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Printer troubleshooting tips & tricks

Okay, so you've tried threatening it, counting to 10 and even giving it a hefty whack, but nothing will get your printer working. Before you throw that stubborn piece of out the window, relax, grab a coffee and read Jason Whittaker's troubleshooting guide

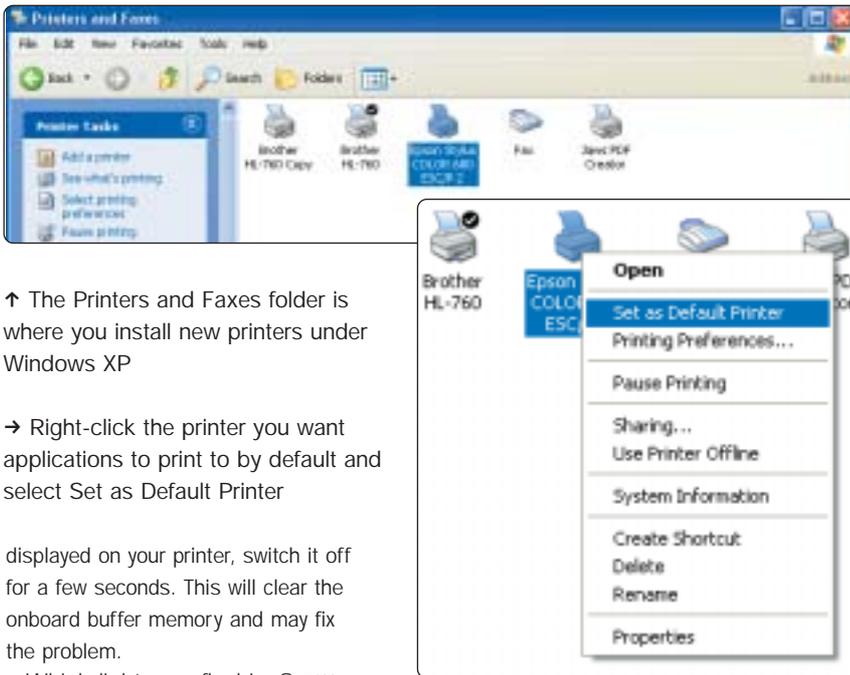
As dreams of a paperless office continue to fade, printing problems remain a major nightmare for many of us. From faulty cables, inadequate drivers and inferior network connections to patchy printouts and half-finished pages, printer niggles are one of the most common sets of problems that affect computer users.

Over the next few pages, we'll show you how to troubleshoot the most common problems that affect inkjet and laser printers, as well as providing some tips on how to print more efficiently and get the best possible output.

Printer not working

We've said this before but it's worth repeating: before jumping in feet first to locate technically abstruse problems, always check the basics. If there is no output from your printer, run through the following list before moving on to more complicated possible solutions.

- Are the cables connected? Check the power cable and, if necessary, its fuse, as well as the parallel or USB cable to your PC. These may have become loose.
- Reboot the printer if all the leads seem to be working and the indicator lights are



↑ The Printers and Faxes folder is where you install new printers under Windows XP

→ Right-click the printer you want applications to print to by default and select Set as Default Printer

displayed on your printer, switch it off for a few seconds. This will clear the onboard buffer memory and may fix the problem.

- Which lights are flashing? Different printers use different LEDs to display their operating status, so you may need to check your manual for the right reading. In general, however, lights will flash if there is a problem with the ink cartridge (toner/drum on a laser printer) or paper – for example, if the tray is empty or jammed. More advanced models may include status lights for feedback from your PC. If these basic steps don't solve the problem you may need to look to your printer's software.

- Does Windows recognise the printer? Windows handles your printer for other software applications, but if the operating system doesn't recognise the peripheral is installed you won't be able to use it via other programs. The location of the printer varies in different versions of Windows. In XP, for example, you will find it under Printers and Faxes in the Control Panel (shown top), while Windows 9x includes a separate Printers and Faxes folder in My Computer. Open this folder and click on Add a Printer if you cannot see your device there. Windows will then prompt you, if necessary, for drivers.

- Do you have the correct drivers? The latest version of Windows will probably (but not necessarily) have relevant drivers for your printer. Microsoft usually depends on third-party manufacturers for hardware support: older printers are often supported by emulating another printer. It is worth checking the manufacturer's website for

updated drivers. Do this even if your printer is working under the latest version of Windows as new drivers may remove bugs or improve performance.

- Do programs recognise your printer? Windows handles printer drivers but programs still need to be able to locate the printer. Problems can arise if more than one printer driver is installed – for example, a driver for creating faxes of PDFs. To set your printer as the default, open the Printers folder and right-click on the appropriate device before selecting Set as Default Printer (shown above right).

Poor quality printouts

Printer users most commonly complain about poor quality output. Pages sometimes have banding – that is, the ink or toner is faint or garbled (shown below). Before you rush to replace your cartridge, though, make sure you follow these steps first.

- Dry printheads One possible cause for disappointing performance from inkjet printers, especially ones that are used only occasionally, is that the ink has dried in the printhead.

→ When ink or toner begins to run dry, expect to see banded areas appear on your printouts

Because the nozzles that direct tiny droplets of ink on to a page are so small, it is not always possible to clean them. However, if you use a piece of damp, lint-free cloth you may be able to free up the remainder of the cartridge ink.

Most printers also have an option that allows you to clean the printhead from the driver utility. Be warned, though: on many models this will squander a huge amount of precious ink.

- Fading toner As with inkjets, when toner runs low in a laser printer it produces faded or banded printouts. Don't rush to replace the cartridge just yet, though. Remove and gently shake it from side to side. The toner will be redistributed across the length of the cartridge and, for the next few printouts at least, your printer will be as good as new.

- Cable problems Print quality can be affected by cable problems, especially if a pin has become bent. For parallel connections, if the cable is more than three metres long it can cause data loss. USB models are easy to install but to take full advantage of modern printer features, parallel connections require a bi-directional IEEE 1284-compliant cable. This enables the printer to send instructions back to the PC as well as receive them, which is important for checking on the status of your device.

Network niggles

It is possible to share a printer across a network simply by plugging it into a PC (using a parallel or USB connection) and then enabling File and Printer sharing in Windows Networking. One effect of this, however, will be to overload that PC with print jobs. Because of this, it is worth looking at the alternatives.



The great inkjet refill swindle?

Regular readers of *PC Advisor* will be aware of the difficulties facing consumers who try and economise on replacement cartridges for inkjet printers. A lively trade in refills started up during the 1990s, with companies such as Inkcycle (www.inkcycle.co.uk) and InkAndStuff (www.inkandstuff.co.uk) providing refill packs or recycled cartridges.

Many manufacturers sell printers at a bargain price, aiming to recoup profits on the sales of consumables. In order to stamp out this secondhand trade in recycled cartridges, some makers – for example, Epson – added a microchip to their devices which identifies when a cartridge is empty. Even after a refill, the printer still states that the cartridge has no ink.

While this practice has caused protests from consumers, it is possible to work around the microchips contained in some Epson cartridges thanks to JR Universal's Zap-It. Priced at £24.99 inc VAT, this product does not contain ink but reprograms cartridges so that they can be refilled. To check if your cartridges are compatible visit www.jrinkjet.co.uk/zapitinfo.htm.

- See Why do inkjet cartridges cost so much? on page 78 for more information.

- Network printers and print servers Some printers are designed to work on a network and do not require a PC, while others, such as certain HP models, can be converted to a network printer once purchased and installed.

If your network is busy, accelerate printing by investing in a print server – a dedicated ethernet device that controls the printer. Be aware, however, that most of these devices require a DHCP server which can allocate dynamic IP addresses. This

means that you will require a client-server network (running NT or 2000 Server or Linux) rather than several PCs strung together on a peer-to-peer network.

- Setting IP addresses Using a DHCP server often raises its own problems, notably, what happens when the server is switched off. When it is turned on again, most users won't be able to find the printer. The answer is to assign a static IP address for the server. If the DHCP server has an address of 191.158.0.1, for example, and is configured to support addresses up to 191.158.0.55, you can select 191.158.0.55 for the printer. Remember to set the same subnet address (usually 255.255.255.0) as used by the server.

- Printer pooling If your print server runs on Windows 2000 or XP and you have several identical printers, you can set them up as a pool so that Windows will balance print jobs across them. You must connect the printers to the same machine (for example, on USB ports 001 to 003) and install the correct driver. Right-click the printer icon, select Properties and click

Portable printers

Printing is the one area where desktop PCs have a clear lead over mobile computing. What do you do when you want to print from a PDA or take a printer out on the road? Your notebook and pocket PC may have batteries, but your average printer still requires a power socket. All is not lost.

- True mobile printers come with batteries Most printers are designed for the desktop PC and therefore refuse to work without their power cable. However, there are a few models, such as the HP DeskJet 450CBI or Canon BJC-55, that come with their own battery. This feature adds to the weight of a portable printer (3.1lb compared to 2.1lb for the Canon model, 4.6lb against 4.2lb for the HP) and somewhat more to the price (about £50 in both cases), but you have the advantage of being able to print anywhere at any time.
- Clear away the wires Another hindrance for truly mobile computing is all those wires that connect the average computer and printer. The solution? Go wireless. Many new notebooks, particularly those carrying the Intel Centrino logo, have built-in Wi-Fi facilities. Companies such as Lexmark also produce wireless adapters for their network printers. We also recommend Troy's WindConnect Bluetooth connector (available from www.printware.co.uk, shown above). This plugs into a parallel socket and allows computers to communicate with a printer up to 10 metres away.



↑ The Troy WindConnect adapter enables you to turn most printers into a wireless device

- Use your cards If setting up a Wi-Fi or Bluetooth network is an additional hassle or expense when purchasing a new printer, look out for one that includes sockets for flash memory media – for example, the HP PhotoSmart 7550. Most models take CompactFlash cards, while some also accept SmartMedia. An extra virtue is that you don't even need to boot up a PC – simply insert your memory card and get on with printing.

When that job just won't print

Everything seems to be working – there's no hardware hassles or loose cables and you've installed the latest drivers – yet you still can't print. If you are sharing a printer across a network then a print job may be stuck in a queue.



- Clear the print spooler, part I **The simplest way to clear a print queue is to reboot your computer, but this is not always possible, particularly if the PC attached to the printer is a server. For Windows 9x, clearing a print queue is simple: double-click the printer icon on the Taskbar and, under the Printer menu item, click Cancel. In XP and 2000 you can achieve the same thing by selecting Cancel All Documents.**

For a server or XP machine, you will not always be allowed to delete the print job. Locate the Services icon (in the Control Panel for NT 4.0, under Control Panel, Administrative Tools for XP), open it and scroll down to Print Spooler. Select it and choose Stop. You will then be able to delete the problem file. Restart the spooler after the file has been deleted.

- Clear the print spooler, part II **If you are happy using the command prompt under Windows NT, 2000 or XP, you can also stop and start the print spooler in order to delete files by typing 'net stop spooler' and 'net start spooler'.**

↑ If all else fails, it's possible to delete your print job by selecting the printer icon on the Taskbar

- To spool or not to spool **You can set applications so that they print directly to the printer rather than spooling to Windows. Right-click on the icon for your printer and select Properties, Advanced. Here you can select 'Spool print documents so program finishes printing faster' (the default) or 'Print directly to printer'. The latter ties up a program until the job is finished or stored in the printer's memory, but is worth considering if Windows keeps snagging on print jobs.**

- Clear up old print jobs **Typically Windows cleans up temporary spool files after a job is finished, but old ones can remain, cluttering up your hard drive. To remove them, go to the System 32 folder in your Windows folder then open Spool\Printers and clear out any temporary files that you find.**

the Ports tab. Check that the appropriate ports are selected and click the 'Enable print pooling' checkbox at the bottom of the dialog screen. Windows then automatically allocates print jobs across the pool.

- Print drivers for other operating systems **If your printer is connected to a PC running a different OS – for example, Windows 2000 – you can add drivers for other operating systems. Right-click the printer, select Properties**

and, under the Sharing tab, select the Additional Drivers button (shown below). You may be prompted for your Windows CD, but your printer will then be shared more easily with other users.

Bonus tips

If your network printer is working fine, your connections are all in order and printout quality is good, what else can go wrong?

- Don't let inkjet cartridges run out **One of the most common problems is leaving an ink cartridge empty for too long. The cartridge's printhead contains a sponge that can go dry, so it's best to fill up before this happens. The ink also serves as a coolant, preventing the circuitry from overheating.**
- Manage your printer with copied drivers **As colour prints cost more, you will want to use the monochrome option wherever possible. Here's a tip to make the task as simple as**

← Later versions of Windows allow you to install additional drivers for users sharing your printer via an older version of Windows

possible: install a new copy of your printer in the Printers\Printers and Faxes folder. Right-click on the icon, select Properties, Printing Preferences. From here you can set defaults for this printer driver. Next time you print a document using Ctrl, P, you can select this driver from the list of installed printers.

- Pressurise refilled cartridges **Some cartridges require ink to be at a certain pressure for optimum performance. If you do refill your cartridge, allow time for the pressure to stabilise. Ideally, place the cartridge upright on newspaper for a while before replacing in the printer. Remember to keep the printhead from touching the paper, though, otherwise ink will seep out.**

- Partial printing **If your laser printer fails on certain jobs it probably has insufficient memory. Many laser printers must store a page in RAM before transferring it to paper, so your 4MB model will be unable to complete a print job for a 10MB image. If possible, install more memory in your printer or reduce the size of the print job. Inkjets generally do not suffer from this problem because they process a job line by line, relying on memory available to Windows to store the image. ■**

