Choosing computer accessories

Computers are the IT workhorses in your business. To use them effectively, you are likely to purchase a variety of accessories.

This briefing covers:

- Computer printers.
- Scanners.
- Digital cameras.
- Projectors.

1 Types of printer

Of all your computer accessories, a printer is the one you are likely to use most often.

Most printers work with PCs and Macs and are compatible with all common operating systems.

1.1 Laser printers are best for text, large print volumes and networked use.

- Even the cheapest laser printer will produce good quality, crisp printouts.
- Laser printers have low running costs and are best for most businesses. See **2**.

1.2 Inkjet printers can produce vibrant colours and good photographs.

- Inkjet printers excel at printing photographs. They are not well suited to general business use.
- They are usually cheap to buy initially, but running costs are high. See **3**.

1.3 If you have unusual printing requirements you may require a **different type of printer**.

- Dot matrix printers are often used in warehouse or point-of-sale situations. They are old-fashioned, but tolerate dirty or dusty conditions well.
- Plotters can be used to print banners, posters and signs at large sizes. They generally use the same technology as inkjet printers, though are much more specialised and expensive.

2 Laser printers

Unless you print in very low volumes (a few pages a week), a laser printer is probably best for your business.

2.1 When choosing a laser printer, speed is important, so consider **how much printing** you will be doing.

- Small laser printers are suitable for businesses with one to three people using them.
  They print at around 16 pages per minute (ppm) and are designed to produce 1,000 to 5,000 pages per month.
- Heavy-duty lasers are suitable for larger networks.
  Some laser printers are network-ready; others connect to a print server (see **2.5**).
  These large laser machines will print up to 40ppm.

2.2 Even the cheapest laser printer will produce **high quality text**.

- Print quality is often expressed in 'dots per inch' (dpi).
- In general, a higher dpi is better, although as figures can sometimes be misleading, it is best to compare sample printouts.
- Text should be printed on a minimum of 600dpi.
  Most laser printers will offer at least 1,200dpi.

2.3 You also need to consider whether you need to print in **colour**.

- Colour laser printers are more expensive than mono (black and white) ones, but still affordable.
  A colour laser is the most effective way to do large volumes of colour printing.
- Most colour lasers will produce acceptable quality.
  For text, look for at least 600dpi resolution.
  For photos, look for 1200dpi or more and view test prints to check colour accuracy.
- Colour printing also costs more per page.
- For occasional colour pinting, you can supplement a mono laser printer with a colour inkjet. See **3**.
  This can be more cost-effective because it discourages employees from printing in colour uneccessarily.

2.4 **Paper handling** is important if you print in reasonable volumes.

- All laser printers can print on A4.
  You will pay more for an A3 model.
- For a medium-volume printer, look for a model which can hold at least 500 sheets of paper.
- Some printers have multiple trays, so you can load different types of paper, then select which you want to use.
- A manual feed makes one-off printing onto labels or envelopes easier.

2.5 Unless you intend to use the printer with a single computer, you will need to consider **networking**.

- Some laser printers come with a network connection built in.
  You can connect them directly to your network, so all your computers can share the printer.
- You do not need additional hardware to use one of these printers, but you need to install printer driver software onto each networked computer.
- If your printer does not have networking built in, you will need a print server.
  This is a computer on your network which centralises print jobs.

2.6 These **prices** are estimates of the amount you will have to pay to buy and run a laser printer.

- From £100 for a general-purpose office laser printer.
- From £700 for a heavy-duty shared network laser printer.
- Print costs per page work out from 1p for mono and 3p for colour text.
  Full colour photographs will be much more expensive.

3 Inkjet printers

Inkjet printers are suitable for low volume or occasional printing. They produce excellent quality photographs.

3.1 Inkjets produce **good quality text** and excellent graphics.

- An inkjet printer can produce crisp text and very high quality images and photos.
- Inks are usually water-based and can be smudged.
- Most inkjets print on A4.
  You will pay more for an A3 model.
- Inkjets generally have a single paper tray, though more expensive models may offer multiple paper options.

3.2 Inkjet printers are most suited for use with a **single computer**.

- Print speeds are slower than laser printers.
- Running costs are higher, making inkjets unsuitable for medium and high-volume work.

3.3 Inkjets are cheap to buy, but calculate the **running costs** carefully.

- Many manufacturers sell the printers at a loss, and make the money back on ink cartridges.
- Unbranded cartridges can be cheaper, but the quality is not always as good.
- Look for a model with separate cartridges for each colour.
  Otherwise, you will have to replace the entire cartridge, even if just one colour runs out.
- You need special coated paper to print photographs at the best quality.

3.4 These **prices** are estimates of what you will have to pay to buy and run an inkjet printer.

- From £45 for a basic inkjet printer.
- From £100 for a photo quality inkjet printer.
- From £150 for a faster, networkable printer with two paper trays.
- Print costs per page work out from 3p for black and 5p for colour text.
  Full colour photographs will be much more expensive (50p or more).

All-in-one devices

An all-in-one device combines several functions into one piece of hardware.

A All-in-one devices typically include a **printer, scanner and fax machine**, as well as photocopying functions.

- They save space and usually work out cheaper than buying each device separately.
- However, you may only be able to use one function at a time.
- Remember that if the device breaks, you are likely to lose all functionality while it is being repaired or replaced.

B The cost of all-in-one devices depending on their **features and capacity**.

- You can purchase a basic combined inkjet printer, scanner and fax machine for around £200.
- Expect to pay upwards of £400 for a combined laser printer, scanner and fax machine.
  These often also offer copying functions and are suitable for small offices.
- An all-in-one device suitable for high volume use and sharing between many users (20+) can cost £2,000 or more.

4 Scanners

A scanner allows you to convert printed documents into digital form.

4.1 A scanner works like a photocopier, but scans are **stored on computer** rather than being copied onto paper.

The most common type of scanner is a flatbed scanner.

- You can scan text, graphics and photographs.
- Some scanners can handle other media, like transparencies, slides and negatives
- Scanners allow you to archive printed documents like contracts and invoices. You can also digitise photographs for use online or in presentations or scan documents and send them by mail.
- Most scanners are compatible with PCs, Macs and most common operating systems.
  They generally use a standard USB cable to connect to your computer.

4.2 When choosing a scanner, consider **how frequently** you will be scanning documents.

- If you only plan to scan single page items infrequently, a basic flatbed scanner will suffice.
- If you will be scanning multi-page documents, look for a scanner with a document feeder.
  This allows you to load several pages at once.

4.3 The **quality** of scans is measured in dots per inch (dpi).

- Look for a scanner offering at least 1,200dpi.
- Manufacturers sometimes quote inflated dpi figures.
  The 'optical resolution' figure is the only one which counts.

4.4 The **cost** of a scanner varies depending on the capabilities you need.

- A basic flatbed scanner, suitable for scanning single sheets, will cost from £50.
- A scanner with document feeder and attachments for slides and transparencies will cost from £80.
- A high capacity A3 scanner, with a network connection and large document feeder could cost £1,500.

5 Digital cameras

5.1 A **digital camera** allows you to take photographs and store them on a memory card.

- Most digital cameras have a screen so you can instantly review what you have photographed.
- You can copy the photos to a computer and use them online, include them in literature or print them out.
- Digital cameras have many business applications.
  For instance, they are ideal for taking product shots or staff photographs.

5.2 The quality of photographs taken by a digital camera is expressed in **megapixels** (MP).

- With more megapixels, the image resolution is higher.
- A 5MP image can be printed up to about A4 size.
  At print at A3, you need at least 9MP.
- Online images are shown at a lower resolution, so the number of megapixels is less important.

5.3 When budgeting for a camera, remember that **you may require extras**.

- You will almost certainly need memory cards to store you photographs on.
- Additional batteries are useful.
- A tripod makes low-light photography easier.
  It can also help you take photos of products and people.

6 Projectors

6.1 Projectors are used to **display large images on a screen**.

- You can connect them to your computer and use them for presentations.
- Some projectors can also be connected to DVD players and other sources of video.

6.2 A projector's **brightness** is measured in ANSI lumens.

- The higher the number, the brighter the image.
- Look for 1,200 ANSI lumens for a projector that works well in a dim room, 2,000 for use in a normal office environment, and 3,000 for use in brighter light.

6.3 You should also check a projector's **resolution**.

- The resolution is how many pixels make up the image the projector creates.
- The native resolution figure is most important.
  The higher this is, the more detailed the projected image.

6.4 Make sure your projector has the **correct input ports**, so you can connect your laptop or other equipment.

- Most projectors use a DVI or HDMI port to connect to computers.
- Older projectors may use a VGA connection.

6.5 Try to **test** a projector before buying.

- Check the image quality and brightness in the conditions you will be using the projector.
- Consider the size and weight of the projector.
  Will you be transporting it to meetings?

6.6 Remember to **budget** for the projector itself, plus any additional costs.

- Basic projectors start at under £400.
  You will pay much more for a model capable of projecting a large, high-resolution image in bright conditions.
- Projector bulbs can cost £100 (or significantly more).
  They typically last 1,000-5,000 hours.
- Screens cost from £50.
- You may need to purchase connecting cables.
  Expensive cables do not generally offer better image quality than cheap ones.

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