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Thursday, 29 September 2011

Introduction to Digital Printing Part II

By **Clein**

This is the second of several aperiodic columns on getting started in digital printing. Mike asked me if I would do some articles geared toward those who haven't done any serious digital printing or are just getting into it, and I agreed that was a good idea, so here we go. It doesn't matter if you have wet darkroom experience or not. You're encouraged to reread [the previous column](#) and its comments before posting questions and comments to this one, as many related matters have already been addressed.

In the first column of this series I told you about all the things you shouldn't be taking into consideration when getting a printer. Now, we'll start talking about what you should be taking into consideration. To begin with, you need to figure out what you're going to be doing with it over the next year or so. That's hard to do when you haven't even started printing yet, but I'll try to walk you through it. A mistake is not fatal; it just means you might be buying another printer sooner than you expected.

I would not recommend getting anything that only prints smaller than 8.5x11 inches. Even if you're expecting that you'll only want wallet-size or 5x7 prints, get the bigger printer. The smaller, special-purpose printers are not cheaper to buy, and you'll be surprised to discover how much you like being able to do 8x10s on occasion. Furthermore, when it comes time to calibrate your printer (and you're likely to do that, if you follow my advice), you'll find that most calibration services and systems assume you can print out an 8.5x11 sheet.

Do you think you'll be happy for the time being making 8x10 prints? Then you don't need a printer that handles anything larger than letter-size paper. Do you have a serious hankering for 11x14? Then you're going to need a 13-inch wide printer. Sixteen by twenties? You'll have to move up to a 17-inch printer. Bigger still? Okay, you don't sound like a novice to me.

As a very broad rule, the smaller and cheaper the printer, the less durable it will be. Whether that really matters depends on how much printing you expect to be doing, week after week. If you average 10 8x10s a week, that's still only 500 prints a year. A printer that's good for a few thousand prints will very probably outlast your interest in that particular printer.

If you're really certain you're going to be giving the printer heavy use, look to one of those larger, more professional models. As I explained in [my column on the Epson 3880](#) (a 17-inch professional printer), you can even save money by buying a much more expensive printer, if you're doing a large volume of printing. Run the numbers for yourself and see what makes sense.

Ultimately, it's up to you: you can buy more printer than you need at the moment, in the expectation you'll take advantage of it later, or buy no more printer than you need right now and assume you'll buy a more expensive one when the time comes.

Don't forget about space! A bigger, larger-format printer requires a lot more room to run. The physical box will be larger and you'll need more space in front of and/or behind the printer as the larger sheets of paper travel through. The biggest reason why I got the 3880 printer instead of the 4880 was that I couldn't figure out how to make the 4880 printer fit in my office.

I've mentioned printing costs a couple of times. Here's the thing—some printers are a lot cheaper to run, print for print, than others; there can be more than a factor of two difference in the cost of an 8x10 print. There's no easy way to find this out! By and large the printer manufacturers won't tell you. If it's important for you to know this, you'll have to scour the various testing websites that review lots of different printers. Generally, they will have some kind of standard test suite they run that comes up with a per print cost or, equivalently, the number of prints you can expect from a set of ink cartridges.

The problem is that most printer test suites won't be testing for what you're interested in: a full-coverage, highest-quality photographic print. So you can't take their numbers as absolutes, only as relative data. It's a pretty safe bet that if some testing site says Printer X costs half as much to run as Printer Y, that will hold true for you. Think of it like automobile mileage tests: you don't expect to get the same mileage the tester did in the review, but so long as the testing is consistent from automobile to automobile you can tell which cars will be likely to deliver you better mileage. Don't try to compare results between sites unless you know they're running the same test suite.

Don't ask me what a good site is for this information or which printers are the most economical to run. I don't know. I'll bet you one of our readers does, though. Check the comments.

Fine, you bought your printer, set it up, installed the drivers, and it's playing nicely with your computer. What do you do next? That'll be the subject of Part III, coming soon (for some value of "soon") to a website near you.

Meanwhile, next week I'll go *waaaaay* off topic, when I report on DARPA's 100 Year Starship conference. Today, it's off to Orlando for me.

Clein

Clein's regular weekly column, posted a day late this week (not Clein's fault), usually appears on Wednesdays.

Posted on Thursday, 29 September 2011 at 09:04 AM in [Clein](#), [Printers and Printing](#) | [Permalink](#)

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Comments

This may be a strange question, but what connectivity options are there for the photo printers in the category you're talking about?

Is it all USB, or can you get ethernet models, for example?

I ask because my study isn't really spacious enough to fit a printer in, but I could easily place a printer below the workbench in my darkroom. USB wouldn't make the distance (at least not within spec, not to mention that running cables through the hallway isn't really an attractive option), while there are ethernet sockets in every room.

Regards,

Bernard

Posted by [Bernard Schary](#) | Thursday, 29 September 2011 at 09:13 AM

Thanks for your advice. One question: Do you have an opinion as to how long Epson inks are usable after the expiration date?

Posted by [Mike M](#) | Thursday, 29 September 2011 at 10:01 AM

I turned 40 last Saturday. A monumental event in anyone's life but not as monumental as the Epson 7890 (34 inch printer) that arrived at my door the day before. Once I saw the size of the thing up close and personal, I knew that not getting the 9890 (44 inch) was the right choice. It was hard enough getting the 7890 up the narrow stairs, the 9890 would not have made it.

I'm no expert printer but I was a removal man for a number of years and it taught me two things, a sense of space and the sense to use it well. It's really not just the cost you have to live with when using large format printers.

Posted by [Sean](#) | Thursday, 29 September 2011 at 10:07 AM

Bernard:

Printers in this class should have just about all the ways possible to connect: USB, Ethernet and wireless ethernet.

About the only thing they won't have is Centronic Parallel Port. 8")

Posted by [Keith H](#) | Thursday, 29 September 2011 at 11:03 AM

Bernard, it all depends on the printer. There are printers with just USB, there are those with both USB and Ethernet, and there are those with USB, Ethernet and Wi-Fi.

For instance, Epson R3000 (13x19) has all three. There are new HP, Epson and Canon 8x11 printers offering Wi-Fi connectivity beside USB.

As a rule of thumb in my experience (I'm a computer journalist, still. :)), the more expensive the printer, the more likely it is to have Ethernet.

Posted by [gdlb](#) | Thursday, 29 September 2011 at 11:26 AM

Benard;

The Epson photo printers offer ethernet connectivity in the larger sizes (> 3880).

Posted by [Jim Wilkerson](#) | Thursday, 29 September 2011 at 11:40 AM

FWIW, old Costco's I have been to have Epson 7880's in the photo center. Perhaps this column is about arriving at an in home solution?.. but if you have an SRGB workflow, send an SRGB.jpg to Costco and you will find that they can produce large prints at about 1/3 the cost of what I charge as a fine art reproduction specialist, with my own 7880. 99.999% of people will be unable to differentiate a print from a master printer vs said Costco print, IMHO. They print on Epson Premium Luster or BTW (sorry matte paper aficionados).

If economics are important to your decision, I recommend outsourcing. Costco gets volume ink and paper straight from Epson, and it would be impossible to touch them on price because of it.

Posted by [11and1](#) | Thursday, 29 September 2011 at 12:26 PM

For Mike M: This is just my personal experience, and with an older Epson (the 2200), but I found expired inks often resulted in a lot more head clogs than when using fresh inks. While I keep spare inks on hand, I do not buy so many that they will expire before I use them.

Bernard: Some of the higher end printers have Ethernet, and more recently some are even coming with wireless connections. Just check the specifications pages on the manufacturer's websites.

Posted by [Greg Roberts](#) | Thursday, 29 September 2011 at 12:38 PM

Dear Bernard,

Lots of today's printers come with built-in Wi-Fi; it's a common feature on the cheaper ones. More expensive ones do have ethernet. Check the manufacturers specifications for the printer; they will always include this information.

~~~~~

Dear Mike,

My opinion is that the Epson Ultrachrome inks are good for at least 2 years beyond the expiration date listed on the package and for at least a year and a half after they are opened.

The ink is in an airtight bag; there really shouldn't be any difference in the life of a partially-used and unused cartridge.

If your printer/cartridges sit for a long time without use, it's not a bad idea to take the cartridges out and give them a couple of shakes, like you would before installing them when they are new, just to make sure things stay mixed up.

I have no idea if any of the components actually can settle out, but since Epson recommends this as a caution with new cartridges, I figure it can't hurt and it might help.

pax \ Clein

[ Please excuse any word-salad. MacSpeech in training! ]

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-- Clein's Online Gallery <http://clein.com>.

-- Digital Restorations <http://photo-repair.com>.

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Posted by [clein](#) | Thursday, 29 September 2011 at 12:54 PM

Com'on get to the real article, enough foreplay.

Posted by [Frank P](#) | Thursday, 29 September 2011 at 12:58 PM

Dear Frank,

Ain't gonna happen, not now, not ever. This is an INTRODUCTION. All the articles in this series will be INTRODUCTIONS.

If you ain't a newbie, skip'em.

pax / Clein

Posted by [clein](#) | Thursday, 29 September 2011 at 03:47 PM

Thanks, etcin. Looking at some cheap, nearly outdated ultrachrome ink, I'll take a chance and get back with the results.

Posted by [Mike M](#) | Thursday, 29 September 2011 at 03:14 PM

Yunfat, Dry Creek Photo maintains the printers (and profiles) for Costco, and they say [here](#) that the paper choices are Fujifilm Photo Satin Paper (270 gsm) and Fujifilm RC Semi-Gloss Poster Board.

This matches what I saw at my local Costco. And note that the Photo Satin paper has optical brighteners, and hence is unsuitable for archival uses. (And you pay about \$9 for a 20x30 on the paper, but \$25 for a 20x30 on the board, AND they don't keep very many sheets of the board in stock, I ran them out at least twice.)

So, it's a useful option, but it's not unfortunately in competition with any place doing "fine" printing.

I have found the result quality to be very good; the printer appears to be well-maintained.

Posted by [David Dyer-Bennet](#) | Thursday, 29 September 2011 at 05:30 PM

Having the printer out of sight in another room can be a problem, print a file, get out of your chair, and find out: printer out of ink, wrong paper, paper jam, etc.etc.

With a B&W Laser it's %\$#@ and reprint, with a photo printer you can waste big \$\$.

-Hudson

Posted by [Hudson](#) | Thursday, 29 September 2011 at 06:40 PM

So glad you guys are doing this. I was thinking just the other day that something like this would be really useful.

Posted by [Mike](#) | Thursday, 29 September 2011 at 06:54 PM

Got myself an Epson R2000 a month ago, I couldn't afford the R3000 or the other high-end models. I can tell you that Clein's comment about size is real. When I first saw the box and then when I saw the size of the printer I knew I was in trouble! There just wasn't enough space for that monster on my desk, or in any other place in the house. I had to do some ingenious re-arrangements to fit it somewhere.

And then I discovered another problem. Ink supplies. It appears that I was the first person to ever buy that printer in Greece, so the shop I bought it from needs about two weeks to get me the replacement cartridges. I was suspecting that, so I ordered a spare set of inks when I ordered my printer. The printer was here within a week, the ink cartridges two weeks later!!

Posted by [John Caradimas](#) | Friday, 30 September 2011 at 05:58 AM

Can anyone who has used both comment on the build quality of the Epson R2000 compared to the R3000?

Thanks

Andrew

Posted by [Andrew Ross](#) | Friday, 30 September 2011 at 10:17 PM

Dear DDB (or anyone),

Are optical brighteners really a big deal in inkjet papers? People were worried about them in darkroom papers mostly because of concerns they could be washed out unevenly in processing and you'd end up with a print that could look mottled over time.

I know that brighteners can fade over time, but that is a subtle change in effective density and within the range that may be considered OK for archival standards.

So, does this really matter if you have a paper that you otherwise like?

~~~~~

Dear John,

I think that's a good point for everyone. For small cartridge printers, I would always want to have a spare set of clogs on hand. You can get caught by surprise, for instance a head clog can cost a fair amount of ink to clear, and Murphy pretty well guarantees it'll happen at the least convenient moment.

For my 3880, I don't let myself get below 25% of a cart without a spare; for my 9800, 10%.

pax / Clein

Posted by [Clein](#) | Friday, 30 September 2011 at 03:40 PM

One thing worth considering when buying a printer and choosing between the eg. the Epson 2880/ R 3000 and 3880 printers is the cost of ink.

The price difference between the smaller printers and the 3880 more partly nullled out by amount of ink than comes with the 3880. Having the ability to print A2 is an added bonus.

The running costs are far less with the bigger printers as the price of ink per ml. ink is approximately a factor of 2.3 more expensive for a R2880 compared to the R3880, at least here in norway. So buying the cheaper and smaller printer is not a good idea if you are going to print a fair amount.

I have a 3800, and did the price comparison 2 years ago and not much seems to have changed.

And when it comes to reliability I am very pleased, I have had mine for 2 years now and it has never clogged or had alignment problems.

Posted by [Jørde Våghildsm](#) | Saturday, 01 October 2011 at 05:40 PM

Clein, what I can tell you is that the online articles seem to be pretty solidly against optical brighteners for inkjet papers (including what Dry Creek photo says specifically about the Costco situation). John Cone Studio papers advertises they're free of brighteners. BrayingColor.com does, gicleeprinterreview.org cites Wilhelm as saying they're bad. Luminous Landscape has an article that's against them. I have NOT thought about the issue much myself, or read extensively. I was just casually assuming they were bad (and picking up Dry Creek's recommendations against). But when I look more closely, there does seem to be a fairly strong consensus against them. Wilhelm does seem to speak directly against them, but the only link I've found so far is down in footnote 7 of [this](#).

So—casual survey of net articles suggests they're bad, with no oppositional articles by heavy hitters turning up, but that's really only a 15-minute review of the situation.

Posted by [David Dyer-Bennet](#) | Monday, 03 October 2011 at 12:50 PM

Dear DDB,

Thanks.

My experience is that betting against Henry Wilhelm is not a smart move on my part. He's right much more often than I. So, if he still thinks brighteners are a bad idea, I will do so.

pax / Clein

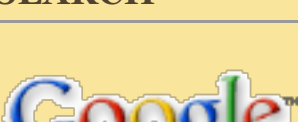
Posted by [Clein](#) | Monday, 03 October 2011 at 10:40 PM

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