

## Epson WorkForce 30

### Black and White Noritsu-Epson Dye Ink

[www.PaulRoark.com](http://www.PaulRoark.com)

10-25-2011

The WorkForce 30 is a \$70 printer that has 2 black cartridges for very fast text printing.<sup>1</sup> It ships with Durabrite pigment inks and uses only 3 colors – no “light” color inks. It is a smaller version of the WF 1100 that I have found to be an excellent default office printer, suitable for an efficient and easy ink setup where all the “color” positions are a single neutral, glossy, light black ink.<sup>2</sup>

The ink arrangement discussed here uses the Noritsu-Epson (Claria equivalent) dyes that have been made into a B&W inkset.<sup>3</sup> The goals for this printer-ink combination are to make a very fast text printer that can also make outstanding B&W glossy prints and cards, and be clog free. So far these goals have been met.<sup>4</sup>

#### A. Inks – K2-Quad

“K2-Quad” is meant to signify that it uses 2 densities of black/gray – a PK and an LK – in a printer setup that uses 4 channels of grayscale inks.<sup>5</sup>

Black positions = Noritsu D700 “dry lab” ink<sup>6</sup>

Color positions = 30% (13% Noritsu/Claria magenta,<sup>7</sup> 87% Noritsu K), 70% clear dilution base.<sup>8</sup>

The need to mix the inks is clearly a barrier for most users. The trade-off is, with this B&W inkset one gets unique glossy capabilities for a fraction of the Epson cost per ml of ink; but with this system one

---

<sup>1</sup> For Epson WF30 product information, see <http://www.epson.com/cgi-bin/Store/isp/Product.do?sku=C11CA19201>

For driver downloads, see

[http://www.epson.com/cgi-bin/Store/support/supDetail.jsp?BV\\_UseBVCookie=yes&oid=108883&prodoid=63075465&infoType=Downloads&platform=All](http://www.epson.com/cgi-bin/Store/support/supDetail.jsp?BV_UseBVCookie=yes&oid=108883&prodoid=63075465&infoType=Downloads&platform=All)

<sup>2</sup> For information on the larger WF 1100, see <http://www.paulroark.com/BW-Info/1100.pdf> and

<http://www.paulroark.com/BW-Info/1100-Eb4.pdf>

<sup>3</sup> See <http://www.paulroark.com/BW-Info/BW-Dye.pdf> for general information about these dyes.

<sup>4</sup> I have used the same mix in my Epson 1400 for making cards and brochures for about a year with outstanding success. The glossy prints and cards this ink is capable of making are simply better looking than any pigment system is capable of making.

<sup>5</sup> The midtone ink density of the “K2-Quad” setup discussed here and also used in the Epson WF 1100 setup uses a different density of gray ink than does the MIS EZ system, which was developed by me for the C82 and commercialized by MIS Associates. Note also that although the WorkForce line of printers has 5 inks, 2 of those are black inks that function as a single channel with the Epson driver.

<sup>6</sup> Sold in 500 ml carts for \$187, see Appendix A (p. 12) of <http://www.paulroark.com/BW-Info/BW-Dye.pdf> for suppliers. The usual bottom-fill adapters are used to pull ink out of the large Noritsu carts. See <http://www.paulroark.com/BW-Info/Modified-Bottom-Fill-Adapter.pdf>

<sup>7</sup> Given the cost of the Noritsu carts, using a small Claria cart (e.g., for an Epson 1400) as a source of the magenta may be a good alternative.

<sup>8</sup> For information on the clear dilution base, contact me at [roark.paul@gmail.com](mailto:roark.paul@gmail.com). I do not recommend the dilution bases used for pigments, such as the generic base discussed at <http://www.paulroark.com/BW-Info/Ink-Mixing.pdf>.

also has to buy very large quantities of Noritsu ink, mix inks, including a clear dilution base that requires more chemicals, and load empty cartridges.<sup>9</sup>

These advanced dyes are **lightfast** enough for most uses. Wilhelm Research rates Claria color photos at 98 years of display life when displayed under glass; over 200 years when in an album or dark storage.<sup>10</sup> When Claria black only prints are sprayed with Premier Art Print Shield, they appear to be in the Epson UltraChrome pigment class in terms of lightfastness.<sup>11</sup> I make no claim for lightfastness for this inkset. I'm comfortable using this un-sprayed for cards but recommend 100% carbon for fine art and where long life is a top priority.<sup>12</sup>

With the high dark storage rating and in light of the fact that dyes do not sit on top of the paper like pigments, the use of these dyes might also be very good for **books** or applications where pigments would be subject to rub-off problems.

Note, with respect to the MIS **auto-reset chips** on the carts, when the chip signals the printer that the cart is empty (whether it is or not), the cart probably will need to be removed (such as checking to see if the cart is empty) and re-inserted (such as would be done after the cart was re-filled). Typically MIS WorkForce printer chips can be checked and reset at any time when the chip indicates, In the Epson driver "Status Monitor" (driver Maintenance tab) that it is less than 10% full.

## **B. Papers**

The dyes print well on most glossy papers. The paper I most favor for cards and brochures is **Red River Polar Pearl Metallic**.<sup>13</sup> The Red River UltraPro Satin paper is also a very good paper for this setup.

For a brief description of my procedure for making **cards**, see <http://www.paulroark.com/BW-Info/Card-Procedure.pdf>.

On matte papers there is a tendency to either print with a weak dmax (maximum black density) or be too green in tone. For example, Epson Ultra Premium Presentation Matte has a reasonable print tone, but the dmax is weak. Hahnemuhle Photo Rag has an excellent dmax but is too green.

The only matte paper I've tested that combines good print tone with outstanding dmax is the Red River Premium Matte Plus.<sup>14</sup>

---

<sup>9</sup> If you are interested in pre-mixed dye inks, contact me at [roark.paul@gail.com](mailto:roark.paul@gail.com). MIS Associates is the source for carts and other ink loading accessories. See

[http://www.inksupply.com/printer\\_products.cfm/p/Epson\\_WorkForce\\_30.html](http://www.inksupply.com/printer_products.cfm/p/Epson_WorkForce_30.html) at the bottom of the page for empty cartridges.

<sup>10</sup> See <http://www.wilhelm-research.com/epson/RX595.html>

<sup>11</sup> See <http://www.aardenburg-imaging.com/> fade test data. Compare the results of the 1400 black only, sprayed print on Canson paper with UltraChrome ABW results.

<sup>12</sup> See <http://www.paulroark.com/BW-Info/Eboni-6.pdf>

<sup>13</sup> See <http://www.redrivercatalog.com/cardshop/scored/66-polar-pearl-metallic-framecard.html> for the card stock I use most.

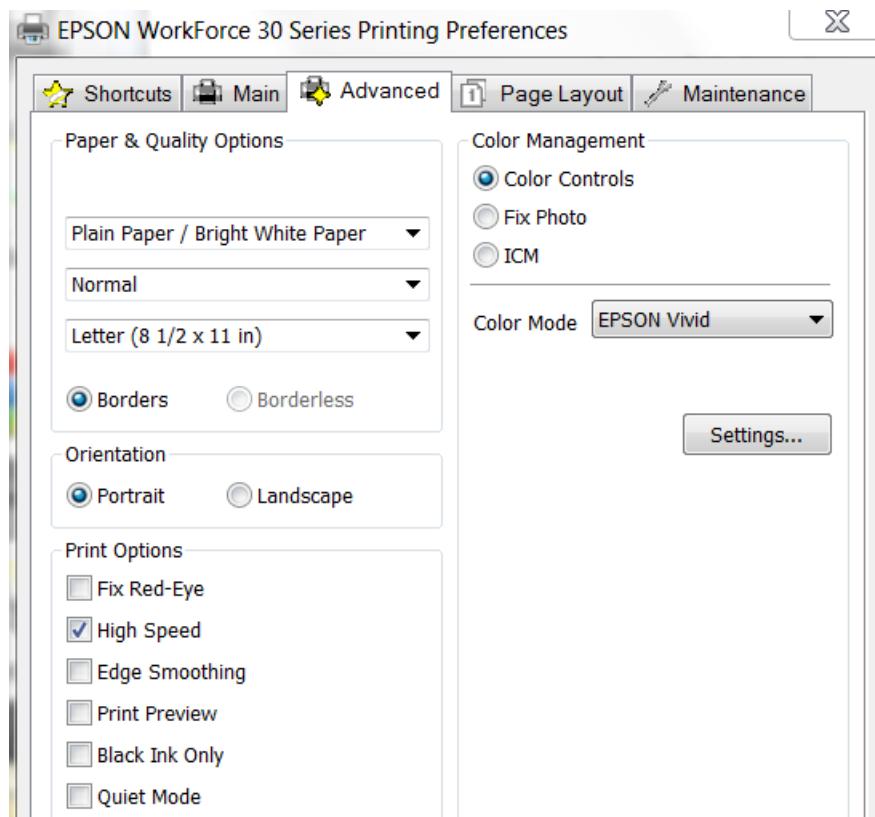
<sup>14</sup> See [http://www.redrivercatalog.com/browse/60lb\\_premium\\_matte\\_plus.html](http://www.redrivercatalog.com/browse/60lb_premium_matte_plus.html)

The print tones for the recommended papers, above, are all neutral. All of the papers are “brightened.” As such, the cool paper tone is continued through the rest of the print.

## C. Workflow – Printing Procedure

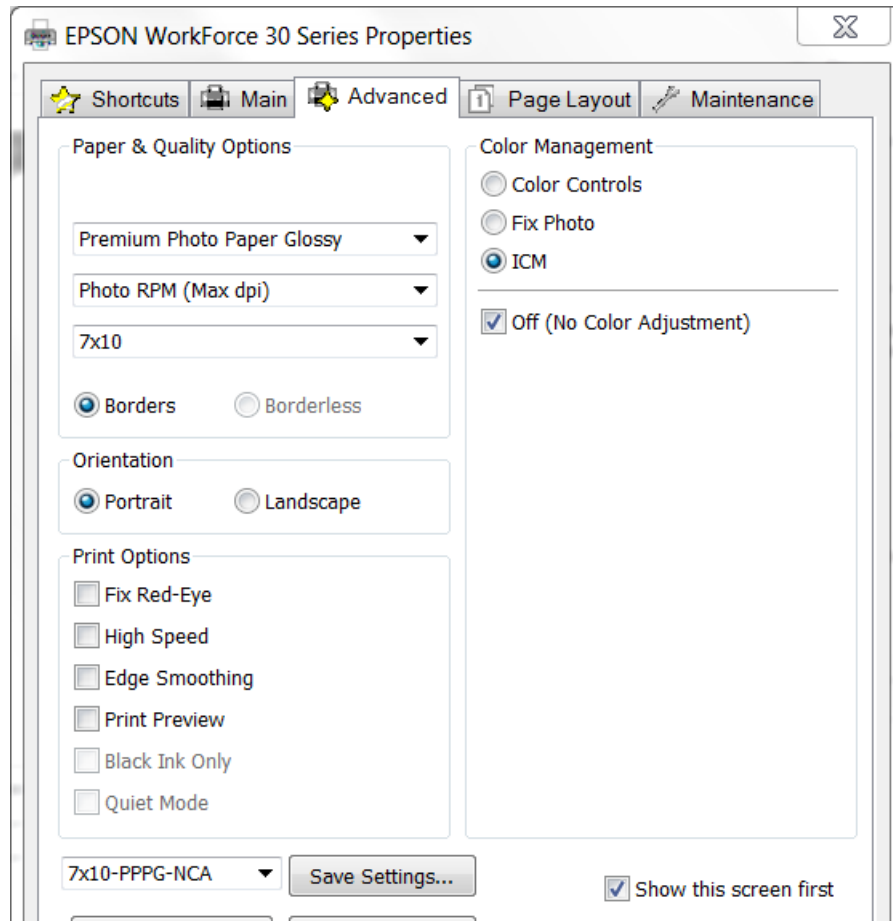
### 1. Default Settings for Typical Office Text Printing

For typical home office text printing I use Epson’s driver set as shown below. These are just the usual Epson default settings.



## 2. Driver Settings for Photos

To print glossy cards or other photos, the best quality settings are used. See the screen grab, below.



For matte paper the paper type would be “Premium Presentation Paper Matte.” I always use the best printing quality for photographs.

## 3. ICC Profiles

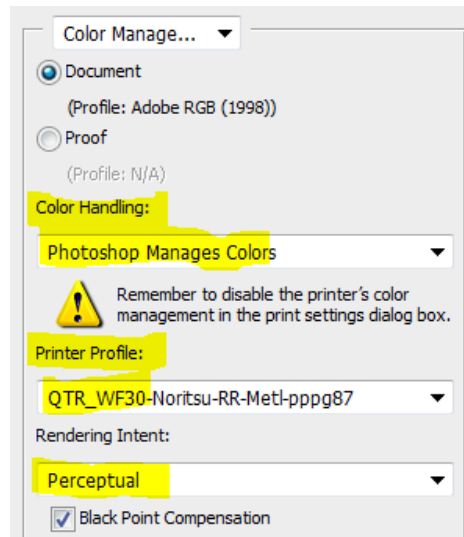
For good photos, ICC profiles are recommended. Profiles for the above papers are available at <http://www.paulroark.com/BW-Info/WF30-Dye-Profiles>.<sup>15</sup> These ICCs were made with QTR’s Create ICC-RGB<sup>16</sup> and contain Photoshop curves for the glossy and matte papers. These curves are in the above Zip file and should be useable with other papers.<sup>17</sup>

<sup>15</sup> With the ICC on the Desktop, right clicking will show a menu that includes the option to install the ICC. In Windows they are typically in C:/Windows/System32/spool/drivers/color. In Macs the ICCs are in /Library/ColorSync/Profiles.

<sup>16</sup> See <http://www.quadtonerip.com/html/QTRdownload.html>

<sup>17</sup> See [http://www.paulroark.com/BW-Info/Embedding\\_Photoshop\\_Curves\\_in\\_ICCs.pdf](http://www.paulroark.com/BW-Info/Embedding_Photoshop_Curves_in_ICCs.pdf) for information on using curves and Create ICC-RGB to make ICCs.

In Photoshop, the ICCs are selected in the print preview. The right side of such a preview is shown below.



(Ignore the exclamation mark. It is only to remind people that the driver should be set to “ICM” and “No Color Adjustment.”)

One characteristic of the WF 30 that these ICCs and curves correct is that it uses an excessively high ink limit for most papers. Aside from this, the curves sequentially start the color-position inks, making for smoother prints.

I hope this setup works for you. For fast text printing, outstanding and unique B&W glossy cards, clog-free performance, and low cost, this combination is probably going to be hard to beat.<sup>18</sup>



[All donations to the cause of free inkset designs and profiles are appreciated.](#)

Paul  
[www.PaulRoark.com](http://www.PaulRoark.com)

---

<sup>18</sup> The WF 40 for about \$30 more has a 2 picoliter drop as opposed to the WF 30's 3 pl minimum. The WF 40 may be slightly smoother, but has not been tested.