a colour printer. Colour-handling depends on many more factors — and different printers with similar dpi resolutions can produce different results.”
David Green,
Wigan Borough
Partnership

- Use an inkjet printer with a roll of paper to avoid breaking up continuous images.

2.3 Consider whether you will produce **newsletters** or **books**.

- Laser printers can produce camera-ready black and white copy that is good enough to send to a commercial printer.
- Images demand higher-resolution printing. You will need a high-specification laser printer working at 800dpi or more.

Use a commercial typesetter for complex images or photographs.

- Use a heavy-duty laser printer to print an in-house newsletter.

3 Accounts printing

For accounts printing, quality is secondary to versatility and the type of paper you use.

3.1 Your accounts department may need its own **separate printer**.

- Accounts departments often need to print large volumes, which can create bottlenecks for the rest of the company.
- You may need to preserve the confidentiality of documents such as payslips.
- The printer should be linked to your network but only accessible to your accounts employees.

3.2 You will need a **dot-matrix** printer to print on multi-part stationery, or carbonless paper.

- A laser or inkjet printer will not work, as it will only leave an impression on the top sheet.
- You can use a laser printer to make several

copies of each document.

3.3 Check that the printer you choose can handle the kind of **stationery** you want to use.

- Some accounting-software packages require you to buy special stationery to print forms.
- Continuous stationery enables you to print thousands of forms without having to change the paper. You will need a dot-matrix printer for this.

For a higher quality of presentation, ask a commercial printer to print customised continuous stationery with your business logo and details on it.

“Experiment with different kinds of paper to produce distinctive-looking documents. Photos, in particular, will be transformed if printed on special, glossy paper.”
Anthony Fisher,
Traderwebs

4 Specialist applications

There is a range of specialist printers for particular business needs.

4.1 Consider buying a dedicated **label printer** if you often print one label at a time.

- Laser printers or dot-matrix printers are more suitable for mass printing of labels.

4.2 Consider buying a **barcode printer** if you use stock-control software to help with keeping inventories.

- Barcode printers are usually part of a system which includes stock-control software, barcode readers and the barcode printer.
- Many barcode printers are only supplied with specific pieces of software and only use certain consumables. You may not be able to use a barcode printer with any other piece of software.

“Periodically check the manufacturer’s website to see if it is offering an updated driver for your printer. Not using the latest printer driver can cause some unexpected results.”
Jonathan Pool,
PBS
Communications

Presentation printers

To create OHP film sheets, use an inkjet or laser printer. OHP slides can provide impressive illustrations for your presentation or lecture.

- Inkjet printers are more reliable than laser printers for this type of work.
- Use colour inks that are specially designed for film, rather than paper, in your inkjet printer.
- Check that your presentation software supports the particular inkjet printer you plan to use.

5 Connecting up

5.1 You can plug the printer into the back of your desktop computer if you are the **only person** using it.

If your desktop computer is part of a very small network (fewer than five users), you can allow other users to share your printer.

- Use a universal serial bus (USB) connector if your printer and computer support this standard. This allows you to connect a number of printers or peripherals to your computer using one cable.

5.2 Printers that are shared by a number of

“Take time to read the manufacturer’s instructions. Adjustments to both the printer and driver settings can greatly improve performance and reliability.”
Nick Pankhurst,
Canon UK

users on a **network** should be directly connected to the network.

- You can set up one computer on the network to act as a print server. This centralises all print jobs, letting you control the order in which documents are printed and making the network more reliable.
- The printer will need to be fitted with a network adaptor card before you can connect it directly to the network. Check with your supplier that the printer's network adaptor card will work with your network software, network operating system and cabling.
- You can purchase an external print server to allow sharing of a printer that does not have a network adaptor card.

5.3 Some printers allow laptops and portable computers to link **without using cables**.

- Use a wireless PDA or IrDA infrared unit built into your laptop or portable. When you point your portable at the printer, it detects the printer and transfers the information to be printed.
- Add an adaptor box to use this system if your printer does not already have an IrDA connector.

5.4 Your computer will need **printer driver** software before it can print.

- Windows automatically recognises most printers and configures your system accordingly.
- Plug-and-play printers will attempt to configure your desktop computer automatically, ready for use.
- An Apple Macintosh will recognise automatically any printers that are Macintosh-compatible. You may need an additional piece of software, called a PPD, to make the best use of your printer.

Different operating systems use different printer drivers to link to specific printers. Check that all your software is using the correct driver, designed for your computer.

6 Consumable costs

Consumables include ink, toner, paper and film — and replacement parts for your printer. Over the course of the printer's life the total cost

of the consumables can easily exceed the initial cost of buying your printer. There are three ways to keep them under control.

6.1 Choose a well-known **make** of printer.

- Replacement ink, toner and parts for your printer will be widely available.
- Larger manufacturers will have extensive support networks. But find out if the support is outsourced or provided directly by the manufacturer. First-time fix rates will be higher with the manufacturer's own staff as they will understand their own products better than a third-party.

Check any warranty agreements and if they offer an on-site repairs service.

- Projected lifetime running costs of new printer models are compared in computer-magazine surveys.

6.2 Select **consumables** carefully.

- Many third-party consumables can work as effectively as a manufacturer's.
- Make sure you are getting good value if you use manufacturer's consumables. A network laser printer's toner should last long enough to print at least 7,000 sheets of typical Word documents.

Look at branded consumables for laser printers that are often cheaper — but avoid low-cost unbranded products.

- Remanufactured (recycled) cartridges are much cheaper than the originals and may be sufficient for your needs. However, impact printers can be damaged by consumables not designed specifically for the machine.
- Inkjet printers perform better using specially coated paper, which costs more than the ordinary photocopying paper suitable for laser printers.

6.3 Choose a printer with **durable parts**.

- You may need to replace the mechanical and optical parts of the printer. If the output from the printer is deteriorating, streaky or patchy, you should replace the drum (the optical part of the printer).
- Consider taking out an extended warranty to cover the replacement of parts, including a technician to fit them.

Expert contributors

Thanks to **Jonathan Pool** PBS Communications, 020 7613 1400; **Kevin Davis** (management consultant, 01227 375533); **Nick Pankhurst** (Canon UK, 01737 220 000); **(Robin Edwardes**, Tally, 0870 873 1520).

Further help

There are other Directors' Briefing titles that can help you. These briefings are referred to in the text by name.

© Business Hotline Publications Ltd 2005. ISSN 1369-1996. All rights reserved. No part of this publication may be reproduced or transmitted without the written permission of the publisher. This publication is for general guidance only. The publisher, expert contributors and distributor disclaim all liability for any errors or omissions. Consult your local business support organisation or your professional adviser for help and advice.