100% Eboni Carbon Pigment Printing
For the Epson R1800

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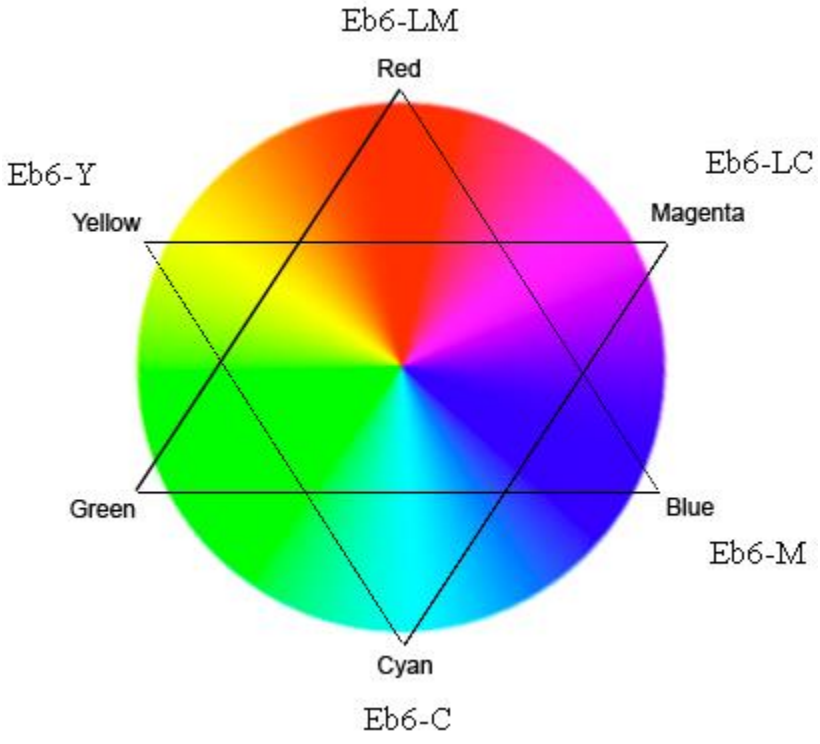
Pure, 100% carbon pigment printing has become a more powerful and flexible system with the Epson R1800 by combining the dilute, super-smooth Eboni-6 inkset with the well established 100%, 3-MK (aka UTBO) workflow.

For more information on the superior stability of a pure, 100% carbon pigment print, see http://www.paulroark.com/BW-Info/R1800-Lightfastness.pdf

See http://www.paulroark.com/BW-Info/R1800.htm for the R1800 3-MK workflow.

See http://www.paulroark.com/BW-Info/Eboni-6.pdf for a general description of the Eboni-6 workflow on hextone printers.

Ink Loading Order



With the 1800, load the **dilute (color-position) inks** from lightest (Eb6-Y) to darkest (Eb6-C) in the order of the color wheel, working from Yellow and going clockwise to Cyan.

The Eboni-6 ink order from lightest to darkest is: Y, LM, LC, M, C, (K).

The standard 1800 3-MK arrangement stays as is: **Eboni MK in MK, PK** & GO spots.

ICCs at http://www.paulroark.com/BW-Info/1800-Eb6.zip and QuadTone Rip profiles that ship with that RIP assume this ink order.

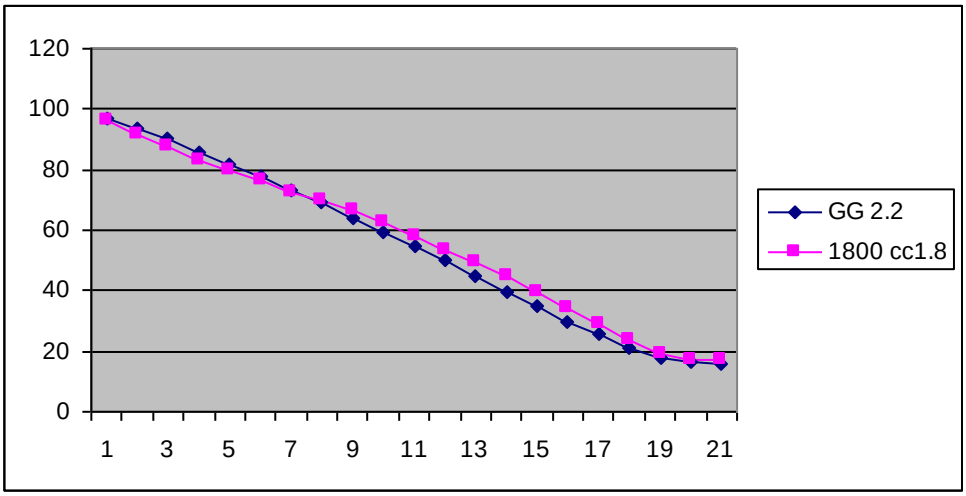
Printing Workflows

This 1800 Eboni setup allows multiple workflows, including very simple, "plug and play" Epson driver printing, pre-made and easily made custom ICCs used in the Photoshop and Photoshop Elements Print Preview, and full RIP controls with QuadToneRip.

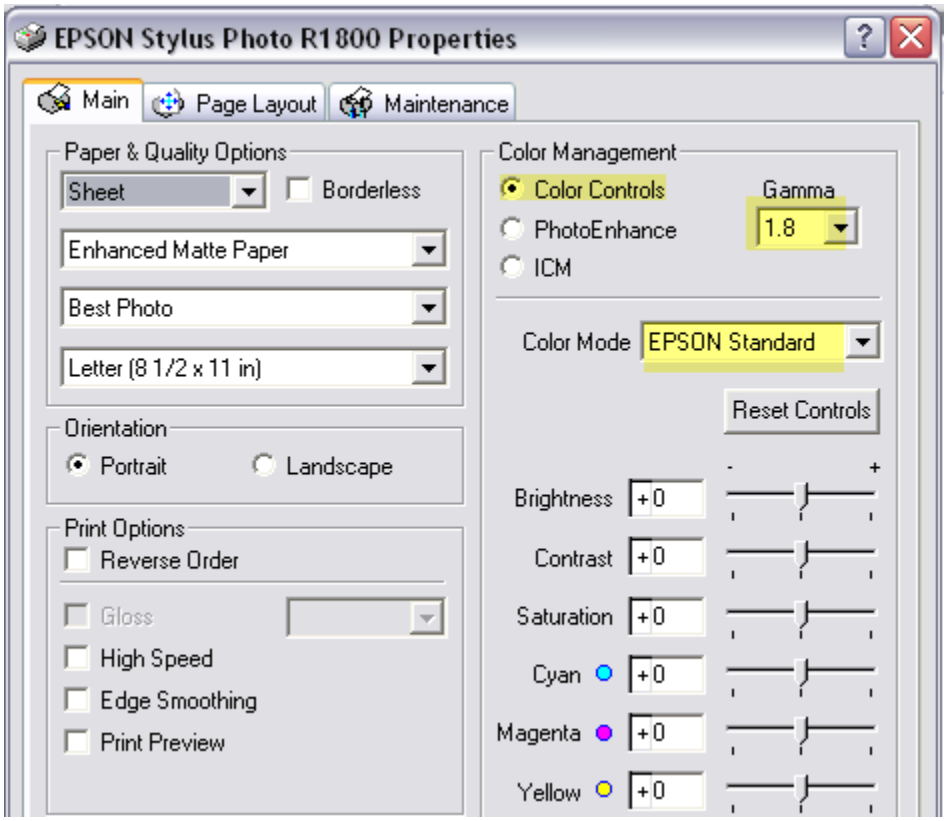
Epson Driver Printing – No ICC

When Eboni is loaded as above, the Epson driver prints a very good image with a Lab L ramp that is close to the ideal for the Gray Gamma 2.2 working space.

The graph below compares the ideal Gray Gamma 2.2 ramp (generated by printing a 21-step test file with an ICC) with the ramp of EEM printed with the Epson driver set to Color Controls Gamma 1.8. No additional profile or curve was used for the results shown below. In the graph, Lab L is show on the vertical axis; the steps of the 21-step test file are shown on the horizontal axis, with paper white at the left and 100% black at the right.

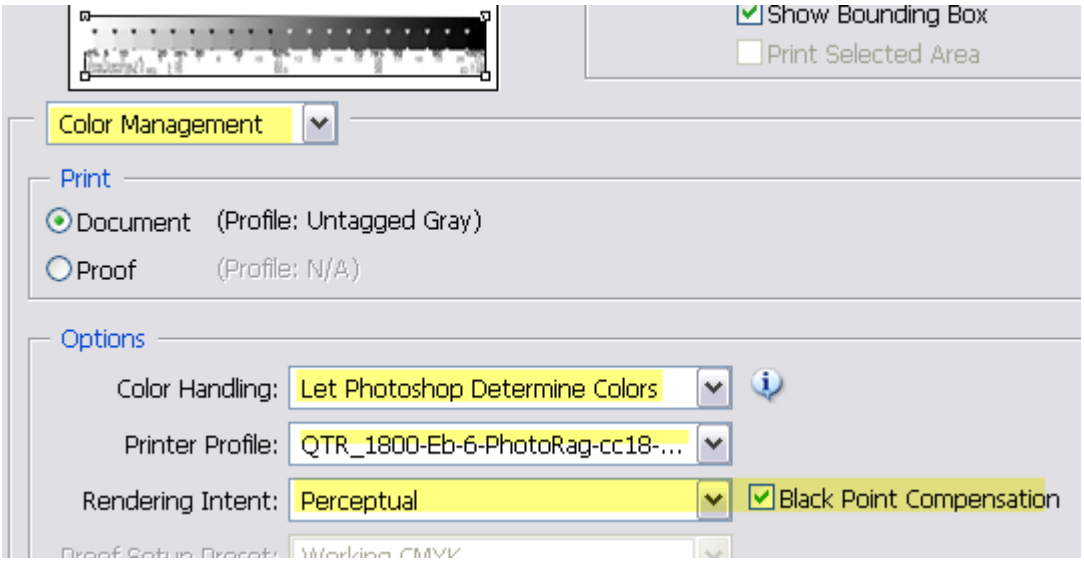


The Epson driver settings are shown below (Windows XP, PS CS2):



Epson Driver Printing with ICC Color Management

All one has to do to make the above workflow "color managed" so that the print will more perfectly match the monitor with respect to relative densities is to use an ICC in the Photoshop or Elements Print Preview. The relevant settings in the Print Preview are shown below.



Pre-made ICCs can be downloaded from http://www.paulroark.com/BW-Info/1800-Eb6.zip

ICCs are easily made with QuadToneRip's "Create ICC" program. The QTR package can be downloaded from http://www.quadtonerip.com/html/QTRoverview.html

ICCs are easily made even with just a flatbed scanner. See http://www.paulroark.com/BW-Info/Making_B-W_ICCs-GrayCard.pdf

Printing with QTR – 3-MK Workflow

The full 3-MK workflow is described in detail at http://www.paulroark.com/BW-Info/R1800.htm

In addition to the 3-MK workflow, however, with the full set of dilute Eboni inks also, QTR can be used to create 8 carbon ink workflows that combine the benefits of the dilute and multi-channel black only approaches. This allows tone and texture (random grain) effects that give the advanced worker very flexible tools. Among other things, for the purist artists, this approach has produced the best Arches Hot Press watercolor paper (uncoated) print I've yet seen with an inkjet, taking B&W photography closer to the goal of a pure "carbon on cotton" medium than has been achieved before.

Print Tones

Print tones are primarily determined by the paper used, ranging from neutral/cool to medium warm. Premier Art Smooth BW prints relatively cool, with a maximum Lab B = 2. Hahnemuhle papers print medium warm, with Lab B > 5.

Digital B&W printing continues to evolve.

All donations to the cause of free inkset designs and profiles are appreciated.

Enjoy the journey.

Paul Roark
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