Setting up your PC for the Epson colour laser printer

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Instructions for Windows XP, MacOS X, SuSE Linux and Fedora Core Linux, by Steve D. Sharples.

This document (and updates to it) will be available at:
http://optics.eee.nottingham.ac.uk/links/optics_printing.pdf

Introduction

The Epson printer, located on the 3rd floor in the main optics lab, is a double-sided (also called "duplex") colour laser printer. As well as printing in colour, you can also choose to print in black and white (greyscale). **If you print in black and white, the printer is significantly faster** (25 ppm as opposed to 8 ppm) **and much cheaper** (1p/page as opposed to 6p/page). Unfortunately, you have to tell the printer you want to print in black and white, even if there is no colour whatsoever in your document, otherwise the printer will print just as slowly. For this reason, you are asked to install two "printers" on your PC, one called "optics" and the other called "optics_colour" and are asked to use optics (which will print in black and white) as your default printer.

Printer queues, and printer drivers

Windows users

Windows users will be printing directly to the printer over the network, using a local copy of the Epson printer driver. There is no printer queue (apart from the one on the printer itself). The optics Linux server is not involved in any way. If the Epson printer is spewing out pages of rubbish, then press the button that looks like a trash can on the front of the printer, and the job that's spewing out the rubbish should stop within a few pages.

Linux and Mac users

Linux and Mac users are printing via a *CUPS printer server* running on *optics.eee.nottingham.ac.uk* ("the main optics Linux server"). There is no need to install a local version of the printer driver on your PC. Your print jobs go into a print queue on the optics print server, and this can be accessed in the usual way. You are encouraged to add the following URL to your bookmarks on your preferred web browser:

http://optics.eee.nottingham.ac.uk:631/admin

(the ":631" is important!). There is also a link to this page from the Applied Optics "Useful Links" page - see any handy mug for the web address. You will need a username and password to administer the queue (remove jobs, restart the printer etc). These are:

Username: *printadmin*

Password: *optics3rd*

(You can only administer the queue locally. If you are using the local optics web proxy, then you will need to exclude the domain *".nottingham.ac.uk"* from the web proxy.)

Using the icons at the top of the screen you can remove dodgy jobs, and restart the printer if for some reason *CUPS* has decided to "stop" it (due to it running out of paper or something trivial). See this web page before hassling me, remove jobs from the top of the list, and check that the printer is not "stopped."

Supplies etc

Ink (toner) and photoconductor

All users should keep an eye on the current status of ink supplies for the printer. Windows users are blessed with a supplies notification utility that gets installed when you install the printer driver. If you notice that an ink colour is low, **do something about it!** Do not assume that somebody else will. There is no excuse for running out of toner. So how do you order more ink?

- Go to http://optics.eee.nottingham.ac.uk/links/inks/
- Print out one of the pdf documents in the list (black ink gets ordered in multiples of 2).
- Get a member of staff to sign the form.
- Take the form to Roy Bishop or Jo, in their office on the ground floor.
- **Leave a note near the printer saying, "I've ordered some <colour> ink" and date it.**
- Keep an eye on the "Stores Goods Inwards" page: http://eeesws.eee.nott.ac.uk/stores/tocollect/
- When you see the ink arrive, go and collect it.
- Spare toner cartridges are stored in the wooden filing cabinet closest to the printer; put the toner cartridge you ordered in there.
- Remove your note that you left near the printer.

The printer should carry on printing, until it runs out of ink for a particular colour. When this happens, the printer outputs a message on the front panel something along the lines of "K toner empty!" (which means "no more black ink") and, **in theory**, will shuffle the correct toner cartridge to the front so that it can be removed, recycled and replaced. If you open the front panel and you find that the wrong colour toner is at the front, then select the "Reset menu", then select "Change toner X", where "X" is either K (black), C (cyan), Y (yellow) or M (magenta). You will then have to wait a long time while the printer shuffles the cartridges around.

After you remove the old cartridge, take it to the 9th floor stores, where it will be recycled.

Paper

Similarly, if you use the printer then make sure there is plenty of paper available. You get paper from the Secretaries Office on the 6th floor (tell them it's for the Applied Optics Group). It's worth getting a box at a time.

Instructions for Windows XP users (Windows 2000 similar)

Part 1 – getting the drivers off the CD, and installing the *"colour"* version of the printer

1. Find the *Epson AcuLaser C1100 Series CD.* Copies of the CD can be found in the printer supplies drawer, which is the wooden filing cabinet underneath the desk to the left of the printer.
2. Insert the CD into your PC... this should automatically start the installation program.
3. Click *Continue* on the anti-virus warning (I didn't disable Sophos and it seemed fine).

4. Click *English* if necessary.
5. Click *Network.*
6. Either accept the default options, or select *Custom.* At the very least you need *"Printer Driver/EPSON Status Monitor 3".* You do **not** need to register on-line.
7. Click *Install.*
8. The installer will scan the "local network" - I don't know how far this extends – for Epson laser printers. A list of Epson printers will appear that it has found. It may find three or more.
9. Please **take care to select the correct printer!** The printer you are looking for has the IP address **128.243.74.117** and has a MAC address 000048D06E02. Click *Next.*
10. Click *Next* again.
11. Enter a sensible printer name: suggest *Optics Colour Printer.* Do not select as default.
12. Click *Ok* for selection of Europe (this is to do with where to order supplies from – ignore).
13. Choose whether or not to print a test page.
14. Click *Finish.*
15. If you elected to install other things (like the paper jam guide or something) then carry on.
16. At the end, click *Exit,* and eject the CD.

Part 2 – installing the *"black and white"* version of the printer.

1. Go to *Start* menu > *Settings* > *Printers and Faxes.*
2. Click (double-click if necessary) *Add Printer,* then *Next.*
3. Make sure the button *"Local printer"* (**not** *Network printer*) is selected – don't ask! Also, make sure *"Automatically detect and install my Plug+Play Printer"* is **not** selected. Click *Next.*
4. On *"Use the following port"* select "**IP_128.243.74.117** *(Standard TCP/IP Port)*". Click *Next.*
5. Select *"Epson"* (manufacturer) then *"EPSON AL-C1100 Advanced"* driver – probably at the bottom of the list. Click *Next.*
6. Select *"Keep existing driver."*
7. Enter a a sensible printer name: suggest *Optics Default (B+W).*
8. Make sure the printer is selected as the *Default Printer.*
9. Do not print a test page.
10. Click *Finish* (but you've not quite finished yet!).
11. Right-click on your new printer (*"Optics Default (B+W)"*) in *Printers and Faxes,* and select *Printing Preferences.*
12. Select *"Black"* (rather than *"Color"*). Click *OK* (or whatever).

Part 3 – singe or double-sided printing

It up to you to decide whether to print double-sided or single sided, but in order to save paper (and more importantly to save people fetching more paper) I'd encourage you to print double-sided by default. You can always print single-sided when you absolutely have to, by changing the properties for a specific document.

Printing double-sided by default

1. Go to *Start* menu > *Settings* > *Printers and Faxes.*
2. Right-click on your printer (*"Optics Default (B+W)"* or *"Optics Colour Printer"*) and select *Properties.*

3. Click *Printing Preferences* towards the bottom.
4. Click on the *Layout* tab near the top.
5. Click on the *Duplex* selection box so there is a tick in it.
6. Click *Ok.*
7. Click *Ok.*

Remember to do this for both your colour and black and white printers.

Printing a specific document single-sided

1. From within your application, select *Print...* as usual.
2. Select your printer (colour or black and white)
3. Click *Properties* near the top.
4. Click on the *Layout* tab near the top.
5. Click on the *Duplex* selection box so there is no tick in it.
6. Click *Ok.*
7. Click *Ok.*

PLEASE RETURN THE EPSON DRIVER CD TO WHERE YOU FOUND IT. DO IT NOW. THANK YOU!

Instructions for Mac users

There really isn't much to do on the Mac, as the new printer (with variations for black and white/colour, and single/double-sided) will be automatically detected. The ensure that the printer(s) appear by default in the list of available printers in an application's *Print...* menu, follow this procedure:

1. Click on the "Apple" symbol in the top left corner of the screen and select *System Preferences...*
2. Click on *Print & Fax.*
3. Click on *Set Up Printers...*
4. Ensure the *Shared Printers* are displayed.
5. Ensure that there are ticks in the boxes under the *"In Menu"* column for the following printers:
   - *Optics default (B+W) Printer (25ppm)*
   - *Optics Colour Printer (8ppm)*
   - *Optics B+W Printer, single-sided*
   - *Optics Colour Printer, single-sided*
6. Click on the *Optics default* printer, and while it is highlighted, click on the *"Make Default"* icon in the top left hand corner of the window.
7. Quit the printer setup utility, and the system preferences window.

Instructions for SuSE Linux users

These instructions are for version 10.1. Hopefully there will not be much difference between this and future versions.

Like Mac users, Linux users do not have to install a printer driver on their PC, they only have to tell their PC that there is a "printer" available on the optics printer server. Your PC will send the raw

print job to a "queue" on the optics server, then the server sends it to the printer in a form the printer will understand (i.e. the printer driver is just on the server). The "queue" that you send your print job to will depend on whether you want your document single- or double-sided, black and white or in colour. So, you have a total of four possibilities for printing.

1. Go to the *K Menu* (green SuSE logo) > *System* > *Control Center (YaST)* (or maybe just *YaST*).
2. Enter the root password.
3. Click on *"Hardware"* on the list on the left, then on *"Printer"* on the right.
4. If the utility takes a long time to start up, then *"Network Browsing"* is probably turned on. We will sort this out later. Meanwhile, go and make yourself a cup of tea. If the utility starts up quickly, then all is good with your configuration so far.
5. Do the following for each of the four printer queues:
    1. Click on *"Add"* towards the bottom left of the window.
    2. For the *Printer Type,* select *"Network Printers".* Click *Next.*
    3. Click *"Print via CUPS Network Server".* Click *Next.*
    4. Click *"Remote IPP Queue (only for special cases)".* Click *Next.*
    5. In the box that says *"Hostname of Print Server"* type *optics*
    6. In the box that says *"Remote Queue Name"* add one of the following to the end of the text already there, so that the whole of the text in the box says (e.g.) *printers/optics*
        - *optics*
        - *optics_ss*
        - *optics_colour*
        - *optics_colour_ss*
    7. Click on *"Test Remote IPP Access".* A box should appear saying *"The print server is accessible."* Click *OK* if so; if an error is reported, check your spelling. If there is still a problem, see me.
    8. Click *Next.*
    9. In the box that says *"Printer Description"* type something sensible and appropriate to the queue name (e.g. *Optics B+W single-sided printer* for *optics_ss*).
    10. In the box that says *"Printer Location"* type something sensible (e.g. *Room 308*).
    11. Make sure that the *"Do Local Filtering"* option is **not** selected.
    12. If you want to print a test page, do so.
    13. Click *Next.*
6. By this point you should have added all four versions of the printer. Before you quit the *Printer Configuration* utility, we have to check/set a couple of things.
7. Highlight the *optics* printer on the list. Click on the *"Other"* button near the bottom right of the window, then the *"Set Default"* option.
8. Click on the *"Other"* button again, then the *"CUPS Expert Settings"* option.
9. Select *"CUPS Server Settings".* Click *Next.*
10. Ensure *"Browsing"* (near the top of the window) is definitely set to *"Off".* Click *Next.*
11. Click *Finish.* This will quit the *Printer Configuration* utility and save your settings.
12. Quit the *YaST Control Center.*

Instructions for Fedora Core Linux users

I haven't used Fedora Core Linux for a little while, but these instructions should work for at least versions 3 and 4.

1. Start up the *Printer Configuration* utility – this is usually found under *Printing* in the *System Tools* sub-menu of the "Fedora hat/K/Gnome menu". You will have to enter the root password of your PC.
2. Click on *"Browsed queues"* until a list of printers is displayed. You should be able to see *optics*, *optics_ss*, *optics_colour* and *optics_colour_ss.* These are all the same physical printer (the Epson Aculaser printer in the main optics lab), but will print out either in colour/black and white, or double-/single-sided.
3. Click on *optics*, and while it is highlighted, click on the *"Default"* icon.
4. Click on the *"Apply"* icon.
5. Quit the *Printer Configuration* utility.

Linux users: how to select the printer (e.g. colour or black and white)

Modern software

Most popular Linux applications are now approaching the level of simplicity that Windows users have experienced for a while, in terms of selecting which printer you would like to use. For instance, in Adobe Acrobat Reader, for version 7 onwards, you simply select the printer from a drop-down list of those available.

Print commands

Some other (usually older) software may require you to type in a "print command", and it is through this that you can direct your document/print job to the printer of your choice. For example *GhostView,* a utility for viewing Postscript files which is run using the command *gv filename.ps* uses the old fashioned "print command" method. If you select *Print* in *GhostView,* you are presented with a print command that is initially set to *lpr.* This will print to the default printer, which should be *optics,* so double-sided in black and white.

If you wanted to print single-sided, in colour, you would use the print command:

lpr -P optics_colour_ss

Matlab

To print a figure, you could of course select *Print...* from the figure's *File* menu, and in the box labelled *"Printer"* type *optics_colour_ss* or whatever you wanted. You may find it quicker to print from the command line.

If you type ***print*** on its own, then the figure will be printed on the default printer (should be *optics*).

If you want to print in colour (may as well be single-sided, because a figure can only be on one page) you would type ***print -dpsc -Poptics_colour_ss***

Printing to the old HP LaserJet 4000 Printer (2nd floor lab)

If you work in the 2nd floor lab, or if for some reason the Epson printer is out of use, then you can try to print to the old HP LaserJet 4000 printer, currently in the 2nd floor lab. This used to be the main optics printer, and is very old. You might find it cannot cope with certain documents, the printing quality may be poor, and it may break down.

Linux and Mac users

Follow the instructions above for how to set up the Epson printer; the only difference is the printer queue is called ***optops*** (rather than *optics_ss* etc).

Windows XP users

You need to set up Windows to print directly to the LPR printer, TCP/IP address ***128.243.74.116*** queue name ***optops***. The printer driver you need is ***HP LaserJet 4000 (PS)***.

If anyone comes up with proper instructions on how to do this then let me know.

This document (and updates to it) will be available at:

http://optics.eee.nottingham.ac.uk/links/optics_printing.pdf

Please report any errors or omissions to steve.sharples@nottingham.ac.uk