Article Excerpted From:

Inkjet NEWS & Tips

www.inkjetart.com

January 25, 2008

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PERSPECTIVE ON REAL-WORLD INK COSTS AND PRODUCTION PRINTING

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A week ago, our techs were having a "water-cooler" type discussion about a web-forum question regarding the availability of bulk ink feeding systems for the Epson 9800. The question came up about exactly how much does the ink used in various prints cost (and if even using such a system would be a wise investment). As part of getting ready for the upcoming WPPI show in Las Vegas where we'll be running a booth, we've been doing quite a few large prints on a variety of pro-level printers - and so we decided to crunch the numbers and find out the real world costs associated with these prints.

Before going any further we want to point out that we're speaking about the ink costs of Pro-level printers, in particular: the Epson 4880, the HP Z3100 and the Canon iPF6100. The inks for these pro printers come in LARGE tanks and are designed for volume production. They come with accounting and reporting tools that tell you exactly how much ink and paper went through the machine for a particular print job. Serious stuff. In comparison: the desktop printers (like the Epson R2400 and just about everything else) will often not even tell you exactly how much ink is in each cartridge when you open it, do not track usage and aren't set up for volume printing. The smaller desktop printers ARE less expensive and are perfect for someone

doing just a few small (12x18 or smaller) prints a week. As soon as you begin selling prints you should start looking at the Pro printers. The 3800 has the reporting and management features plus large ink tanks and is a good printer to consider if you want to print sheets up to 17x22. If you are printing all day every day, you'll want a beefier machine that can handle rolls though.

OK, so to reiterate: we're talking about pro printers and their ink costs… moving on.

The various reports were put into a spreadsheet we made for computing print costs (way back in the days of the 7600) you can download it from http://www.inkjetart.com/pro/7600_9600/Pro_print_cost.xls

12x18 print - total cost $4.65
printed on Epson 4880 with Illuminata Fast Dry Matte Canvas
ink cost (2.37ml) $1.2270 - ink cost/sq ft $0.7188
paper cost (1.71 sq ft) $3.4232 - paper cost/sq ft $2.0055

16x20 print - total cost $3.22
printed on Epson 4880 with Illuminata Watercolor Bright White
ink cost (2.64ml) $1.3668 - ink cost/sq ft $0.5268
paper cost (2.59 sq ft) $1.8532 - paper cost/sq ft $0.7142

17x122 print - total cost $14.36
printed on Canon iPF6100 with Inkjetart Micro Ceramic Luster
ink cost (9.7ml) $5.5962 - ink cost/sq ft $0.3882
paper cost (14.4 sq ft) $8.7658 - paper cost/sq ft $0.6081
http://gigapan.org/viewGigapan.php?id=2550

24x36 print - total cost $6.61
printed on HP Z3100 with Inkjetart Micro Ceramic Luster
ink cost (7.14ml) $3.7425 - ink cost/sq ft $0.6237
paper cost (6 sq ft) $2.8635 - paper cost/sq ft $0.4772

16x20 print - total cost $3.36 printed on HP Z3100 with Epson Premium Luster 260 ink cost (3.87ml) $2.0228 - ink cost/sq ft $0.9103 paper cost (2.22 sq ft) $1.3332 - paper cost/sq ft $0.5999

The 24x36 print was actually the first one we made – it's a mosaic of close to 11,000 images taken over 8 years (you can see it in greater detail at http://www.wedding-slideshows.com/mosaic/). As you saw, the total cost for the 24x36 print was $6.61 and of that, ink was $3.74. If you further analyze the other costs involved in producing a print, you'll find the cost of the ink and the paper are actually not as big a deal as many of us make it out to be. The cheapest 24x36 frame we've seen was a $20 poster frame at Wal-Mart, more than 3 times the cost of the print being framed. To pay a

print technician to get the file ready, print it and everything else is likely going to cost as much and possibly more than the ink and paper. To put this into perspective, how much would you be able to sell a 24x36 print to a client for? We all have different pricing structures - a quick search on Google for 24x36 print or enlargement prices gives a pretty mixed bag but none are lower than about $25 for the cheapest and the ones producing a photo-realistic print like we got are charging around $100 on the LOW end. One kid focused portrait studio here in Salt Lake has published prices of $90 for a 16x20 and $120 for a 20x24. The cost of the ink seems to stop being a big concern once you begin selling prints (or rather, once people start *BUYING* them =). If they are using inkjet technology to make those prints, the material cost represents less that 4% of the price.

We see articles about how ink costs more than the most expensive wines. The 3.87ml of ink used to make a 16x20 print on the HP Z3100 is about $68 for 130ml – my math says that's $1980 a US gallon or if you want a 750ml wine bottle it's $392 a bottle. This isn't gasoline or wine that is used by the tank or glass though, it is ink that gets squirted out by the pico-liter in a precisely controlled machine. I suspect that if you tried to sell somebody a 16x20 sheet of photo paper smeared with 3/4 of a teaspoon of fine French wine for $90 they would think you were crazy (or an art major) – but soccer moms pay that much for a 16x20 of their kids every day.

If we step back in time a decade we have the introduction of the first Epson Stylus Color printers with just 4 colors. Back then it was amazing to see something coming off a desktop machine in realistic color. Certainly there were problems: color management was a non-issue because the fidelity of the ink and media was terrible, the printers were painfully slow, print longevity wasn't a consideration, there were about 4 different papers you could use and many more "issues." The thing is: these are only issues as we look back at what was absolutely amazing then compared to what is commonplace now. Ask anyone who ran an Iris printer how much they paid for the printer and what their per-print costs were. Go back further and get the cost of chemicals and a good enlarger, then you have to make each print the same by hand (which was really fun if there was lots of dodging and burning involved). Anybody here with a $1000 1GB memory card?

Technology has brought printing to the same level as many other industries like typography, desktop publishing, video and sound production - to name a few that spring to mind. Using relatively inexpensive equipment, the "unwashed masses" can make stuff that's better than a

professional could do 20 or even 10 years ago at any price. The quality of production has gone up and costs have come down. Often people won't even test a new paper on their printer unless a color profile is available because they're used to absolute fidelity in the printing process. We're starting to take it for granted that the prints will last for generations – limited edition art prints done on a litho press will start fading before 4x6 snapshot prints made on an Epson Picturemate. Even the dye ink printers have been tested to last more than traditional photo lab prints if the conditions are right.

In the end, the point of all this is: if you are selling your prints, the cost of ink is the least of your concerns. Unless you need a feature from a non-original ink (like 7 shades of grey) don't waste your time and energy. Some out there with desktop printers will take exception to that but once again, we're talking about the pro printers – even still, a 12x18 won't cost much more on a R2400 and you can certainly sell it for more than $10. Getting a bulk feed system (large bottles or cartridges of ink that use tubes to feed ink into dummy cartridges) for a pro printer that essentially *IS* a bulk feed system (large bags of ink inside a plastic cartridge that feed ink via tubes to holding reservoirs on the print head) is a bit redundant and in our opinion more trouble than it's worth. One major problem with the ink and you've defeated yourself just in the expense of your time, in addition to the need to profile EVERY paper you use just to get color similar to the original ink. We use a bulk feed system on an Epson C88 to print the orders that come in off the web – it's just text. We wouldn't consider switching one of our big printers to non-standard ink. We also wouldn't use plastic element lenses to do professional photography nor use MS Paint to do Photoshop work. We're certain the ideas in this article will get a few people going. Just remember that while ink is expensive – it's also *worth* a lot and something you can use to generate money, a fact the "costs more than wine!" rhetoric omits .