

*Independent Consumer Guides to
Document Imaging Equipment*

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THE EDITOR'S CHOICE AWARDS



Epson Workforce 845

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

November 2011



Editor's Choice Awards

November 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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Press Date: November 2011

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CANON

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EDITOR'S
CHOICE
2011

Canon imageRUNNER 1730
Canon imageRUNNER 1730iF
32ppm

Canon imageRUNNER 1740
Canon imageRUNNER 1740iF
42ppm

Canon imageRUNNER 1750
Canon imageRUNNER 1750iF
52ppm

Sum-up: Speedy legal-sized black-and-white copier-MFPs with color scanning.

The Canon imageRUNNER 1700 series is Canon's newest line of monochrome MFPs for the small-to-midsize workgroups. They are good for companies that need multifunctional capability in their machines but not ledger-sized paper handling. There are six products in this family, with three base models and three "iF" configurations.

The imageRUNNER 1730 (\$2,200) copies and prints at 32ppm. Copying, color scanning, and host-based printing are standard. The 1730iF (\$3,000) adds standard PCL and PostScript printing, searchable PDFs, and faxing. The imageRUNNER 1740 (\$3,200) and 1740iF (\$4,000) copies and prints at 42ppm, and the imageRUNNER 1750 (\$4,200) and 1750iF (\$5,000) have speeds of 52ppm.

All six models come with 512MB standard and a 5.7" monochrome LCD touchscreen. They also boast a very good warm-up speed of 30 seconds and first copy time of 5 seconds. USB and Ethernet connectivity are standard.

Standard paper supply consists of a dual 550-sheet input tray plus a 100-sheet bypass. You can boost that with another dual 550-sheet unit for a maximum of 2,300 sheets of input. All trays accept up to legal-sized paper with the maximum weight of 28lb. bond for the main trays and 34lb. bond for the bypass.

All the models include a duplexing automatic document feeder (DADF) that allows for two-sided scans. The feeder holds up to 100 sheets.

The output tray holds 250 sheets. There is an optional finisher with a 500-sheet capacity and 50-sheet single-position stapling. A 50-envelope feeder is also available as an option.

Printing is supported on all of the models using Canon's proprietary UFR II-LT (host-based) protocol. PCL and PostScript are standard on the 1730iF, 1740iF, and 1750iF models, and are offered separately as upgrades to the base models.

In terms of color scanning, all of the models offer network sending as a standard feature. Color sending includes scan to email, to Internet fax, to SMB, to FTP, and to USB flash drive. TIFF, JPEG, and PDF scan output formats are available. Searchable PDF is an option on the base models, standard on the iF configurations.

33.6kbps faxing is standard on the iF models (optional on the others) and includes JBIG compression.

Security features include departmental/user ID management, network authentication, and restrictions on the addition of new addresses on the address book. There is also an optional uniFLOW Serverless Secure Printing feature that holds the print job until a specific user provides authentication to receive it.

Unlike Canon's higher-end models, the imageRUNNER 1700 family does not support Canon's MEAP software. These units are not aimed at companies that require such features as hole punching or booklet making, extensive memory, a hard disk, or ledger-sized copying or printing – they'll have to look elsewhere in Canon's product line or at other vendors for that. However, they are a solid comprehensive line with reasonable prices and strong features. We give the imageRUNNER 1700 family our Editor's Choice Award.

**Office
Copier &
Multifunc-
tional**

**Canon
imageRUNNER 1730 / imageRUNNER 1730iF**

Specifications	
List price	\$2,200 / \$3,000
Year introduced	2011
Copy speed / Print Speed	32ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	Optional / Standard
First copy time	5 seconds
Print specs	Standard (includes host-based, standard PCL and PostScript on iF version)
Fax specs	Standard on iF version (33.6kbps, JBIG compression)
Color scan	Standard
Standard input	1 x 550
Bypass	100 sheets
Optional input	3 x 550 (price not available)
Maximum input	2,300 sheets
Document feeders	DADF/100 sheets (standard)
Output options	1 x 250 (standard) 1 x 500 with 50-sheet single-position stapling (price not available) 50-sheet envelope feeder (price not available)
Also sold as	None

**Canon
imageRUNNER 1740 / imageRUNNER 1740iF**

Specifications	
List price	\$3,200 / \$4,000
Year introduced	2011
Copy speed / Print Speed	42ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	Optional / Standard
First copy time	5 seconds
Print specs	Standard (includes host-based, standard PCL and PostScript on iF version)
Fax specs	Standard on iF version (33.6kbps, JBIG compression)
Color scan	Standard
Standard input	1 x 550
Bypass	100 sheets
Optional input	3 x 550 (price not available)
Maximum input	2,300 sheets
Document feeders	DADF/100 sheets (standard)
Output options	1 x 250 (standard) 1 x 500 with 50-sheet single-position stapling (price not available) 50-sheet envelope feeder (price not available)
Also sold as	None

Canon imageRUNNER 1750 / imageRUNNER 1750iF	
Specifications	
List price	\$4,200 / \$5,000
Year introduced	2011
Copy speed / Print Speed	52ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	Optional / Standard
First copy time	5 seconds
Print specs	Standard (includes host-based, standard PCL and PostScript on iF version)
Fax specs	Standard on iF version (33.6kbps, JBIG compression)
Color scan	Standard
Standard input	1 x 550
Bypass	100 sheets
Optional input	3 x 550 (price not available)
Maximum input	2,300 sheets
Document feeders	DADF/100 sheets (standard)
Output options	1 x 250 (standard) 1 x 500 with 50-sheet single-position stapling (price not available) 50-sheet envelope feeder (price not available)
Also sold as	None

Canon

Lake Success, NY
516 328 5000

www.usa.canon.com

Vendor Profile

Canon is the number-one copier company in the U.S. if you measure by the total number of units sold. The company features an impressive line of digital copiers and copier-based multifunctional devices, and it is one of the leaders in this market. Most of Canon's digital copier line carries the imageRUNNER brand name.

Over the years, Canon's print controller strategy has involved partnering with EFI, the third-party controller company that dominates the color market. The company also relies on controllers developed by Canon itself. The controllers, which feature Canon's IP architecture (the "IP" stands for "Image Platform"), can be found on all imageRUNNER models.

Canon's MEAP architecture (Multifunctional Embedded Application Program) has been a significant addition to Canon's controller strategy. It is featured on most of its mid-to-high-volume models. The MEAP platform features an open architecture for providing custom software applications, some for private use and others sold on the open market as add-on products from third parties. Canon works especially closely with Nuance's eCopy workflow software. What started as a trickle of MEAP applications has become a steady flow.

Distribution: The majority of Canon's copiers are sold through a strong dealer network. Canon's dealer distribution strategy has been different than that found with other copier vendors. The company doesn't rely on the geographical boundaries that typically determine a dealer's territory, allowing its dealers, at least theoretically, to sell anywhere they can provide after-sale support. The strategy is somewhat controversial — at least within the cozy confines of the territory-based copier world — but it appears to benefit the consumers, who have a greater selection of Canon dealers competing for their business.

EPSON

Epson WorkForce 545

Epson WorkForce 645

Up to 7.2ppm color (ISO – equivalent to 600dpi)

Up to 15ppm black & white (ISO – equivalent to 600dpi)

Epson WorkForce 845

Up to 9.3ppm color (ISO – equivalent to 600dpi)

Up to 15ppm black & white (ISO – equivalent to 600dpi)

Sum-up: New small-office/home-office all-in-ones with fast duplex speed and strong features.

Epson has recently released its new family of all-in-ones: the WorkForce 545 (\$130), WorkForce 645 (\$150), and WorkForce 845 (\$200). One main upgrade these models have over older ones includes Epson's new mobile printing functionality called Epson Connect. Epson Connect allows you to print emails, documents, or photos from any smartphone to an Epson printer.

All three models print at up to 15ppm in black (simplex) but the WorkForce 545 and 645 print at up to 7.2ppm in color, whereas the WorkForce 845's color speed is up to 9.3ppm color. (The speeds are based on an ISO rating, which matches these printers with what is the equivalent of typical 600dpi laser printing. That means these models are competitive in speed with comparably priced laser models. Duplex printing speeds are 7.5ppm in black and 4.6ppm in color for the WorkForce 645, while the WorkForce 845 has 7.4ppm in black and 5.4ppm in color. The WorkForce 545 does not support duplex printing, so if this is a feature you need, we recommend you look at the WorkForce 645 or 845.

Please note that there is also the WorkForce 435 in this family, but at \$100 it is below the price threshold of our guide.

All three models have four standard functions: print, copy, scan, and fax. USB, Ethernet, and Wi-Fi connectivity are standard. Printing is host-based only, and the machines are compatible with both Mac and Window systems.

Paper handling on the WorkForce 545 and 645

includes only a 250-sheet tray. On the WorkForce 840, there are two 250-sheet trays for a total capacity of 500 sheets. All models include the standard 30-sheet automatic document feeder and an envelope tray. Duplexing is also supported. Paper sizes up to 8.5" x 44" are supported.

The color scanning function includes scan-to-email, scan-to-PC, scan-to-PDF, and scan-to-memory card. The WorkForce 545 and 645 has a 2.5" LCD screen, while the WorkForce 845 features a 7.8" Smart Touch panel.

Faxing includes a 33.6kbps modem. PC faxing is supported. Memory is up to 180 pages. Color faxing is also standard.

One of Epson's advantages is its extra-higher-capacity ink cartridges and affordable cost-per-page. Using the extra-higher-capacity cartridges (roughly 955 pages in black and 755 pages in each color), we calculate the per-page cost to be 3 cents in black and 10.2 cents in color. Those are very good costs.

The ink jet market is evolving fast, and Epson is staying on top of this by implementing new features (i.e. mobile printing) while retaining the models' current functions and keeping machines and per-page operating costs affordable for small businesses. We give all three models our Editor's Choice Award.

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CHOICE
2011**

**Color
Printer
Multi-
functional**

Epson WorkForce 545 / WorkForce 645	
Specifications	
List price	\$130 (street) / \$150 (street)
Print	Standard
Copy	Standard
Fax	Standard
Scan	Standard
Imaging technology	Ink jet
Document feeders	ADF/30 sheets
Standard input	1 x 250
Bypass	None
Optional input	None
Maximum input	250 sheets
Standard output	1 x 30
Optional output	No
Auto duplex	Standard
Maximum US paper size	8.5" x 14"
Print speed, black	15ppm
Print speed, color	7.2ppm
Processor	Not available
First print time (color)	Not available
Print languages	Host-based
Print Memory	Not available
Ethernet	Standard
Wireless	Wi-Fi (standard)
Copy speed, black	12ppm
Copy speed, color	5.5ppm
PC fax	Standard
Color fax	Standard
Color scan	Yes
Scan to PDF	Standard
Scan to email	Standard
Supplies	Extra-high-capacity black cartridge: 945 pages (\$28.49 street) Extra-high-capacity color cartridges (3): 755 pages (\$18.04 each, street)
Est. cost per page	Black: 3 cents Color: 10.2 cents

Epson WorkForce 845	
Specifications	
List price	\$300 (street)
Print	Standard
Copy	Standard
Fax	Standard
Scan	Standard
Imaging technology	Ink jet
Document feeders	ADF/30 sheets
Standard input	2 x 250
Bypass	None
Optional input	None
Maximum input	500 sheets
Standard output	1 x 30
Optional output	No
Auto duplex	Standard
Maximum US paper size	8.5" x 14"
Print speed, black	15ppm
Print speed, color	9.3ppm
Processor	Not available
First print time (color)	Not available
Print languages	Host-based
Print Memory	Not available
Ethernet	Standard
Wireless	Wi-Fi (standard)
Copy speed, black	13ppm
Copy speed, color	7.1ppm
PC fax	Standard
Color fax	Standard
Color scan	Yes
Scan to PDF	Standard
Scan to email	Standard
Supplies	Extra-high-capacity black cartridge: 945 pages (\$28.49 street) Extra-high-capacity color cartridges (3): 755 pages (\$18.04 each, street)
Est. cost per page	Black: 3 cents Color: 10.2 cents

Epson

Long Beach, CA
800 463 7766
www.epson.com

Vendor Profile

Epson America is a division of Japan-based Seiko Epson Corporation, a manufacturer and supplier of imaging products, semiconductors, liquid crystal displays, and watches.

The company has been an innovative designer of ink jet printers and sells an extensive product line. Most of these are geared to home and school use, but Epson has extended its line further into the office environment with two models that currently meet our criteria for this guide. The company also offers a multifunctional product line — an extension of its ink jet printer business — that appeals to small- and home-office businesses.

Epson is the biggest innovator in a technology called piezo-electric ink jet printing. Unlike other companies that use thermal technology for ink jet printing, Epson's technology is based on changing the shape of a crystal embedded in the ink jet nozzles. This is done by means of an electrical signal. The shape change causes the ink to be squirted onto the paper. Epson has perfected this technique and uses it to create context-sensitive dot sizes, which allow for added image control and ink savings. The technology delivers the smallest ink dots on the market. Epson keeps refining its ink technology so it's now water-, scratch-, and light-resistant, an important factor in competing with laser output. It claims that images printed with its ink on photo paper can be stored in albums for over 100 years without deterioration, on some models even 200 years. That's far better than expectations for color photographic images.



Epson WorkForce 845 - Strong multifunctionality and speed in an affordable machine.

KONICA MINOLTA

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EDITOR'S
CHOICE
2011

Konica Minolta bizhub PRO C6000L

60ppm color

60ppm black & white

Sum-up: Speedy light-production color machine with excellent paper capacity.

The new Konica Minolta bizhub PRO C6000L joins the other bizhub PRO models in Konica Minolta's lineup that are aimed at light-production environments. At \$49,995, it copies and prints at 60ppm in both color and black-and-white and has a rated monthly duty cycle of 280,000 pages. The PRO C6000L comes with a standard memory of 6 x 384MB. You can get an additional 6 x 250GB of memory as an option.

Konica Minolta includes its IC-601 image controller for additional printing functions. The controller comes with a 2.8GHz processor and 4GB of memory. PCL, PostScript, TIFF, and PDF printing are supported. It also supports Windows, Mac, and various PageScope applications, such as PageScope Direct Print and PageScope Account Manager.

The controller also includes the Job Centro and Color Centro functions. The Job Centro displays a list of jobs sent for printing as well as the history of jobs that have been printed – it can allow you to schedule and manage print runs. The Color Centro allows for adjusting color settings and managing data calibration.

The standard paper supply consists of three 500-sheet input trays and a 250-sheet bypass. You can supplement this default supply by adding a 2,500-sheet feeder (\$3,360) to bring the total supply to 4,250 sheets.

Konica Minolta also offers an optional humidifying/heating unit, assuring standard operation conditions inside the printer, no matter how the external conditions vary. This is especially useful for professional color printing, where added moisture or a cooler surface on the paper would lead to shifts in printed color.

These machines can handle oversized paper, up to 13" x 19.2", from any paper supply. The option-

al feed unit can handle 170lb. index (300gsm), while the main trays handle 140lb. index (256gsm). The reversing automatic document feeder (RADF) holds up to 100 sheets and costs \$1,890. Automatic duplexing is optional as well.

The output options are appropriately solid. There are two choices in finishers. One has a 3,100-sheet capacity with a 50-sheet multiposition stapler. It lists for \$2,993. The second finisher has a 2,500-sheet capacity with a 200-sheet sample tray. It comes with a 50-sheet multiposition stapler and a booklet maker with saddlestitching and lists for \$5,100. The booklet maker can create booklets from 20 sheets, allowing you to make 80-page booklets after folding and stitching. That's larger than most of the booklet makers in this guide. This unit also supports tri-fold and V-fold.

An optional 2/3-hole punch is available for \$814 as an accessory for either finisher. A postprocess inserter (\$1,098 list) is also available to work with either finisher.

The bizhub PRO C6000L is a machine that is intended for back-office and other light-production environments. It has strong production-oriented features such as solid paper-capacity and finishing options. The bizhub PRO C6000L receives our Editor's Choice Award.

High-vol-
ume Ma-
chines

Konica Minolta bizhub PRO C6000L	
Specifications	
List price	\$49,995
Year introduced	2011
Copy speed / Print Speed	60ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	No
First copy time	Not available
Print specs	Standard (includes PCL, PostScript, TIFF, PDF)
Fax specs	Not applicable
Color scan	Yes
Standard input	3 x 500
Bypass	250 sheets
Optional input	1 x 2,500 (\$3,360)
Maximum input	4,250 sheets
Document feeders	RADF/100 sheets (\$1,890)
Output options	1 x 3,100 with 50-sheet multiposition stapling (\$2,993) 1 x 200 + 1 x 2,500 with 50-sheet multiposition stapling and booklet maker with saddlestitcher (\$5,100) 2/3-hole punch (\$814, requires either finisher) Postprocess inserter (\$1,098, requires either finisher)
Duty cycle	280,000 pages
Also sold as	None

Konica Minolta

Ramsey, NJ
201 825 4000
www.konicaminolta.us

Vendor Profile

Konica Minolta Business Solutions U.S.A. is a subsidiary of a major Japanese imaging company. Although the main thrust of the company is copiers, it also sells advanced imaging, security, and networking technologies for equipment ranging from the desktop to the print shop.

The worldwide headquarters for the company is in Tokyo. The U.S. headquarters is in Ramsey, New Jersey, the former site of Minolta's U.S. headquarters. It acquired Danka Imaging, a major provider of equipment, document software, and integrated services to meet copy, print, and document workflow needs. Konica Minolta has a network of more than 80 direct sales offices in addition to over 500 authorized dealers, other resellers, and distribution partners.

KYOCERA

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EDITOR'S
CHOICE
2011

Copystar FS-1035MFP/DP

Copystar FS-1135MFP

37ppm

Same machines as the Kyocera FS-1035MFP/DP and Kyocera FS-1135MFP

Kyocera FS-1035MFP/DP

Kyocera FS-1135MFP

37ppm

Sum-up: Midsize workgroup models with strong features and consumables.

At 37ppm, Kyocera's new FS-1035MFP/DP and FS-1135MFP are an upgrade to Kyocera's older FS-1028MFP/DP and FS-1128MFP machines. The FS-1035MFP/DP (\$1,181) copies, prints, scans, and includes a standard document feeder. The FS-1135MFP (\$1,371) includes faxing. First-page-out time is a speedy 6.9 seconds for copies, 7.0 seconds for printed pages. Kyocera rates the monthly duty cycle at 20,000 pages.

The controller uses a 667MHz processor and comes with 256MB of memory, which can be expanded to 768MB. Ethernet and USB ports are standard. There's also a host USB port for a thumb drive. These machines come with both a flatbed platen and a 50-sheet reversing automatic document feeder (RADF).

The print engine supports both PCL and PostScript print language, along with Windows XPS printing. The color scanning feature supports scan to email, to network, to USB drive, and to FTP.

The paper supply consists of a 50-sheet multi-purpose tray (which holds up to 120lb. index stock) and a 250-sheet standard tray. You can add up to two 250-sheet drawers for a total of 800 sheets of input. Automatic duplex output is included. The output tray holds 150 sheets.

Faxing (on the FS-1135MFP model) makes use of a 33.6kbps modem and comes with 3.5MB of fax memory.

The big plus, as always with Kyocera, is the consumables, thanks to Kyocera's excellent and durable drum technology. The drum lasts up to

100,000 pages, more than most users will ever use on this machine. The toner also has a very good page yield, at 7,200 pages. We were unable to get the price of the consumables as we were going to press, but we've found Kyocera's cost per page to be very reasonable in the past, so this may be the case with these machines. We recommend you investigate this with your dealer.

These are solid midsize workgroup MFPs with very good consumables. For the right office willing to pay a little more upfront, this can be a very strong contender with lasting value. This family gets our Editor's Choice Award.



Kyocera FS-1135MFP - Midsize workgroup machine with strong advantage in consumables.

**Office
Copier &
Multifunc-
tional**

Kyocera
FS-1035MFP/DP / FS-1135MFP

Specifications	
List price	\$1,181 / \$1,371
Year introduced	2011
Copy speed / Print Speed	37ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	Optional / Standard
First copy time	6.9 seconds
Print specs	Standard (includes PCL, PostScript, XPS)
Fax specs	Standard on FS-1135MFP (33.6kbps, JBIG compression)
Color scan	Standard
Standard input	1 x 250
Bypass	50 sheets
Optional input	Up to 2 x 250 (price not available)
Maximum input	800 sheets
Document feeders	RADF/50 sheets (standard)
Output options	1 x 150 (standard)
Also sold as	Copystar FS-1035MFP/DP / Copystar FS-1135MFP

Kyocera

Fairfield, NJ
 973 808 8444
www.kyoceramita.com

Vendor Profile

Kyocera Mita America, Inc., headquartered in Fairfield, N.J., is a leading provider of computer-connectable document imaging and document management systems, including network-ready digital MFPs/printers, laser printers, color MFPs/printers, digital laser faxes, and multifunctional and wide format imaging solutions. Kyocera Mita America is a group company of Kyocera Mita Corporation. Kyocera Mita Corporation is a core company of the Kyocera Corporation, the world's leading developer and manufacturer of advanced ceramics and associated products, including telecommunications equipment, semiconductor packages and electronic components. Kyocera Mita America, the first document solutions company with third-party certified sales data, has earned numerous honors for its products' high performance, reliability and cost efficiency.

Distribution: Kyocera Mita America sells its copiers primarily through dealers, though recently it has been expanding its direct-sales organization. It also has six direct branches located in major cities. Note that relabeled Kyocera models are also sold through its Copystar dealer channel.

LEXMARK

Lexmark Pro715 Color All-in-One

Lexmark Pro915 Color All-in-One

Ink jet — Prints at up to 35ppm black (draft), up to 30ppm color (draft)

Sum-up: New small-business MFPs with strong features.

The new Lexmark Pro715 and Pro915 Color All-in-Ones continue Lexmark's "Pro" line of business-oriented inkjet multifunctionals. Both machines print at a draft speed of up to 35ppm in black and 30ppm in color (ISO speeds are 10ppm in black, 6ppm in color). The \$199 Pro715 has standard color printing, copying, and scanning, and includes a 2.4" LCD display screen. The \$249 Pro915 includes standard faxing, Lexmark's SmartSolutions functionality, and a 4.3" color touchscreen display. Otherwise, both models share the same features.

Both machines come with a 330MHz processor and 256MB of standard memory, which is not expandable. Maximum resolution is up to 4,800 x 1,200dpi, using Lexmark's Vizix 2.0 print technology. USB, Ethernet, and Wi-Fi connectivity are standard. Lexmark's mobile printing application for Apple and Android devices will be available this fall. PCL and PostScript are included.

Paper supply includes a 150-sheet tray and an optional 550-sheet drawer (\$179) for a maximum of 700 sheets. Each tray supports up to legal-sized paper. There is a 50-sheet automatic document feeder. Automatic duplexing is supported. The maximum duty cycle is up to 10,000 pages per month, but Lexmark recommends an average of 400 to 700 pages monthly.

The color scanning function supports scan-to-email, scan-to-network, and scan-to-PDF. Faxing on the Pro915 utilizes a 33.6kbps modem.

Unlike most inkjets, Lexmark ships four 400-page cartridges. Its high-yield cartridges are 750 pages in black and 700 pages for each color. Using the high-yield cartridges and the Return Program costs, we estimate the cost per page to be 2.4 cents in black and 15.2 cents in color.

These are very good costs.

The Pro715 and Pro915 have strong features that will appeal to small businesses: multifunctionality, mobile printing, accessible functions via the touchscreen, and affordability. We give them our Editor's Choice Award.

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**EDITOR'S
CHOICE
2011**

**Color
Printer
Multifunctional**

Lexmark
Pro715 Color All-in-One / Pro915 Color All-in-One

Specifications

List price	\$179 (street) / \$249 (street)
Print	Standard
Copy	Standard
Fax	No / Standard
Scan	Standard
Imaging technology	Ink jet
Document feeders	ADF / 50 sheets (standard)
Standard input	1 x 150
Bypass	No
Optional input	1 x 550 (\$179)
Maximum input	700 sheets
Standard output	1 x 50
Optional output	No
Auto duplex	Standard
Maximum US paper size	8.5" x 14"
Print speed, black	Up to 35ppm (draft)
Print speed, color	Up to 30ppm (draft)
Processor	330MHz
First print time (color)	Not available
Print languages	PCL, PostScript
Print Memory	Standard: 256MB Maximum: 256MB
Ethernet	Standard
Wireless	Wi-Fi (standard)
Copy speed, black	25ppm (draft)
Copy speed, color	21ppm (draft)
PC fax	No
Color fax	No
Color scan	Yes
Scan to PDF	Standard
Scan to email	Standard
Supplies	Black high-yield cartridge: 750 pages (\$18) Color high-yield cartridge (3): 700 pages (\$30 each)
Est. cost per page	Black: 2.4 cents Color: 15.2 cents

Lexmark

Lexington, KY
800 539 6275
www.lexmark.com

Vendor Profile

Lexmark is known primarily as a vendor of printers. In fact, it is the only American printer vendor that manufactures its own laser engines. Its ink jet engines come from various sources, but Lexmark is pretty closemouthed about its suppliers. The company does add considerable value to these ink jets, however.

The company is now deeply involved in both the ink jet and laser multifunctional markets. The laser models are built on its existing base in the office laser printer market, where its current printer models are enhanced with scanners and fax modems. These models tend to be serious workgroup printers with lots of input and output options. Lexmark has several color laser printer-multifunctionals.

The ink jet multifunctionals are generally inexpensive models with small footprints. Note that Lexmark produces over half a dozen all-in-ones aimed at the home market for under \$125; these do not fall within the scope of this guide.

One nice thing Lexmark has done with its ink jet all-in-one fleet is to bring some standardization to its ink cartridges. At least at the high-capacity cartridge level, all the ink jet MFPs in this guide can use the same two cartridges. As a result, the cost of printing in black is on the high side, but the cost of color printing is quite reasonable. Also, the task of shopping for different models is a little easier.

Embedded Solutions: Lexmark includes in its higher-end MFPs its new Embedded Solutions Framework (eSF). This function allows the addition of workflow solutions accessible through a touchscreen interface. Lexmark distributes some of this software, and technically skilled users and third parties can create their own using JavaScript.

Current software includes applications for scripting specific document distribution workflows (including one from Kofax), document accounting, advanced network scanning, an ability to copy to a remote printer, advanced forms management, and advanced OCR functions.

RICOH

Lanier SP 4310N

37ppm

Same machine as the Ricoh Aficio SP 4310N

Savin SP 4310N

37ppm

Same machine as the Ricoh Aficio SP 4310N

Ricoh Aficio SP 4310N

37ppm

Sum-up: Midsized workgroup printer with versatile connectivity and paper-handling capacity.

The Aficio SP 4310N replaces the older Aficio SP 4210N in Ricoh's lineup. At \$799 (list), the 37ppm Aficio SP 4310N is intended for midsized workgroups that do not need color printing or other functions besides printing. It has a fast first-print-out time of 6.9 seconds.

This printer comes with a 466MHz processor, and 256MB of memory is standard, which you can expand to 512MB. An 80GB hard-disk drive is also available as an option.

A 500-sheet paper tray and 100-sheet bypass come standard. You can add one or two 500-sheet drawers, for a maximum of 1,600 sheets, and you can also add an envelope feeder that holds 60 envelopes. The bypass will take paper up to 90lb. index in weight. As with many other printers at this level, in spite of the substantial paper input, the output is restricted to a 250-sheet tray. Automatic duplexing is optional.

Ethernet and USB connectivity are standard, and there is a port for a USB flash drive. Parallel, Wi-Fi, IPDS, and Gigabit Ethernet are all optional. PCL, PostScript, and XPS are supplemented by Ricoh's host-based printing, called RPCS. Direct PDF printing is also supported.

Supplies are not something you can buy on the open market, but they are long lasting (15,000 pages for toner, 90,000 pages for a maintenance kit).

The Aficio SP 4310N has strong security features – including 200 user codes, IP address filter-

ing, and password and data encryption. Other security features are included as an option, such as user authentication and locked print.

Energy-saving features include the toner saving mode and the ability to print multiple pages onto a single sheet of paper.

If you're looking for a printing-only black-and-white machine, the Aficio SP 4310N is a good buy. We also like the abundant paper-handling capacity and variety of connectivity features. We give this printer our Editor's Choice Award.

**Better Buys
for Business**

**EDITOR'S
CHOICE
2011**

**Black-and-
White
Laser
Printer**

Ricoh Aficio SP 4310N	
Specifications	
Price	\$799 (list)
Print speed	37ppm
First print time	6.9 seconds
Print languages	PCL, PostScript, XPS
Processor	466MHz
Standard memory	256MB
Maximum memory	512MB
Standard input	1 x 500
Bypass	100 sheets
Optional input	Up to 2 x 500 (price not available)
Maximum paper supply	1,600 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Optional
Standard output	1 x 250
Optional output	No
Ethernet	Standard
Wireless	Wi-Fi (optional)
Supplies	Toner: 15,000 pages (price set by dealer) Maintenance kit: 90,000 pages (price set by dealer)
Est. cost per page	Set by dealer

Ricoh

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

Vendor Profile

Ricoh's attention to the laser printer market has sharpened considerably in recent years. The company, one of the bigger Japanese copier companies, now offers a complete lineup of both monochrome and color printers in the workgroup/departmental arena. They fit into Ricoh's idea of providing a full-office solution to buyers of its copiers.

In the office printer market, Ricoh now sells models that range in speed from 30ppm up to 50ppm. Ricoh's printers are noteworthy principally for their strong paper handling, which is due to the company's copier legacy. Ricoh is distributing its single-function printers mainly through its network of dealers. Some models are also sold through computer/peripheral distributors and resellers.

The company doesn't emphasize printer sales to anyone but its largest corporate customers as part of a solution including copiers, scanners, multifunctionals, and printers. The printers are relatively low-margin items for Ricoh dealers, so you won't find them pushing these machines very aggressively. That's in spite of the fact that these are very competitive printers.

Overall, Ricoh continues to have its work cut out in penetrating the printer market, since it lacks the brand recognition and momentum of vendors such as Lexmark and Hewlett-Packard. It has a difficult time reaching printer customers other than those who have already bought its copiers and multifunctional machines. Meanwhile, the company knows that printing is important to its future, and it has made strenuous and increasingly successful efforts in the areas of color printers and copier-based multifunctionals.

SAMSUNG

Better Buys
for Business

EDITOR'S
CHOICE
2011

Samsung ML-3312ND

33ppm

Samsung ML-3712ND

Samsung ML-3712DW

37ppm

Sum-up: New compact and affordable printers with standard networking and duplexing.

Samsung has recently introduced three new networked printers aimed at the small workgroup: the ML-3312ND, the ML-3712ND, and the ML-3712DW. The ML-3312ND (\$199) prints at 33ppm, while the ML-3712ND (\$250) and ML-3712DW (\$300) print at 37ppm. The ML-3312ND and ML-3712ND come standard with automatic duplexing and Ethernet connectivity. The ML-3712DW supports standard Wi-Fi. All three printers have a fast first-print-out time of 6.5 seconds.

Processor speed is 375MHz on the ML-3312ND and 600MHz for the other two models. On the ML-3312ND, memory is limited to 64MB, and host-based and PCL printing are supported. On the ML-3712ND/ML-3712DW, standard memory is 128MB, which can be expanded to 384MB, and PostScript is supported. All three printers have a 16MB flash memory drive for storage.

Input paper supply is a 250-sheet tray and a 50-sheet multipurpose tray. You can add a 520-sheet tray (\$200) for a total capacity of 820 sheets. Output is limited to a 150-sheet bin. Duty cycle is rated at 50,000 sheets for the ML-3312ND and 80,000 sheets for the ML-3712 models.

Samsung uses its anti-jam rollers to prevent misfeeds 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 cartridges, we estimate the cost per page to be a good 2.6 cents for the ML-3312ND and 2 cents for the ML-

3712ND/ML-3712DW. 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.

Small workgroups will find these compact printers attractive, especially for their up-front and consumables costs. These network-ready models (especially with wireless connectivity on the ML-3712DW) with standard duplexing look like a bargain to us. We give all of these models our Editor's Choice Award.

Samsung ML-3312ND	
Specifications	
Price	\$199 (street)
Print speed	33ppm
First print time	6.5 seconds
Print languages	Host-based, PCL
Processor	375MHz
Standard memory	64MB
Maximum memory	64MB
Standard input	1 x 250
Bypass	50 sheets
Optional input	1 x 520 (\$200)
Maximum paper supply	820 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Standard
Standard output	1 x 150
Optional output	No
Ethernet	Standard
Wireless	No
Supplies	Toner: 5,000 pages (\$130 street)
Est. cost per page	2.6 cents

**Black-and-White
Laser
Printer**

Samsung ML-3712ND / ML-3712DW	
Specifications	
Price	\$250 (street) / \$300 (street)
Print speed	37ppm
First print time	6.5 seconds
Print languages	Host-based, PCL, PostScript
Processor	600MHz
Standard memory	128MB
Maximum memory	384MB
Standard input	1 x 250
Bypass	50 sheets
Optional input	1 x 520 (\$200)
Maximum paper supply	820 sheets
Maximum US paper size	8.5" x 14"
Automatic duplex	Standard
Standard output	1 x 150
Optional output	No
Ethernet	Standard
Wireless	No / Wi-Fi (standard)
Supplies	Toner: 10,000 pages (\$200 street)
Est. cost per page	2 cents

Samsung

Irvine, CA
949 975 7000

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.

XEROX

Better Buys
for Business

EDITOR'S
CHOICE
2011

Xerox Color 550 Printer

50ppm/50ppm

Xerox Color 560 Printer

60ppm/60ppm

Sum-up: Light-production machines with multifunctional features.

The Xerox Color 550 Printer and 560 Printer are high-end printers with copying and scanning features. The Color 550 Printer (\$41,995) has a speed of 50ppm in both black and color, while the \$46,495 Color 560 Printer runs at 60ppm. Other than price and speed, both machines share identical features. The rated monthly duty cycle is 300,000, but the recommended monthly volume provided by Xerox is between 10,000 and 50,000 pages.

Both the Color 550 and Color 560 Printers, like the high-end DocuColor models, print in a native 2,400dpi resolution at full speed. It handles both coated and uncoated stock, making it suitable for commercial-quality printing operations. Also, operators can save time by loading toner and paper while the machines are still running.

Both machines come with an 80GB hard drive and 2GB of standard memory. PCL, PDF, and XPS are supported. Ethernet is standard.

There is also a scanning unit, with a duplexing document feeder (DADF) integrated into the machine. That scanner holds up to 250 sheets. It can scan at 50ppm color and 80ppm in black-and-white. There a variety of scan-to formats, such as scan-to-email, scan-to-folder, and scan-to-PC.

Paper handling: The standard paper configuration consists of two 500-sheet trays, an 870-sheet letter-sized drawer, and a 1,140-sheet letter-sized tray. A 250-sheet bypass adds the standard capacity to 3,260 sheets. Automatic duplex output is standard.

You can add one or two 2,000-sheet high-capacity trays for a maximum of 7,260 sheets of input. There are two types of high-capacity trays. One holds letter-size pages only and handles paper up to 80lb. cover. The other, called the "Oversized

High-Capacity Feeder", holds 13" x 19.2" sheets up to 110lb. cover.

On the output side, there are several choices. First, there is a simple 500-sheet offset catch tray. Xerox also offers an offline convenience stapler that can staple up to 50 sheets. There are three available stapling finishers.

The first, what Xerox calls the "Advanced Finisher," offers 50-sheet multiposition stapling. It has a 500-sheet upper tray and a 3,000-sheet stacker tray. It has standard hole punching.

The second, called the "Professional Finisher," has 50-sheet multiposition stapling. It also includes a booklet maker that can saddlestitch booklets from up to 15 sheets (60 pages). This unit also has hole punching. The upper tray holds 500 sheets, while the lower tray holds 1,500 sheets.

The third finisher, named the "Standard Finisher," can handle 100-sheet multiposition stapling and hole punching. It has a 500-sheet top tray and a 3,000-sheet stacker tray. It comes with a 200-sheet interposer (inserter). It has an optional high-end booklet maker that can fold and saddlestitch up to 25 sheets (100 pages). Also optional to this unit is a square-fold trimmer that can trim up to 25 sheets. Xerox also offers a GBC Advanced Punch module.

Controllers: Four print server/controller options are available for this machine:

- The Xerox FreeFlow Print Server has features such as editing capabilities for changing various elements in jobs just prior to printing, color management features including gray balance calibration, production queue management, simultaneous RIP and printing, and two-sided image adjustment.
- The Xerox EX Print Server, developed by EFI, comes with EFI's ColorWise color management tools, as well as the company's Graphic Arts Package that facilitates precise PANTONE matching and Lab-, spot-, or RGB-to-

High-
volume
Machines

CMYK conversion. It also has IP filtering, a security feature that lets users accept or reject jobs from specific IP addresses, as well as Safe Erase, which enables users to overwrite files three times during a job's deletion.

- The Xerox CX Print Server, developed by Creo, has Creo's Ready-to-Print file format that saves time by bypassing conventional RIP, along with sophisticated color management and color-matching programs. It allows for printing on tabs, inserts, interleaves, slip sheets, or other atypical formats.
- An Integrated Fiery Color Server that allows scanning, specifically scan-to-job and network scan.

Conclusion: Xerox has been a leader in light production color machines, and the Color 560 Printer and Color 560 Printer continue that history. They offer flexible workflow options, strong paper handling, and support from a company that has strong experience in color production. We give them our Editor's Choice Award.

Xerox Color 550 Printer / Color 560 Printer	
Specifications	
List price	\$41,995 / \$46,995
Year introduced	2011
Copy speed / Print Speed	50ppm / 60ppm
Print	Standard
Scan	Standard
Scan to email	Standard
Fax	Optional
First copy time	Not available
Print specs	Standard (includes PCL, TIFF, PDF, optional PostScript)
Fax specs	Not available
Color scan	Yes
Standard input	2 x 500 1 x 870 (8.5" x 11") 1 x 1,140 (8.5" x 11")
Bypass	250 sheets
Optional input	1 x 2,000 (8.5" x 11", price not available) or 2 x 2,000 (13" x 19.2", price not available)
Maximum input	7,260 sheets
Document feeders	DADF/250 sheets (standard)
Output options	1 x 500 (price not available) 1 x 500 + 1 x 5,000 (price not available) 1 x 500 + 1 x 3,000 with 50-sheet multiposition stapling and 2/3-hole punch (price not available) 1 x 500 + 1 x 1,500 with 50-sheet multiposition stapling and 2/3-hole punch and booklet maker with saddlestitching (price not available) 1 x 500 + 1 x 3,000 with 100-sheet multiposition stapling and 2/3-hole punch, and 200-sheet interposer (price not available) Booklet maker with 25-sheet saddlestitching (price not available, requires 100-sheet stapling finisher) Tri-fold / Z-fold unit (price not available, requires 100-sheet stapling finisher) 25-sheet SquareFold trimmer (price not available, requires 100-sheet stapling finisher)
Duty cycle	300,000 pages
Also sold as	None

Xerox

Rochester, NY
800 275 9376
www.xerox.com

Vendor Profile

It's no exaggeration to say that Xerox is the king of high-volume cut-sheet printers — its flagship DocuTech line pioneered the market, and today there are many thousands of DocuTechs installed around the world.

No kingdom goes unchallenged forever, though. In recent years, competitors have mounted attacks on Xerox's preserve in the high-volume printing market. Some of these threats are based on the same weapon — the high-volume printers manufactured by Kodak that are sold under the Kodak and Canon brands. Konica Minolta and Canon have redefined price points in the sub-100ppm market.

But, primarily, the battle for black-and-white 100ppm+ supremacy has shaped up as a prolonged struggle between Xerox and Kodak, with Canon as a contender. Xerox now carries many highly capable color printer offerings and has introduced its own direct-imaging color press.

Product lines: High-volume printing is a major profit center for Xerox, a very important one. Xerox has slowly but steadily upgraded its line over the years. It now has a comprehensive high-volume monochrome printer range running from 50ppm to 180ppm.

Competitive pricing: Traditionally, when you bought Xerox high-volume printers, you got a rich set of features — for which you paid a premium price. This has changed somewhat with the advent of real competition in the high-volume market. Now Xerox's offerings at 100ppm+ are comparable in price to most of its rivals'.

Distribution: All Xerox high-volume printers are sold by the company's direct-sales force. Xerox continues to sell legacy printers that are aimed solely at back-office main-frame applications, but we don't deal with them in this guide. Like most Xerox office products, the printers come with the company's excellent Total Satisfaction Guarantee, promising a replacement machine if the customer is not satisfied with overall quality.