

Printing and Mounting Workshop

Andy Carter NCC

If the Capture is the 'Score' - the Print is maybe the 'Performance'

Photographs for display... not for viewing on screens

This presentation has elements which build on the material on our web site, from 2019. I'm updated, my printer is updated, so is the software, but principles are the same. I love printing and I'm happy to help club members to print!

It is creative, fun, not too expensive and it is a real lift when someone wants one of your prints on their wall!

I'm going to talk about:

- Introduction
- My set up; minimum equipment
- Profiling and calibration
- Best practice requirements
- RAW/ TIFF vs JPG
- Colour space (very briefly)
- Defects and resolution, nozzle checks
- Printing from LR/ PS and Epson Print Module
- Resizing and Cropping
- Stroke lines
- Costs and economics
- Practical trials on matting and mounting
- Matting
- Paper examples
- Flat dry mounting
- Plexiglass cutting
- Examples of printed, matted, framed images

I'm aiming to get to the demonstrations by half time, then you can try cutting and mounting yourselves... be patient... things rarely go to time...

Printing introduction

- For 'fine art' printing, you have to take it seriously, just like most things photographic!
- It can be a significant investment in time, practice and money
- Semi-pro 'fine art' printers have become much more accessible over the last 10 years
- Print longevity not an issue with pigment inks – 100+ years!
- If you want to print regularly for competitions and for display the total cost outlay is comparable to a reasonable lens
- Printing is absolutely not for everyone, but awareness of printing techniques, options etc. will help you get the most out of on line print services!

Trials in my lightroom available to all members...

- I've helped to increase the quality, excitement and passion for printing at the club
- I'm happy to host people in my 'lightroom' in Blisworth
- Help you print and mount images for competition or display and understand the process
- I'll only charge material cost - time, capital cost etc all free to NCC!
- End game is that you know how to make your files 'Print Ready' then it only takes a few minutes to print them
- It is the editing and matting that takes the time!

My Set Up

- M1 MacBook pro, 32Gb ram, Tahoe 26.3
- Lots of storage and back up discs
- Dual 27" monitors (very useful for LR)
- Lightroom/ Photoshop CC subscription software
- Monitors and printer fully profiled/calibrated
- What you see on the print is *almost exactly* what you see on the screen...
- 'Soft Proofing' to show the effects of different papers and to make final aesthetic adjustments if needed
- Other than odd mistakes, very little wastage and not many test prints

Print Viewing Box (home made), Grafilite illuminator

The BEASTS!



86cm wide

Epson SC P5300 A2 Roll and Cassette Feed. 10 inks. 2024

Best modern printer, 200ml cartridges



68cm wide

Epson SC P800 A2 Roll and Manual Feed. 8 inks 2014

Used for small images and cards
80ml cartridges
Had several home repairs



110cm wide

Epson SP 7600 2004 vintage from Grant. 3rd party inks A1 Roll and Manual Feed. 8 inks

Large format, lowest cost, 250ml ink bottles
Extensively refurbished!

Set up mistake no1!

- Default monitor settings are far too bright for print workflow!
- 100 – 120 nits recommended
- Turn off all auto brightness, warm tone, etc etc
- Keep your studio area reasonably dark
- Avoid reflections
- Monitor calibration really helps
- Calibrators are about £200; watch for sales!
- Double check they work with Apple Studio displays

If your monitor is well set up you are half way there!



Calibrite Display
Pro HL - Size 6.6
x 6.5 3.8 cm |
Wex Photo Video

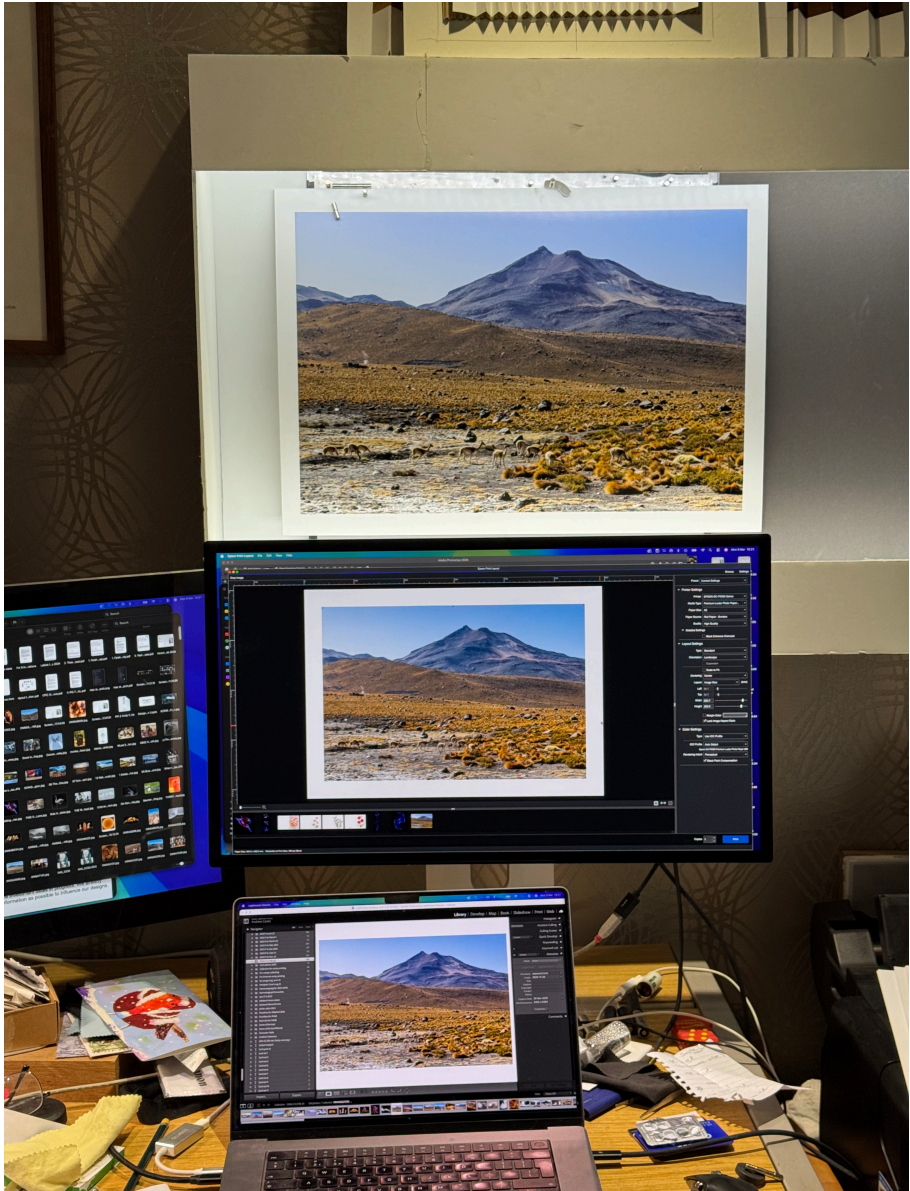
£229.00

Wex Photo Video

🚚 Free of charge

★★★★★ (110)

Monitors and Print



Print, A2, Satin Oyster
Home made print viewer. 6200K,
slightly cold, slightly dim

Apple Studio Monitor 27",
running Epson Print layout
Soft Proofing

Apple 16" laptop display, LR



Print, A2, Satin Oyster
Grafilite illuminator 5600K

Print is very close to monitor. Weakest link is the viewer; home made print viewer, cheap LEDs, hard to calibrate. Our club print viewer is much better. Home upgrade coming! I've brought this print along. Look at it and compare with the monitor and under different viewing conditions.

Profiles

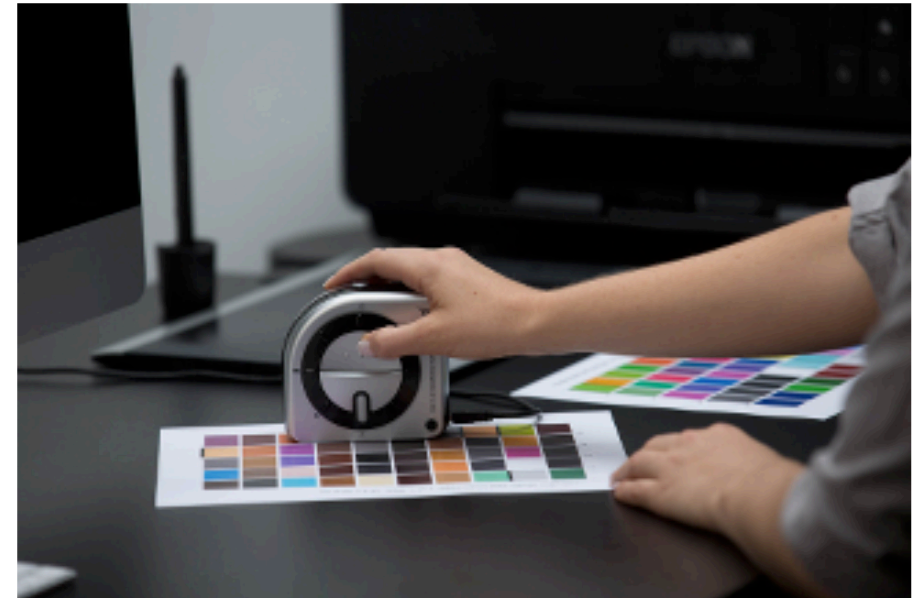
- Profiles are magic bits of software that tell LR or Photoshop what your Printer does with a file to make the colours accurate.
- Most printers and papers give you free profiles to use. These are very good! The only problem you may have is with third party ink sets; my experience is that these need to be custom profiled for best results. (The old Grant wide (A1) printer in my garage looks good with custom profiles, but awful with the originals, as I have to use 3rd party inks)
- So don't worry, it is down to ticking a box on the print driver! Epson and Canon printers will already have profiles installed or available
- 'purists' want profiles for all different papers; I use the same on similar papers.
- If you allow 'Printer Manages Colors' it is less predictable!
- I recommend 'LR/PS/ Software manages colours' using an ICC profile

Profiling tools

- Various tools available
- I use the Colormunki Photo (previous model, was cheaper!)
- Profiles printers, monitors, projectors, cameras
- All papers should have their own profiles (some are very similar)
- Cost is approx. £400.

i1Studio

The **NEW i1Studio from X-Rite** is the start-to-finish color management solution for Color Perfectionists looking for expert results. Your prints will match your vision more perfectly than you ever thought possible.



Scanning printer profile patches with i1Studio

Best practice suggestions

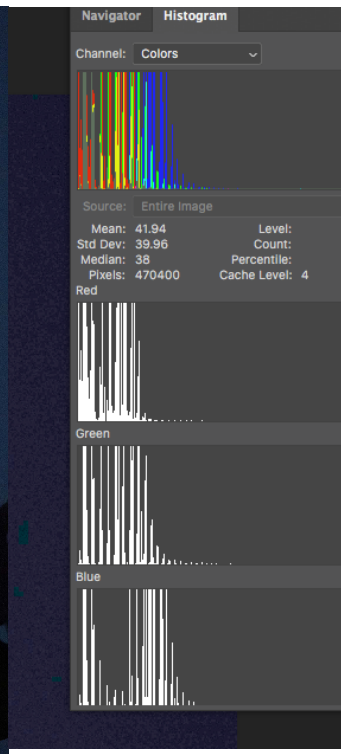
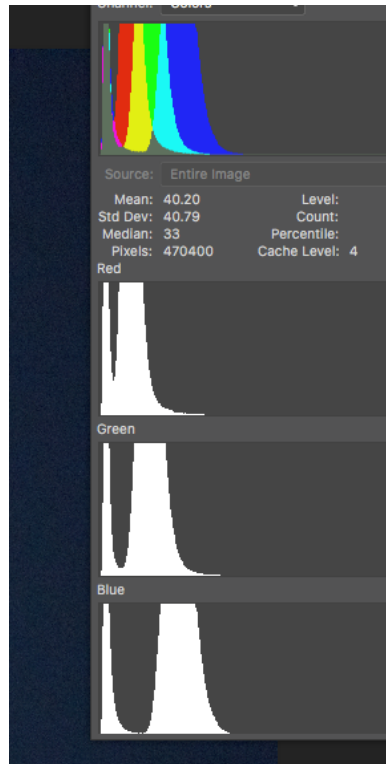
- Prepare images from RAW files, saving as TIFF or psd files at full resolution
- NOT JPG, unless confident that no further adjustments are needed!
- Why?
 - TIFF/psd supports 16 bits/ colour... 65536 levels (modern sensors get close to this!)
 - JPG supports 8 bits/ colour... only 256 levels!
 - If you underexpose JPG by 2 stops and compensate by software you will only have 64 levels!
 - You will have limited scope for enhancing shadow detail, colour temperature, colour balance etc and it will be very obvious in a print
- **Don't let your camera throw away 90% of your data and make arbitrary decisions for you!**
- There are exceptions of course... press, weddings, web, if you are time constrained... many cameras give excellent out of camera JPGs...

Example

- Extreme image processed in RAW and JPG
- Bird against rising moon; very high contrast. I wanted to retain some colour in the background sky so needed to lift this in LR/PS



As shot

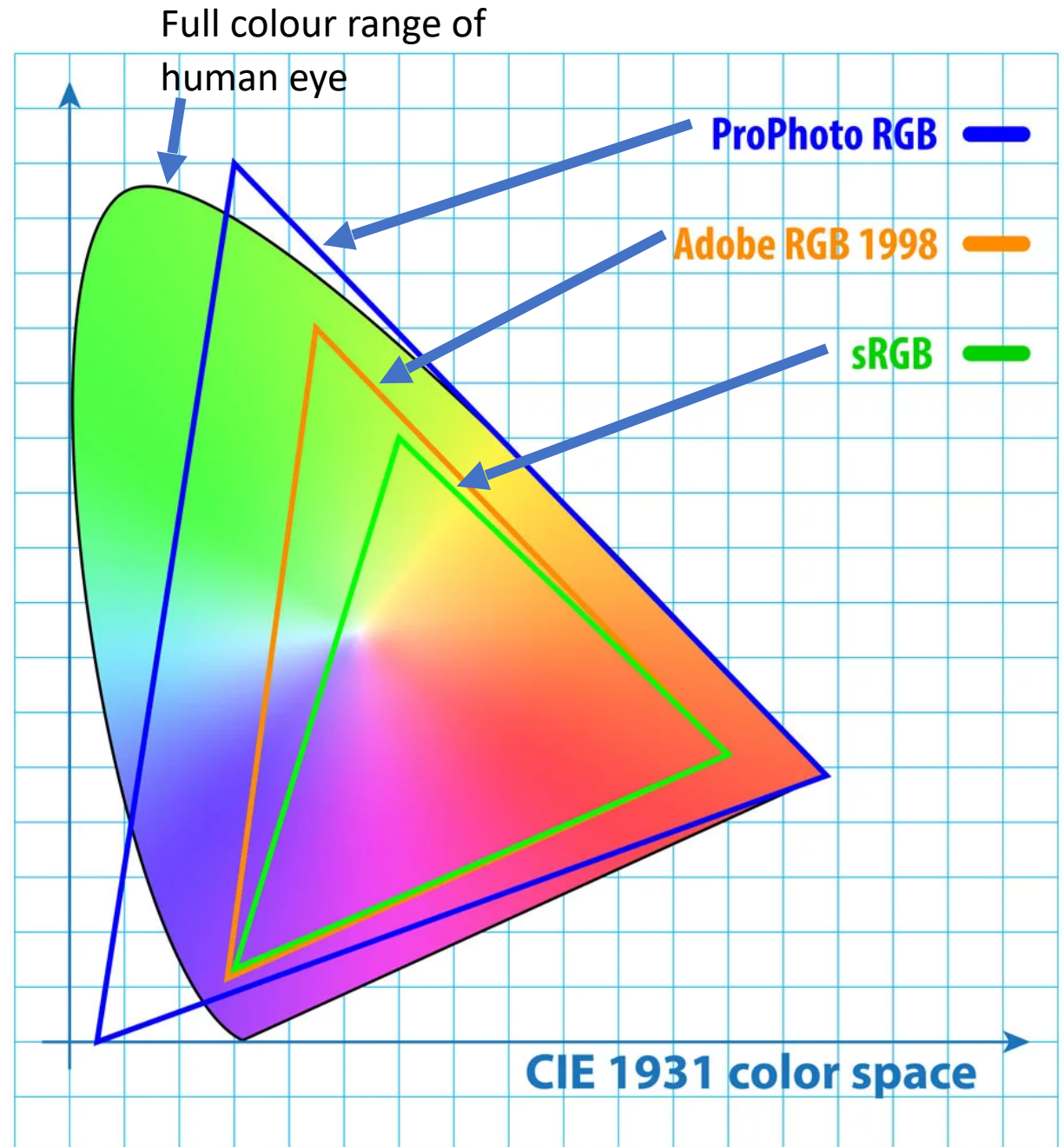


Processed from RAW, no artefacts, smooth histograms

Processed as JPG, horrible artefacts and histograms

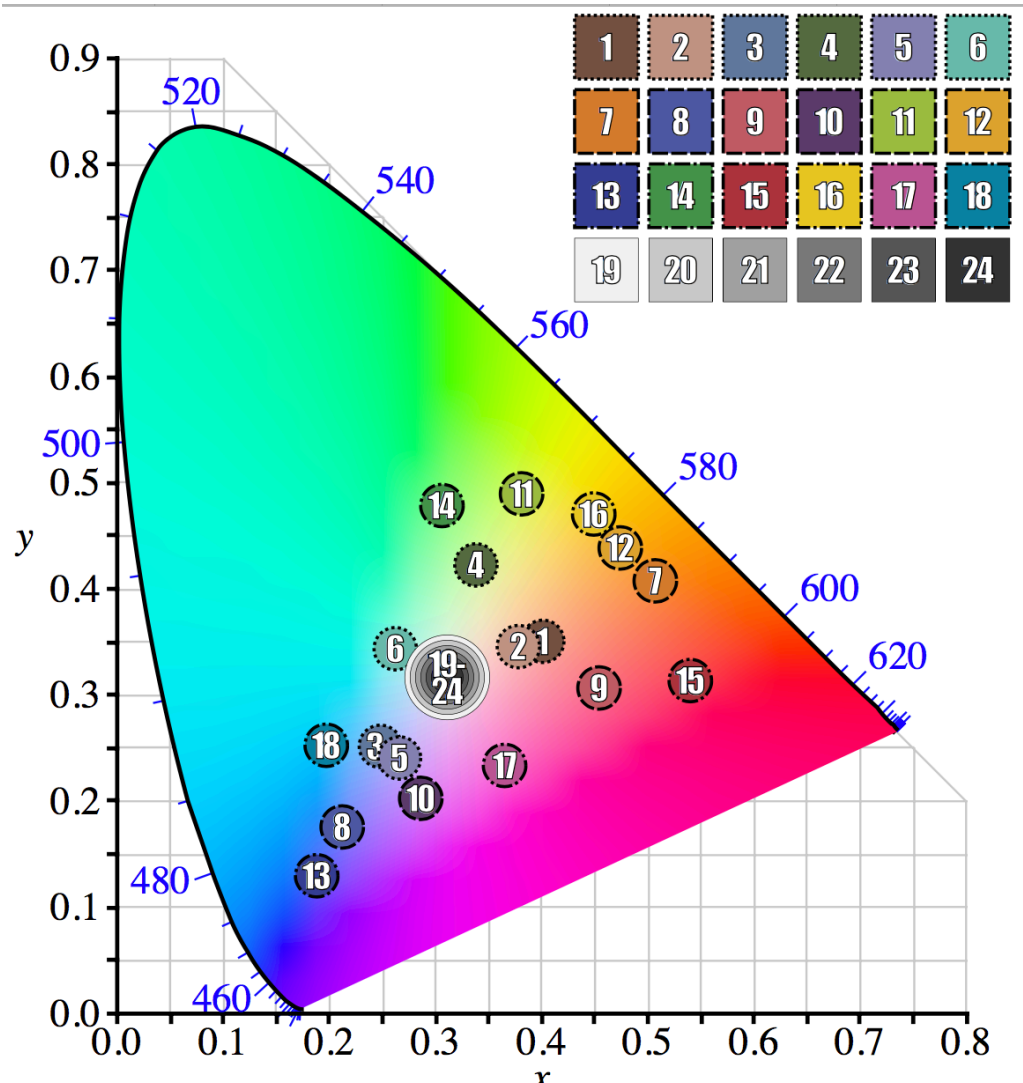
Colour Space

- ‘Chromaticity’ diagrams. **Complex and obscure!**
Great science from the 1930’s that effectively measured the ‘sensors’ inside your eyes!
- The ‘colour space’ determines the breadth of colours in the image
- s-RGB is a restricted space standardized in the 1990’s for displays (we use it for the projector)
- Adobe RGB or Pro-Photo RGB are better for print applications - otherwise you may lose some rich, saturated colour and subtlety of colour
 - If you set your camera to capture in JPG, it will default to s-RGB
 - RAW capture maps to a wider colour space such as Adobe RGB
 - More of the camera information thrown away for you with s-RGB!
 - Printers can’t necessarily display full Adobe RGB, but generally more than sRGB
- For jpg files, always select sRGB when exporting – eg when sending to James. For TIFF/ PS/ DNG use Adobe RGB
- Get it wrong and colours will be very subdued!



Don't worry! The differences are not that major

- I'm a bit pedantic!
- All but 1 of the 'colour checker' patches are *inside* sRGB so will be correctly displayed on sRGB devices
- The eye is amazingly capable of sorting and interpolating colour



1	Dark skin
2	Light skin
3	Blue sky
4	Foliage
5	Blue flower
6	Bluish green
7	Orange
8	Purplish blue
9	Moderate red
10	Purple
11	Yellow green
12	Orange yellow
13	Blue
14	Green
15	Red
16	Yellow
17	Magenta
18	Cyan
19	White
20	Neutral 8
21	Neutral 6.5
22	Neutral 5
23	Neutral 3.5
24	Black

Home > Computing > Colour management



X-Rite Colour Checker Classic Chart

★★★★★ Read 1 reviews Write a review

■ In Stock

Check stock near you ▶

Order in the next 7hrs 45mins for delivery on Saturday, 9 March

Free delivery also available - [more info](#)

The Colour Checker Chart is designed for use as a colour calibration tool for use by photographers in both traditional and digital photography. When used along with colour management software, it allows you to calibrate your camera in line with your monitor and printer so you get an even workflow with accurate colours throughout. [More ▶](#)

https://upload.wikimedia.org/wikipedia/commons/b/b4/CIE1931xy_ColorChecker_SMIL.svg

Defects and Resolution

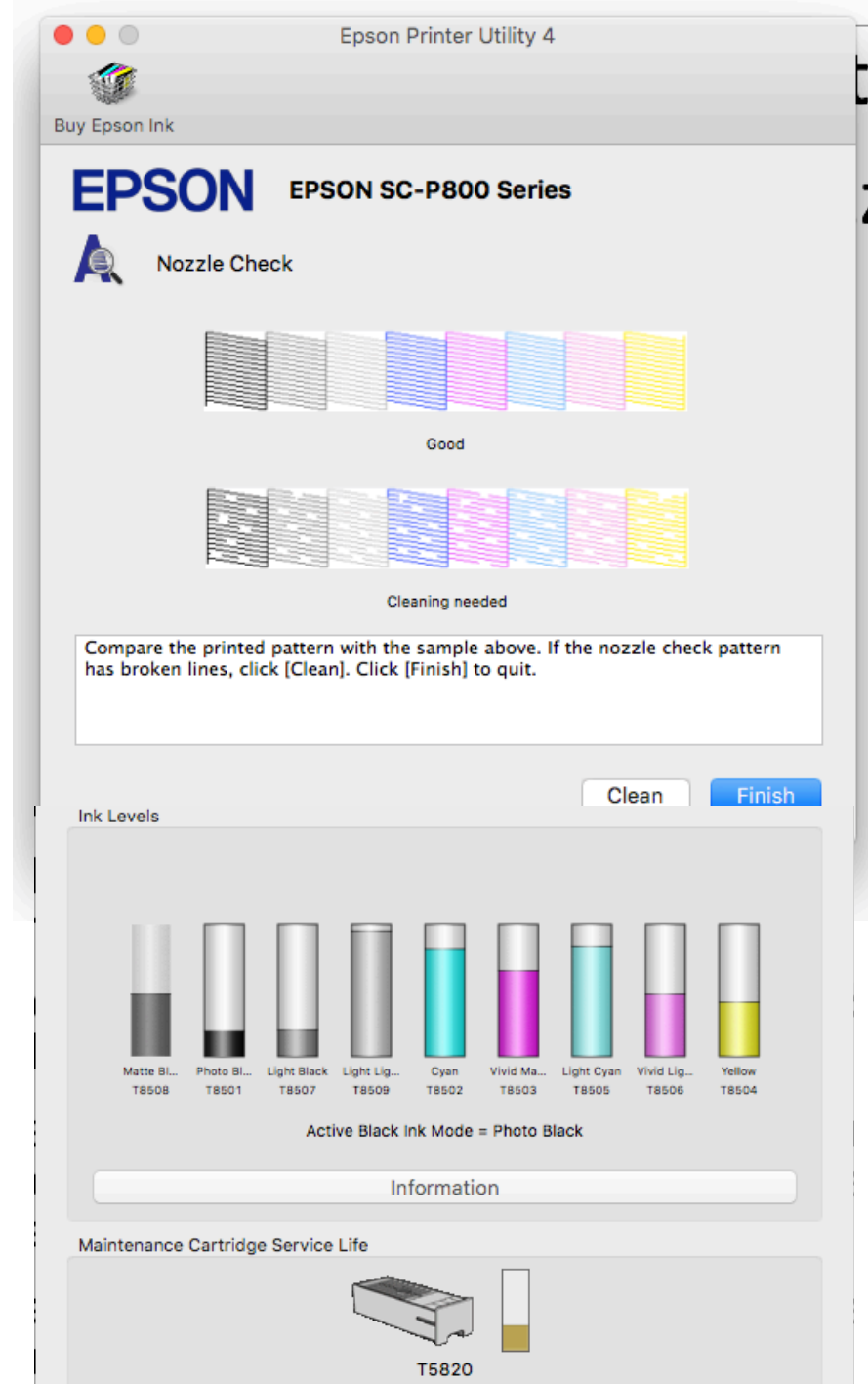
- Printing shows up much more **detail** as well as DEFECTS in your image
- A good competition sized print will show detail from *at least* 10-15MPixels, depending on crop
- Our projector – which is high resolution - displays 1600 by 1200 pixels – only 1.9MPixels!
- nearly 10x the detail in a print!
- It **really hurts** to reduce a 30 or 40MPixel file to 1.9MPixels!
- To some extent sharpness is retained on downscaling, but detail is lost
- Remove sensor spots, hot pixels, artefacts and take care with sharpening or any judge will spot these from the back of the room!

Paper – the choice can be very important!

- Printers are spoilt for choice when it comes to papers!
 - Get to know your favourites and what suits your style..
 - I use predominantly four paper types:
 1. Premium lustre - great workhorse, works well with most images, inc B&W (Marrut or Pinnacle)
 2. Baryta Warmtone - premium semigloss, slightly warm white, heavy...(Ilford 'Gold Fibre Silk' or Pinnacle Premium Silk Baryta)
 3. Fine Art Matte –outstanding for the right images; great when mounting under glass - no reflections or bronzing. Best if little true black in image. Pinnacle Cotton Rag
 4. 'Gloss' canvas (Marrutt) - for large panoramas etc
 - 5. But I still love and use others for certain images or projects – Japanese (Awegami), Hannemuhle, Permajet Titanium...
- Generally the heavier the better on all papers – less wrinkling
 - Paper is a bit like wine... spend a bit more and it is vastly better than plonk... but the print equivalent of a Grand Cru is a bit questionable except for special occasions (or customers)!
 - Some printers switch black inks from PK to MK – others have separate nozzles (no waste). P700, 900, 5300 all have separate nozzles. My old P800 uses several mL to change. The 7600 uses 25mL!
 - Examples to look at, and *feel* ... papers are *tactile*

Nozzle check etc

- Periodically check your printer nozzles
- A printer with significant nozzle gaps is no longer a fine art printer!
- Most times there is no problem; I very rarely have to clean my SC P5300
- I use EPSON OEM inks (less worry about clogging, longevity, colour accuracy, shelf life)
- I don't recommend the use of borderless printing except occasionally – overspray accumulates in the carriage mechanism and on the print head
- If an ink runs out during printing – modern printers allow you to replace the cartridge and the printing continues automatically – invisible join (if you are quick)!



Test prints <https://www.northlight-images.co.uk/printer-test-images/>

#colour_printer_test_images

Download a free test image from Keith at Northlight. It will help you set up and test your workflow!

I've brought in a test print for you to view



Printer costs

- The new cost of the P5300 is about £1800
- Roll feed and cassette feed included; cutter included
- The printer has 10 ink cartridges which are about 50% full after charging the printer
- Cartridges (200ml) are around £65 each
- 200ml cartridges last for ages!
- I have no tie to Epson – there are other great printers out there – I'm just used to Epson, just like I am used to Canon cameras and lenses!

Running Costs...paper and mount

- A3+ Premium Lustre paper (Pinnacle) £1.10 (paper spectrum)
- A3+ Baryta (300g/m²) (Pinnacle) £3 (paper spectrum)
- A3+ Fine Art Cotton Rag (Pinnacle) £3 (paper spectrum)
- All the Hannemule, Carson, Moab papers are great but £££; I also love the Japanese (Awegami) papers including the ultra thin (Unryu) (£££).
- Standard white mount board is around £1.70 (Paper Spectrum) for mat and £1 for backing
- Up market/ thicker mount boards more expensive!
- I only use white shades or black
- Ink cost £1 – 2 per print (P5300)
- Look out for offers!

Settings on LR, PS, Epson Print

- I'll go through this live!
- If time ok, I'll also demo a stroke line

Mount cutting demo and trial

- Mount cutting using Logan rule and cutter



[+ Hover to zoom](#) | [Click to enlarge](#)

Logan Team System Plus 610mm Mountcutter Kit

Item No. 2717

This practical combination includes a 610mm straight edge and the Logan 302-1 push-style Bevel Mount Cutter head for accurate cutting of bevel windows in mountboard.

Also a three-position Logan 500 mat knife with a slip lock depth feature for cutting standard thickness mountboard and foamboard up to 5mm to size.

Once the mountboard has been cut to size, mark the borders on the back of the board using the scaled straight edge, position the cutting head along the guide rail and cut from line to line. The inch or metric scaled straight edge has a non-slip rubberized base.

All made in USA.

£75.³⁰ incl. tax

- I'd recommend the 1000mm rule option
- A1 cutting mat
- Plenty of blades
- Stanley knife
- Steel rule for cutting (the Logan is Aluminium – easy to shave!)

Mount cutting

- Size and shape is up to you - Don't be constrained!
 - Give the image room in the mount/ frame
 - Have some contrast between the paper and the mount
 - Show some border of the paper white
 - Use a stroke line if the image benefits from it (easy in PS!)
 - Slight upwards offset can look better when hung
 - I like a larger margin at the bottom for title/ signature/ edition
 - Always cut on scrap card. The cutting mat will blunt blades very quickly
 - You can lightly burnish edges to settle them if you wish
 - Take time and practice with scrap material!
-
- A mount is good practice when mounting behind glass – the print ideally should not touch the glass

Dry Mount demo and trial

- Dry mounting stops all wrinkling of the paper
- I'd recommend for semi-gloss and gloss papers; less for heavy matte papers
- Lionpic.co.uk
- You can cut 4 off 500 by 400 sheets from these
- £2 or £3 each
- Large sheets of mountboard and acrylic from Lion too. Acrylic cutters, frame pinners and tapes also.

Use with or without out a border mat

No backing board needed

Cotton gloves recommended for print handling



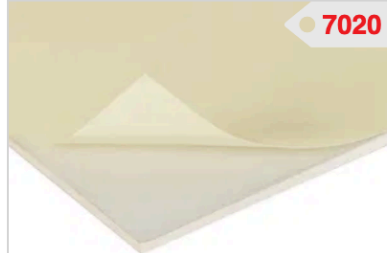
9479

£6.50

LION Self Adhesive Board
1.5mm 1200mm x 815mm

✓ In Stock (436 available)

 **ADD TO BASKET**



7020

£10.95

LION Self Adhesive Kraft
Backing Board 3mm
1200mm x 815mm

✓ In Stock (780 available)

 **ADD TO BASKET**

Print spray treatment

- Various treatments for mounting without glass or for handling
 - Canvas varnish
 - Spray coats for Gloss and Matte
-
- Glass does get in the way!
 - Acrylic easiest to cut, low cost but take care not to scratch – also static attracts dust!
 - Art Glass (Anti-reflection coated) is the best but £££. I only use this for lenticular prints or if specifically requested. Buy cut to size from Wessex (about £15 for 400 by 500). Don't try and cut this yourself
 - Moth eye (AR coated) acrylic – most expensive but fabulous. UV blocking. Museum grade!



Hahnemühle Protective Spray 400ml

Item No. 10640702

£34.⁰³ **In stock**

Inc. VAT £34.03

[Add to cart](#) >

Questions and discussion