



## Dedicated print facility using a wide format printer.

There are many ways to to achieve most results when working in the area of Digital Imaging.

Creating a dedicated printing set-up is no different.

### What is a dedicated print platform?

In this example it is a **photo quality printer** connected to a **computer**.

Also in this example the printer is running from drivers **not** through third party or RIP software.



The printer is specifically connected to **A COMPUTER** not a network. This is because the computer monitor will need to be calibrated to the print output of this specific printer, and granting network access for printing would make this impossible with too many variables of computer make, monitor type, individual calibration of each monitor for one printer and ambient lighting conditions.

The computer will need to have an operating system capable of running the software for the printer, this will often mean running Windows or Mac OS. The Linux operating system will support most but not quite all printers. It will also need to have an **Image Manipulation Program** installed, which is capable of operating in specified colour spaces, these colour space profiles will also need to be installed.

### The Computer

The computer needs to be capable of handling the largest files that can be printed by the printer.

For A2 printers, printing from 17" roll paper this means typically that the largest prints would be in the region of 17"x 30" which is a file size of approximately 130mb. When opened most image manipulation programs will store two versions in memory, add on two further versions in 'history' when worked on and the file size in memory goes up to just over 500mb.

Add the memory use of the operating system:

Linux 250mb,

Windows 2000 / XP with anti virus 700mb, Windows Vista / 7 with anti virus 1500mb

Mac OS 1500mb

Add that used by the Image Manipulation Program:

Gnu Image Manipulation Program (Gimp) 30mb

Photoshop 600mb

and you get anything between 800mb for Linux, 2.6gb for MacOS and 2.5gb for Windows

So for a Linux computer running Gimp 2gb of ram is ample, but for Windows and Mac using Photoshop 3gb would be the minimum.



Generally Windows print drivers are easier to use and configure than the equivalent from MacOS and also offer a greater range of possibilities. Linux Gutenprint drivers offer the widest range of options but are not supported by the printer manufacturers and can be difficult to master.

## The Monitor

The most important part of the equation.

The monitor needs to be able to be calibrated first to standard print output and then 'tweaked' to the specific printer being used. This generally rules out Apple monitors which have little in the way of adjustment, and reflective highly backlit screens. (For this reason iMacs with built in screens should also be ruled out)

The best monitors use IPS technology, (In Plane Switching) many companies produce these, NEC, Eizo and LaCie probably top the list. E-IPS (Economy? In Plane Switching) monitors are cheaper slightly lower quality versions. Prices start at around £150 but Eizo or NEC monitors will cost considerably more.

What ever screen you use it has to be calibrated.

The two ways to achieve this are:

- 1 Use a hardware calibration tool, eg. Spyder, ColorMunki
- 2 Print a calibration image and manually adjust the screen to match a print. In theory all subsequent prints will then match your monitor.

A combination of the above 2 methods often proves to be the best option.

### In Practice

The cheapest option for supported printers would be a Linux based computer with suitable monitor running Gimp and Gutenprint.

The generally preferred set-up would be to use a suitable 'stand alone' PC running Windows and loaded with the manufacturers printer drivers and profiles for the papers and colour spaces you intend to use. This would be attached to a calibrated monitor and the printer.

You could use an Apple Mac PC with a non-Apple monitor but there would be no advantage cost 4 times the price and give less options on the print software. For the image manipulation a version of Photoshop is usually used, but this could be replaced by the Gnu Image Manipulation Program.

Images would normally be created or manipulated and prepared on other computers, then copied on to the 'Printing Computer' to be viewed and adjusted if necessary before printing.

As images would normally be printed from 300 dpi files, printing without RIP software is really only practical on the smaller of the wide format printers. To make full use of 24" and 44" printers RIP software is required to enable the potentially large print sizes. RIP software as well as providing the ability to rescale images for print, also has its own profiles and generally makes the process easier, but the cost of RIP software is high starting at about £600, which is more than the combined cost of the computer and monitor.

