



# Colour-fast

What could possibly tempt Stephen Rodda to dig out his cheque book? Cheap to run and a joy to own, HP's Colour LaserJet hit the right spot.



**R**egular readers will know that I'm always after a better, bigger and faster colour printer. This month I've had a Hewlett-Packard Colour LaserJet 5M (CLJ5) to play with, and by golly it's a beauty.

It's not as technically perfect as a Kodak Colorease PS which I also played with last year, but it is faster. And cheaper. And the consumables are cheaper. In fact, it costs slightly less to produce a full-colour print on plain paper on a CLJ5 than a monochrome print on a LaserJet 4 Plus. That's cheap. Just compare the running costs of the Colorease PS at about £2 per print with the output costs of the CLJ5 which are fractions of a penny or, if you really want to push the boat out and use H-P's

own special paper, about 10p.

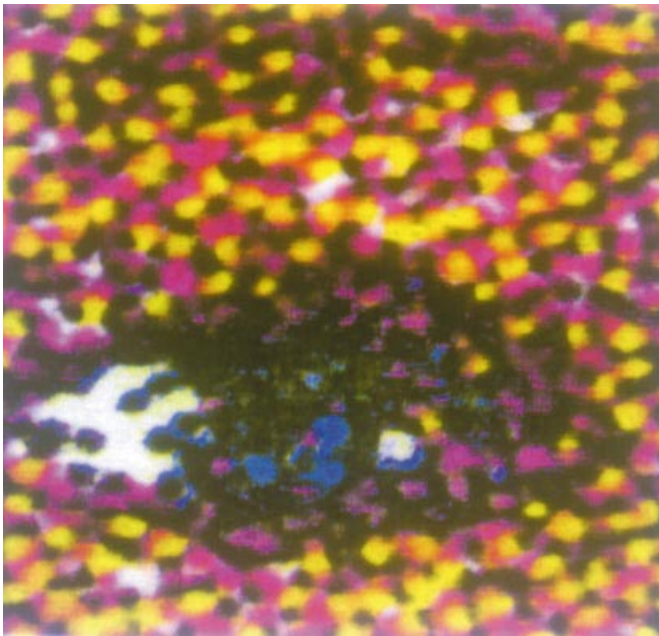
The printer uses a newly-developed version of the H-P RET (Resolution Enhancement Technology) to make 300dpi look as good as 1,200dpi. And H-P has succeeded: I've got a blown-up picture of a portion of output done on two different machines. The first is a scan of a conventionally-produced 300dpi print and the second is the same, but with RET.

The printer prints A4 in colour or A3 in monochrome. Why the size difference? The colour picture is laid down on the drum only and then transferred to the paper in a single shot. This makes registration of all the colours perfect, since there's no fussing about getting the paper in exactly the correct place four times in succession.

Why am I talking about a printer in a networking column? Because this one is a networked print server. Being connected by means of a JetDirect card, it can be shared across the whole LAN as a joint resource. I tested it with nearly all the networking protocols it supported.

At first, of course, it appeared on the AppleTalk network a few moments after it was switched on. Then, spoilt for choice, I decided to have a look for the printer on the NT Server. Naturally, the AppleTalk server was easily visible. "What of the other protocols?" I wondered. I installed the DLC protocol and saw the printer directly.

Next I tried "lpr" (Unix printing capability). Setting the printer to a static IP address, as



Conventional 300dpi output (enlarged)



Resolution enhanced 300dpi output to 1200dpi (enlarged)

“Readers’ wives” husbands’ desktops

*“Here’s a useful tip. It is possible to connect to NT FTP Servers over the internet using Windows 95 as if they were network drives within My Computer.*

*To connect to Microsoft’s FTP Server, edit LMHOSTS (in the \WINDOWS directory) to read*

*198.105.232.1 ftp #PRE*

*Save the file, make sure you are connected to the internet, and from the MSDOS prompt (while running Win95 of course) type*

*nbtstat -R*

*(case is important). You should get a message saying everything is OK. You can now right-click on My Computer (or Network Neighbourhood) and select “Map Network Drive”; type*

*\FTPDATA*

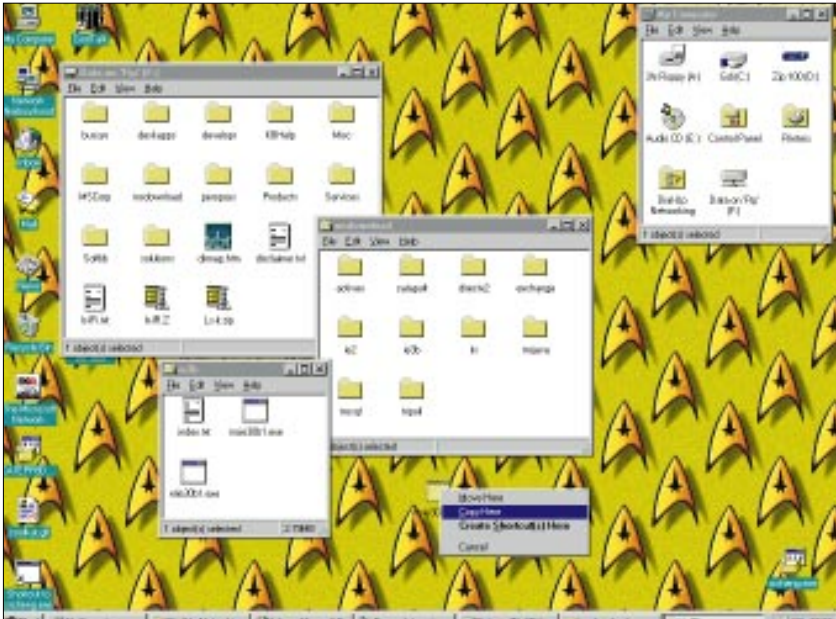
*in the path box and select OK. If all is well after a couple of seconds, you should see a new drive appear in My Computer and an Explorer window will appear on the desktop just like a normal network drive.*

*You can now copy files from Microsoft by simply dragging files to the desktop (or any folder you like). I don’t know if it’s just coincidence, but file transfers seem faster to me. Included is a picture of my own desktop connected to Microsoft in the manner I have described.”*

**Paul Fitzgibbon**  
**<paulf@spoonnet.demon.co.uk>**

Thank you, Paul, for the picture of your desktop (shown here) with the MS ftp site mounted on your computer as another drive. Just as a word of warning to other readers, though: I should point out that Paul isn’t strictly correct about the requirement for an NT server, since all that is required is a server supporting NETBIOS over TCP/IP. An NT server with NETBIOS turned off won’t work in this manner, but a Linux server with NETBIOS turned on and using (say) Samba will. I believe this is the only ftp server which has this capability, but please contact me if you know of others.

Colour schemes such as this shouldn’t be attempted by the inexperienced or without an adult present, and I am definitely not going to publish a series of pictures of “Readers’ wives” husbands’ desktops — unless I can be convinced otherwise.



Paul Fitzgibbon’s brightly-coloured desktop showing his attachment to the Microsoft ftp site

my TCP/IP network is too small to bother with having a bootup (automatic address allocation) server, I sent a job to the address where the printer was installed (10.0.0.10) and the page printed as I would have expected. Incidentally, I use 10.x.x.x in my network, as this address will not propagate across the internet. Whichever machine is accessing the internet acts as a sort of low-class firewall, since I haven’t enabled internet-routing across my own network.

Next, I tried to use the Novell Print Server capability of the JetDirect card. For some reason, I failed to do it. I believe it was my own failure rather than that of the card, as I remember some strange incantation I had to make the last time I used a JetDirect card on a Novell NetWare network. Unfortunately, the relevant grimoire wasn’t to hand.

Under Windows

So far, so good. So next I tried it under Windows 95 and Windows 3.11. Windows 95 wasn’t the easiest operating system to use in order to find the printer. I tried installing DLC as a protocol, and the network failed to see the printer at all.

This was a fault with Microsoft’s Windows 95 DLC rather than with the printer since NT saw the printer without

hesitation. I thought I’d try using TCP/IP printing. Never having installed an lpr-like printer server under Windows 95, I was somewhat at a loss. I ended up sharing the AppleTalk protocol through NetWare, which is exactly the strategy I adopted under Windows 3.11 as well, since I wasn’t even prepared to try what didn’t work under 95.

I was disappointed only on one count, and this is really only a minor niggle. I feel that since H-P has virtually led the world in pioneering 100MHz networking with 100baseVG, it might have been a good idea to include the technology on the JetDirect card, especially when you consider that colour reproduction can require up to four times the information that monochrome needs. What effect does that have on me? Just the fact that transferring what could sometimes amount to 32Mb of information to print out one A4 sheet would obviously be better over a network running ten times faster than the norm.

Overall, the printer performed beautifully. But I would have liked to have seen the manual-feed adaptor included as part of the standard package, which also allows a straight-through paper path. As the printer stands, it will accept thinnish card through the standard feed, although I

assume the manual feed would allow thicker stock to be used.

I printed out a few sheets of coated art paper, but sometimes the toner preferred to temporarily stick to the fuser roller rather than the paper. I think this was rather more to do with the fact that I had selected the face-down output option, sending the

paper through another 180° turn just after the fuse, instead of the face-up option which I could have selected instead.

All in all, the Colour LaserJet 5M is a smashing printer, and those of you who have read my previous columns will know that my partner, Jeff, who is a graphic designer, has also placed his seal of

approval on it. This is one machine I shall be sorry to see the back of. In fact, where’s my cheque book?

Just another manic mailbox

As ever, I have had a hectic time with my mailbox, and the following letters represent a cross-section of the queries, suggestions and complaints I get.

There is a new variety of email which I have come across recently, and that is the anonymous sort. Actually, I haven’t had any insulting mail, just a friendly note, but whoever it was hadn’t got their mailer set up with their correct domain name. So, if you’re reading this, “davem@freight”, I suggest you check out your mailer configuration.

A share for all

*“I note with interest your response to Keith Rowe [PCW August], especially in relation to modem sharing. I am currently investigating sharing a modem on a mixed network (NT Server 3.51, Windows 95, NT Workstation 3.51 and 4.0, WFW 3.11 and a Novell Server).*

*We have the modem connected to the NT Server, which we have configured as an intranet with dial-in facilities, and we would like to share the modem available for most users.*

*We have a fax server running on a WFW 3.11 with multi-com software, but with the quantity of faxes, we feel the second modem would be better utilised for*

outgoing modem use.

*We were led to believe by Microsoft that modem sharing was available, but cannot find a way of doing this and are trying to find a third-party solution which caters for most of the above clients."*

**Glen Worrall**

Basically, I think you're looking at two different requirements for modem sharing. The first would be an internet connection which anyone could use over the network, and the second would perhaps be an outgoing fax connection.

I suggest you try Winport and Faxport from [lansource@cix.compulink.co.uk](mailto:lansource@cix.compulink.co.uk). I gather there's now a demonstration version so that you may assess the software's features on your own network.

#### Lining up a Linux server

*"I was reading your response to a letter by Keith Rowe (PCW August), and I have a question about setting up a Linux File Server. At the moment, I have a small network of Pentiums (all P75, apart from one P100, all with 8Mb RAM) using Windows 95 as a peer-to-peer network operating system.*

*The network is used for file and printer sharing between various computers in different parts of the office. I am thinking of getting a file server, so instead of moving the backup drive from machine to machine at the end of the day, we could store all data on one server and just back that up. I am interested in having a Linux server as it*

*is a lot cheaper than Windows NT, but I do have a few questions.*

*In the first place, I was wondering if I could carry on using the network for printer-sharing because with all the files being on the server, we would no longer need to transfer them from machine to machine.*

*Secondly, could I continue with the current BNC wiring and connectors we are using? Could I use an H-P Colorado T1000e drive on a Linux server?*

*And lastly, could we carry on using Windows 95 to access the server, or would we need to invest in extra software?"*

**Jonathan Friend**

**<[jonathan@friendco.demon.co.uk](mailto:jonathan@friendco.demon.co.uk)>**

Your first question is easily answered. Yes, even though you use a Linux machine as a server, you can still run Windows for Workgroups or Windows 95's own printer sharing over the network. So is the second question: it's a resounding yes on that one, too.

The reason behind this is that although you may be changing the type of packet and the protocol which is sent around the network, these packets and protocols can coexist with other packets on the same bit of cabling. My own small network uses Novell's IPX, TCP/IP, MS NETBEUI, HP DLC and AppleTalk at more or less the same time.

Linux has built-in support for the H-P

Colorado drives. Windows 95 can be used perfectly well to access a Linux server. There is, however, a variety of ways in which you can do this. The methods range from using rather crude ftp services which are built into Linux to transfer files from the server's hard disk to a local hard disk, to installing a networking server-type package on the Linux machine.

Most of these server packages are free, so don't worry. You can use one of three I am considering (although I'll probably get floods of mail, telling me about a fourth, fifth or even a sixth option). These are NFS (Sun's own file-server protocol for the Linux box), Samba, which pretends to be an NT server on the network, and a NetWare-alike server package.

I'll treat you to my own set of prejudices as to which I feel you should install, so remember they are really personal and not to be messed with.

NFS is slower than Samba and requires that you load a separate client under 95, thereby taking up extra memory on the workstations. The NetWare-alike server is in beta test and also requires you to load another protocol. Samba has been in use in various production environments and has proved its stability. It simply runs under TCP/IP with NETBIOS.

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