

*Independent Consumer Guides to
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THE EDITOR'S CHOICE AWARDS



Samsung ML-5512ND

- ***New Quick Read Format***
- ***Detailed Reviews on Latest Document Imaging Equipment***

December 2011



Editor's Choice Awards

December 2011

This guide contains recently released office equipment machines that received our **Editor's Choice Award**. Based on our review, these models deliver the highest level of performance and offer the greatest value in a given category.

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HEWLETT-PACKARD

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2011

Hewlett-Packard LaserJet Enterprise 500 Color M551n

Hewlett-Packard LaserJet Enterprise 500 Color M551dn

Hewlett-Packard LaserJet Enterprise 500 Color M551xh

33ppm color

33ppm black & white

Sum-up: Fully-featured printers for the mid-size workgroup.

The machines in the new HP LaserJet Enterprise 500 Color M551 series are the latest printers with the "Enterprise" brand name. Aimed at the mid-size workgroup, they print at 33ppm in both black-and-white and color. They also have a decent first-page-out time of 11 seconds and are rated at a monthly duty cycle of 75,000 pages (although the recommended usage is between 1,500 and 5,000 pages).

The M551n is the base model. At \$699, it includes standard networking. The \$899 M551dn has all the features of the n model, but includes standard automatic duplexing and a second USB port. The M551xh (\$1,399) adds a standard 250GB hard disk and an additional 500-sheet tray.

These printers are powered by an 800MHz processor. They come with 1GB of standard memory (not upgradeable). Ethernet (including Gigabit Ethernet) and USB connectivity are standard, while Wi-Fi is optional. PCL and PostScript are standard, along with direct PDF printing.

The paper supplies are straightforward. They include a 100-sheet bypass (multipurpose tray), a 500-sheet paper tray, and an optional (for the n and dn models) 500-sheet tray (\$319) for a maximum of 1,100 sheets. There is a 250-sheet output tray. Heavy index stock can be run through the bypass.

These models come with HP's ColorSphere toner, which appears to improve color quality. They come with preinstalled cartridges, so the

printer is ready to go out of the box. The full-size cartridges are rated for 6,000 black-and-white pages and 11,000 color pages. We like this trend, especially since the initial setup of a printer can be a real headache. The cost per page is around 1.7¢ for black and 12.8¢ for color. The color cost is a little high for a workgroup machine, but the extra higher-capacity black toner helps keep the cost of black printing down.

Like other newer HP printers, these machines also feature the Instant-On and Auto-On/Auto-Off technology (which turn off the printer during non-peak times, i.e. nights and weekends) and ePrint (for printing from a mobile device). HP offers its FutureSmart firmware software for running newer solutions on existing HP hardware.

Our only complaints with these machines are the higher color costs and a 250-sheet output (other printers, from both HP and competitors, typically include a 500-sheet output). However, they have solid features and are affordable. We give this family our Editor's Choice Award.



*Hewlett-Packard LaserJet Enterprise 500
Color M551n - Affordable and fully-featured
printer for the mid-size workgroup.*

**Color
Laser
Printer**

**Hewlett-Packard
LaserJet Enterprise 500 Color M551n**

Specifications	
Price	\$699 (street)
Print speed, color	33ppm
Print speed, black	33ppm
First print time	Black: 11 seconds Color: 11 seconds
Imaging technology	Laser
Processor	800MHz
Standard memory	1GB
Maximum memory	1GB
Hard drive	No
Print languages	PCL, PostScript, direct PDF
Ethernet	Standard
Wireless	Wi-Fi (optional)
Standard input	1 x 500
Bypass	100 sheets
Optional input	1 x 500 (\$319)
Maximum paper supply	1,100 sheets
11" x 17" paper	No
Auto duplex	No
Output devices	1 x 250 (standard)
Supplies	Black: 11,000 pages (\$197) Color (3): 6,000 pages each (\$220 each)
Est. cost per page	Black: 1.79 cents Color: 12.8 cents

**Hewlett-Packard
LaserJet Enterprise 500 Color M551dn / Laser-
Jet Enterprise 500 Color M551xh**

Specifications	
Price	\$899 (street) / \$1,399 (street)
Print speed, color	33ppm
Print speed, black	33ppm
First print time	Black: 11 seconds Color: 11 seconds
Imaging technology	Laser
Processor	800MHz
Standard memory	1GB
Maximum memory	1GB
Hard drive	No / 250GB (standard)
Print languages	PCL, PostScript, direct PDF
Ethernet	Standard
Wireless	Wi-Fi (optional)
Standard input	1 x 500 / 2 x 500
Bypass	100 sheets
Optional input	1 x 500 (\$319) / No
Maximum paper supply	1,100 sheets
11" x 17" paper	No
Auto duplex	Standard
Output devices	1 x 250 (standard)
Supplies	Black: 11,000 pages (\$197) Color (3): 6,000 pages each (\$220 each)
Est. cost per page	Black: 1.79 cents Color: 12.8 cents

HEWLETT-PACKARD

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Hewlett-Packard LaserJet Enterprise 600 M601n

Hewlett-Packard LaserJet Enterprise 600 M601dn

45ppm

Hewlett-Packard LaserJet Enterprise 600 M602n

Hewlett-Packard LaserJet Enterprise 600 M602dn

Hewlett-Packard LaserJet Enterprise 600 M602x

52ppm

Hewlett-Packard LaserJet Enterprise 600 M603n

Hewlett-Packard LaserJet Enterprise 600 M603dn

Hewlett-Packard LaserJet Enterprise 600 M603xh

62ppm

Sum-up: New line of large-to-departmental printers with very good features and affordable prices.

Hewlett-Packard recently released eight new models that are intended for large workgroups and departmental markets. They are also the latest machines with the “Enterprise” notation in the brand name. They all have an 800MHz processor, standard 512MB of memory (that can be upgraded to 1GB), and an impressively fast first-print-out time of 8.5 seconds.

These eight printers are as follows:

- The M601n (\$699) prints at up to 45ppm. It includes standard networking. The \$899 M601dn has the same features as the n model, but adds standard automatic duplexing. They are rated by HP for a maximum 175,000-page monthly duty cycle, although the recommended amount is between 3,000 to 12,000 pages.
- The M602n (\$899) prints at up to 52ppm. It includes standard networking. The \$1,099 M602dn has the same features as the n model, but adds standard automatic duplexing. The M602x (\$1,349) expands on that with a second 500-sheet tray. They have a maximum

monthly duty cycle of 225,000 pages, although the recommended amount is between 3,000 and 15,000 pages.

- The M603n (\$1,419) prints at up to 62ppm. It includes standard networking and a secure hard disk. The \$1,649 M603dn includes automatic duplexing, and the \$2,299 M603xh includes a second 500-sheet tray. Their maximum monthly duty cycle is 275,000 pages, although the recommended amount is between 5,000 and 20,000 pages.

PCL, PostScript, and direct PDF printing are supported. USB and Ethernet (including Gigabit Ethernet) connectivity is standard, while Wi-Fi is optional. These printers are compatible with both Windows and Macs.

Paper input starts with a 500-sheet tray and a 100-sheet bypass. On the n and dn models, you can add an additional 500-sheet tray or a 1,500-sheet high-capacity tray for a total capacity of 3,600 sheets. Output capacity is a 500-sheet bin. You can expand on that by including a 500-sheet stacker, a 500-sheet stapler/stacker finisher, or a 5-bin mailbox that house 100 sheets each. HP also offers an optional envelope feeder. The bypass tray holds paper up to 200gsm in weight, while the other trays holds up to 120gsm.

Like other newer HP printers, these machines also feature the Instant-On and Auto-On/Auto-Off technology (which turn off the printer during non-peak times, i.e. nights and weekends) and ePrint (for printing from a mobile device). HP offers its FutureSmart firmware software for running newer solutions on existing HP hardware.

These printers have high-yield toners. On the M601 configurations, the capacity is 10,000 pages, while the M602 and M603 machines offer the high-capacity 24,000-page cartridge. We estimate the cost per page as 1.7 cents on the M601 models and 1.1 cents on the other machines. These are very good costs, and especially impressive for the M602 and M603 printers.

**Black-and-White
Laser
Printer**

These are solid and fully-featured machines in HP's monochrome lineup. The M603 models represent HP's speediest single-function monochrome printers to date. All of these models are good buys for the office that has a lot of printing needs but doesn't need color. We give this entire family our Editor's Choice Award.

**Hewlett-Packard
LaserJet Enterprise 600 M601n / LaserJet Enterprise 600 M601dn**

Specifications	
Price	\$699 (street) / \$899 (street)
Print speed	45ppm
First print time	8.5 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	800MHz
Standard memory	512MB
Maximum memory	1GB
Standard input	1 x 500
Bypass	100 sheets
Optional input	1 x 500 (\$249) 1 x 1,500 (price not available)
Maximum paper supply	3,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	No / Standard
Standard output	1 x 500
Optional output	1 x 500 stacker (\$249) 1 x 500 staper/stacker (\$249) 5 x 100 mailbox (price not available)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 10,000 pages (\$172)
Est. cost per page	1.72 cents

**Hewlett-Packard
LaserJet Enterprise 600 M602n**

Specifications	
Price	\$899 (street)
Print speed	52ppm
First print time	8.5 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	800MHz
Standard memory	512MB
Maximum memory	1GB
Standard input	1 x 500
Bypass	100 sheets
Optional input	1 x 500 (\$249) 1 x 1,500 (price not available)
Maximum paper supply	3,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	No
Standard output	1 x 500
Optional output	1 x 500 stacker (\$249) 1 x 500 staper/stacker (\$249) 5 x 100 mailbox (price not available)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 24,000 pages (\$287)
Est. cost per page	1.19 cents

**Hewlett-Packard
LaserJet Enterprise 600 M602dn / LaserJet Enterprise 600 M602x**

Specifications	
Price	\$1,099 (street) / \$1,349 (street)
Print speed	52ppm
First print time	8.5 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	800MHz
Standard memory	512MB
Maximum memory	1GB
Standard input	1 x 500 / 2 x 500
Bypass	100 sheets
Optional input	dn: 1 x 500 (\$249), 1 x 1,500 (price not available) x: 1 x 1,500 (price not available)
Maximum paper supply	3,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Standard
Standard output	1 x 500
Optional output	1 x 500 stacker (\$249) 1 x 500 staper/stacker (\$249) 5 x 100 mailbox (price not available)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 24,000 pages (\$287)
Est. cost per page	1.19 cents

**Hewlett-Packard
LaserJet Enterprise 600 M603n**

Specifications	
Price	\$1,419 (street)
Print speed	62ppm
First print time	8.5 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	800MHz
Standard memory	512MB
Maximum memory	1GB
Standard input	1 x 500
Bypass	100 sheets
Optional input	1 x 500 (\$249) 1 x 1,500 (price not available)
Maximum paper supply	3,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	No
Standard output	1 x 500
Optional output	1 x 500 stacker (\$249) 1 x 500 staper/stacker (\$249) 5 x 100 mailbox (price not available)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 24,000 pages (\$287)
Est. cost per page	1.19 cents

**Hewlett-Packard
LaserJet Enterprise 600 M603dn / LaserJet
Enterprise 600 M603xh**

Specifications

Price	\$1,649 (street) / \$2,299 (street)
Print speed	62ppm
First print time	8.5 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	800MHz
Standard memory	512MB
Maximum memory	1GB
Standard input	1 x 500 / 2 x 500
Bypass	100 sheets
Optional input	dn: 1 x 500 (\$249), 1 x 1,500 (price not available) xh: 1 x 1,500 (price not available)
Maximum paper supply	3,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Standard
Standard output	1 x 500
Optional output	1 x 500 stacker (\$249) 1 x 500 staper/stacker (\$249) 5 x 100 mailbox (price not available)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 24,000 pages (\$287)
Est. cost per page	1.19 cents

Hewlett-Packard

*Palo Alto, CA
800 888 0262
www.hp.com*

Vendor Profile

Hewlett-Packard (HP) needs little introduction in any discussion of printers, a market in which it exercises commanding leadership. Its current generation of color laser models is based on Canon engines, as are its monochrome laser printers. HP is offering a variety of separate product families aimed at different segments of the market.

HP has become a leader in connectivity for its printers, offering a variety of internal and external options. In addition to a variety of servers, many that are Web-ready, HP is putting increasing emphasis on wireless connectivity. Many of the models offer Wireless Ethernet (Wi-Fi or IEEE 802.11b or g) and Bluetooth wireless protocols. In general, the company offers the widest variety of connectivity options in the business.

Smart Install: As of spring of 2010, new HP printers and MFP models include a feature called HP Smart Install. With this system, the printer server is embedded in the printer itself. When you attach the printer via USB to a Windows-based computer, the driver gets installed on the printer with minimal operator interference. This feature is designed to simplify initial set-up of new devices.

Instant-On/Instant-Off: Newer HP printers and MFPs come with Instant-On technology, meaning that these devices are ready to print almost immediately on power-up, with minimal warm-up time. HP has included a new feature called Instant-On/Instant-Off. This feature allows idle devices to power off during periods of non-use, drawing far less power than other printers, even those that have a "sleep" mode. The instant-on technology means that there is no wait once the machine gets sent a job, even if powered off. This feature allows users to set parameters on the default idle time before power-off cuts in.

RICOH

Lanier LD220F

Lanier LD220SPF

21ppm

Same machines as the Ricoh Aficio MP 201F / MP 201SPF

Savin 920F

Savin 920SPF

21ppm

Same machines as the Ricoh Aficio MP 201F / MP 201SPF

Ricoh Aficio MP 201F

Ricoh Aficio MP 201SPF

21ppm

Sum-up: Solid multifunctionals for the small workgroup.

The Ricoh Aficio MP 201F and 201SPF joins Ricoh's entry-level MFP line. Unlike most of Ricoh's copier models, the machines in the Aficio MP 201 series accept up to legal-sized (8.5" x 14") paper rather than ledger-sized. Both machines run at a speed of 21ppm and feature standard copying and faxing. The MP 201SPF includes standard printing, scanning, and Internet/LAN faxing.

In terms of paper input supply, these models come standard with a 250-sheet paper tray and a 100-sheet bypass. There are up to two optional 500-sheet trays for a total capacity of 1,350 sheets. Output is a simple 250-sheet tray, and there are no finishing options. The bypass accepts up to 42lbs. bond in weight, while the other trays can hold up to 24lb. bond. A reversing automatic document feeder is standard, and it holds up to 50 sheets. Automatic duplexing for copying and scanning is standard.

Printing includes PCL and PostScript. A 400MHz processor is included with the print controller, which has 640MB of memory standard. An 80GB hard drive is optional. USB and Ethernet connectivity are standard, and Wi-Fi, parallel, and Gigabit Ethernet is optional.

These are very good connectivity features for a 21ppm multifunctional.

Both black-and-white and color scanning is supported. Scan-to-email (with LDAP), scan-to-folder, and network scanning are supported. Scan-to-media (such as to USB or SD cards) is available as an option.

The fax unit has a 33.6kbps modem and uses JBIG compression. On the MP 201SPF, you also get network (LAN) and Internet fax functions. As LDAP addressing is supported for both faxing and emailing, you can share the company address book via the network. Fax memory is 4MB (about 320 pages).

As is to be expected with serious copier-multifunctional systems, Ricoh includes solid security features, including encryption and data overwrite. Ricoh also offers its optional Card Authentication Package for controlling data access. There is also an optional Enhanced Locked Print functionality that requires users to provide a password before files are printed.

The Ricoh MP 201 series provides modest but solid functionality. For small workgroups that need well-executed basic functions and good speed, but not features like ledger-sized copying/printing or finishing, this family is a smart choice. We give them our Editor's Choice Award.

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**Office
Copier &
Multifunc-
tional**

Ricoh Aficio MP 201 / Aficio MP 201SPF	
Specifications	
List price	Not available
Year introduced	2011
Copy speed / Print Speed	21ppm
Print	Optional / Standard
Scan	Optional / Standard
Scan to email	Optional / Standard
Fax	Standard
First copy time	7.5 seconds
Print specs	Standard (includes PCL, PostScript)
Fax specs	Standard (33.6kbps modem, JBIG)
Color scan	Yes
Standard input	1 x 250
Bypass	100 sheets
Optional input	Up to 2 x 500 (price not available)
Maximum input	1,350 sheets
Document feeders	RADF/50 sheets (standard)
Output options	1 x 250 (standard)
Also sold as	Lanier LD220F / Lanier LD220SPF, Savin 920F / Savin 920SPF

Ricoh

West Caldwell, NJ
 973 882 2000
www.ricoh-usa.com

Vendor Profile

Ricoh manufactures a full line of copiers, ranging from 16ppm to 135ppm. It offers an impressive portfolio of both black-and-white and color digital machines, and a strong dealer network.

All of Ricoh's digital copiers are sold under the umbrella of its Aficio series. The current Aficio product line is one of the broadest lineups in the digital copier market. In terms of the number of total units sold, it is also one of the most successful.

Ricoh sells its products using a broad network of dealers and direct-sales branches. Several years ago, Ricoh acquired the IKON dealer chain. Ricoh's own direct-sales organization is called Ricoh Business Systems. Ricoh owns three major copier relabelers — Lanier, Savin, and InfoPrint Solutions Company — and all sell an all-Ricoh line.

SAMSUNG

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EDITOR'S
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Samsung ML-5512ND

55ppm

Samsung ML-6512ND

65ppm

Sum-up: Samsung's fastest single-function mono-chrome printers to date.

Samsung's new ML-5512ND (\$1,199) and ML-6512ND (\$1,599), running at speeds of 55ppm and 65ppm, respectively, represent its fastest machines in the black-and-white single-function lineup. Other than speed and price, both machines share identical specifications. First-print-out time is 7.8 seconds, and Samsung rates both machines at a monthly duty cycle of 300,000 pages.

Processor speed is 700MHz, and standard memory is 256MB (memory can be expanded to 768MB). Both machines also come with a 160GB hard drive and standard duplex printing. PCL, PostScript, and direct PDF printing are supported. USB and Ethernet connectivity is standard, while Wi-Fi is optional.

Input paper supply starts with a 520-sheet tray and a 100-sheet bypass (multipurpose tray). Samsung offers two optional input configurations: four 520-sheet trays (\$300 each) for a total of 2,700 sheets or two 520-sheet trays and a 2,000-sheet high-capacity feeder (\$650) for a maximum of 3,660 sheets. Standard output capacity is 500 sheets. There is an optional 500-sheet finisher with stapling and booklet making (\$289), as well as a 4-bin mailbox that holds up to 100 sheets per bin (\$429).

Samsung uses its anti-jam rollers to prevent mis-feeds and paper jams. It also supports a variety of software applications, including its Universal Print Driver, Easy Print Manager, and other applications for managing printers and other devices remotely.

Using the higher-capacity cartridge, we estimate the cost per page to be an impressive 1.1 cents. These models also include Samsung's easy-to-use toner save feature, which will help you keep down the cost of consumables even more if you use it.

The ML-5512ND and ML-6512ND have good features, including high speed, a wealth of paper-handling options, and excellent cost per page. For the large office that requires a lot of printing but doesn't need color, they are good buys. We give them our Editor's Choice Award.

**Black-and-White
Laser
Printer**



Samsung ML-5512ND - Great features for the large office, including fast speed and excellent per-page costs.

Samsung
ML-5512ND / ML-6512ND

Specifications

Price	\$1,199 / \$1,599
Print speed	55ppm / 65ppm
First print time	7.8 seconds
Print languages	PCL, PostScript, direct PDF print
Processor	700MHz
Standard memory	256MB
Maximum memory	768MB
Standard input	1 x 520
Bypass	100 sheets
Optional input	4 x 520 (\$300 each) or 2 x 520 (\$300 each) 1 x 2,000 (\$649)
Maximum paper supply	3,660 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Standard
Standard output	1 x 500
Optional output	1 x 500 with stapling and booklet making (\$289) 4 x 100 mailbox (\$429)
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 30,000 pages (\$270) Imaging unit: 80,000 pages (\$170)
Est. cost per page	1.1 cents

Samsung

Ridgefield Park, NJ
 800 726 4249

www.samsungusa.com

Vendor Profile

Samsung has long manufactured laser engines for printer and fax vendors such as Lexmark, NEC, and Xerox, but now the Korean company has become a major player in the laser printer market under its own name. In fact, it now dominates the retail low-cost sector of the market. Samsung also sells color printers, fax machines, and small-office multifunctional equipment under its own brand.

Samsung offers competitive laser printers up to 65ppm. Its printer division is growing in importance. Formerly a unit of the conglomerate's Dallas-based telecom operation, the printer division has moved to New Jersey and now has the stature of a full-fledged Samsung subsidiary — a move that has facilitated its sales, marketing, and branding efforts.

Samsung has between 200 and 300 national dealers and resellers. It's especially big in large retail chains and catalogs, where it is a major challenger to HP. In the past few years, Samsung has expanded its line of higher-end business solutions with laser and multifunctional printers in U.S. markets.

TOSHIBA

Toshiba e-STUDIO195

19ppm

Toshiba e-STUDIO223

Toshiba e-STUDIO225

22ppm

Sum-up: Low-cost entry-level machines with compact and environmentally-friendly features.

The e-STUDIO195, 223, and 225 models comprise Toshiba's entry-level copier line. All three are based on the same engine, though they have some differences in features. They all feature standard local copying, printing, and scanning, and accept up to ledger-sized paper. The e-STUDIO195 copies and prints at 19ppm and lists for \$2,695. It adds options for network printing, scanning and faxing. The e-STUDIO223 is a copier-only model. It runs at 22ppm and has a list price of \$2,195. The e-STUDIO225 has a list price of \$3,395, and has the same networking options as the 195.

First copy out time is 7.7 seconds on the 195 and 7.5 seconds on the 223 and 225. Toshiba rates the maximum monthly duty cycle as 90,000 pages on the 223/225 and 81,000 pages on the 195.

As noted above, the e-STUDIO223 is a copier-only machine. It has no network connectivity. It comes with 32MB of copier memory that can be upgraded to 96MB. USB connectivity is standard, and you can print and scan to a local PC. Printing is host-based (GDI) only. TWAIN scanning is supported to BMP or TIFF formats only.

The e-STUDIO195 and 225, on the other hand, start with 112MB of memory. Both machines offer three optional functional upgrades. The Network Printing option adds 128MB more memory. It comes with PCL and PostScript enabled. The Network Scanning package also adds 128MB of memory (in addition to printing memory). It offers scan-to-email, scan-to-file, and to FTP. Output files can be in PDF or TIFF. A fax upgrade offers a 33.6kbps modem with JBIG compression.

500 pages of fax memory are included. Network faxing and Internet faxing are additional options.

You can also purchase an optional external keyboard with either the scan or fax options.

The 100-sheet automatic document feeder is optional on the 223. The other two models have a reversing (two-sided) document feeder option.

Paper supply on these models is modest. They start with a 250-sheet main tray and a 100-sheet bypass. You can also add an optional 250-sheet tray to all the models. The 195 and 225 models also offer up to two added 550-sheet trays for a maximum of 1,700 sheets. The bypass can hold up to 90lb. index stock.

Output is also modest. There is a 250-sheet output tray standard. There are no finishing options.

Other features include ID Card copy, access codes, and optional connectivity to Toshiba's e-BRIDGE administration software. Environmental features include a toner recycling system and energy-saving mode.

These are low-cost, small-workgroup copiers that can handle ledger-size paper and give Toshiba a comprehensive line. Be aware that the prices are based on modest functionality – you'll have to spend more to get the network connectivity, the document feeder, and upgrade functionality. But even given that, these are competitive models for the small office or for the desktop user – and their scalability makes this a good buy for an office that is looking to expand its operations in the future. We give this family our Editor's Choice Award.

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**Office
Copier &
Multifunc-
tional**

Toshiba e-STUDIO195	
Specifications	
List price	\$2,695
Year introduced	2011
Copy speed / Print Speed	19ppm
Print	Standard
Scan	Standard
Scan to email	Optional
Fax	Optional
First copy time	7.7 seconds
Print specs	Standard (host-based, add optional networking, PCL, PostScript)
Fax specs	Optional (33.6kbps modem, JBIG)
Color scan	No
Standard input	1 x 250
Bypass	100 sheets
Optional input	1 x 250 (price not available) 1 x 550 (price not available) 1 x 550 (price not available)
Maximum input	1,700 sheets
Document feeders	RADF/100 sheets (optional)
Output options	1 x 250 (standard)
Also sold as	None

Toshiba e-STUDIO223 / e-STUDIO225	
Specifications	
List price	\$2,195 / \$3,395
Year introduced	2011
Copy speed / Print Speed	22ppm
Print	Standard
Scan	Standard
Scan to email	No / Optional
Fax	No / Optional
First copy time	7.5 seconds
Print specs	e-STUDIO225: Standard (host-based, add optional networking, PCL, PostScript)
Fax specs	eSTUDIO225: Optional (33.6kbps modem, JBIG)
Color scan	No
Standard input	1 x 250
Bypass	100 sheets
Optional input	e-STUDIO223: 1 x 250 (price not available) e-STUDIO225: 1 x 250 (price not available), 1 x 550 (price not available), 1 x 550 (price not available)
Maximum input	1,700 sheets
Document feeders	e-STUDIO223: ADF/100 sheets (optional) e-STUDIO225: RADF/100 sheets (optional)
Output options	1 x 250 (standard)
Also sold as	None

Toshiba

Irvine, CA
949 583 3000

www.copiers.toshiba.com

Vendor Profile

Although Toshiba may be among the smaller forces in copiers, the company as a whole is much larger than most of its competitors. Toshiba handouts include Fortune rankings indicating that its recent global revenues across all product lines have been about the same as those of Xerox, Canon, and Ricoh put together. Ironically, the only copier-producing company that's ahead of Toshiba in that Fortune list is Matsushita, whose Panasonic subsidiary is the smallest player of all when it comes to copiers.

Product lineup: Toshiba has been steadily introducing new digital models during the last few years. Its current product line stretches from 19ppm to 135ppm, and the models carry the e-STUDIO brand name. A few years ago, Toshiba upgraded virtually all its copier and printer multifunctional models from top to bottom.

Software: Toshiba has been a bit slower than some of its rivals in featuring a software-developer kit interface for its control panels. That interface, called e-Bridge Open Platform, is now available, and we expect to see a set of application interfaces for accounting, document management and distribution, and security.

Toshiba devices, in addition to third-party document solutions like eCopy, offer several home-brewed options. E-Bridge Re-Rite software is a utility that allows you to scan documents into one of 16 formats (including Microsoft Word or searchable PDF, for example). It is a lightweight document scanning solution. On a more advanced level, Toshiba's e-Bridge Re-Search is a cross-platform tool for organizing all online documents in many formats so they can be searched and retrieved by keyword.

Support advantages: As it expands its product line of digital copier-printers, Toshiba is also leveraging the impressive support capabilities of the company's computer division. End users needing technical help can contact Toshiba product specialists directly for support over the phone. This is unusual for an office equipment vendor that sells through dealers — the traditional support model would make the dealer the only point of contact with the customer.

Distribution: Almost all of Toshiba's own-brand sales are currently through dealers. However, Toshiba has set up a company to acquire dealerships in certain markets that are being operated as wholly owned subsidiaries. One of the reasons Toshiba has gone down this path is to protect itself when important dealers want an "exit" — a dealership that sells out to a conglomerate might become less loyal to Toshiba.

XEROX

Xerox Phaser 6700N
Xerox Phaser 6700DN
Xerox Phaser 6700DT
Xerox Phaser 6700DX
47ppm color
47ppm black & white

Sum-up: Excellent speed and above-average paper handling.

The machines in the Phaser 6700 series are built from an already-excellent Phaser 6360 models, with a few upgrades, such as higher speed. They print at 47ppm in both black-and-white and color and have a recommended monthly duty cycle of 120,000 pages. They also have an impressive first-page-out time of 7 seconds in black and 8 seconds in color and feature a 4.3" color touchscreen.

There are four models in this series. They are:

- The Phaser 6700N (\$1,349), which starts with 1GB of memory and 700 sheets of standard input.
- The Phaser 6700DN (\$1,549), which adds automatic duplexing.
- The Phaser 6700DT (\$1,899), which comes with an added 550-sheet paper drawer standard, for a standard input of 1,250 sheets.
- The Phaser 6700DX (\$2,899), which includes an additional 1,100-sheet feeder for a total of 2,900 sheets. It also comes standard with Xerox's Productivity Kit that includes a 160GB hard drive and secure print functionality.

All models are powered by a 1.25GHz processor. Standard memory is 1GB, which can be expanded to 2GB. PCL and PostScript are standard. Direct PDF printing is an option.

Ethernet and USB connectivity is standard. Wi-Fi is optional.

The input system starts with a 150-sheet multi-purpose tray and a 550-sheet standard tray. Other configurations add a 550-sheet paper tray (\$399) and a two-drawer 1,100-sheet feeder (\$799). The maximum configuration is 2,900 sheets.

Output includes a standard 500-sheet tray and an optional 1,000-sheet finisher with 50-sheet single-position stapling (\$899).

Based on the higher-capacity cartridges, we calculate the per-page costs to be around 1.4¢ for black-and-white and 9.3¢ for color pages — costs that are about reasonable for the industry. The larger-capacity cartridges ensure consumables need to be replaced less often.

Among the software included with the printer is the Xerox Usage Analysis Tool, which can help track costs and job origins, and Color by Words, a color calibration software that lets you change the color of one portion of a page without having to change the entire page.

The Phaser 6700 models are impressively fast machines that have very good features and reasonable printing costs. But that's the rule in this market segment, where the Xerox models offer more speed, memory, and paper handling than their rivals. Given all those factors, they stand out as very good workgroup printers, if what you need is straight-ahead printing at blazing speed. These are excellent buys for mid-size workgroups that push out lots of pages, and they receive our Editor's Choice Award.

**Better Buys
for Business**

**EDITOR'S
CHOICE
2011**

**Color
Laser
Printer**

Xerox Phaser 6700N / Phaser 6700DN	
Specifications	
Price	\$1,349 / \$1,549
Print speed, color	47ppm
Print speed, black	47ppm
First print time	Black: 7 seconds Color: 8 seconds
Imaging technology	Laser
Processor	1.25GHz
Standard memory	1GB
Maximum memory	2GB
Hard drive	160GB (optional)
Print languages	PCL, PostScript
Ethernet	Standard
Wireless	Wi-Fi (\$219)
Standard input	1 x 550
Bypass	150 sheets
Optional input	1 x 550 (\$399) 2 x 550 (\$799)
Maximum paper supply	2,900 sheets
11" x 17" paper	No
Auto duplex	No / Standard
Output devices	1 x 500 (standard) 1 x 1,000 with 50-sheet single-position stapling (\$899)
Supplies	Black: 18,000 pages (\$216) Color (3): 12,000 pages each (\$295 each) Black imaging kit: 50,000 pages (\$80) Color imaging kit (3): 50,000 pages each (\$100 each)
Est. cost per page	Black: 1.4 cents Color: 9.3 cents

Xerox Phaser 6700DT / Phaser 6700DX	
Specifications	
Price	\$1,899 / \$2,899
Print speed, color	47ppm
Print speed, black	47ppm
First print time	Black: 7 seconds Color: 8 seconds
Imaging technology	Laser
Processor	1.25GHz
Standard memory	1GB
Maximum memory	2GB
Hard drive	160GB (optional) / 160GB (standard)
Print languages	PCL, PostScript
Ethernet	Standard
Wireless	Wi-Fi (\$219)
Standard input	DT: 3 x 550 DX: 1 x 550, 2 x 550
Bypass	150 sheets
Optional input	DT: 1 x 550 (\$399), 2 x 550 (\$799) DX: 1 x 550 (\$399)
Maximum paper supply	2,900 sheets
11" x 17" paper	No
Auto duplex	Standard
Output devices	1 x 500 (standard) 1 x 1,000 with 50-sheet single-position stapling (\$899)
Supplies	Black: 18,000 pages (\$216) Color (3): 12,000 pages each (\$295 each) Black imaging kit: 50,000 pages (\$80) Color imaging kit (3): 50,000 pages each (\$100 each)
Est. cost per page	Black: 1.4 cents Color: 9.3 cents

XEROX

Better Buys
for Business

EDITOR'S
CHOICE
2011

Xerox Phaser 7800DN
Xerox Phaser 7800DX
Xerox Phaser 7800GX

45ppm color

45ppm black & white

Sum-up: Ledger-size printer series with very good speed and a reasonable price.

The Xerox Phaser 7800 series includes ledger-sized printing at 45ppm in both color and black-and-white. They are intended for a graphics-art environment with a group of 20 or more users. Xerox rates it for a 225,000-page per month duty cycle, and a more realistic volume for sustained use might be somewhere between 15,000 and 20,000 pages, using our rough rule of thumb. That's a pretty heavy workload in an office environment.

The Phaser 7800 series include three models. They are:

- The Phaser 7800DN (\$4,599), which includes 620 sheets of input, prints at 1,200dpi x 2,400dpi, and includes automatic duplexing.
- The Phaser 7800DX (\$5,899), which adds a 2,520-sheet high-capacity tandem tray for a total of 3,140 sheets. It also comes standard with Xerox's PhaserMatch 5.0 software for color management and calibration.
- The Phaser 7800GX (\$6,099), which includes a 3 x 520-sheet module for a total of 2,180 sheets.

Printing features include a 1.33GHz processor, standard 2GB of memory, and a 160GB hard drive. PCL, PostScript, and direct PDF printing are standard. USB and Ethernet are standard, and Wi-Fi is optional (\$219). First-page-out time is an impressive 9 seconds.

Paper handling starts with a 520-sheet tray and a 100-sheet bypass for a total of 620 sheets. On the 7800DN, you can add the high-capacity tandem

tray (standard on the DX configuration) or the three 520-sheet module (standard on the GX model) for \$1,299 and \$999, respectively.

Media handling is very impressive. The bypass handles paper up to 130lb. cover in weight, while the main drawers hold up to 98lb. cover stock. Xerox offers an optional extra heavy-duty media kit for duplex printing up to 110lb. cover in the bypass tray. The standard tray prints at up to 12" x 18", while the other trays handle up to 13" x 18".

Output capacity is also impressive. There is a standard dual offset catch tray of 250 sheets each. Xerox also offers two optional finishers.

The first finisher, called the Office Finisher LX (\$1,150), comes with a 2,000-sheet stacker and 50-sheet multiposition stapling. You can add an optional 2/3-hole punch for \$495. You can also add a booklet maker with 15-sheet (30-page) saddlestitching for \$799.

The second finisher, the Professional Finisher (\$3,300), includes a 1,500-sheet stacker with a 500-sheet top tray, 50-sheet multiposition stapling, and a booklet maker with saddlestitching and V-folding. 2/3-hole punching comes standard with this finisher as well.

Security features include secure print, image overwrite, IP filtering, and an optional removable hard drive.

Xerox offers high-capacity toner cartridges. Color pages print at a good cost of 9.2¢, while black-and-white costs are pretty impressive at 1.5¢.

These are solid printers that are a good buy for offices that need color, ledger-sized printing, and finishing, such as advertising and graphic arts environments. Their speeds are also impressive. We give the Phaser 7800 series our Editor's Choice Award.

**Color
Laser
Printer**

Xerox Phaser 7800DN	
Specifications	
Price	\$4,599
Print speed, color	45ppm
Print speed, black	45ppm
First print time	Black: 9 seconds Color: 9 seconds
Imaging technology	Laser
Processor	1.33GHz
Standard memory	2GB
Maximum memory	2GB
Hard drive	160GB (standard)
Print languages	PCL, PostScript, direct PDF
Ethernet	Standard
Wireless	Wi-Fi (\$219)
Standard input	1 x 520
Bypass	100 sheets
Optional input	3 x 520 (\$999) 1 x 2,520 (\$1,299)
Maximum paper supply	3,140 sheets
11" x 17" paper	Yes
Auto duplex	Standard
Output devices	2 x 250 (standard) 1 x 2,000 with 50-sheet multiposition stapling (\$1,150) 2/3-hole punch (\$495, finisher required) Booklet maker with 15-sheet saddlestitching (\$799, finisher required) 1 x 1,500 with 50-sheet multiposition stapling and booklet maker with saddlestitching and hole punch (\$3,300)
Supplies	Black: 24,000 pages (\$360) Color (3): 17,200 pages each (\$441 each)
Est. cost per page	Black: 1.5 cents Color: 9.2 cents

Xerox Phaser 7800DX / Phaser 7800GX	
Specifications	
Price	\$5,899 / \$6,099
Print speed, color	45ppm
Print speed, black	45ppm
First print time	Black: 9 seconds Color: 9 seconds
Imaging technology	Laser
Processor	1.33GHz
Standard memory	2GB
Maximum memory	2GB
Hard drive	160GB (standard)
Print languages	PCL, PostScript, direct PDF
Ethernet	Standard
Wireless	Wi-Fi (\$219)
Standard input	DX: 1 x 520, 1 x 2,520 GX: 1 x 520, 3 x 520
Bypass	100 sheets
Optional input	None
Maximum paper supply	3,140 sheets / 2,180 sheets
11" x 17" paper	Yes
Auto duplex	Standard
Output devices	2 x 250 (standard) 1 x 2,000 with 50-sheet multiposition stapling (\$1,150) 2/3-hole punch (\$495, finisher required) Booklet maker with 15-sheet saddlestitching (\$799, finisher required) 1 x 1,500 with 50-sheet multiposition stapling and booklet maker with saddlestitching and hole punch (\$3,300)
Supplies	Black: 24,000 pages (\$360) Color (3): 17,200 pages each (\$441 each)
Est. cost per page	Black: 1.5 cents Color: 9.2 cents

Xerox

Rochester, NY

800 275 9376

www.office.xerox.com

Vendor Profile

Xerox contends for leadership in the color laser printer market with Hewlett-Packard. Xerox is proud of its color printer line, and with good reason. The company offers a variety of very good workgroup printers. Xerox became a player in color printing with its purchase of Tektronix's printing business, which was completed early in 2000. Xerox dropped the Tektronix brand name. (There is still an independent Tektronix company, which sells electronic testing and measurement equipment.)

There is a pattern to Xerox product development that is not apparent from the printer names. Xerox has focused on a strategy of offering three color technologies: laser, LED, and solid ink. This makes their printers suitable for a wide range of requirements.

All networked Xerox printers can take advantage of Xerox's CentreWare technology, a centralized management tool that allows administrators to manage print queues, monitor error alerts, and check page counts.

Xerox's laser machines make use of its proprietary EA (Emulsion Aggregation), a high-gloss toner that Xerox claims has a wider color gamut and thus more striking colors than those of many of its competitors.

Note that all Xerox units are sold with Xerox's Total Satisfaction Guarantee. With that warranty, if you are not satisfied with any Xerox equipment you buy from Xerox or its participating dealers and retailers, they will replace it without charge with an identical model or, at the option of Xerox, a machine with comparable features and capabilities. That's a nice plus, and one that's not matched by other vendors.



Xerox Phaser 7800DN - Good buy for a graphic arts environment.