Lab Test Report

A Comprehensive BLI Laboratory Evaluation | NOVEMBER 2012

SINDOH N702

50 PPM
Print • Scan • Copy • Fax

Reliability	Excellent
Multitasking	Fair
Administrative Utilities	Very Good
Feedback to Workstations	Good
Ease of Network Setup	Very Good
Print Drivers	Very Good
Applications Compatibility	Excellent
Scan Functions	Very Good
Print Quality	Good
Copy Quality	Good
Print Productivity	Very Good
Copy Productivity	Good
Ease of Use	Very Good
Feature Set	Very Good
Security Features	Not Rated
Environmental Features	Not Rated
Toner Yield	Excellent
Cost per Page	1.127¢
Value	Very Good

BLI RECOMMENDATION

Offering excellent reliability and above-average print productivity (most notably in BLI's job stream test, which simulates real-world multi-user traffic), the SINDOH N702 is an innovative unit that in a compact A4 form factor supports up to 11" x 17" scanning/copying/faxing and printing. For a price that's just slightly higher than competitive A4 models in this range, it addresses organizations' occasional need for 11"-x-17" output without requiring them to buy a significantly more expensive A3 unit. That, along with its very good feature set, competitive supplies cost per page and a range of green features that reduce waste, make it a very good value. With a large full-color touch screen interface and intuitive menu system, the SINDOH N702 is also very easy to use overall. The device is also easy to install and manage on the network, thanks to SINDOH's included utilities.

While some copy output was subpar, the unit offers very good print output, including excellent solids. Although it lacks the more robust multitasking generally offered in this range, which could be an issue

Test duration: Two months, including a 100,000-impression durability test.

Maximum monthly duty cycle: 200,000 impressions.

Manufacturer's recommended monthly volume: Information not available.

BLI's recommended monthly volume for optimum performance: Up to 10,000 impressions.

More information on the SINDOH N702 is available through bliQ (www.buyerslab.com/bliQ).

in busy offices with a lot of copy usage, the unit proved to be a strong overall performer. BLI recommends the SINDOH N702 as a cost-effective choice for mid-size to large workgroups with monthly volumes of up to 10,000 impressions, especially for users that require occasional ledger-size output, with mostly letter/legal output.

STRENGTHS

- Highly reliable
- Affordable alternative to A3 devices for occasional 11"-x-17" printing/copying/scanning
- High standard memory and hard drive capacities
- "Green" features include standard automatic duplexing to reduce paper waste and toner-save mode to extend the life of the cartridge
- Crisp text, consistent line art and dark solids in print mode
- Fast running speed when printing the job stream, which simulates multi-user traffic, using the PCL 6 driver
- Fast first-copy times mean users spend less time waiting
- Via SINDOH Device Monitor, administrators can manage a fleet of mixed hardware, create groups of devices, view device and supplies status and access monitored devices' embedded web utilities with a single click
- Average tested toner yield exceeded the declared specification; separate drum to reduce landfill waste

WEAKNESSES

- When a print job is in progress, users can program a copy job, but the pages do not begin scanning until the current print job is complete; so if users want to return to their desks with their original, they will have to wait for the print job to complete
- Users must be proactive in obtaining some device information from the feedback utility Grainy halftone output in copy mode; below average visible halftone range

TEST RESULTS AND OBSERVATIONS

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

△ RELIABILITY — EXCELLENT

+ The N702 is certified highly reliable by BLI, producing 100,000 impressions with no misfeeds and no service required.

PMs/Malfunctions	Service Required	Meter Count (Impressions)
Starting Meter Count		0
Ending Meter Count		100,000
Total Misfeeds/Misfeed Rate	0/Not applicable	
Service Calls	0	

MULTITASKING

FAIR

○ Users can send multiple print jobs, which are downloaded from the network queue, one at a time.

— Users can program copy jobs when a print or scanjob is in progress, but pages will not begin scanning until the current print job is complete; many competitive units do not have this limitation and begin scanning pages to memory while the current job is in progress. This can have a negative effect on walk-up users' productivity, as if, for example, a user programs a copy job while a job is printing, other users are locked out of the control panel for fax or scan jobs until the other jobs are complete.

○ The N702 has no interrupt function, which would allow users to interrupt a copy or print job to produce an urgently needed copy job; some models in the competitive group do offer one.

Secondary Function / Primary Function	Print	Scan	Copy
Print	Yes	Yes	Yes [1]
Scan	Yes	No [2]	Yes [3]
Copy	Yes	Yes [3]	No [2]

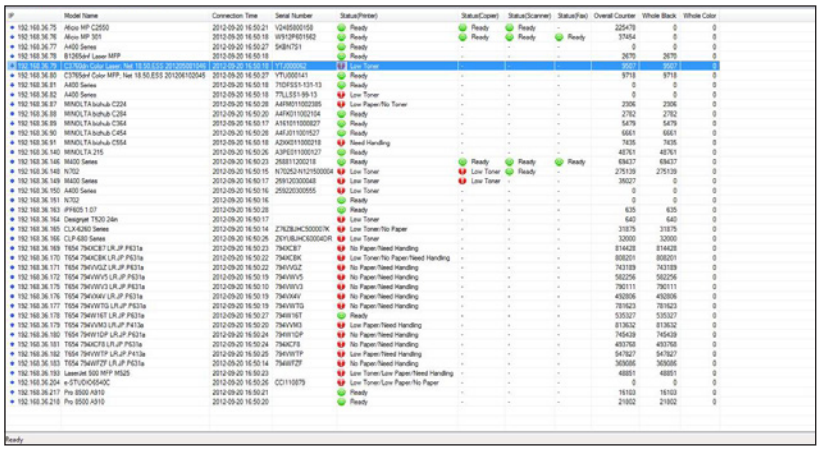
[1] The pages sit in the document feeder and do not begin scanning until the primary job is complete.
[2] The device doesn't support program ahead/copy reserve.
[3] As soon as the document feeder is free, the secondary function could be initiated, but the primary function was already complete.
A "Yes" indicates that the user can initiate the secondary function while the primary function is taking place and that no further user intervention will be required for the secondary function to take place.

ADMINISTRATIVE UTILITIES

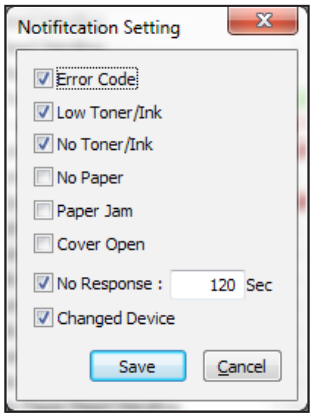
VERY GOOD

+ SINDOH Device Monitor allows for management of a fleet of mixed hardware. Administrators can configure and diagnose multiple devices, set up alert notifications, create groups, and establish alerts for selected error conditions.

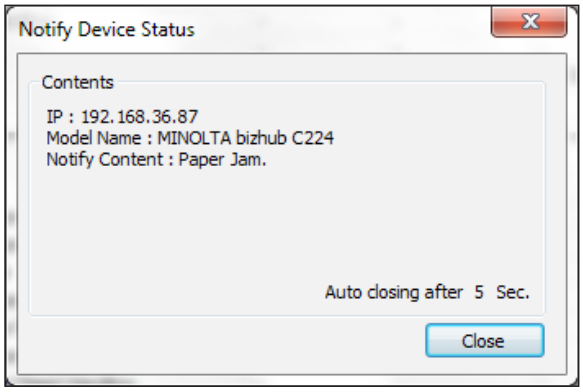
+ BLI technicians were impressed with how easy the utility is to set up and use; adding devices to be monitored is very straightforward and information provided for SINDOH devices and non-SINDOH devices is very accurate and detailed.



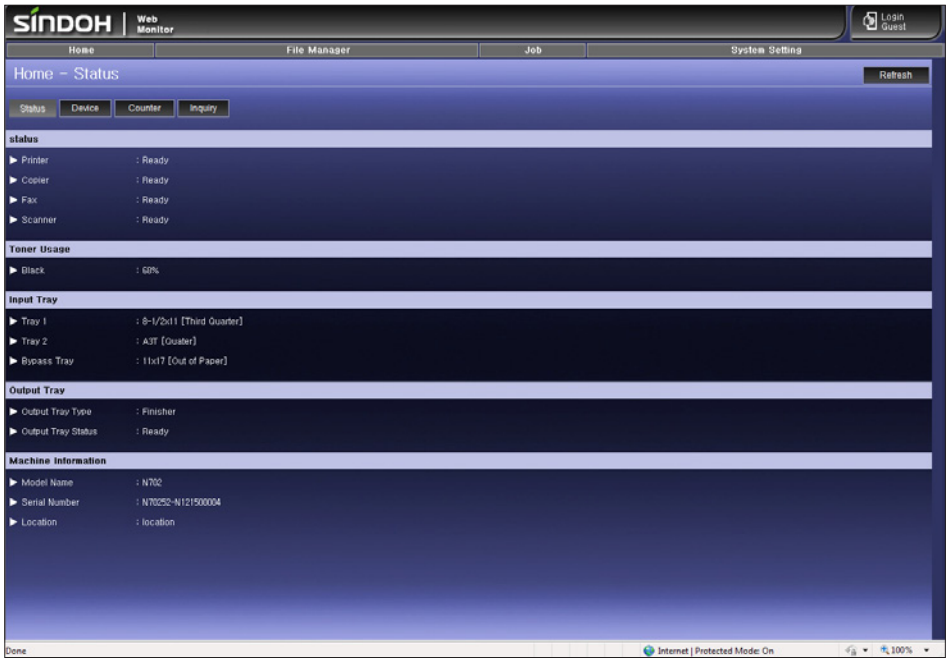
SINDOH Device Monitor lists discovered devices on the network and presents general information (page counts, serial number and IP address) and status (via text and an icon); admins can access the embedded web server of any monitored device just by single-clicking the device in the list.



Administrators can configure pop-up alerts for errors and warnings that will appear while Device Monitor is running on their PC.



Administrators will receive pop-up alerts for errors, which automatically close after a brief period.



A "Location" field allows the admin to manually add information, which is helpful when a fleet of devices contains many of the same model. The "Status" field provides device status (power-save mode, working, cover open, normal, paper jam, etc.) Paper information is listed under "Input Tray," while job history can be found under the Job menu.

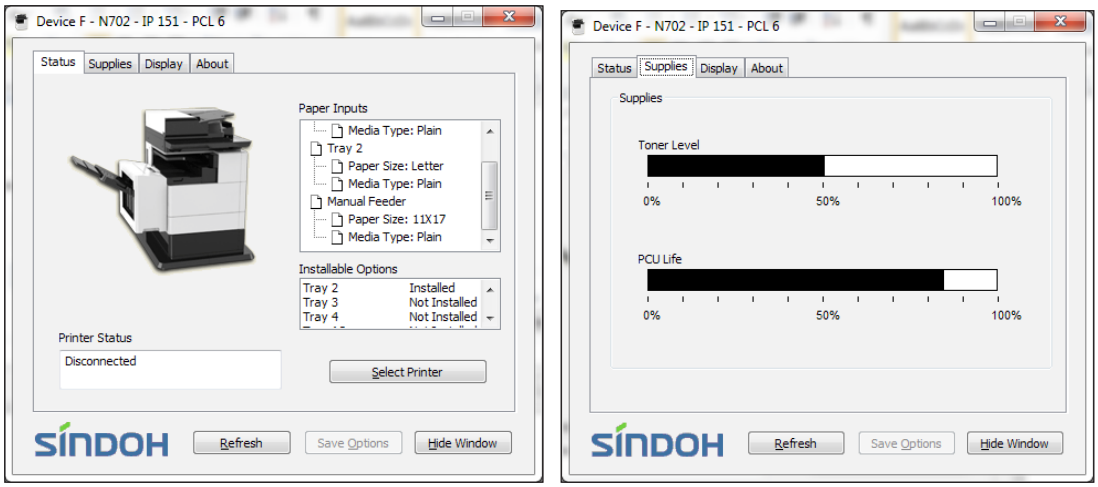
FEEDBACK TO WORKSTATIONS

GOOD

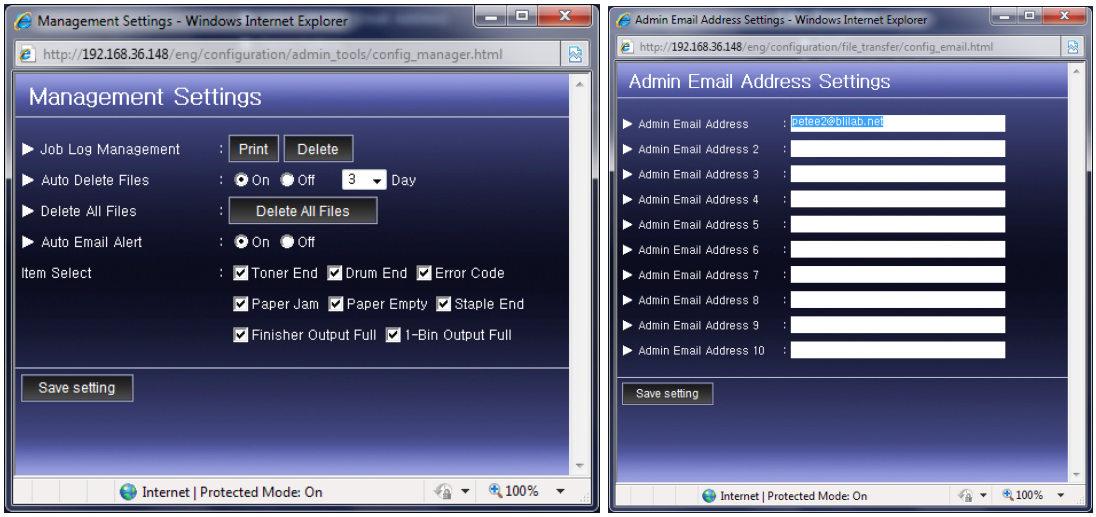
○ The Status Monitor utility is the chief provider of feedback. The utility can be installed along with the drivers; however, users must restart the PC for the utility to function. Once the PC is rebooted, the utility autostarts and can be accessed via the icons on the desktop or taskbar.

\+ The icon on the taskbar changes color to indicate changes in device status; users can double-click the icon to open the utility and obtain additional information.

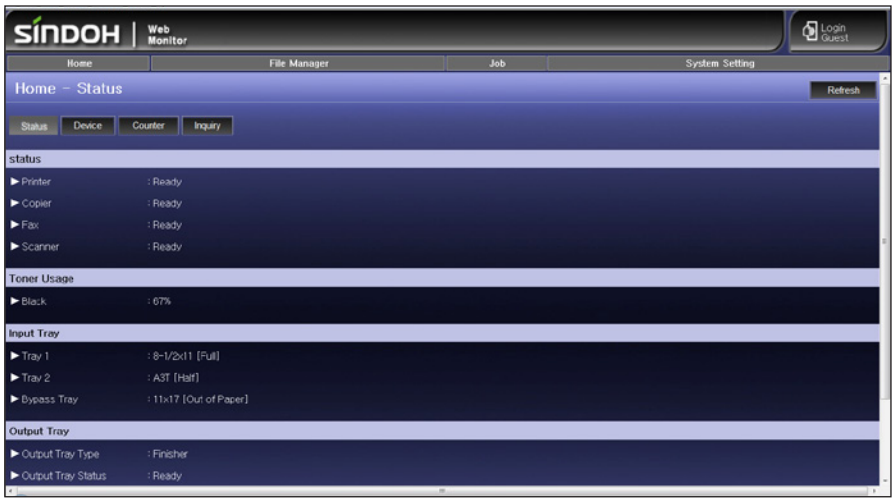
— No pop-up messages are available from the utility to inform users of errors and warnings.



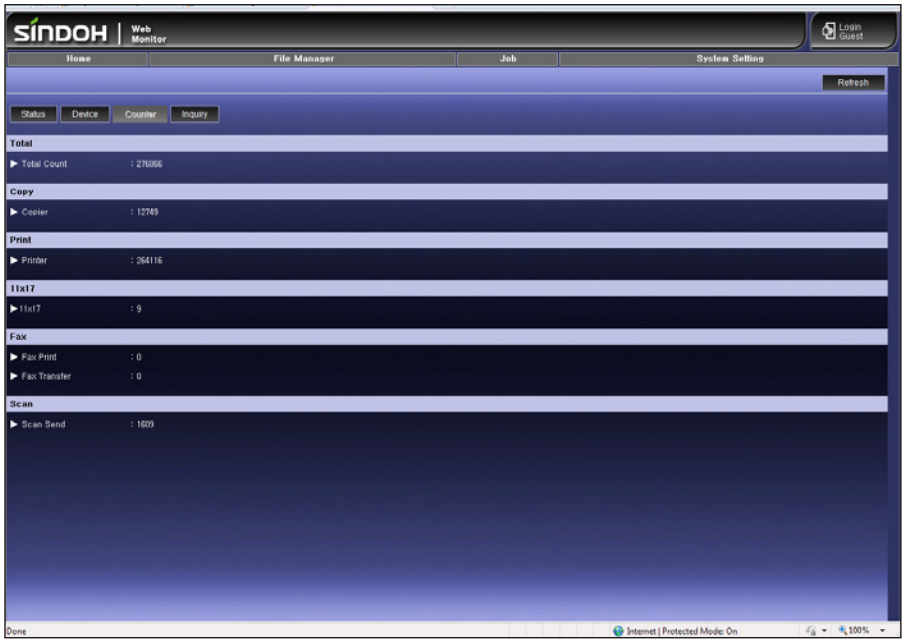
When accessed from the taskbar, the utility provides device and consumables status. Drum life (PCU) and toner levels are indicated by percentage gauges; paper information is not provided.



Administrators can configure a variety of email alerts to be sent to up to 10 addresses for warnings (staples, toner, drum or paper need replacing) and errors (finisher/one-bin tray full, paper jam or error code).



Users can proactively access the embedded web server—if they know the IP address, as there's no link in the driver—to view device and toner status, which is presented in text representing the approximate percentage remaining.



Total counter information is very straightforward; information is listed by function (copy, print, fax and scan), with a separate count for 11"-x-17" pages output.

○ Similar status information (albeit no information on size and amount of paper remaining) is available in Device Monitor, which can be used by administrators to establish email alerts and pop-ups for warnings and errors (pop-ups will only appear when the fleet management utility is running on the PC).

EASE OF NETWORK SETUP

VERY GOOD

○ Physical setup is typically done by dealer technicians.

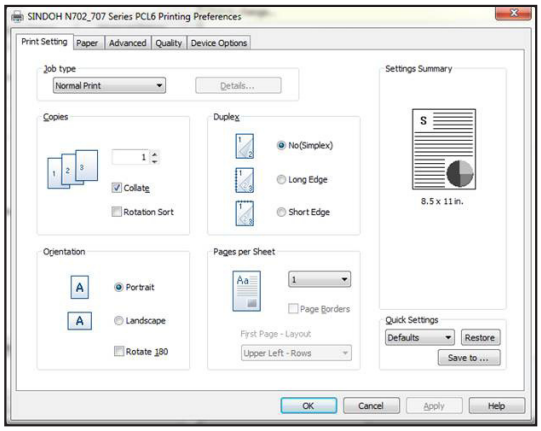
+ The disc launches when inserted in the drive, and the port is created automatically. Via the default routine, it takes 10 clicks to install all drivers and software on the disc (PCL5e/6 and PostScript drivers, plus the feedback utility).

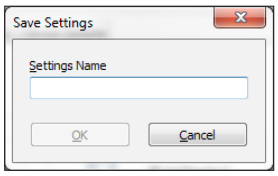
+ One-to-one and one-to-many cloning are achieved through the embedded web server and fleet management utility, respectively; this function can be performed only with devices in the same family.

PRINT DRIVERS

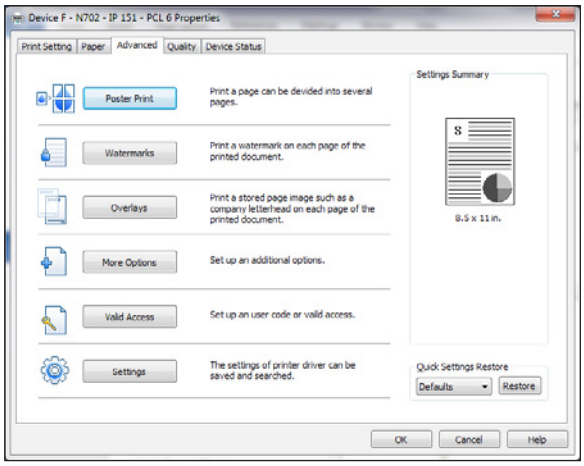
VERY GOOD

○ The unit comes with PCL 5e/6 and PostScript 3 drivers that support various Windows, Mac and Linux operating systems. The drivers are graphical and show changes to the page icon when various settings are selected.





The main screen of the driver lets users select from a list of saved jobs, and access commonly used settings. Duplex, quantity, orientation and N-up printing can be programmed from this screen; users must navigate to the Paper tab to choose paper size, source and type. Users can also save settings for commonly used job types via the "Save to…" button.



On the Advanced tab, users can access additional options, such as poster printing, watermarks and overlays.

+ File size doesn't increase when selecting collate in the application.

SINDOH N702 Print Driver Features

	PCL 5e	PCL 6	PostScript 3
Auto Feature/Device Detection	No	No	No
Booklet Layout	Yes	Yes	Yes
Collate	Yes	Yes	Yes
Max Paper Sources per Job	3	3	3
Mirror Image	No	No	No
Negative Image	No	No	No
N-up Printing	2 to 16	2 to 16	2 to 16
Overlay	Yes	Yes	Yes
Paper Gauge	No	No	No
Print and Hold	Yes	Yes	Yes
Proof Print	Yes	Yes	Yes
Quantity Selection	999	999	999
Reduction/Enlargement	25% to 400%	25% to 400%	25% to 400%
Resolution Modes	600 dpi, 1200 dpi	600 dpi, 1200 dpi	600 dpi, 1200 dpi
Save Settings	Yes	Yes	Yes
Secure Print	Yes	Yes	Yes
Watermarks/Custom Watermarks	Yes	Yes	Yes
Cover Mode	Yes (front/back)	Yes (front/back)	No
Poster Mode	Yes	Yes	Yes
Separator Pages	No	No	No
Toner Gauge	No	No	No
Toner Save	Yes	Yes	Yes
Print All Text as Black	Yes	Yes	Yes

APPLICATIONS COMPATIBILITY

EXCELLENT

+ No problems were experienced with any of the files used in the applications compatibility tests. Units are tested for compatibility on Windows XP and 7 platforms with Microsoft Word 2000, PowerPoint 2000 and Excel 2000, as well as Adobe PageMaker 7.0, Photoshop 6.0 and Acrobat 8.0, using 25 application test files that contain text, graphics, halftone images, tables, etc. that enable BLI technicians to evaluate memory usage, file processing, font rendering and grayscale capability.

SCAN FUNCTIONS

VERY GOOD

+ The N702 lets users scan 11" x 17" documents through the ADF (the platen supports only letter-size pages); this innovative feature allows users to archive and send larger documents without the added expense of an A3 device.

+ Users can scan to email or network folders at 75, 100, 150, 200, 300 or 600 dpi in black and white, color or grayscale. Supported file formats include JPEG, PDF and TIFF. Scans can be sent to multiple destinations in a single session (email, desktop and FTP).

+ Scan to USB is standard. Though the scan menu does not automatically open when a USB drive is inserted, supported file formats include PDF, JPEG and TIFF in various resolution modes (75, 100, 150, 200, 300 and 600 dpi).

+ Programming email addresses to the address book via the web utility is simple; three separate address books are available (one each for e-mail, FTP and fax destinations). Users can also enter address on the fly at the control panel via QWERTY keypad on the touchscreen.

+ While scan speed for double-sided originals is competitive with legal-size monochrome laser/LED printer MFPs in this class tested to date, speed for single-sided originals is faster than average.

Scan Speed in IPM | Competitive Average

Full Color 1:1	23.7	21.3
Full Color 1:2	16.8	16.0
Black 1:1	38.9	32.2
Black 1:2	24.6	24.8

Files are scanned at 300 dpi in PDF format.

Scan File Size in KB | Competitive Average

Full Color	571	1,292.5
Black	106	402.5

Testing is conducted with single-page files scanned at 300 dpi in PDF format.
No compression is offered. Testing is conducted with single-page files scanned at 300 dpi in PDF format.

PRINT QUALITY

GOOD

+ Characters were dark and fully formed, with average sharpness and competitive smoothness of curves/serifs. However, technicians noted an excessive amount of dusting around text and line art. Production of closely spaced fine lines and consistency of line thickness were average, while circles and diagonal lines showed some evidence of breakup and stair-stepping, respectively. An average amount overspray was noticed around text and line art (even more was visible when output was viewed under magnification). Grayscale was visible over a smaller than average range and the top end of the scale (from 80 to 100% appeared solid black), though there was distinct separation between most levels up to 80%; halftone coverage had average smoothness and minimal banding. Solids displayed above-average darkness and smoothness of coverage.

Text	Good
Line Art	Fair
Halftone Pattern	Good
Halftone Range	Good
Solids	Excellent

Print Density

SINDOH N702	1.55 to 1.60
Density for devices in this class tested to date	1.15 to 1.62

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.

Visible Halftone Range

SINDOH N702	1% to 80%
Typical range for competitive units	3% to 96%

The halftone test target contains blocks of increasing halftone dot-fill levels (1% to 100% in 1% increments).

COPY QUALITY

GOOD

○ Text exhibited average darkness, sharpness of characters and smoothness of curves/serifs. Production of closely spaced fine lines was average, as was consistency of line thickness, while diagonal lines showed some evidence of stair-stepping. No overspray was noticed around text or line art. Grayscale was visible over the entire range, though the 77% and 83% dot-fill looked the same, as did the 91%, 95% and 100% dot-fill levels; halftone coverage had average smoothness and minimal banding. Solids displayed above-average darkness and smoothness of coverage.

Text	Good
Line Art	Fair
Halftone Pattern	Good
Halftone Range	Fair
Solids	Excellent

Copy Density

Original	1.69 to 1.72
SINDOH N702	1.56 to 1.63
Density for devices in this class tested to date	1.03 to 1.70

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

Visible Halftone Range

SINDOH N702	15% to 100%
Halftone increments on test original	15%, 29%, 53%, 77%, 83%, 91%, 95%, 100%

The halftone range test original consists of eight blocks of increasing dot-fill levels.

PRINT PRODUCTIVITY

VERY GOOD

+ Running speed when printing BLI's job stream, which simulates typical traffic in a busy workgroup, is faster than average when using the PCL 6 driver. Performance is slower than average when employing the less frequently used PostScript and PCL 5e drivers.

○ First-print time from overnight sleep is competitive with legal-size monochrome laser/LED printer MFPs in this class tested to date.

+ First-print times for the Word and PDF files are faster than average; first-print time for the PowerPoint file is competitive.

— Running speed is slower than average when printing sets in simplex mode, but competitive in duplex mode.

First-Page Time from Overnight Sleep

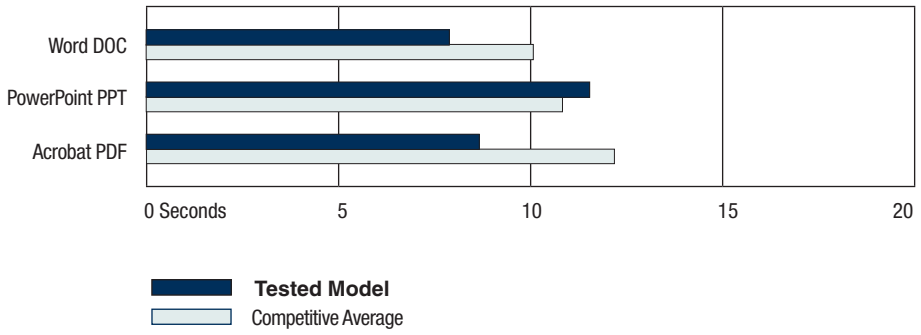
SINDOH N702	36.37
Tested Competitive Average	35.06

Device sits idle overnight. Time in seconds includes RIPping, imaging and delivering a single-page test file to the tray.

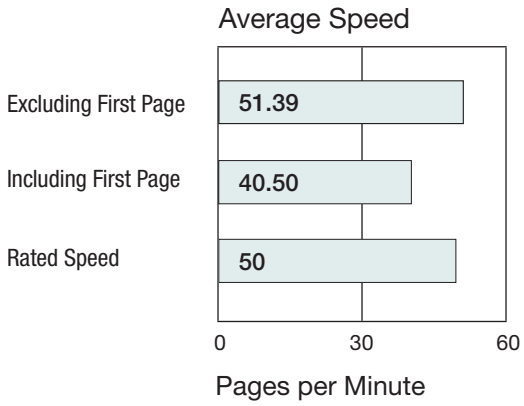
First-Page Times by File Types | Competitive Average

Windows 7		Pre- / Post-Raster File Size		Time in Seconds	
Word DOC	Black Text	114	55	7.91	10.09
PowerPoint PPT	Color Graphic/Text	99	913	11.56	10.85
Acrobat PDF	Black Graphic/Text	426	729	8.69	12.20

Speeds tested with the PCL driver at 600 dpi. Time in seconds includes RIPping, imaging and delivering a single-page test file to the tray. File size in KB.



BLI's Tested Print Speeds versus Manufacturer's Rated Speed



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 unit's print speeds were tested using the PCL driver.

Job Stream | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
PCL 5e	**11.7**	27.4	**23.4**	55.5
PCL 6	**31.7**	27.4	**63.3**	55.5
POSTSCRIPT	**8.3**	22.7	**16.5**	45.4

BLI's job stream includes Word documents, Outlook e-mail messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totaling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the device as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Job stream efficiency is determined by the percentage of the rated speed at which the device operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the device.

Average Print Productivity | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
1:1	**34.6**	39.5	**69.1**	78.9
1:2	**31.7**	32.8	**63.3**	62.4

Efficiency is tested using a 10-page full-color document and a 10-page black document. BLI obtains the overall efficiency for each mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1, 5, 10 and 20 sets). The unit's efficiency was tested using the PCL driver.

COPY PRODUCTIVITY

GOOD

+ First-copy times from the platen and document feeder are the fastest of comparable legal-size monochrome laser/LED printer MFPs tested to date.

– Running speed when copying sets is competitive in 1:2 duplex mode and slower than average in simplex and 2:2 duplex modes.

First-Copy Time in Seconds | Competitive Average

Platen	**4.24**	8.38
Document Feeder	**6.00**	9.41

Average Copy Productivity | Competitive Average

	SPEED IN PPM		PERCENT OF RATED SPEED	
1:1	**33.7**	40.5	**67.4**	79.2
1:2	**32.4**	31.5	**64.8**	61.7
2:2	**29.3**	32.9	**58.5**	63.6

Efficiency is tested using a 10-page black document. BLI obtains the overall efficiency for each mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1, 5, 10 and 20 sets).

EASE OF USE

VERY GOOD

SINDOH N702 control panel

The control panel incorporates a 7-inch touch-screen display, a numeric keypad and home, USB, logout, back, energy-save, cancel and start buttons. Note that while most devices use a green button for start, the N702 uses a blue button.

+ BLI technicians found the menu system on the touchscreen control panel to be well laid out and intuitive.

○ While the main drawers support only letter and A4 paper, the optional 250-sheet tray is required for legal-size paper. Adjusting the drawers for different-size media is simple. The length guide slides, as do the width guides, which move in sync, once the tabs have been pressed.

○ Loading media is easy, though first-time users might have difficulty finding the access points to open the drawers, which are located on the sides, rather than the front, of the drawers.

○ The spring-loaded ramp automatically locks down when the drawer is opened and there are no corner separators or other impediments to hinder access. After paper is inserted, users must set the new size on the LCD.

○ Removing misfeeds from any of eight access areas, including three in the document feeder and two in the finisher, is simple. Consumables do not have to be removed iand the drumis not exposed or susceptible to damage. An graphic of the device on the display notifies users where a jam has occurred.

+ Replacing toner is clean and simple. The toner cartridge locks into the photoconductor unit; users should note that the drum assembly must be removed to replace the toner cartridge. Once the assembly is removed from the device, users can press the grey button on the drum to unlock the spent cartridge. The new toner cartridge easily slides and locks into place.

— Replacing the staple cartridge is cumbersome; if the unit is positioned near a wall, users will have to move the device to access the cartridge at the back of the device.

FEATURE SET

VERY GOOD

+ While the platen accommodates pages in sizes up to only 8.5" x 11" pages, users can copy or scan an 11"-x-17" page via the ADF. The main paper drawers support only letter-size paper; the optional 250-sheet drawer supports legal-size paper, while the bypass supports sizes up to 11" x 23.6".

+ Standard automatic duplexing contributes to less paper waste.

+ When configured as tested with the optional finisher, fax output can be designated to output to a separate tray so faxes don't become intermingled with print and copy jobs.

+ Non-upgradeable RAM of 512 MB is above average for models in this class; however, some legal-size monochrome laser/LED printers in this class offer higher maximum memory capacities. The standard hard drive's 320-GB capacity is among the highest for this class.

○ Standard and maximum paper capacities are 550 and 2,300 sheets, respectively. While the maximum capacity is competitive, some models offer higher standard capacities; both figures include the bypass, which has a competitive capacity of 100 sheets.

○ The drawers and bypass can accommodate up to 28-lb. bond and 90-lb. index, respectively; some models in this class can accommodate heavier media.

+ The optional finisher tested by BLI has one 750-sheet tray and includes offset stacking and corner stapling of up to 50 sheets per set.

○ Users can print from a USB thumb drive (located on the right side of the control panel). While the menu does not auto appear when a USB drive is inserted, users can browse folders to select files (PDF or JPG) to print; only a single copy of one file can be printed at a time. There is a red button near the port that will reboot the device, which users can accidentally press if they are not careful.

SECURITY FEATURES

NOT RATED

AUTHENTICATION	
Administrator password length (characters)	32 alphanumeric
Authenticated printing	Std
Network user authentication	Std
Windows	Std
Novell NetWare NDPS	NA
LDAP	Std
Kerberos protocol	NA
802.1x wireless	Std
Biometric	NA
ID card	Opt
HID	Opt
Common Access	No
Other	NA

Department or user ID codes	Std
Number	INA
Restrict access to specific functions	Std
What functions	Copy, print, scan, fax
HARD DRIVE	
Encryption	No
Maximum level	NA
Overwrite	No
Maximum number after a job	NA
Number at end of life/lease	No
Lock	No
Removable	No
OTHER	
Common Criteria Certification	No
EAL level	NA
For which capabilities	NA
Control panel lock/disablement	No
Digital signature	No
Verify document came from device	NA
Verify document came from specific user	NA
Encrypted PDF mode/encrypted scanning	No
Maximum level	NA
Encrypted secure print	No
FIPS 140-2	No
Level	NA
IEEE 2600-compliant	No
IP address filtering	No
MAC address filtering	No
IPsec	No
IPv6	Yes
Password-protected mailboxes	Std
Password-protected embedded web server	Std
Port disablement	No
Protocol disablement	No
Secure print	Std
Secure Sockets Layer (SSL)	Std
Secure watermark	No
S/MIME encryption	Std
SNMPv3 support	No
Transport Layer Security (TLS)	Std
Trusted Platform Module (TPM)	No
Unauthorized scan/copy protection block	No
USB block	No
Additional features	NA
Third-party features	NA

INA: The vendor declined to provide this information
NA: Not applicable

ENVIRONMENTAL FEATURES

NOT RATED

Specified capable of running 30% post-consumer recycled paper	Yes
Specified capable of running 50% post-consumer recycled paper	Yes
Specified capable of running 100% post-consumer recycled paper	Yes
Instant/Quick Fusing	No
Duplexing	Yes
Toner-save mode	Yes
RoHS compliant	Yes
Percent of product made from previous devices	20% maximum
Percent of product made from post-consumer materials	No
Percent of product made from pre-consumer materials	No
Percent of product made from bio-based materials	No
Product designed for recycling (easily disassembled, no binding agents)	Yes
Items that can be recycled	Exterior covers; internal molded parts
Hardware remanufacturing program for this product	Yes
Cartridge recycling program for this product	Yes
Prepaid label for return of cartridges/bottles for this unit	Yes
Toner recycling system	No
Ability to program features such as duplexing and auto shut-off over entire fleet	No
What tool can be used to do this?	NA
Green packaging materials for the product	Yes
Green packaging materials for its consumables	Yes
Packaging materials used	Paper box
Eco-Label Certifications	
ENERGY STAR	Yes
Other	ECMA-370/The Eco Declaration; Korea Eco Label; Korea Energy Mark; CEL
Tested energy consumption levels of the device (watts)	
Ready/Idle	150
Energy-save	NA
Sleep mode	7.5
During Printing	1,200
How fast can this product be programmed to go into the following modes (seconds)	
Ready/Idle	NA
Energy-Save	60
Sleep mode	60
Can the above settings be programmed by a walkup user?	Yes
First-print time out of sleep mode (seconds)	21.8
Emissions output from this device for the following substances (mg/h)	
Ozone	
Styrene	0.216
Benzene	0.016
TVOC	5.347
Dust	1.977
Other	

NA: Not applicable

TONER YIELD

EXCELLENT

+ The average tested and impressions per gram yields are much higher than the average for legal-size monochrome laser/LED printers tested to date.

+ The average tested yield surpassed the declared specification.

Tested Toner Yield | Competitive Average

Tested Impressions	**36,788**	27,007
Tested Impressions per Gram	**63.22**	49.09
Rated Toner Yield	**30,000**	30,037
Rated Drum Yield	**80,000**	54,643

Tested yield is based on an average of two cartridges using the ISO 19752 toner yield test original. Some devices in the competitive group employ a cartridge that includes the toner and drum in a single component. In those cases, the rated yield for that single component cartridge is used in calculating the average.

VALUE

GOOD

+ Purchase price is higher than average compared to legal-size monochrome printer MFPs in this class; however, for users with occasional 11"-x-17" output requirement, the N702 is priced much lower than A3 copiers in this speed range. Supplies cost per page is competitive compared with that of legal-size models. (Because pricing for supplies of copier-based MFPs is generally set by dealers and therefore unavailable, BLI was unable to provide a comparison to those models).

Tested Supplies Cost per Page

Toner Cost per Page	0.664¢
Supplies Cost per Page	1.127¢
COMPETITIVE AVERAGE	1.147¢

Toner cost per page is based on SINDOH's web pricing for the cartridge and BLI's tested yields. Supplies cost per page add the price and rated yield of the drum.

SUPPORTING TEST DATA

Test Environment: This product was tested in BLI's 10,000-square-foot U.S. test lab, in an environment monitored by an Extech RH S20 Digital RH/Temperature Recorder and Honeywell Model 61 Seven-Day Temperature/Relative Humidity Chart Recorder. All products lab tested by BLI are powered by dedicated circuits that are protected by ESP (Electronic Systems Protection, Inc.) surge protectors to prevent transient power and communication disturbances from impacting equipment under test.

Test Equipment: BLI's dedicated test network, consisting of Windows 2003 servers, Windows XP and 7 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 half of 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: SINDOH N702 base unit, plus optional paper drawers, finisher and bridge unit.

Test Procedures: The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, which include a BLI-developed variation of ASTM's 1318-90 Test Method for Determination of Productivity using Electrostatic Copy Machines. 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 under a Graphiclite D5000 Standard Viewer, color print quality is tested using a color test target, which is read using the X-Rite Eye-One/iO Color 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 500 Series 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 (96 brightness, 22-lb. bond).

Certificate of Reliability

Awarded to

SINDOH

for the performance of the

SINDOH N702

in BLI's in-house durability test.

Anthony F. Polierone
Managing Director

November 2012
Date

This is to certify that when subjected to a 100,000-impression Buyers Lab durability test, the SINDOH N702 proved to be a highly reliable product.

BUYERS LABORATORY LLC

THE LEADING INDEPENDENT OFFICE PRODUCTS TEST LAB AND BUSINESS CONSUMER ADVOCATE

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