

Affordable Printing Solutions

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The Coming of the Age of Color Laser?

According to Gartner, worldwide printer shipment has exceed 214 million units in 2005, a 18.6% increase over 2004. On the page printer market, color page printers totaled 3.1 million units, up 44.3% from 2004, while monochrome page printers totaled 18.4 million, up 15.1% in the same period.

Page printer refers to any output device that print one page at a time. Laser and ink-jet printers are page printers, because they have enough memory to store at least one page.

Sales of color laser printers are particularly strong, expected to increase 20% annually in the years ahead, while monochrome laser sales remains flat. It is expected in a few years time, color laser printers will outstrip monochrome printers in sales.

How affordable are today printing solutions?

Is the Color Laser Printer coming to Age?

What is Printer Life Cycle Management?

What is the Total Cost of Ownership?



HP 2600 Series
Color LaserJet



HP 3000 Series
Color LaserJet



Canon Pixma
Series



One of main reasons is due to the aggressive pricing by the leading manufacturers, with the selling price of printers slashed 15-20% year on year.

However, we will caution against the use of the purchase price as your only criterion in choosing a printer. In this newsletter, we looked at the hidden costs in printing and how to better printer life cycle management.

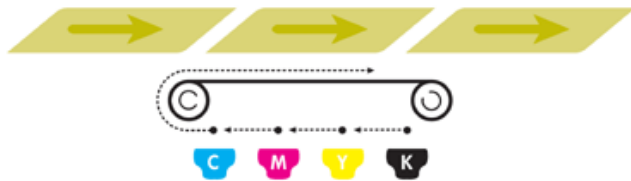
Milestones Newsletter Gone Bi-Monthly

We have gone to a bi-monthly schedule now, so you should receive the latest newsletter every two months this quarter of year 2006. We hope our readers enjoy our free publications! And feel free to forward it to your friends who might also enjoy it.

Print Technology



Inkjet Basics (Courtesy of HP)



Laser Print Basics (Courtesy of HP)

Inkjet Print Basics

Inkjet printer sprays ionized ink at a sheet of paper media. Magnetized plates in the ink's path direct the ink onto the paper in the desired shapes.

Inkjet technology are capable of producing high quality prints approaching that produced by laser printer.

Typical resolution of 300 dot per inch higher.

Laser Print Basics

Laser printer utilizes a laser beam to produce an image on a drum. The light alters the electrical charge on the drum wherever it hits. The drum is then rolled through a reservoir of toner, which is picked up by the charged portion of the drum.

Finally, the toner is transferred to the paper through a combination of heat and pressure. Due to the heat involved in this fusion process, there is a more limited range of media supported for LaserJet printing than inkjet printing

One-Pass Vs Multi-Pass Color Laser

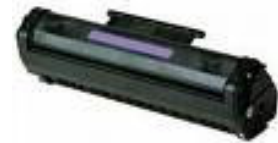
Monochrome laser printer has only a single toner, while color laser printer needs four toners to deliver the four primary colors — Cyan, Magenta, Yellow and Black (CMYB).

For faster printing, the latest range of color laser printers are embracing the one-pass printing technology, that allows for a page to pass over all four the toner cartridges.

On the other hand, the traditional multi-pass color laser printers use one imaging drum repeatedly for each CMYK color. The same sheet of paper travel a longer path, going through four successive printing phases (one for each color). This only a single drum for all the toner cartridges, whereas one-pass printers need a drum for each toner color.

One-pass printers are still relatively new, but gradually, single-pass technology is gaining popularity and replacing multi-pass color laser technology. In fact, it has gained 46% of the market share in year 2005.

Color lasers cost still so much more than comparable monochrome printers and color inkjet printers, let us evaluate the needs and decide if the extra cost of color capabilities is worth it for your business.



HP Q6470A Black Toner for HP Color LaserJet 3600 Series costs around S\$200 and print approximately 6000 pages (Courtesy of HP)



HP C6656 Black Inkjet for HP Deskjet and Photosmart Series costs around S\$35 and print approximately 450 pages (Courtesy of HP)

Printer Life Cycle Management

Determine Requirements

The type of printer you need depends on what you intend to print. Generally, laser printers print more sharply and quickly than all but the most expensive inkjet printers. If you usually print text documents, a monochrome laser printer fits the bill nicely. On the other hand, if you need to print color photographs, you may just need a specialized photo color inkjet.

If you want both crisp text and high-quality color images, consider buying a color laser printer. Another alternative is to buy both a monochrome laser printer and a midrange color inkjet.

Laser printers have the advantage of consistent performance, especially for high volumes and lengthy, mixed contents (text and graphics) documents. Majority of laser printers also comes with in-built network capabilities and large memory buffers supporting multiple print queues, well-suited for medium- to large-sized office network.

Invest in Quality

When investing in a printer, you will find that higher-quality products cost more. But it is unlikely that you will only want more than just the bare-bones features. Expect to pay for the extras: higher print resolutions, a network interface, a duplex unit, PostScript, more printer memory, or the capability to handle different paper sizes. A well-lit LCD control panel with easy to use menus and control buttons do make the difference in user experience.

Comparison Shop

Do some homework when you shop for a new printer. The Internet is a fast, convenient place to find information on available printers in the market. Narrow down your selections, read the reviews and perform side-by-side feature comparisons before deciding on the printers that you are interested in.

- **Printer Dimensions.** Check the printer physical space requirements. A fully loaded laser printer that accommodates large paper sizes, features a duplex unit, and includes an extra paper tray will consume a sizeable amount space in your office. Owing to less mechanical parts, inkjet printers are comparatively smaller and more portable.
- **Print Quality.** Good printers have a high print resolution. A resolution of 600 dpi (dots per inch) is enough to make normal-sized text and most line drawings look crisp. Lower resolutions such as 300 dpi are good for drafts, but often results in blocky text and jagged lines. Resolutions above 1,200 dpi will be sufficient make the document extremely sharp, but the higher the resolution, the longer it will take to print and consume more ink. Photo inkjet printers boost better quality when printing photographs especially when use together with coated paper for "photo quality".
- **Print Speeds.** Laser printers is not always faster. The speed of a printer is measured in ppm (pages per minute). Slow printers print at less than 10ppm, whereas fast ones can print at a rate of more than 20ppm. If you need to quickly print multiple copies of large reports on a regular basis, speed should be at the top priority in the list. At the thumb of rule, the faster the printer, the more expensive it is.
- **Paper Handling.** Can the printer handle the paper types and sizes you intend to use? Laser printers are still lacking in paper handling features, inkjet printers are more versatile for specialty papers, wide-format, and unique media types, such as transparencies, envelopes, thicker card stock, even CD/DVD labels.
- **Memory and Network Capability.** Is the printer for home office or medium-to-large office network? Then the printer will need to network enabled and enough memory for printer queues

And most importantly, the **Total Cost of Ownership**.

Total Costs of Ownership

The Hidden Costs of Printing

The purchase price of a printer often does not represent the total cost of owning one; you keep paying for each page you print. Although the initial cost of a laser printer may be higher than that of an inkjet printer, the cost per printed page is usually less with a laser printer in the long run.

Cost Per Page: Independent Ink Vs Combined Ink Tanks

HP and Canon are the market leaders — they have been most aggressive to introduce new models to the market.

Canon is one of the first to introduce independent ink tank to its printers, though open to much debate, we found that as opposed to combined ink technology, the cost of per page go down significantly. Its latest PIXMA series printers utilizes two black and three primary color ink tanks.

In a lab test, it is found that the cost per page for a 5% coverage black A4-sized print is around 1 to 2 cents for printers on both independent and combined Ink, however, the cost per page for a 20% coverage full color A4-sized print is whopping 65 cents against 29 cents!!



HP 22 Inkjet Cartridges, using Tri-Color Combined Ink and a separate Black ink



Canon CLI-8 Inkjet Cartridges for its latest PIXMA series printers

Cost Per Page: Inkjet Vs Color Lasers

In the same lab test, it is found that the cost per page for a few models of popular one-pass color laser printers, on a 5% coverage black A4-sized print is 1 to 5 cents, while on a 20% coverage full color A4-sized print is 10 to 20 cents on the average.

The test results indicated that printing in black does not make a lot of differences whether inkjet or color laser, but printing in color, there could be substantial savings, in terms of cost per page, for using color laser.

Cost Per Page: On Estimated Print Usage

Excluding the purchase price, based on an annual usage of 500 A4-sized page of text, 150 A4-sized mixed color/text pages and 150 of mixed 4"x6"/A4-sized full color pages, it is found that

	Annual Cost Based on the Estimated Print Usage	Cost Per Page Avg	Cost Per Page Black (A4)	Cost Per Page Mixed (A4)	Cost Per Page Color (A4/ 4 x 6")
Inkjet Printers	US \$100	US\$0.125	US\$0.025	US\$0.29	US\$0.34
Color Laser	US \$64	US\$0.08	US\$0.015	US\$0.15	US\$0.19

In Conclusion

Although the prices of color laser printers are declining due to aggressive marketing, purchase price should not be the only criterion in choosing a printer.

Use Printer Life Cycle management to determine what suited for your requirement.

Know the hidden cost, by investigating into how many pages, on average, a single ink or toner cartridge prints and how much replacement consumables cost.

If you do not have the time for market research or the technical knowledge, you can always look for us at **1000 Miles Network (AP) Pte Ltd.**

1000 Miles Network also supplies original, genuine Canon and HP inkjet cartridges. For laser toners, contact us for prices. Prices subjected to change and availability. Discount available on bulk purchases.

Items	Our Prices
Canon BCI-24 Black Ink Cart Twin Pack	\$19.90
Canon BCI-24 Color Ink Cart Twin Pack	\$41.90
Canon Ink Cart BCI 15 Black Twin Pack	\$21.20
Canon Ink Cart BCI 15 Color Twin Pack	\$39.50
Canon Ink Cart CL-41 Color	\$37.90
Canon Ink Cart CL-51 Color	\$55.90
Canon Ink Cart CLI-8 Black	\$19.90
Canon Ink Cart CLI-8 Cyan/Magenta/Yellow	\$19.90
Canon Ink Cart CLI-8 Photo Cyan/Magenta	\$19.90
Canon Ink Cart PG-40 Black	\$29.90
Canon Ink Cart PG-50 Black	\$40.90
Canon Ink Cartridge BC 02	\$40.50
Canon Ink Cartridge BC 03	\$36.90
Canon Ink Cartridge BC 05	\$43.90
Canon Ink Cartridge BC 20	\$55.50
Canon Ink Cartridge BCI 21B	\$10.90
Canon Ink Cartridge BCI 21 Color	\$25.50
Canon Ink Cartridge BCI 3 Black	\$18.90
Canon Ink Cartridge BCI 3 Cyan/Magenta/Yellow	\$16.90
Canon Ink Cartridge BCI 6 Black	\$16.90
Canon Ink Cartridge BCI 6 Cyan/Magenta/Yellow/Red	\$16.90
Canon Ink Cartridge BCI 6 Photo Cyan/Magenta	\$16.90
Canon Ink Cartridge BCI-24 Black	\$10.50
Canon Ink Cartridge BCI-24 Color	\$22.50
Canon Ink Cartridge BX3 (Fax)	\$38.50
HP 51625AA #25 Tri-Color Inkjet Print Cartridge	\$55.90
HP 51626AA #26 Black Inkjet Print Cartridge	\$53.90
HP 51629AA #29 Black Inkjet Print Cartridge	\$53.90
HP 51641AA #41 Tri-Color Inkjet Print Cartridge	\$55.90
HP 51645AA #45 Black Inkjet Print Cartridge	\$48.90
HP 51649AA #49 Tri-Color Inkjet Print Cartridge	\$55.90
HP C1823DA #23 Tri-Color Inkjet Print Cartridge	\$54.90
HP C5010DA #14 Tri-Color Ink Cartridge	\$45.90
HP C5011DA #14 Black Ink Cartridge	\$35.90
HP C6578DA #78 Tri-Color Inkjet Print Cartridge	\$54.90
HP C6614DA #20 Black Inkjet Print Cartridge	\$52.90
HP C6615DA #15 Black Inkjet Print Cartridge	\$47.90
HP C6615DA #15 Tri-Color Inkjet Print Cartridge	\$49.90
HP C6625AA #17 Tri-Color Inkjet Print Cartridge	\$49.90
HP C6628A 3 19 Black Inkjet Print Cartridge	\$54.90
HP C6656AA #56 Black Inkjet Print Cartridge	\$33.90
HP C6657AA #57 Tri-Color Inkjet Print Cartridge	\$55.90
HP C6658AA #58 Photo Inkjet Print Cartridge	\$40.90
HP C8727AA #27 Black Inkjet Print Cartridge	\$30.90
HP C8728AA #28 Tri-Color Inkjet Print Cartridge	\$35.90
HP C8765WA #94 Black Inkjet Print Cartridge	\$34.90
HP C8766WA #95 Tri-Color Inkjet Print Cartridge	\$41.90
HP C8767WA #96 Black Inkjet Print Cartridge	\$52.90
HP C9351AA #21 Black Inkjet Print Cartridge	\$26.90
HP C9352AA #22 Tri-Color Inkjet Print Cartridge	\$29.90
HP C9363WA #97 Tri-Color Inkjet Print Cartridge	\$57.90
HP C9368AA #100 Grey Photo Inkjet Print Cartridge	\$41.90

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Corporate Information:

1000 Miles Network is a turnkey IT solution provider since 1999, that offers value-added consultancy services for :

Network Connectivity

Structured cabling, LAN/WAN, Mobile/Wireless, VPN, Proxy Squid, AAA-Radius, DNS/Bind, Routing/Switching

Systems Integration

MS Windows, Sun Solaris, IBM AIX, Linux variants, Open Source technologies

Office Automation

Mail and Messaging (SMS/MMS/Fax), Print, Scan, Copy, Imaging Solutions, Directory Services, Content Management solutions

Industrial Automation

Turnkey Automation and Control solutions for building and facilities, Data Acquisitions, Controllers, Sensors, Monitoring/Alerts, Public Address, Security Access, CCTV/DVR solutions

Power Distribution

Electrical Power Conditioning and Grounding, Uninterrupted Power Supplies

Storage and Backup

Tapes and Storage Media, Optical Jukeboxes, Network Attached Storage, Storage Area Network, Multimedia solutions

Feedback:

How do you receive our newsletter?

Email Referral Sales Contact Corporate Web Site Blog Others: _____

Do you find the newsletter useful?

Poor Average Good

Will you recommend our products and services to others?

Yes No Maybe