

# [ATaRH.com](http://ATaRH.com)

## 24/7 News

- [Home](#)
- [Privacy Policy](#)
- [Contact](#)
- [Follow on Twitter](#)
- **Subscribe:** [RSS Feed](#) | [Email](#)

## [From Pixels to Print: We Explain Your Best Options for Photo-Printing](#)

December 8 2009 by News in [maximumpc](#) | [No Comments](#)

[Image Of New York City](#) [Concierge.com/Travel/NewYorkK](http://Concierge.com/Travel/NewYorkK)  
See Beautiful Pictures of Your Travel Destination at Concierge.com

[Digital Pathology](#) [blog.digitalpathologyinsights.com](http://blog.digitalpathologyinsights.com)  
News and Discussion at Digital Pathology Insights

[HP LaserJet Printer](#) [www.hp.com/in/laserjet](http://www.hp.com/in/laserjet)  
P1007 with three years extended warranty till 31st Oct 2010. Hurry!



**Total Printing Systems**  
Digital/Offset Short Run  
Book Printing/Binding/Fulfillment  
[youtube.com/tpsrml1](http://youtube.com/tpsrml1)

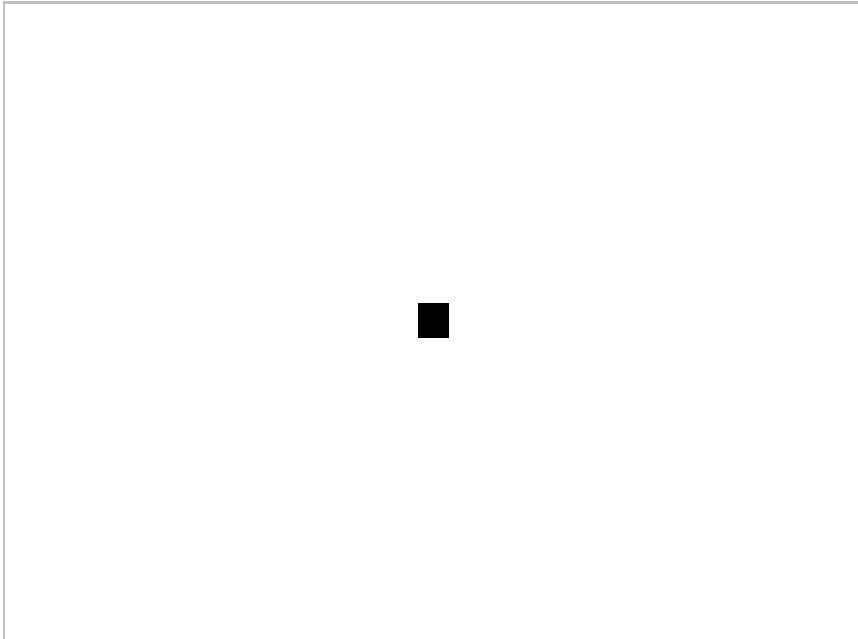
### **Photography has gone digital, but the need for printed photos still exists. We search out the best way to make hard copies of your digital pic**

Printing digital photographs seems so last century.

These days, we all carry at least one smart device, whether it's an iPhone, a Zune, an MID, or something else. We all use Facebook. And those with a more serious photographic bent might also use an online photo service like Flickr or SmugMug. Indeed, a vast array of methods for showing off your photography without actually handing someone a print now exists.

There are good reasons, however, to have photographic prints—even in the 21st century. Grandparents and other family members often like to have something to put in a frame that they can hang on a wall. Another other reason is size. There's something compelling about a really large print—8×10 inches or beyond. An iPod or laptop screen might be an acceptable replacement for the common 4×6- or even 5×7-inch print. But holding up a 13×19-inch print suddenly makes a half-decent photograph seem almost like a work of art.

So, for those times when you want a print, what's the best way to get it? Is it worth paying \$400 or more for a large-format printer, and then paying again and again for the ink? What about large-volume or professional online photo-printing services? Are they cost-effective, and can those prints measure up to a good-quality home printer? And how about those photo kiosks you find in places like Target and many grocery stores?



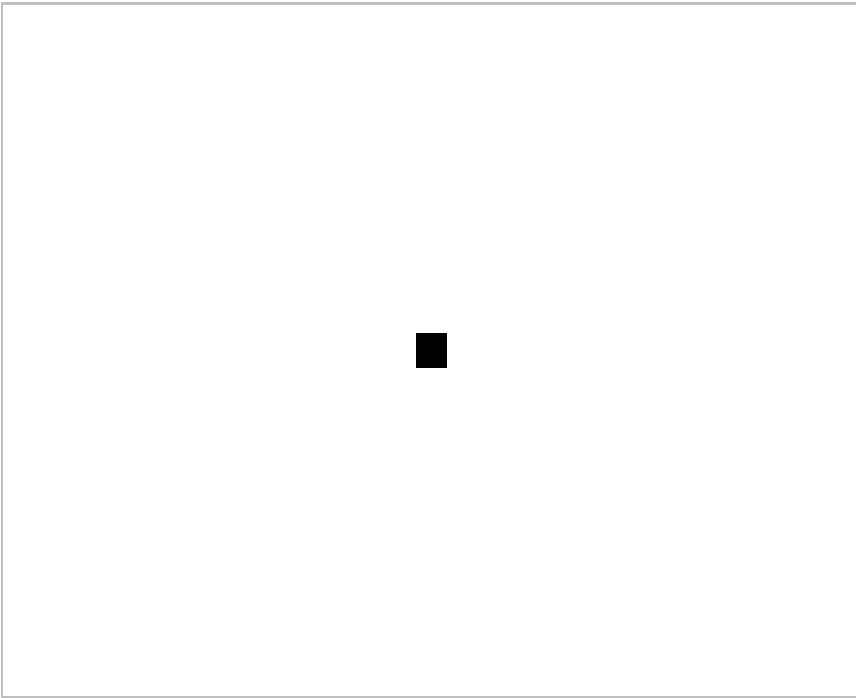
On the following pages, we'll take a look at the various methods for putting that hard-copy photo print in your hands. We'll look at variations in color fidelity, the overall cost, and take a stab at trying to understand how well the prints last over time.

## Your Printing Options: An Overview

Today, you have a plethora of printing choices. Photo-quality inkjet technology has become substantially better, with longer-lasting, pigment-based inks. Online photo printing services have sprouted like virtual weeds. Photo-printing kiosks can be found in stores and shopping centers. Even entry-level inkjet printers can dash off quick, small prints, if you don't need permanence.

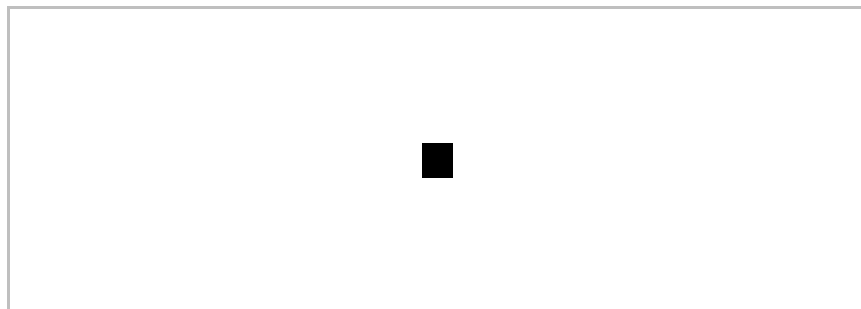
### Home Printers

These days, all-in-ones—those devices with a built-in scanner, color printer, and possibly a fax machine—often cost no more than a dedicated inkjet printer. Many of these offer wireless or wired network connections. If you don't need prints larger than 8×10, and can use a scanner for either faxing or scanning photos into your PC, an all-in-one can be worth considering.



Moving up the scale a bit are the relatively affordable, large-format printers. These can print at sizes up to 13×19 inches. HP offers an entry model for less than \$150 (after a \$150 rebate), with prices going up to around \$650 for the higher-end, professional model. Canon offers a pair of models ranging from \$500 to \$900. Epson offers the widest range of products, from \$250 to \$995.

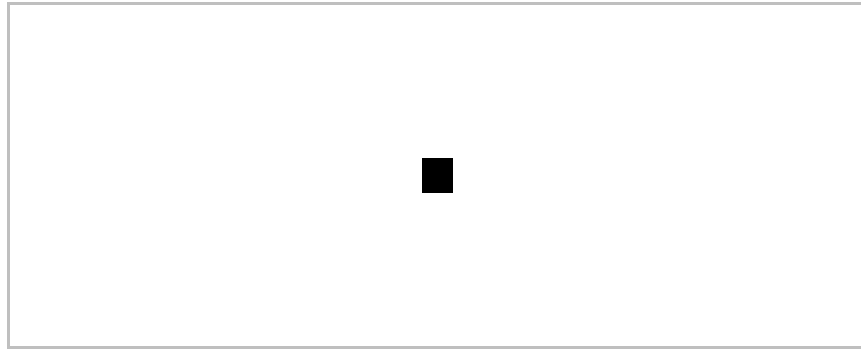
## **Retail Chains**



Big-box stores like Target, Wal-Mart, and Costco offer online printing services. You can order your prints and either have them shipped to you or ready for pickup at the nearest retail outlet. The prices are relatively affordable—about on par with the consumer-oriented online services.

## **Online Photo-Printing Services**

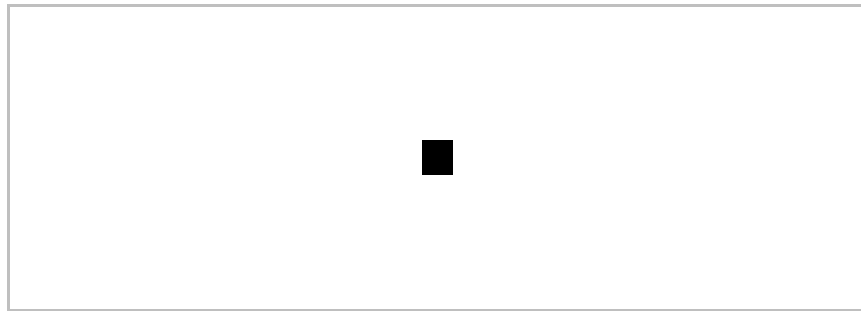
Online photo-sharing, popularized by sites like Flickr and SmugMug, offer printing services, though the actual printing is often handled by a third party. For example, if you're a Flickr user and want to order prints, Flickr redirects you to Qoop.com.



Facebook is the single largest online photo-sharing service, due to its huge user base, but there's currently no way to order prints from Facebook's default photo album. You can install a Facebook app like Photobox, which allows you to order prints, but then you have the annoyance of managing a separate Facebook app.

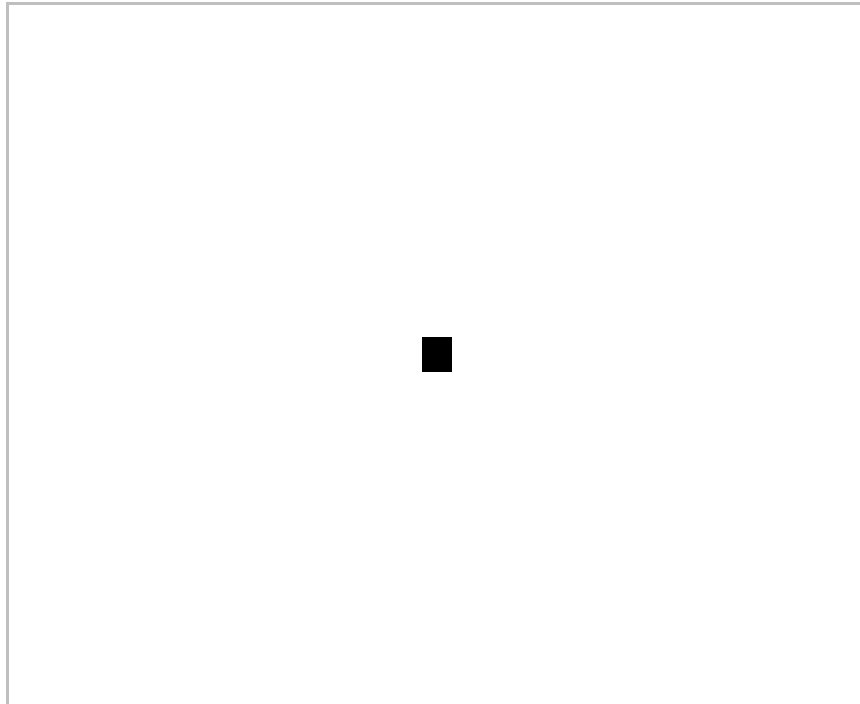
There are also a number of dedicated online printing sites if you just want to print photos you have stored on your PC. Examples include HP's Snapfish, Shutterfly, Kodak Gallery, and PhotoDirect. They all offer relatively low prices and subsidiary services, like online photo albums, custom framing, and related products.

## **Professional Photo Printing**



Online printing services are available for more professional needs. One example is PhotoWorks, which offers custom printing services for many pro photo shops. The quality of these prints may be a notch above the typical volume online service. For more discriminating pros, localized companies like San Francisco's Dickerman Prints ([www.robyncolor.com](http://www.robyncolor.com)) can be found in larger cities. You can upload your photos there, or even bring them into the local office and manually manage the printing yourself.

## **Photo Printing Kiosks**



If you wander into any Target store, you can usually find a Kodak printing kiosk. Other companies, like Fuji, HP, and Epson either have their own kiosk hardware or supply to kiosk manufacturers. The kiosk consists of a dedicated PC embedded in a cabinet with a touch screen and photo-printing hardware. Pictures uploaded from a memory card or CD are printed in less than a minute.

Next, find out how photo-printing technology works.

---

## ***How it Works: The Technology of Photo Printing***

The technology for actually putting that photo to paper differs substantially between inkjet printers and online photo-printing services. Inkjet heads, whether built into disposable ink cartridges, as with HP printers, or separate and replaceable, as with some Canon printers, are actually built in semiconductor plants using older, low-density manufacturing processes. The etching and lithography are necessary to create the hundreds of tiny nozzles and channels which route the ink to the paper.

An inkjet printer works by running current through an extremely tiny, heated chamber that boils the ink and forces it out the print nozzle. That's the easy part. The hard part is managing millions of tiny droplets and putting them on paper in precise order. The type of inks that go into inkjet printers have evolved over the years, with modern photo-quality inkjet printers using pigment-based inks with preservatives that help the ink last longer and resist fading.

A step up from home inkjet printers are those used in photo kiosks. A kiosk can use high-volume inkjet printers or dye-sublimation printers. Dye-sublimation printers actually use ribbons that are heated until the dye becomes a gas that is then transferred to the paper. Fuji offers a line of inkjet-based kiosks, while the Kodak kiosk we used in our testing uses a dye-sublimation technique.

The technology used by the online printing services is similar to the photographic process used for color printing in the past. Chemically treated paper is exposed to light, then processed chemically to stabilize the print. Paper is usually fed in large rolls, then prints are cut at the end. The higher-volume printers use RGB lasers to print the image directly to paper, which allows more precise control.

## Getting the Picture

*We compare eight popular photo-printing solutions*

As it turns out, there's no universally perfect printing service. The output quality varies, as does the cost per print. We took a look at a number of different printing options, and found both good and bad with each service.

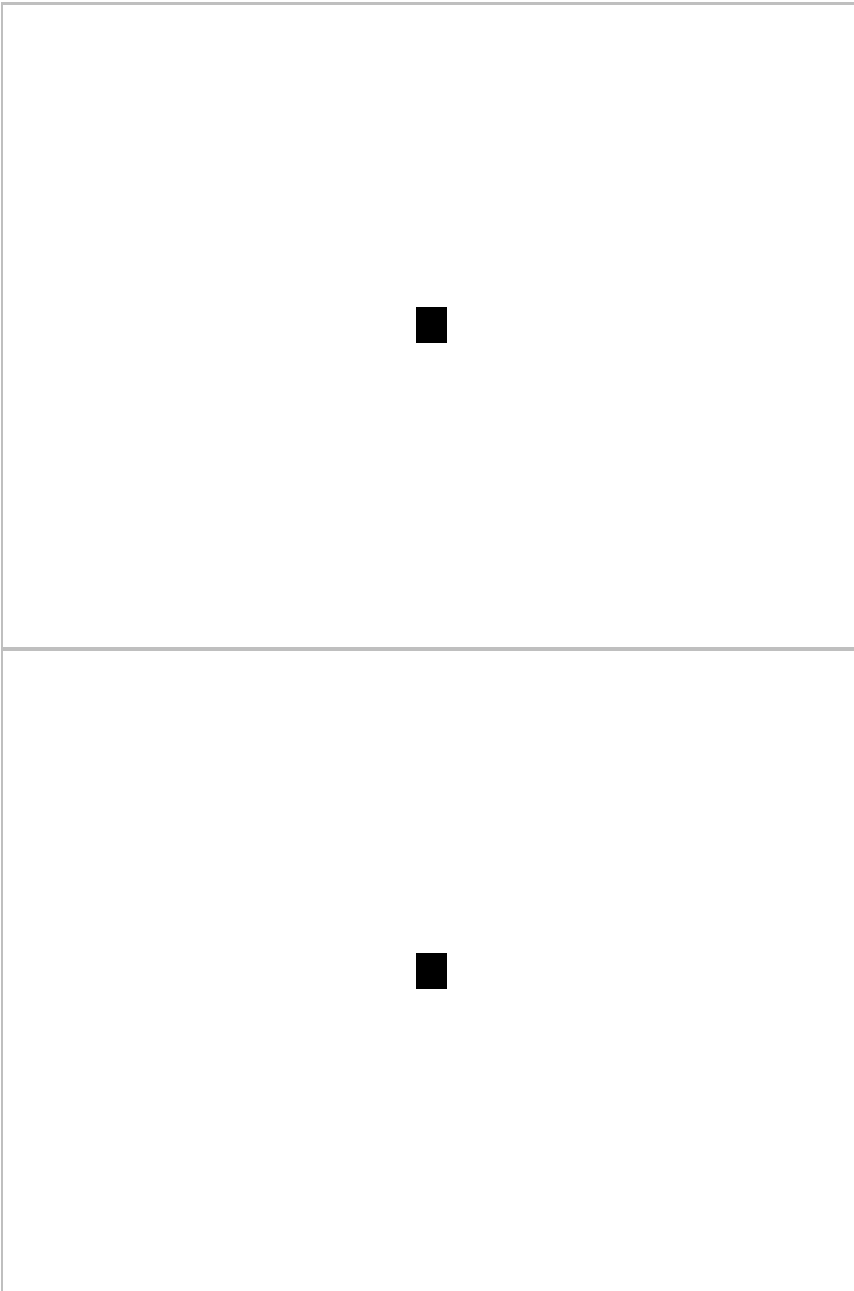
We tested as if we were requesting casual prints to hand out to friends or family. Even when we printed to a locally attached photo printer, we used quick print methods, deliberately avoiding careful color matching or tuning of printer driver profiles. The idea was to evaluate the experience of a typical casual user. Of course, if you're dropping \$500 or more for a professional quality printer, you might want to calibrate the printer to the display. Even then, there are times when you'd want just a quick print.

We either uploaded or printed the same eight test images, which included a variety of indoor and outdoor scenes, plus one test image we found on Inkjetart.com. We opted to print at 5×7 inches rather than the common 4×6-inch default. This allowed us to explore the user interfaces of the services and quick-print options a bit more than if we simply clicked through the defaults. Here's how we ranked eight competing methods from worst to best user experience.

## The Kodak Kiosk

Despite being able to walk in, plug in your own memory card, and get a print in a few minutes, kiosks aren't very effective. Also, you can't rely on them being in working condition—we encountered one drugstore kiosk that was either turned off or disconnected from power.

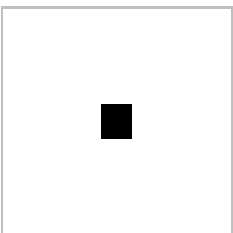
The Kodak kiosk we used let us print 5×7-inch prints, but the user interface was clunky at best. Trying to print to a size other than 4×6 meant re-selecting each picture and setting the size. We couldn't find a "print all photos at this size" option. On top of that, the photos were actually printed on paper larger than 5×7, requiring a manual trim if we had wanted to put them in a frame.



**The highlights are blown out in the Kodak kiosk print, giving the image a washed-out look and losing detail in the wall, compared to the reference picture above.**

All that effort resulted in the worst output quality of any of the photo-printing methods. Colors didn't seem true and highlights were blown out, resulting in detail loss in bright parts of a scene. Indoor scenes fared a bit better than outdoor.

On top of the flaws, printing at the kiosk cost \$1.49 per print, or \$13.02 for all eight including tax—more expensive than three of the online services.



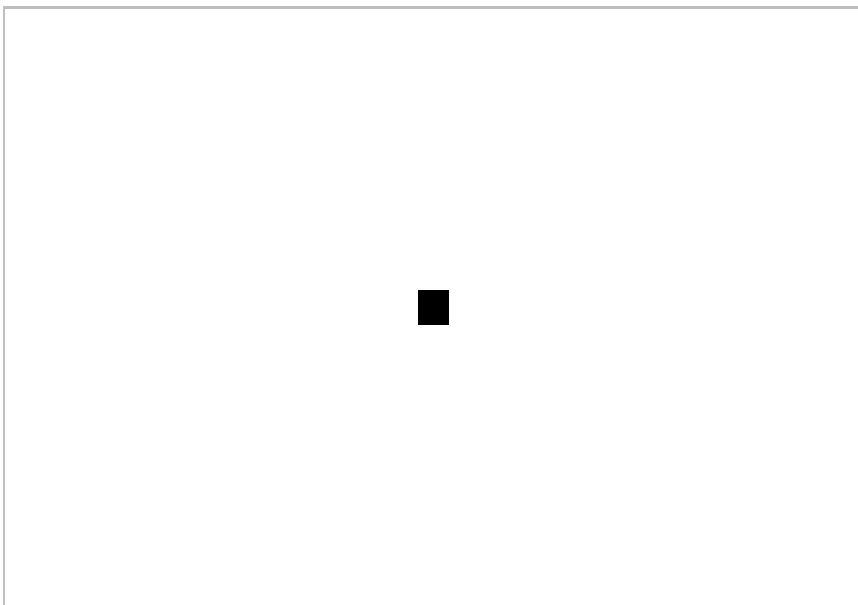
**Pros:** Walk in with your memory card and print.

**Cons:** Print quality varies widely from one location to the next.

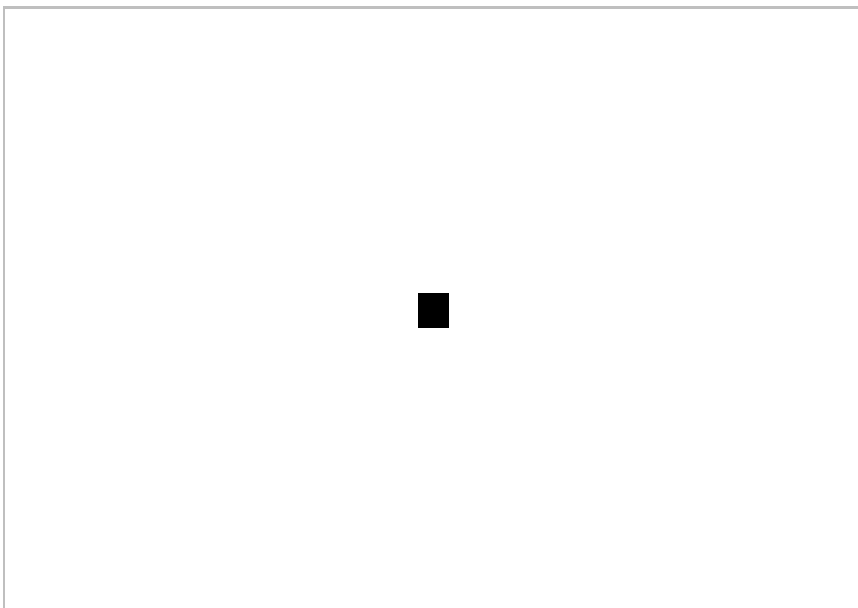
## Flickr / Qoop

Once we got past the photo kiosk, the overall quality of all the printing methods improved substantially. There were subtle but noticeable differences in color balance, but when viewed independently, most of the prints looked good to the eye. Still, we're ranking [Qoop](#), Flickr's integrated photo-printing service, toward the bottom of the pack because of an oddity in aspect ratio.

When you print a photo, the services typically try to judge what part of the image to print to fit the size you've requested, and most will crop your image accordingly. (Note: If you've cropped the image yourself, then the final print may not reflect the framing you're trying to achieve.) Good or bad, that's what you expect to get when you order a borderless image.



**While you could argue that the Qoop image (above) shows more of the photo, when you order borderless, you expect borderless.**

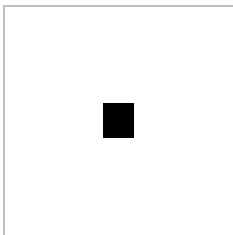


Qoop just printed the whole image in two of our test cases, rather than auto-cropping—but in the wrong orientation. So an image that should be tall (portrait) ended up landscape. To be fair, most of the online services and the HP printer software made the same mistake with the image orientation, but they at least cropped the image in a fairly smart way to fill the paper. The effect in those cases was similar to a close-up crop. The Qoop service just printed the whole picture in landscape mode. The result: large white bars on either side of the image.

Other minor nits: The contrast levels seemed a bit on the high side, resulting in some minor loss of detail in dark parts of a sunlit image, but this wasn't noticeable unless you compared the output to an identical image from a different source.

Flickr has partnered with the Picnik online editing site to allow fairly sophisticated image editing prior to printing. But it's not well-integrated with the printing service.

Printing from Flickr is a little on the pricey side for online printing; our eight 5×7 images cost \$14.06, including shipping and tax, for normal delivery. You can order large-format prints—up to 20×30 inches; a 20×30 print costs \$23.



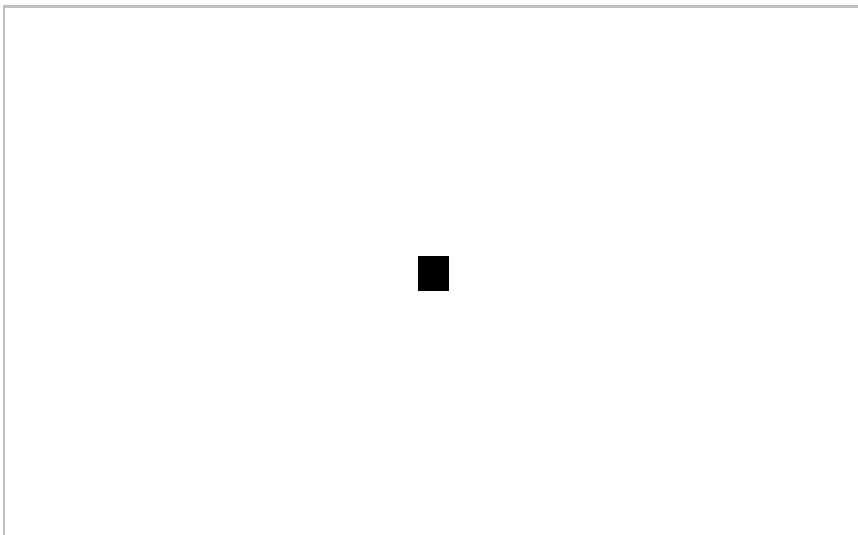
**Pros:** Flickr's capabilities for photo sharing and storage are terrific.

**Cons:** The Flickr/Qoop integration is pretty limited.

---

## PhotoWorks / Keeble & Shuchat

Keeble & Shuchat is a photographic gear reseller in Palo Alto, CA, selling to both professionals and amateurs. K&S uses a customized version of PhotoWorks called Photofinale as its online printing partner.



**Keeble & Shuchat's Photofinale combines the PhotoWorks online printing service with the Picnik**

**online photo editor, creating an integrated online package for tweaking photos before printing.**

[Eco-friendly Technology](http://www.konicaminolta.com) www.konicaminolta.com

Change the future with advanced technology printers.

[Love Photography?](http://sandisk.htmobiles.in/Photography) sandisk.htmobiles.in/Photography

Win a Trip To South Africa this Festive season. Participate Now !

[ACCUFAST InkJet Printers](http://www.accufastaddressing.cor) www.accufastaddressing.cor

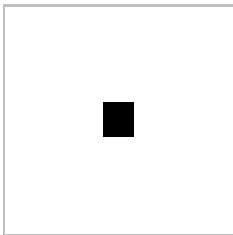
Amazing inkjet address and bar code printers, ink, curing systems, more

[printing press parts](http://www.dr-parts.com) www.dr-parts.com

Printing equipment Promotion 20% - 50% off

Overall image quality was solid, with good detail levels and color balance. But the price was steep. Printing eight 5×7 images cost \$39.33—\$4.50 per print plus tax—whereas other online print services charged \$9–\$14 for the same set of prints. So what makes ordering from Keeble & Shuchat cost so much more? It's the ability to tweak your photos online before printing. Photofinale includes the Picnik online photo-editing tool as part of the service. It's fully integrated into Photofinale, making for a complete solution. The only thing you can't do is print a proof before the final order.

So while \$4.50 for a 5×7 print seems steep, what you get is the ability to customize the output before you buy the print rather than relying on some automated print service guessing at the best settings.



**Pros:** Good integration with Picnik online editing tools.

**Cons:** Way too expensive.

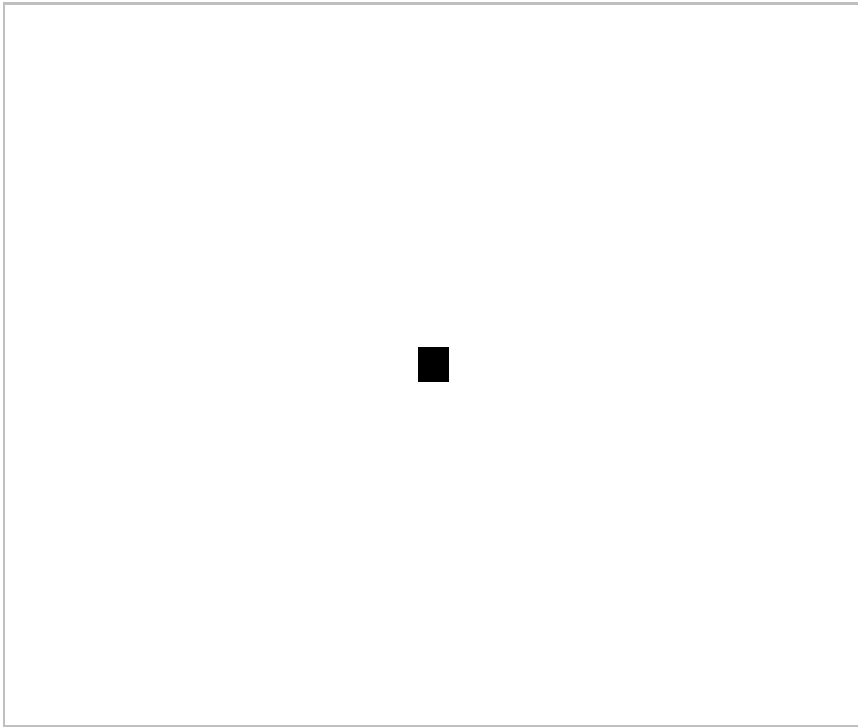
## HP Photosmart C309a

This printer—also sold as the HP Photosmart Premium Fax All-in-One—uses five ink cartridges: black, photo black, cyan, magenta, and yellow. It happens to be the exact same cartridge set used in HP's entry-level large-format printer, the Photosmart B8550. So, we expected good image quality.

Overall, indoor scenes and scenes with people looked quite good. Flesh tones looked natural and pleasing. Our bright, sunlit scene demonstrated slight loss of detail in the reflections and water, but the overall image quality seemed fine.

However, this printer exhibits some odd behavior when not printing. Once or twice a day, the printer would come to life, quite noisily, grinding away as if about to print something. Perhaps the unit was priming the print

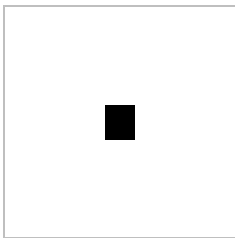
head, or performing some other routine automatic maintenance, but when this happened it was very distracting. And although printing multiple pages seemed speedy enough, the time to print the first page, particularly for mixed graphics and text, seemed extraordinarily long.



**HP's C309a is a good printer marred by a poor software interface.**

By far the worst problem, though, is HP's software. The printer driver settings page is confusing and the user interface obtuse. The scanning software is very slow, even though the actual physical scanning speed is fairly fast.

The Photosmart C309a retails for \$200, but you can find it for \$150 if you shop around. A set of XL-size 564 cartridges costs \$65 and should generate about 200 5×7 images. A package of 5×7-inch paper (60 count) runs about \$12.50. That amounts to about 53 cents per print—or \$4.24 for our eight test prints. That's a good deal, assuming you print enough to amortize the initial cost of the printer.



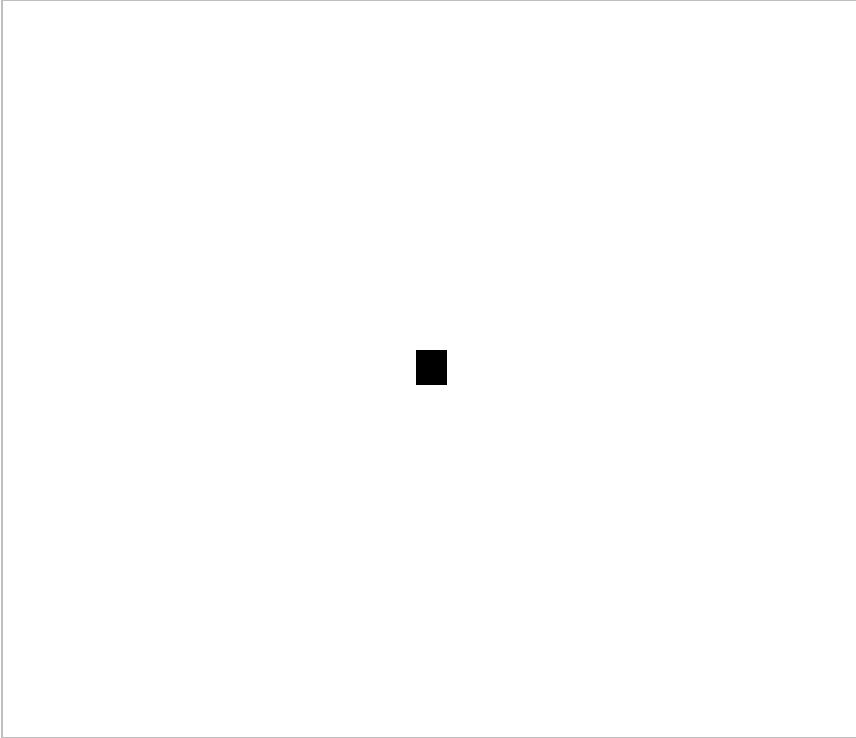
**Pros:** Good image quality for a low-cost device.

**Cons:** Printer is occasionally glitchy. Software UI is poor.

## Snapfish

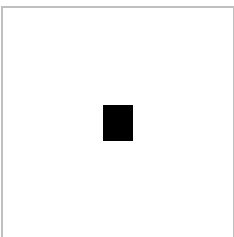
Snapfish is owned by Hewlett-Packard, allowing the company to generate revenue even if you're not printing on an HP printer. Snapfish's cost for printing our set of eight 5×7 prints totaled \$11.43, about middle of the road for the online services we tested.

Snapfish is all about photos. The site makes a few nods toward social networking, mostly by allowing you to create shared groups and friends lists. You can also post photos directly to Facebook, TypePad, MySpace, and Blogger. Rudimentary editing capabilities are available, but they're limited to simple auto-correction, cropping, and red-eye removal. You can also add borders or create monochromatic images. You can crop and edit the photo size to fit your print aspect ratio, but that feature is hidden within the "fix and enhance" part of the edit menu—which itself isn't easy to find.



**With Snapfish, you can print photos directly from Facebook.**

On the flip side, Snapfish recently added the capability (still in beta) to print photos from your Facebook photo albums. The photos are somewhat limited in resolution, but it's convenient to be able to order prints directly through your Facebook interface. Image quality of our reference prints generally seemed good—much better than the Kodak photo kiosk. We noticed slight color variations among all the online services, but no glaring defects. The default ordering menu specifies sizes up to 8×10; you need to go to the "poster prints" page to order images up to 20×30 inches. A 20×30 print costs \$20.



**Pros:** Relatively low cost; easy to use.

**Cons:** Limited editing.

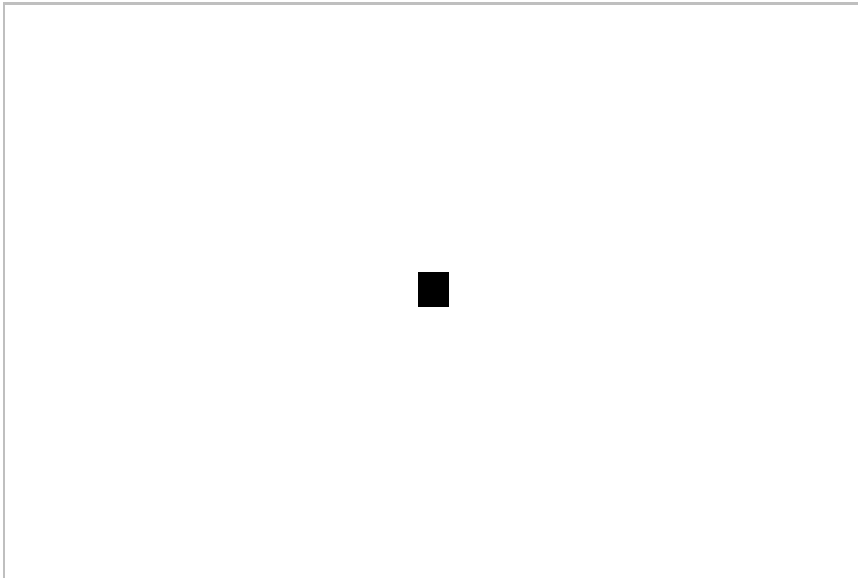
---

## Shutterfly

Shutterfly offers a slick, if somewhat cluttered interface for its web ordering system. You can order photos, [atarh.com/.../from-pixels-to-print-we-ex...](http://atarh.com/.../from-pixels-to-print-we-ex...)

photo books, calendars, photo mugs, and other related items. Shutterfly also offers some simple social-networking services, like the sharing of online albums and tagging of photographs. You can even right-click an image and upload it directly to Facebook.

Files are managed in photo albums, and the photo albums show up in a Windows Explorer–style side pane—it’s a very Web 2.0–style interface. Shutterfly recently added an iPhone app, so you can show your photo albums when on the go.

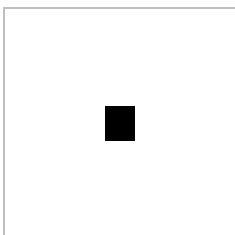


**Shutterfly’s print preview lets you visualize exactly what part of the image will be printed.**

Editing is limited to simple auto-fixes (e.g., red-eye removal), but you get a fair amount of control over which parts of the image you want to print. You can specify an aspect ratio (e.g., 5×7), and then adjust the size and cropping to best suit your aesthetic tastes. There’s even a slick print preview.

Image quality of our eight images was actually pretty good—substantially better than our kiosk experience and generally better than one-hour print services we’ve used in the past.

Our reference eight-photo order cost \$8.91, including shipping, making Shutterfly one of the most cost-effective online printing solutions. You can order prints up to 20×30 inches, although a 20×30 print will set you back a hefty \$22.99.



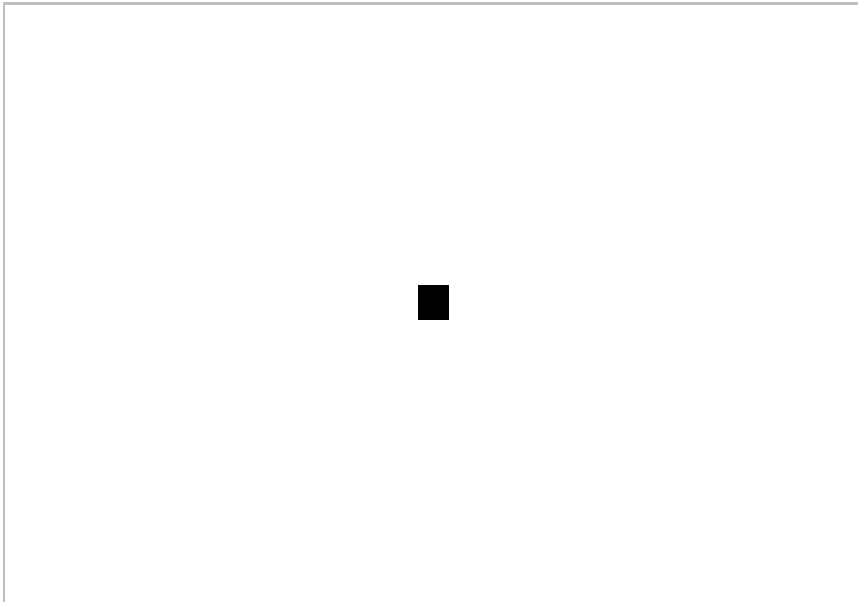
**Pros:** Lowest cost of the services we tested; good social-network integration.

**Cons:** User interface is cluttered.

## Costco

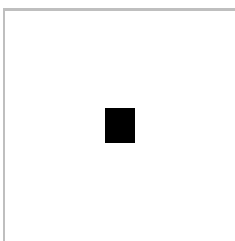
Costco, the big-box, membership-based retailer, offers photo-printing services to its members. Our eight-print

sample album cost \$10.49 to print. The photo-printing site offers a clean, somewhat sparse user interface that's extremely simple to navigate. In fact, the Costco site was probably the easiest to navigate, although it offers little in the way of social networking beyond simple group albums and email sharing.



**Costco's photo-printing site makes it very easy to crop an image to fit a specific aspect ratio.**

As with Snapfish, Costco does offer some rudimentary editing capabilities, limited to the standard red-eye, auto-correct, and fill-flash types of options. Cropping is perhaps the best part—you can crop to specific sizes and aspect ratios, making it possible to print the parts of the image you'd like to see on the photo. Compared with the other consumer online services we tested (Snapfish and Shutterfly), Costco's manual cropping control was the easiest. Flickr and Photofinale required you to use the somewhat more complex Picnik editor to handle detailed cropping.



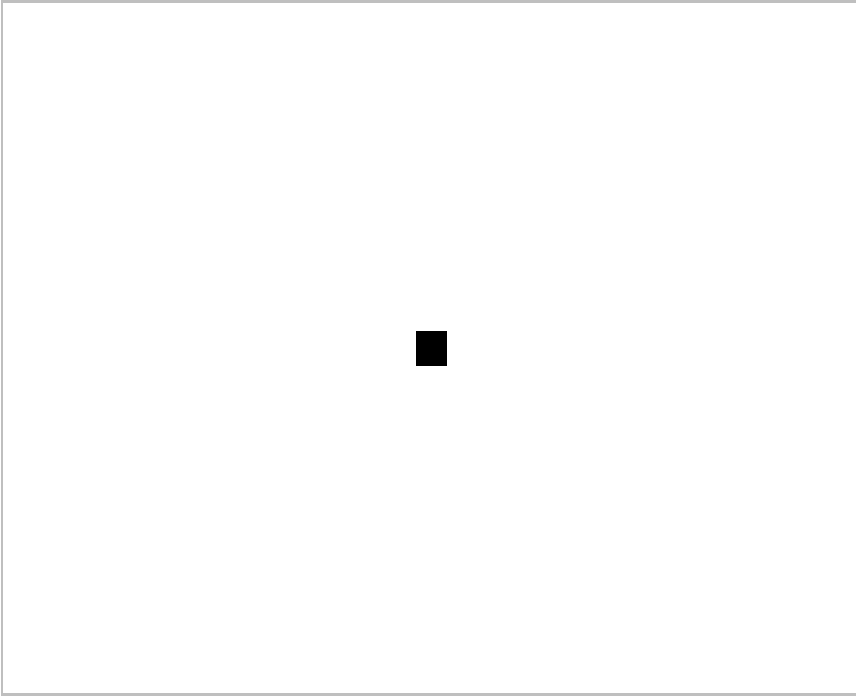
**Pros:** Very easy to use; cropping options.

**Cons:** You have to join a big-box retail club.

## Canon Pixma Pro9000 Mark II

The Pixma Pro9000 Mark II is the lowest-priced of Canon's big Kahuna 13×19-inch printers. Canon's retail price is \$500, but you can typically find it for between \$400 and \$499 online. As with all inkjet printers, what you really pay for is ink. However, we were pleasantly surprised to find that we were able to print out eight 5×7-inch prints plus about 15 13×19-inch full-color photos without draining any of the original ink cartridges. That's encouraging, since a Pixma Pro9000 eight-pack of ink is about \$85. (The Pixma Pro9000 uses eight colors: black, cyan, magenta, yellow, photo cyan, photo magenta, red, and green.) Individual ink cartridges cost about \$11 each, so buying individual cartridges when you need them isn't such a bad deal. The cost of ink isn't the only expense: a 20-pack of good-quality 13×19-inch paper will cost you about \$15–\$20. Given the number of

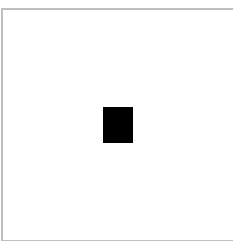
13×19 prints we created without running out of ink, this is likely to be a pretty cost-effective printer on the ink side. You should expect about a \$3–\$4 cost per large-format print; users have reported getting a maximum of about 40 13×19 prints from a cartridge set, although individual color usage may differ depending on the type of photography.



**Canon's Pixma Pro9000 Mark II offers exceptional color print quality and large-format prints up to 13×19 inches.**

On the other hand, the output is gorgeous. Color rendition looked accurate and detail levels were good—and these were just automated quick prints using Canon's own print software, not calibrated. One good thing about Canon's print software is that it made a good guess with one of our photos, and printed a shot in portrait mode, yielding a better composition than all the other printing services and even HP's printing software for the C309a.

Of course, you're paying a lot more for the Pixma Pro9000 II, so the output had better be outstanding.



**Pros:** Excellent output quality; high ink capacity.

**Cons:** It's 500 bucks, and large-format paper costs a bundle.

## The Bottom Line

If you print photos rarely, the online photo services have come a long way. About the only downside is that you'll have to wait for shipment. It was interesting to note that services like Shutterfly and Costco generated prints every bit as good as the PhotoWorks service used by some pro shops, and for a lot less money.

If you really care about the quality of your prints, and are willing to take the time to calibrate your output to your display, having a good printer is the only way to go—assuming you print enough to offset the cost of the printer itself. What you get is incomparable control and convenience.

## *Torture Testing: Your Prints vs. the Elements*

In the past, inkjet printers were known for printing photos that fade over time. In fact, early inkjet prints would fade after just a few months, even if tucked away in an album. If you mounted a print in a frame and left it on a table, you'd actually see uneven fading, depending on how light shined on the glass.

We couldn't let our test pictures sit around for several years to test their relative permanence, but we could expose them all to the northern California sun. We placed identical test images from all the services we reviewed in identical 5×7 wood-and-glass frames. We then exposed them to 13 days of sunlight, outside, on a white concrete patio. (The test would have been a full two weeks, except it did rain one day.)

Every few hours, we'd go out and shift the orientation of the table to maximize the pictures' exposure to the moving sun.

We were pleasantly surprised to find that none of the images demonstrated any serious fading. Of course, that doesn't mean the pictures will be durable over many years. But short-term image fading seems to be a thing of the past.

Read the whole story on [Maximum PC all RSS Feed](#)

### **Related Posts:**

- [The Xerox Phaser 8400 Printer – Big And Heavy But Works Great](#)
- [What To Look Out For When Buying An A3 Printer Online](#)
- [Buying An A3 Printer: What To Consider Before Making A Purchase](#)
- [Lexmark Optra T610 – The More Than Capable Office Printer](#)
- [The Numerous Benefits Of The IBM InfoPrint 1614 Printer And IBM InfoPrint 1614 Toner Cartridge](#)

## Leave a Reply

You must be [logged in](#) to post a comment.

« [Intel on Track to Release Its Fastest Pentium Wolfdale Yet Review: Panasonic Viera TX-L32S10](#) »

- [Recent Posts](#)
- [Comments](#)
- [Tag Cloud](#)
- [Fotopedia Launches Heritage 2.0, in Cooperation with the UNESCO World Heritage Centre](#)
- [Discovering The Oil Spill Compensation Procedure and Policy](#)
- [How to Use|Using|Utilizing|Why use } Fatcow Coupon {to save|in order to save|to save lots of} {money on|cash on} {Web hosting|Website hosting|Hosting|Internet hosting|Web hosting service|Web host|Webhosting} |{Using|Utilizing|Making use of|Applying|Utilising} Fatcow Coupon {to save on|to reduce|to bring down|to lower your} {web hosting|website hosting|hosting|web hosting service|webhosting} {cost|price|expense|charge|price tag|fee} |{Save money|Cut costs|Spend less|Lower your expenses|Get a better price|Make big savings|Lower your costs|Make good savings|Save cash} on {web hosting|website hosting|hosting|internet hosting|web hosting service|web host|webhosting} {by using|by utilizing|through the use of|by making use of|by applying|with the use of|with the help of} Fatcow Coupon|{Cheap|Inexpensive|Low-cost|Affordable|Low cost|Low-priced|Low priced|Economical|Less expensive|Discounted} {web hosting|website hosting|hosting|internet hosting|web hosting service|web host|webhosting} with Fatcow coupon](#)
- [How to Pimp Your Mywolfbook Profile](#)
- [Oil Spill Claim: Learn How To Submit Your Declare At present](#)
- [The impression of derrames de petroleo on the economy and environment](#)
- [PLR software- An effective methodology of selling](#)
- [BP Oil Spill Action : The Procedures You Can Expend To Acquire Things that You Rightfully deserve](#)
- [What Kind of Repairman would my computer select](#)
- [Need A New Photocopier? Here's How To Shop Wisely](#)

## • Hot Topics Right Now!

[Sony VAIO N330NB Notebook PC](#) [best winterboard themes](#) [control ball brain opening tomtom iphone cradle](#) [150 mit balloon steve ballmer edition](#) [nokia 6303 share online](#) [vaio fw 1920 screenshot](#) [ipod touch 3 0 firmware](#) [dictionary for s8000 jet](#)

## • Sponsors

Apple Airport Express...

Apple Battery Charge... Apple

Magic Mouse Apple TV with

160GB ... Apple USB Power

Adap... CaseCrown Faux

Suede... DURAGADGET Water

Res... GOgroove SonaWAVE -

... Mini Wireless Blueto...

Privacy

## • Most Popular Topics

[nokia 3603 web easy professional 8 review](#) [nokia 3603 classic 1](#) [best winterboard themes](#) [best cydia themes 1](#) [panasonic sd10 battery life mss](#) [toshiba tg01 problems 1 1](#) [omnia porn](#) [sony vaio fw41eh](#) [Best iphone winterboard themes](#) [Web Easy Professional 8 reviews](#) [Panasonic HDC-SD10 Mac 1](#) [mss 1](#) [panasonic sd10 battery](#) [panasonic hdc-sd10 mac compatibility 1](#)

## • Online Games

- [Mafia Wars Secrets](#)

## • Site Categories

- [Atarh.com Finance](#)

Copyright © 2008-2010 [Technology News](#)