Kyocera FS-9530DN

BUYERS LABORATORY INC. **Lab Test Report**

A Comprehensive BLI Laboratory Evaluation

Kyocera FS-9530DN
51 PPM Laser Printer

HIGHLY RECOMMENDED 2008

Reliability .... Very Good
Administrative Utilities .... Very Good
Feedback to Workstations .... Very Good
Ease of Network Setup .... Very Good
Print Drivers .... Good
Applications Compatibility .... Excellent
Print Quality .... Good
Print Productivity .... Good
Ease of Use... Good
Feature Set .... Excellent
Toner Yield .... Excellent
Cost per Page... 0.228¢
Value .... Very Good

Test duration: Two months, including a 150,000-impression durability test.

Manufacturer's maximum monthly duty cycle: Up to 300,000 impressions.
BLI's recommended monthly volume for optimum performance: Up to 40,000 impressions.
More information on the FS-9530DN is available through bliQ (www.buyerslab.com/bliQ).

BLI RECOMMENDATION

ALSO INSIDE

▸ *Test Procedures*

▸ *Certificate of Reliability*

Ratings scale: Excellent, Very Good, Good, Fair and Poor.

With a manufacturer-rated speed of 51 ppm, the Kyocera FS-9530DN proved to be an above average overall performer throughout its 150,000-impression lab assessment. Most noteworthy about the unit is its cost per page—far and away the lowest in the competitive group. Furthermore, the FS-9530DN has the highest tested toner yield compared to devices in this class and speed range tested to date. Offering a very good suite of administrative utilities and providing above average feedback to end-user workstations, the unit is relatively easy to use and maintain, and the drivers are simple to set up. The FS-9530DN, which accommodates up to ledger-size output, features among the highest maximum memory and paper capacities in the group. It also supports CF memory cards and Microdrives, and is equipped with a USB port for direct printing. Although the unit's efficiency when printing multiple sets

LAB TEST

in duplex mode is well below average, its efficiency is competitive when printing BLI's job stream, which simulates real-world office use. Based on all of these findings, most notably its low cost per page, BLI highly recommends the FS-9530DN for large workgroups with monthly print volumes of up to 40,000 impressions.

STRENGTHS

- Highly reliable

- Lowest supplies cost per page of competitive devices

- Highest toner yield in competitive group; higher than average drum yield

- Above average halftone range

- Among the highest maximum memory and paper capacities, as well as bypass tray capacity; among the highest standard paper capacity

- KX driver incorporates both PCL and PostScript emulations, allowing for more streamlined installation; downloadable Uni driver allows administrator to download a single driver that can be configured for each Kyocera device on the network

- Above average efficiency in BLI's job stream test using the PostScript driver; faster than average first-print time for TIFF file

- CF memory card and Microdrive support; USB port

- Pop-up messages, as well as icon and audible alerts, keep users informed of device status and error conditions

- Well-designed control panel

- Two optional staple finishers, as well as an optional booklet folder that stacks up to 16 sheets per set

WEAKNESSES

- Higher than average acquisition price

- Below average and well below average overall simplex and duplex efficiency, respectively, when producing multiple sets; slower than average first-print time for the PDF file

- Switching between the KPDL—PostScript emulation—and PCL drivers requires users to close or minimize the application and then open the driver via the Windows Start menu

PERFORMANCE OVERVIEW

+, − and ○ represent positive, negative and neutral attributes, respectively.

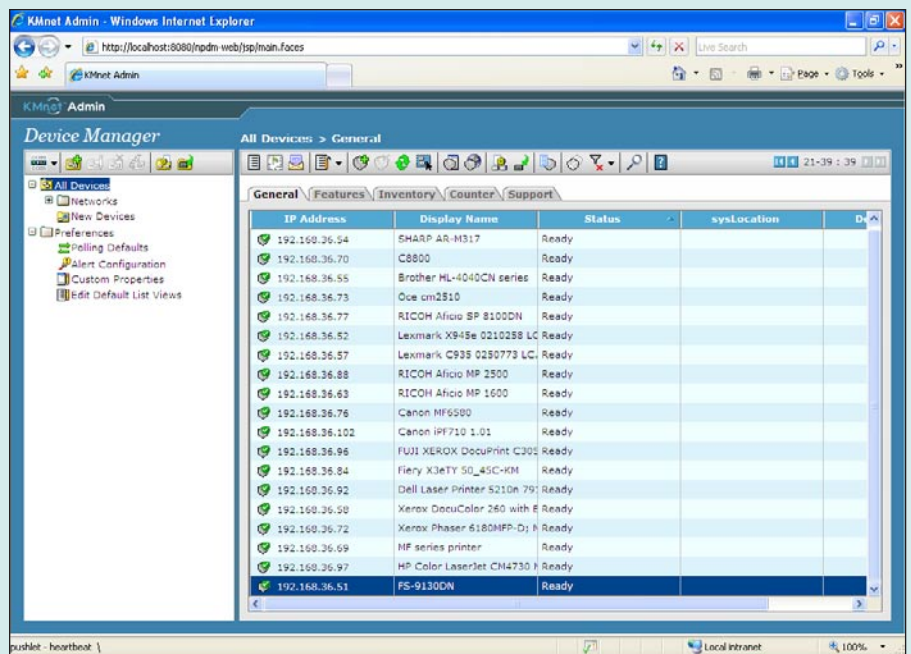## ▲▼ RELIABILITY   VERY GOOD

+ The FS-9530DN is certified highly reliable by BLI, completing a 150,000-impression durability test with only two misfeeds for a rate of one per 75,000 impressions.

+ The rated yield for the amorphous silicon imaging drum is 500,000 impressions, which far exceeds that of any competitive device.

▲ ADMINISTRATIVE UTILITIES   VERY GOOD

+ KMnet Admin is a unified solution for network device management for both Kyocera and competitive network printing devices. The utility allows the administrator to view page count and device status, and view and configure alerts for groups of devices on the network. Administrators can also access detailed information on individual devices such as amount of toner remaining, alerts, configuration settings and event logs.

+ KMnet Viewer enables device discovery and management for all printers and MFPs on the network, including Kyocera and non-Kyocera models. The
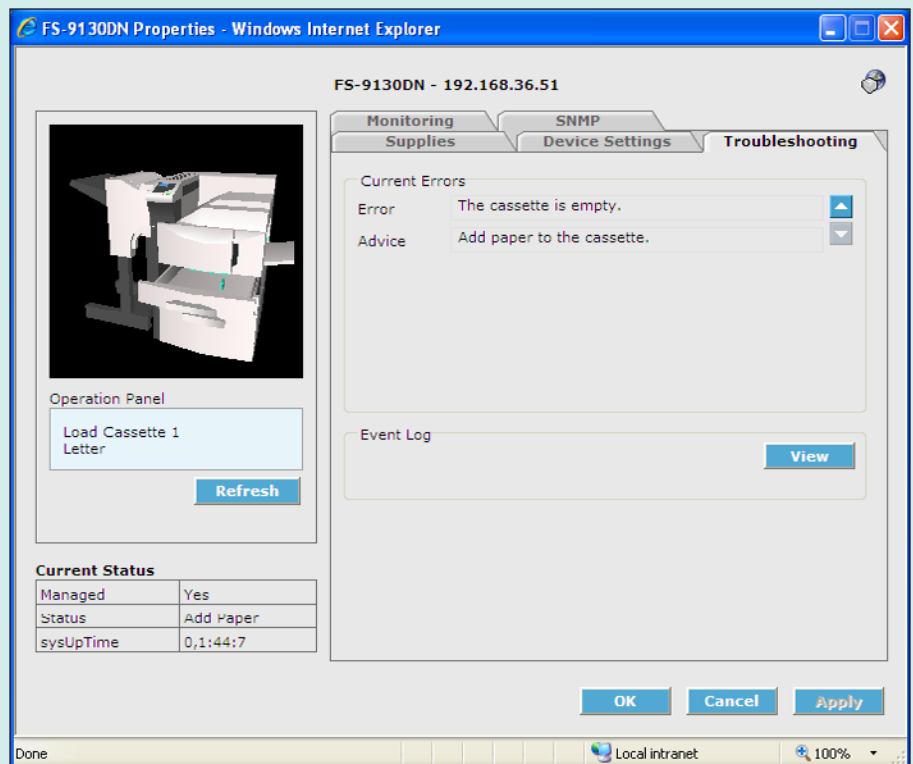

KMnet Admin—General Tab

utility allows administrators to sort devices by name or IP address and specify which information on monitored devices is shown. Administrators can also select which device conditions prompt pop-up messages on users' PCs. Additionally, KMnet Admin enables automated meter reads to be sent to dealers.

+ Kyocera Command Center—the embedded Web page—provides administrators with information about the FS-9530DN and lets them handle administrative tasks such as changing device and network settings, viewing device status and monitoring toner and paper supplies. Additionally, the embedded Web page can be programmed to send e-mail alerts to three recipients for error conditions, including paper jam, cover open and add toner/paper.

+ KMnet for Clients enables users to monitor the status of multiple devices, as well as multiple print drivers for each device, all within one window.

+ The embedded Web page allows for direct printing of PDF files, without requiring the application. Also included is a software utility that enables direct printing of PDF, PostScript, PRN and Kyocera's PRESCRIBE files without having to have the respective applications installed on the PC. With this utility multiple files can be sent at one time, with the user able to change settings such as quantity, duplexing, N-up printing, resolution.
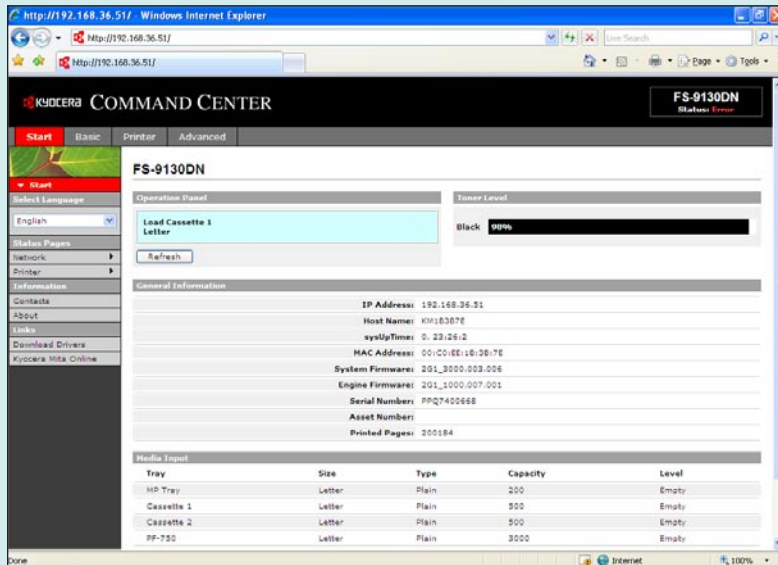

KMnet Admin—Troubleshooting Tab

▲ FEEDBACK TO WORKSTATIONS   VERY GOOD

+ KMnet for Clients can be installed on users' PCs, enabling them to receive pop-up messages and icon alerts for error or warning conditions and device status. Audible alerts can also be enabled.

− However, KMnet for Clients doesn't offer pop-up messages or icon alerts to indicate completed jobs.

+ The Kyocera Command Center provides users with a very good level of detail regarding the FS-9530DN, including device status, paper size, remaining paper and toner supplies (percentages), and also allows users to switch between PCL and PostScript emulations.

Kyocera Command Center

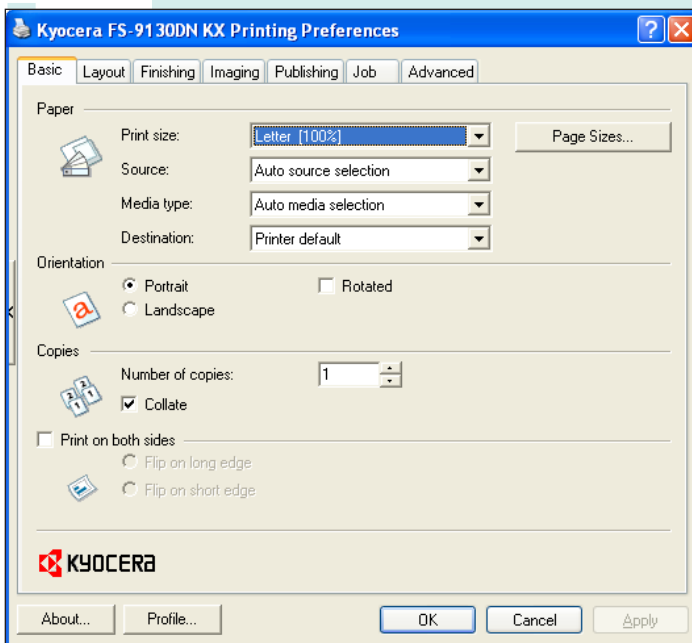## ▲ EASE OF NETWORK SETUP   VERY GOOD

○ Physical setup of the unit is performed by a Kyocera service technician.

+ The FS-9530DN comes with two CDs, one which contains the drivers and utilities; the other contains the user's guide and other documentation.

+ Setup and installation of the drivers was easy thanks to the auto-install feature, which automatically creates the port and will have users up and running in minutes. Installation of the KX driver requires 12 clicks of the mouse; because the drivers are combined into the KX driver, there's a more streamlined installation procedure that uses fewer resources on the network.
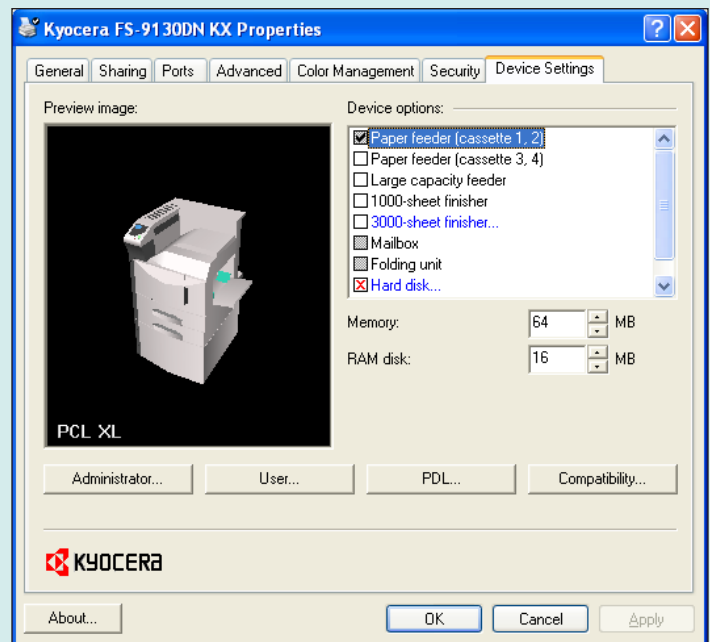
— Administrators can't clone device settings from one device to another, and they can't simultaneously install the drivers at multiple workstations on the network.

▲▼ PRINT DRIVERS   GOOD

○ The FS-9530DN comes with Kyocera's proprietary KX driver, which combines three drivers in one: PCL XL (PCL 6 emulation), PCL 5e and KPDL (the company's PostScript emulation). The KX driver facilitates a more streamlined installation procedure and uses fewer resources on the network.

— While many users may never switch between emulations, it should be noted that for those who do, switching isn't convenient as it can't be done from within an application. Users have to close or minimize the application and then open the driver via the Windows Start menu in order to switch from one driver to the other.

+ The drivers provide selections for most of the most commonly used features on the main screen; graphical changes in the driver show altered settings.

+ The PCL XL and KPDL drivers are identical in layout, increasing ease of use in environments where both are used. The drivers offer a good feature set, including booklet printing, collation, N-up printing, proof print, the ability to save settings, a secure printing option, custom watermarks and poster printing.

KX Print Driver—Basic Tab

KX Print Driver—Device Settings Tab

+ The PCL XL and KPDL drivers feature PRESCRIBE—Kyocera's page design and control language, which enables graphics, logos and forms, including multi-part forms, to be created independently of the system and saved and updated on the unit.

+ File size remains the same when producing multiple sets regardless of whether collate is selected from the properties screen of the driver or from the print screen within an application.

○ The PCL and KPDL Uni driver requires users to download and install each one separately. Furthermore, the drivers are compatible with multiple Kyocera devices but must be configured from one device to the next instead of simultaneously. Additionally, like many PostScript drivers, the KPDL driver is text-based.

▲ APPLICATIONS COMPATIBILITY   EXCELLENT

+ No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on Windows XP platforms with Microsoft Word 2000, PowerPoint 2000 and Excel 2000, as well as Adobe PageMaker 7.0, Photoshop 6.0 and Acrobat 6.0, using 25 application test files that contain text, graphics, halftone images, tables, etc., enabling BLI technicians to evaluate memory usage, file processing, font rendering and grayscale capability.

▲▼ PRINT QUALITY   GOOD

○ Output produced by the FS-9530DN's KPDL driver was good overall. Characters were fully formed and displayed average sharpness, while curves/serifs were smooth. Circular lines were also fully formed and closely spaced fine lines remained distinct; BLI technicians saw no evidence of stair-stepping of diagonal lines. Solids exhibited average darkness and some graininess.

+ Halftones were visible over a very good range and featured distinct transitions between all levels.

○ Coverage within levels was judged to be average, with some evidence of graininess and minimal banding.

▲▼ PRINT PRODUCTIVITY   GOOD

+ Using the KPDL driver to produce BLI's 19-page job stream, which replicates typical office usage in a multi-user environment, the FS-9530DN's efficiency

of 57.8 percent of its rated engine speed is above average compared to ledger-size monochrome laser/LED devices tested to date.

○ Using the PCL XL driver to produce the job stream, the FS-9530DN's efficiency of 77.0 percent of its rated engine speed is competitive for the group.

— The FS-9530DN overall simplex efficiency when producing multiple sets is below average for ledger-size monochrome laser/LED devices in this speed range tested to date, while its overall duplex efficiency is well below average and, in fact, the lowest.

+ First-print times for the Word, PowerPoint and JPEG files used in testing are competitive, while the first-print-time for the TIFF file is faster than average compared to ledger-size monochrome laser/LED devices tested to date.

— The first-print time for the PDF file is slower than average.

▲ EASE OF USE   GOOD

+ The FS-9530DN's control panel is well designed and easy to use, featuring a two-line, 32-character LCD and eight LEDs for Ready, Attention, Finisher, Bypass, Drawer One, Drawer Two and Drawer Three, which has two LEDs as there are two stacks for paper.

+ The interface, drivers and utilities are consistent across Kyocera's product line, including copier-based MFPs, which makes it easier to integrate into an environment that already utilizes the company's devices.

+ BLI technicians found the procedure for replacing toner to be simple and clean.

Kyocera FS-9530DN Control Panel

○ Loading paper was easy, although a locking mechanism has to be released before adjusting the length and side-to-side guides. Users don't have to set paper size through the control panel as the unit automatically detects it.

— Although the process of removing misfeeds from any of the five misfeed points is simple, there are no instructions on how to remove a misfeed or graphics showing where misfed paper is located. The drum isn't exposed and consumables don't have to be removed.

▲ FEATURE SET   EXCELLENT

○ The FS-9530DN's standard memory capacity of 128 MB is competitive compared to ledger-size monochrome laser/LED devices in this speed range.

+ The unit is tied with three other devices in the group as having the highest maximum memory capacity, at 768 MB.

+ The FS-9530DN's standard and maximum paper capacities of 1,200 and 4,200 sheets, respectively, are both among the highest compared to ledger-size monochrome laser/LED devices in this speed range.

+ The unit's bypass tray capacity of 200 sheets is among the highest in the group.

○ The FS-9530DN can accommodate up to 28-lb. bond and 110-lb. index through the drawers and bypass, respectively.

+ Automatic duplexing is standard.

+ There are two optional finishers: a 3,000-sheet three-position staple finisher that staples up to 50 sheets per set; and a 1,000-sheet finisher that staples up to 30 sheets per set. Also available are a two-/three-hole punch unit and a booklet folder, which folds and stacks up to 16 sheets per set, as well as a 100-sheet seven-bin mailbox unit. Users should note, however, that the optional 3,000-sheet finisher doesn't stop the printer when the output tray is full, which could potentially cause misfeeding and/or damage to the finisher.

+ The unit supports CF memory cards and Microdrives of up to 4 GB, in lieu of an onboard hard drive. The CF memory card or Microdrive provides storage for PRESCRIBE forms, fonts and frequently printed documents, as well as printer functions such as proof and hold, secure printing and job storage.

○ An optional 40-GB hard drive is available.

○ A USB port that supports thumb drives enables users to print PDF documents at the FS-9530DN. However, the port is located on the back of the unit and is difficult to find.

SECURITY FEATURES

NOT RATED

Security Features	
Administrator password length (characters)	32 alphanumeric
AUTHENTICATION	
Network user authentication	Yes
Windows	Yes
Novell NetWare NDPS	Yes
LDAP authentication	Yes
Kerberos protocol support	Yes
Authentication via department or user ID codes that are registered on the machine	Yes
Number of codes	100
Restrict usage of color	No
Restrict usage of other features	Yes
802.1x wireless authentication	Third-party vendor
Authenticated printing	Yes
Common Criteria Certification	Pending at EAL 3
Control panel lock/disablement	No
Digital user signature	Optional
Encrypted PDF mode/encrypted scanning	No
Encrypted secure print	Optional
Hard drive encryption	Optional
Hard drive lock	No
Hard drive overwrite	Optional
Max number of overwrites after every job	7
Overwrite method	Random 1s and 0s
IP address filtering	Yes
IPsec	Slated for early 2008 availability
Job logs (e.g., activity monitoring, compliance auditing)	Yes
MAC address filtering	Yes
Password-protected mailboxes	Yes
Password-protected Web page	No
Port disablement	Yes
Removable hard drive	No
Secure print	Yes
Secure Sockets Layer (SSL)	Yes
SNMPv3 support	No
Third-party security features	N/A
Transport layer security	Yes
Unauthorized copy prevention (secure watermark)	No; secure watermark done by driver
USB block	Standard
Additional security features	N/A

+ Secure print allows a user to send a print job directly to the FS-9530DN and hold it until it's released via the control panel. After it's printed the unit deletes the job from memory.

+ Administrators can lock the control panel via the embedded Web page.

+ KMnet Viewer and the embedded Web page can be password-protected by an administrator to prevent unauthorized users from changing configuration settings.

▲▼ TONER YIELD   EXCELLENT

+ The tested toner yield of the FS-9530DN is the highest compared to ledger-size monochrome laser/LED devices in this speed range tested to date and is, in fact, almost 32,000 impressions over the average.

▲ VALUE   VERY GOOD

○ Although the FS-9530DN is priced higher than other similarly equipped ledger-size monochrome laser/LED devices in this speed range, the unit offers an excellent feature set that includes among the highest standard and maximum paper capacities and maximum memory capacity in the group.

+ The FS-9530DN's supplies cost per page is the lowest compared to ledger-size monochrome laser/LED devices in this speed range tested to date; in fact, it's just under 60 percent lower than the average. This much lower cost per page translates to a substantial cost savings over competitive devices throughout its lifetime. However, users should be aware that this comparison is based on toner only and doesn't take into account the price of a service contract, which is required.

▲ SUPPORTING TEST DATA

Test Environment

The product has been tested in BLI's 10,000-square-foot test lab, in an environment monitored by a Honeywell Temp/RH chart recorder, which replicates typical office conditions.

Test Equipment

BLI's dedicated test network, consisting of Windows 2000 servers, Windows 2000 and XP workstations, 10/100BaseTX network switches and CAT5 cabling.

Test Duration

Products are tested for two months, a portion of which consists of a durability test during which the product is run at its manufacturer-rated maximum monthly volume, with varying daily test volumes designed to replicate real-world use over an eight-hour workday. This variable schedule includes a mix of various-size documents, simplex and duplex modes, and a mix of short, moderate and long run lengths, and on/off cycles, throughout the day.

Tested Configuration

Kyocera FS-9530DN base model.

Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures. In addition to a number of proprietary test documents, BLI uses an industry standard KATUN test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation, color print quality is tested using the ANSI standard IT8 Color Test Target, which is read using a Minolta CM503I Spectrophotometer, and samples are analyzed using the CIE XY Chromaticity Diagram. In addition, density of black and color output is measured using an X-Rite 428 Densitometer. Georgia-Pacific Spectrum Multi-Use 20-lb. bond is used in the tests, 10 percent of which is recycled paper containing 30 percent post-consumer content. Image quality is tested using Georgia-Pacific Printing Paper (95 brightness, 22-lb. bond).

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▲ RELIABILITY

PMs/Malfunctions	Service Required	Meter Count (Impressions)	Impressions Between Service
Meter Count (Beginning of Test)	0		
End of Test Period	150,000		
Total Misfeeds/Misfeed Rate	2/1 per 75,000 impressions		
Total Service Calls	0		

▲ ADMINISTRATIVE UTILITIES

Included software:

KMnet for Clients is a network utility that can be used to monitor and configure printing systems and maintain e-MPS (enhanced-Multiple Printing System) jobs in storage devices. It enables monitoring the status of the printing system in real-time, confirming and modifying default settings, and manipulating jobs stored temporarily or permanently. KMnet Viewer provides centralized network device management of all connected printers and copiers/MFPs on the network, including Kyocera and non-Kyocera models. The utility allows administrators to sort devices by name or IP address and specify which information on monitored devices is shown. Administrators can also select which device conditions prompt pop-up messages on PCs. KMnet Viewer is password protected to prevent unwanted changes and interruptions in device and network management. Administrators can install and update firmware for all Kyocera Mita connected devices from the utility.

KMnet Admin is a unified solution for network device management for both Kyocera and competitive network printing devices. The utility allows the administrator to view page count and device status, and view and configure alerts for groups of devices on the network. Administrators can also access detailed information on individual devices such as amount of toner remaining, alerts, configuration settings and event logs. Additionally, KMnet Admin enables automated meter reads to be sent to dealers.

Embedded Web page:

Kyocera Command Center—the embedded Web page—provides administrators with information about the FS-9530DN and lets them handle administrative tasks such as changing device and network settings, viewing device status and monitoring toner and paper supplies. Additionally, the embedded Web page can be programmed to send e-mail alerts to three recipients for error conditions, including low toner, paper jam, cover open and add toner or paper. Administrators and users can also send print jobs to the unit via the embedded Web page.

Consumables monitoring:

Yes, via the embedded Web page.

PRINT DRIVERS

Kyocera FS-9530DN Print Driver Features

Features	PCL XL	KPDL
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes	Yes
Collate Sets	Yes*	Yes*
Max Paper Sources per Job	2	2
Mirror Image	No	No
Negative Image	No	No
N-up Printing	2 to 25	2 to 25
Overlays	No	No
Paper Gauge	No	No
Print and Save	Yes	Yes
Proof Print	Yes	Yes
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	20% to 500%	20% to 500%
Resolution Modes (dpi)	High Quality (default); Proof; Draft; Custom	High Quality (default); Proof; Draft; Custom
Save Settings	Yes	Yes
Secure Print	Yes	Yes
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes
Poster Printing	Yes	Yes

Although there's a collate selection in the driver, it didn't function in testing; collate must be selected from the Windows print screen within an application for output to be collated. This isn't uncommon, as most drivers are written to allow the application settings to override the driver settings.
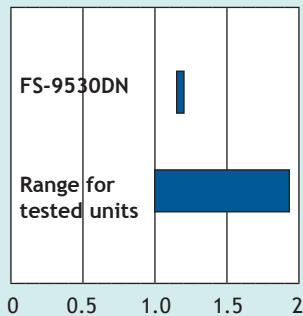
Send once/print many:

Yes. While a collate selection is available from the driver, it didn't function in testing. Collate must be selected from the Windows print screen within an application. Doing so doesn't increase file size. Output was properly collated.

PRINT QUALITY

Text	Very Good
Line Art	Good
Halftone Range	Very Good
Halftone Fill	Good
Solids	Good

Print density

FS-9530DN	
Range for tested units	

0   0.5   1.0   1.5   2

Black density:
1.21 to 1.29

Density for units in this class tested to date:
1.00 to 1.94

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.

Halftone range:
Grayscale is visible from the 1% to 98% dot-fill levels with distinct transitions between all levels.

Typical halftone range for monochrome laser/LED printers:
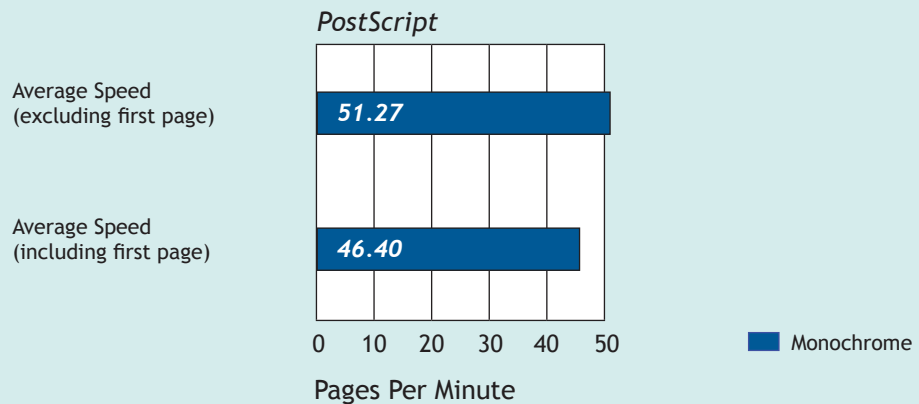3% to 93%

PRINT PRODUCTIVITY

TESTED FIRST-PRINT TIMES

Windows 2000	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File Type	Black Text	Color Graphic/Text	Color Graphic	Black Graphic/Text	Color Graphic
File Extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	248 KB
Post-Raster File Size	134 KB	443 KB	51.5 MB	643 KB	2.18 MB
First-Page Time (Seconds)	13.60	13.37	36.03	15.97	14.38

First-print time indicates the time it took to RIP an image and deliver the first page of the test document set to the output tray. The FS-9530DN's print speeds were tested in High Quality mode using the KPDL driver.

First-print time out of energy-save mode:
55.96 seconds.

Kyocera FS-9530DN's rated speed:
51 ppm

BLI'S TESTED PRINT SPEEDS

PostScript

Average Speed
(excluding first page) **51.27**

Average Speed
(including first page) **46.40**

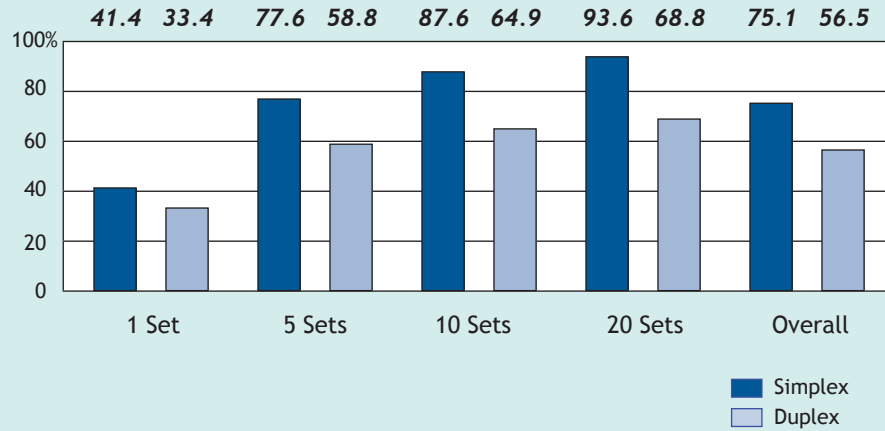0   10   20   30   40   50   ■ Monochrome

Pages Per Minute

Print speed is tested using BLI's Monochrome Test Original with 6% page coverage. The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). The FS-9530DN's print speeds were tested in High Quality mode using the KPDL driver.

Print Efficiency

	41.4	33.4	77.6	58.8	87.6	64.9	93.6	68.8	75.1	56.5

Chart showing print efficiency percentages (0–100%) for Simplex and Duplex:

	1 Set	5 Sets	10 Sets	20 Sets	Overall
Simplex	41.4	77.6	87.6	93.6	75.1
Duplex	33.4	58.8	64.9	68.8	56.5

BLI obtains the overall efficiency percentage by dividing the tested speed of the device by the rated speed and then multiplying by 100 for each run length. All jobs are based on a 10-page document printed in High Quality mode using the KPDL driver.

Job Stream Evaluation

A job stream consisting of nine files (a mix of Word, Excel, HTML, PowerPoint and e-mail) is sent to a paused print queue. All files are monochrome or monochrome and mixed color and consist of five or fewer pages (total of 19 pages). Timing begins when the queue is released and ends when the last page of the job stream completely exits the device.

Time to completion of all print jobs (KPDL):
38.70 seconds, running at 29.5 ppm, which translates to an efficiency rate of 57.8%.

Time to completion of all print jobs (PCL XL):
29.03 seconds, running at 39.3 ppm, which translates to an efficiency rate of 77.0%.

Range for monochrome printers tested to date:
29.03 seconds to 15 minutes, 1.88 seconds.

Problems encountered:
None.

LAB TEST

TONER YIELD

Tested Toner Yield and Supplies Cost per Page (5% Page Coverage)

Color	Net Weight (Grams)	Yield (Impressions)	Impressions per Gram	Toner Cost per Page[1]	Supplies Cost per Page[2]
Black	1609.6	56,669	35.2	0.228¢	0.228¢

[1] Toner cost per page is based on Kyocera's pricing for toner and the tested toner yield using the ISO 19752 toner yield test original with 5% page coverage.

[2] Toner is the only supply used by this unit. Supplies cost per page is based on Kyocera's pricing for toner and BLI's tested toner yields.

CERTIFICATE OF RELIABILITY

AWARDED TO

KYOCERA MITA AMERICA, INC.

For the performance of the
Kyocera FS-9530DN
throughout BLI's in-house durability test.

This is to certify that when subjected to a 150,000-impression
Buyers Lab durability test in a networked environment,
the Kyocera FS-9530DN proved to be a highly reliable product.

ANTHONY F. POLIFRONE
MANAGING DIRECTOR

February 2008
DATE

BUYERS LABORATORY INC.

RELIABILITY CERTIFIED

TESTED

THE LEADING INDEPENDENT OFFICE PRODUCTS TEST LAB AND BUSINESS CONSUMER ADVOCATE

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