

## Canon Color imageRUNNER C1022i

22 PPM Printer • Copier • Scanner • Fax



Reliability.....	Excellent
Multitasking.....	Good
Administrative Utilities.....	Very Good
Feedback to Workstations.....	Fair
Ease of Network Setup.....	Very Good
Print Drivers.....	Very Good
Applications Compatibility.....	Excellent
Scan Function.....	Excellent
Color Print/Copy Quality.....	Very Good
Black Print/Copy Quality.....	Very Good
Color Print/Copy Productivity.....	Good
Black Print/Copy Productivity.....	Good
Ease of Use.....	Very Good
Feature Set.....	Very Good
Toner Yield.....	Very Good
Cost per Page.....	8.2¢
Value.....	Good

## BLI RECOMMENDATION

Offering a strong overall performance and a robust feature set, the Canon Color imageRUNNER C1022i proved to be highly reliable in BLI's rigorous two-month evaluation. Employing four drums to output at 22 ppm in black and color, the Canon Color imageRUNNER C1022i, which was tested with the standard UFR II-LT print controller, offers excellent ease of use and very good multitasking capabilities and copy productivity. Along with standard copy and network print functionality, the device includes Canon's excellent Universal Send scan functionality, which includes multiple protocol sending and searchable PDF capabilities not found on most rival devices. In addition, this versatile model incorporates scan and print duplexing as standard. BLI highly recommends the Canon Color imageRUNNER C1022i for users with monthly volumes of up to 5,000 impressions.

### Test duration:

Two months, including a 65,000-impression durability test.

### Maximum monthly duty cycle:

65,000 impressions.

### BLI's recommended monthly volume for optimum performance:

Up to 5,000 impressions.

## STRENGTHS

- Highly reliable
- Built in USB and SD/CF memory card ports allow photo printing without using a PC
- Scanning includes capability to route to multiple destination types (email, FTP, iFAX, USB memory, SMB) in a single session
- Scan to searchable PDF capability included as standard
- Supports Canon's eMaintenance service option, which provides extensive remote diagnostics, meter reading and device monitoring capabilities
- The 3.5 inch TFT display allows previews of photos and print options
- Double-sided scanning and printing is standard
- Extensive scanning options including full template storage capability
- Auto-color copy and print capability
- Long-life cartridges delivering low cost-per-page output
- Identical layout for PCL and Canon UFR drivers
- Strong feature set in printer drivers

## WEAKNESSES

- No pop-up messages or audible alerts to notify end users of warning conditions
- Slow first print-out time from overnight energy save mode
- Below average job stream efficiency

## TEST RESULTS AND OBSERVATIONS

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



### RELIABILITY

EXCELLENT

+ The Canon Color imageRUNNER C1022i is certified highly reliable by BLI, completing a 65,000-impression durability test without a single misfeed and no service calls required.

+ The device senses when the output tray is full, preventing jams caused by users not emptying the tray when full.



## MULTITASKING

GOOD

- + The unit has good multitasking capabilities overall, with no delay between jobs.
- + The number of print jobs that can be sent to the unit is limited only by memory with jobs residing on the device rather than being fed one by one off the network as is common with other devices in its class.
- Up to 9 copy jobs can be programmed ahead while a copy or print job is in progress; some devices enable users to reserve fewer jobs and others enable them to reserve more or an unlimited number of copy jobs.
- Programming of the next copy job cannot begin until all the pages of the current copy job have been scanned.
- If a copy job has been scanned from the automatic document feeder, before users scan another copy job they must press the Done key and then the Reset or Clear key to clear the previous job's settings. Some devices automatically clear the settings when the user places documents in the feeder and do not require users to press any keys.

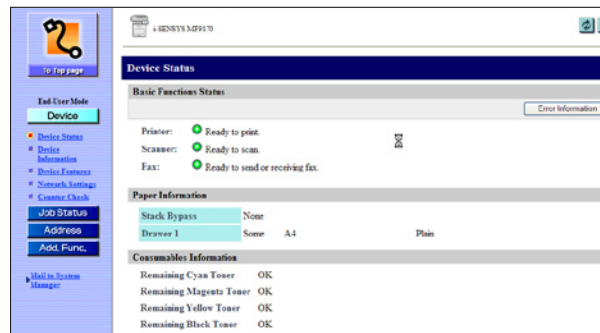


## ADMINISTRATIVE UTILITIES

VERY GOOD

- Administrative utilities for the Canon Color imageRUNNER C1022i include the Remote User Interface (its embedded Web page).
- + The Remote User Interface is very easy to navigate and offers a broad range of functionality. It allows remote configuration of network settings, viewing of total counter, and remote programming and management of addresses for scan, e-mail, fax and Internet fax, as well as management of mailboxes and ID codes.
- + The Remote User Interface also provides device status information, such as the approximate amount of available paper and remaining toner.
- + The Remote User Interface provides extensive information on jobs via the job management tab. Information includes user name, status of the job and the number of pages. There are separate logs for print jobs, copy jobs, send jobs and received faxes.
- + Device and network settings, as well as address books, can be exported and imported.
- + Department ID Mode enables administrators to control access to the Canon Color imageRUNNER C1022i, setting passcodes and limits for output volumes by document type (color or black), as well as function (print, copy, send, mailboxes) for individual users and departments or groups.

- + Department ID Mode, which supports up to 1,000 department codes, also enables users to display and print a list outlining how much paper was used by each department. It also allows administrators to specify whether to accept or reject print and network scan jobs from computers that do not correspond to any registered department ID.
- + The device supports Canon's eMaintenance service option with embedded eRDS (embedded Remote Diagnostic System) which provides a host of capabilities including automated meter reading, 24/7 monitoring (with automated email alerts to clients and Canon customer service when issues arise that might result in downtime), instant remote diagnostics (with email fixes able to be sent to client help desk from Canon technical support), and a Web portal to allow remote monitoring of all networked devices.
- + The device supports Canon's UniFLOW suite which provides a collection of device management capabilities that can be used to manage the entire fleet of Canon MFPs. The suite includes account and cost management, server-based secure printing, intelligent job routing and failover rerouting (to minimize bottlenecks when devices fail).



**Device status displayed from the device Remote User Interface**



## FEEDBACK TO WORKSTATIONS

FAIR

- There are no pop-up error messages, audible alerts or icon alerts to notify end users of conditions such as low toner, paper out, etc. Users must proactively seek the information on the Web page to see device or print job status.
- Information regarding the amount of remaining paper and the size of paper is displayed in the driver when clicking on a paper source, but it is inaccurate unless the user first updates the information, which is not practical as it requires numerous mouse clicks. Because users may not realize that the paper size or capacity information displayed on the image of the device in the driver could be inaccurate, they could make mistakes that result in wasted paper and productivity.
- Consumables status information, such as the approximate amount of remaining paper and toner is available on the Web page.



## EASE OF NETWORK SETUP

VERY GOOD

- + The unit ships fully assembled with the consumables preloaded.
- + Configuration of network settings can be easily performed both from the control panel and remotely via the Remote User Interface.
- There is no device status utility that runs on the taskbar or in the driver.
- + The port is automatically created during the installation of the drivers.
- + The drivers automatically detect configured accessories, eliminating the need for an administrator to manually specify configured accessories.
- + Drivers for multiple Canon MFPs can be installed at one time.

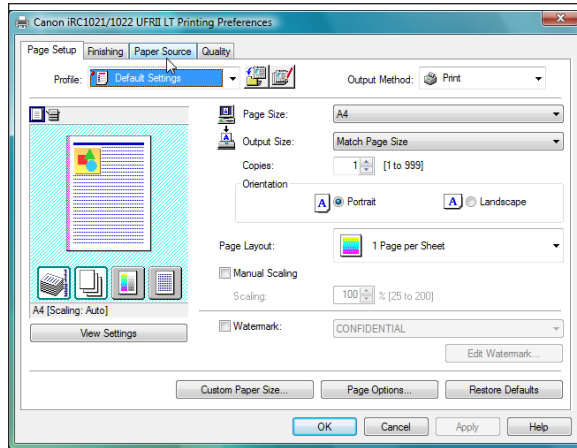


## PRINT DRIVERS

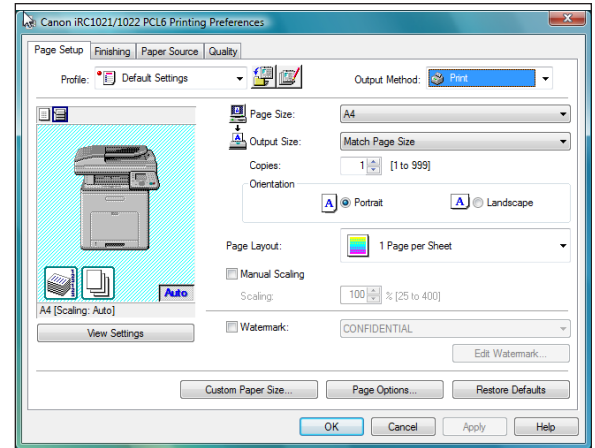
VERY GOOD

- The Canon Color imageRUNNER C1022i was tested with the standard UFR II-LT (Ultra Fast Rendering) print controller and PCL 6 print drivers, installation of which is a highly automated process.
- + The PCL and UFR II-LT drivers share a similar layout and appearance, making use easier when switching between the drivers.
- + The drivers are graphical, easy to use and enable point-and-click selection of the desired paper source.
- Some commonly used features cannot be programmed from the main screen. Duplexing and finishing, for example, are located under the finishing tab.
- The drivers are Microsoft certified.
- + Although they lack an accurate paper gauge, the drivers offer a good feature set that includes the ability to save settings of frequently used jobs as profiles that can be applied to other print jobs in a single step and the ability to view selected settings.
- + Selecting Edit and Preview before printing a document automatically opens the Canon PageComposer utility to allow viewing the pages of the document as thumbnail images, deleting pages, changing the order of files, changing the print settings, and combining two or more documents created in different applications into one file. The drivers also have a selection for insertion of banner pages between jobs.
- + The unit supports simultaneous RIP and print, which means that printing can begin while the document is still being processed and another can be processed while a job is printing.

- + File size remained the same when printing multiple sets, regardless of whether “collate” was selected from the properties screen of the driver or from the print screen within an application.



UFR II Print Driver—Page Setup Tab



PCL Print Driver—Page Setup Tab

## APPLICATIONS COMPATIBILITY

EXCELLENT

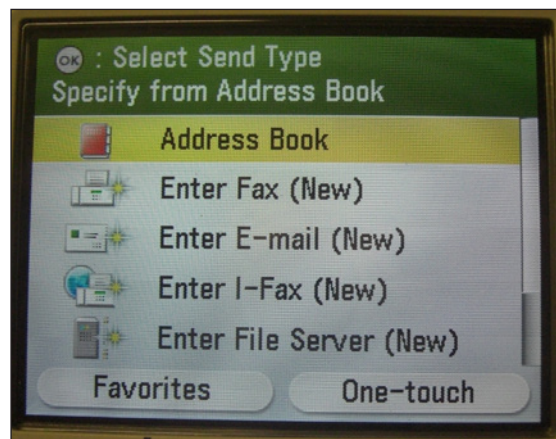
- + No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on Windows XP platforms with Microsoft Word 2000, Microsoft PowerPoint 2000, Microsoft Excel 2000, Adobe PageMaker 7.0, Adobe Photoshop 6.0 and Adobe Acrobat 6.0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

## SCAN FUNCTION

EXCELLENT

- + Documents can be scanned into a number of formats, including Compact PDF, which uses Canon’s high-compression technology.
- + The Canon Color imageRUNNER C1022i can scan documents directly to a USB Memory Key.
- + Standard Color Universal Send supports scanning to e-mail, Internet fax, fax destinations, FTP sites and the desktops of users. Further, users can send a document to multiple types of destinations (email, FTP, iFAX, USB memory, SMB) in one session.
- + The creation of searchable PDFs is included standard, providing a capability not commonly found on devices in this category.

- + Users can send documents to multiple destinations in a single action.
- + Scanning destination options include e-mail, Internet fax, fax destinations, FTP sites and the desktops of users using the innovative SMB network browse feature found on larger Canon office multifunctional devices.
- + Access to scan features can be controlled through the use of department ID codes.
- + The standard Send PDF Advanced Feature Set includes PDF High Compression mode, which makes more efficient use of network and storage resources by significantly reducing the size of PDF files.
- + The Canon Color imageRUNNER C1022i also includes WIA- and TWAIN-compliant software to pull scanned images from the device over a network to a destination PC. The scanned images can then be manipulated at users' workstations and incorporated into other documents as needed.



**One touch favorites scan function offers valuable time saving opportunities**



## PRINT/COPY QUALITY

### Color Print/Copy Quality

**VERY GOOD**

- + In both print and copy modes, the Canon Color imageRUNNER C1022i produced very good color business graphics output, with above-average background reproduction.
- + Photographic images were rated “Good” in both print and copy modes. In print mode, smoothness was average, while the unit’s sharpness, color halftone range and ability to produce a wide range of shades, were above average.
- In copy mode, the unit’s color halftone range was average.

- Skin tones in color photographic output had a heavy reddish tint.
- + Copied photographic output showed natural skin tones.

### Black Print/Copy Quality

VERY GOOD

- + Black output produced by the Canon Color imageRUNNER C1022i in print mode was very good overall. Characters were cleanly formed, with above average darkness, sharpness and smoothness. Lines forming the circumference of circles showed above-average consistency of line thickness and diagonal lines displayed no stair-stepping, while closely spaced fine lines remained distinct. Further, grayscale was visible over a very good range, with above-average smoothness and no banding. Solids showed good density readings and consistency of toner coverage was very good.
- + Black output produced by the Canon Color imageRUNNER C1022i in copy mode was very good overall. Characters were fully formed, while darkness, sharpness and smoothness of characters were above average. Lines forming the circumference of circles showed above-average consistency of line thickness and diagonal lines displayed an average amount of stair-stepping, while closely spaced fine lines remained distinct. Further, grayscale was visible over a very good range, with average smoothness and minimal banding. Solids showed good density readings and consistency of toner coverage was average.
- + Auto color mode allows black pages among full-color pages to be treated as pure black rather than having to be created by a mix of all the color tones, as is common on devices that only offer full color or black modes.



## PRINT/COPY PRODUCTIVITY

### Color Print/Copy Productivity

GOOD

- The efficiency of the Canon Color imageRUNNER C1022i for 1:1 printing is slightly above average compared to competitive models, whilst 1:2 mode is slightly below average.
- + The unit's color copy efficiency is well above average for 1:1, 1:2 and 2:2 modes.
- + Actual tested running speeds for both copy and print modes are competitive in simplex mode and above average in duplex mode.
- When printing BLI's job stream using both the PCL 6 and the UFR II-LT drivers the unit's efficiency is below average.

– First-print-out times are slower than the average.

### Black Print/Copy Productivity

**GOOD**

○ The efficiency of the Canon Color imageRUNNER C1022i for 1:1 and 1:2 printing is slightly above average compared to competitive models.

+ The unit's copy efficiency for 1:1, 1:2 and 2:2 modes is well above average.

+ Actual tested running speeds for both copy and print modes are competitive in simplex mode and above average in duplex mode. When printing BLI's job stream using the PCL 6 and the UFR II-LT drivers the unit's efficiency of 37.4% and 36.9% respectively is below average.



### EASE OF USE

**VERY GOOD**

+ The Canon Color imageRUNNER C1022i has a 3.5-inch color TFT display with Easy Scroll Wheel, which makes setup of copy, fax and scan jobs simple.



#### Canon Color imageRUNNER C1022i Control Panel

+ The unit features a user-friendly set up wizard with good graphical walk through of setup procedures from the control panel screen screen.

+ Replacing the toner cartridges was a clean and straightforward procedure, with cartridges loaded from the front with color-coded keyed slots for failsafe installation.

+ Loading paper is an easy procedure, with sliding paper guides that lock into position once set by the user.

+ Removing paper jams is easy, as misfeeds are accessed via the front of the device or by lifting the platen/document feeder section, with good multi-step graphical instructions on the color TFT display.

+ The TFT display delivered very good visibility, even from the periphery.



## FEATURE SET

VERY GOOD

- + The device features USB and SD/CF Memory card ports that enable printing from or scanning to various types of memory media.
- + The Canon Color imageRUNNER C1022i includes duplex scan and print as standard.
- + The unit ships with a standard network interface.
- The unit's standard 250-sheet paper capacity is competitive and its 850-sheet maximum paper capacity (via an optional 500-sheet cassette) is above average.
- + The multi-purpose tray's 100-sheet capacity is above average.
- + The 768-MB standard memory is higher than that of some competitive models.
- The paper drawers support 16 to 32 lb. bond paper and the bypass supports up to 65 lb. cover as well as transparencies, labels, index cards and envelopes.
- The device has no HDD.



## SECURITY AND ACCESSIBILITY FEATURES

NOT RATED

Administrator password length (characters)	7
<b>AUTHENTICATION</b>	Yes
Network user authentication	Information not available
Windows	Yes
Novell NetWare NDPS	Information not available
LDAP authentication	Information not available
Kerberos protocol support	No
Authentication via department or user ID codes that are registered on the machine	Yes
Number of codes	1,000
Restrict usage of color	Yes
Restrict usage of other features	Yes
802.1x wireless authentication	No
Authenticated printing	No
Common Criteria Certification	No
Control panel lock/disablement	No
Digital user signature	No
Encrypted PDF mode (encrypted scanning)	Information not available
Encrypted secure print	Information not available
Hard drive encryption	Not applicable

Hard drive lock	Not applicable
Hard drive overwrite	Not applicable
Max number of overwrites after every job	Not applicable
Overwrite method	Not applicable
IP address filtering	Yes
IPsec	Information not available
Job logs (e.g., activity monitoring, compliance auditing)	Yes
MAC address filtering	Yes
Password-protected mailboxes	Not Applicable
Password-protected Web page	Yes
Port disablement	Information not available
Protocol disablement	Information not available
Removable hard drive	No
Secure print	Optional (via UniFLOW)
Secure Sockets Layer (SSL)	Information not available
SNMPv3 support	Information not available
Third-party security features	None
Transport layer security	Information not available
Unauthorized copy prevention (secure watermark)	No
USB block	Yes
Additional security features	Biometric authentication available via optional UniFLOW



## 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	Yes
Duplexing	Yes
Toner-save mode	Yes
Energy-save mode/modes	Yes
Eco-Label Certifications	
Germany Blue Angel	INA
ENERGY STAR	Yes
IT Eco Declaration	INA
WEEE Directive compliant	Yes
RoHS compliant	Yes
Recycled materials/parts used in the product	INA
Product designed for recycling (easily disassembled, no binding agents)	INA
Hardware remanufacturing program for this product	INA
Toner cartridge recycling program for this product	Yes
Pre-paid label for return of toner cartridges/bottles for this unit	Yes
Toner recycling system	Yes
Ability to program features such as duplexing and auto shut-off, over entire fleet	Yes

Polyvinyl Chloride used in any aspect of the product or its packaging	Yes
Recyclable packaging materials for the product	Yes
Recyclable packaging materials for its consumables	Yes
Packaging materials used: Corrugated Paper; Expanded Polystyrene Foam (EPS); Expanded Polypropylene Foam (EPP); LDPE (bag)	
Tested energy consumption levels of the device (in watts):	
Power	1.2 (Sleep mode)
Standby	35
During Printing	470
Emissions output from this device for the following substances (in mg/h) (Per Blue Angel RAL UZ 122 test procedures):	
Ozone	INA
Styrene	INA
Benzene	INA
TVOC	INA
Dust	INA
Other	



### TONER YIELD

VERY GOOD

+ The Canon Color imageRUNNER C1022i’s tested toner yield for all four colors is above average when compared to other legal-size color models tested to date and the tested yield of all the cartridges was well above the manufacturer’s rated yield per cartridge.



### VALUE

GOOD

- The Color imageRUNNER 1022i’s suggested retail price is higher than the average for competitive legal-size MFPs.
- Cost per page is about 25 percent less than the average and among the lowest for competitive color MFPs tested. This, combined with its above-average feature set, makes the unit a good value over its life cycle.

## SUPPORTING TEST DATA

### Test Environment

Testing was conducted under ambient conditions of 22°C (+/-2.7°C) and 45% RH (+/-10%); monitored daily by Dickson Seven-Day Temperature/Humidity Chart Recorder, in Buyers Lab's test facility at Unit 1 Station Industrial Estate, Wokingham, Berkshire RG41 2YQ, UK.

### Test Equipment

BLI's dedicated test network, consisting of Windows NT 4.0, 2000 and Microsoft Exchange servers, Windows XP workstations, 10BaseT/100BaseTX network switches and CAT5 cabling.

### Test Duration

Products are tested for two months, five weeks of which consists of a durability test during which the product is run at half its manufacturer-rated maximum monthly duty cycle, with 50 percent of the test volume comprised of copy jobs and 50 percent comprised of print jobs. BLI's daily test usage is designed to replicate real-world use over an eight-hour workday, and as such 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. The durability evaluation also includes testing of the document feeder/scanner for an additional 10 percent of the monthly maximum volume, evenly divided over the course of the test.

### Tested Configuration

Canon Color imageRUNNER C1022i, plus optional 500-sheet paper tray.

### Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, including 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, gamut size and stability is tested using a 1400 color test target, which is read using an EFI ES-1000 color spectrophotometer and assessed using Chromix ColorThink Pro v3.0 software. In addition, density of black and color output is measured using an X-Rite 528 Densitometer.

UPM Future MultiTech is used in the tests, plus 10 percent recycled paper containing 100 percent post-consumer content from Steinbeis. Image quality is tested using UPM Future ImageTech.

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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		65,000	
Total Misfeeds/Misfeed Rate	0/Not applicable		
Total Service Calls	0		



## MULTITASKING

### Multitasking Evaluation

Primary Function	Secondary Function	PRINT	SCAN	COPY
PRINT		Yes	Yes	Yes
SCAN		Yes	<sup>1</sup>	<sup>1</sup>
COPY		Yes	Yes	Yes

<sup>1</sup> As soon as document feeder is free, the secondary function can be programmed; however the primary function is already complete. (2)

NOTE: 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.

#### Embedded Web page:

Yes. The Canon Color imageRUNNER C1022i's embedded Web page allows the user or administrator to view printer status and toner status; view/modify printer settings; print usage and configuration reports; and view basic device information (such as memory and options installed).

#### Consumables monitoring:

Yes, via the embedded Web page. The user or administrator can view remaining life of consumables, which includes toner status as OK or Empty and the size and type of paper in each drawer, as well an indication that the paper drawers contain paper (indicated by "Empty" or "OK").



## PRINT/COPY QUALITY

### PRINT QUALITY

Text	Very Good
Line Art	Very Good
Halftone Pattern	Very Good
Halftone Range	Very Good
Solids	Very Good
Color Business Graphics	Very Good
Color Photographic Images	Good

### Color Density Readings

Color	Yellow	Magenta	Cyan
Print Density	0.56	1.05	1.05

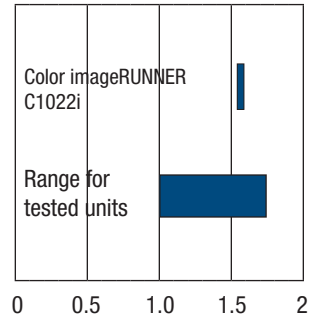
Density of a printed image with blocks of all solid colors (based on the average of two readings for each color).

### Print Density Readings

Print density	Density for units in this class tested to date
1.54 to 1.59	1.00 to 1.74

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.

Print Density



### Printed Halftone Range

	Visible halftone range
Canon Color imageRUNNER C1022i	1% to 100%
Typical range for competitive units	4% to 94%

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

### COPY QUALITY

Text	Very Good
Line Art	Very Good
Halftone Pattern	Very Good
Halftone Range	Very Good
Solids	Good
Color Business Graphics	Very Good
Color Photographic Images	Good

### Color Density Readings

Color	Yellow	Magenta	Cyan
Original Density	1.03	1.49	1.53
Copy Density	0.82	1.36	1.32

Density of copied image when tested in “Full Color” copy mode using a KATUN test original containing blocks of all solid colors (based on the average of two readings for each color).

### Color Fidelity Readings

	Yellow	Magenta	Cyan	Red	Green	Blue	Black
Fidelity	13.05	6.15	9.25	7.90	23.65	26.80	1.75

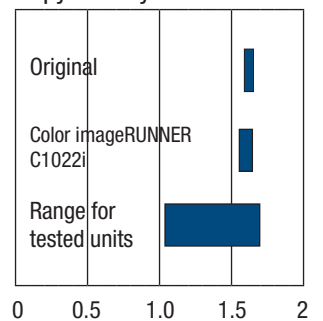
Color fidelity of a copy to its original (using a KATUN test original containing blocks of all solid colors: tested in walk-up mode using the machine default settings in “Full color” mode and auto exposure settings); average of two readings for each color. The closer the number is to 0, the closer the copy’s color fidelity is to the test original (based on the average of two readings for each color).

### Copy Density Readings

Density of original	Density of copy	Density for units in this class tested to date
1.59 to 1.66	1.54 to 1.64	1.03 to 1.70

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

Copy Density



### Copied Halftone Range

	Visible halftone range
Canon Color imageRUNNER C1022i	15% to 100%
Increments on test original	15%, 29%, 53%, 77%, 84%, 91%, 95% and 100%

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



## PRINT/COPY PRODUCTIVITY

### Tested First-Print Times (Seconds)

First-print time out of energy-save mode for the Canon Color imageRUNNER C1022i	Average for units in this class tested to date
172.22	39.92

Device sits idle overnight; a single-page black Word document is sent to the device; first-print time indicates the time it took to RIP, image and deliver the first page of the test document to the output tray.

PCL 6

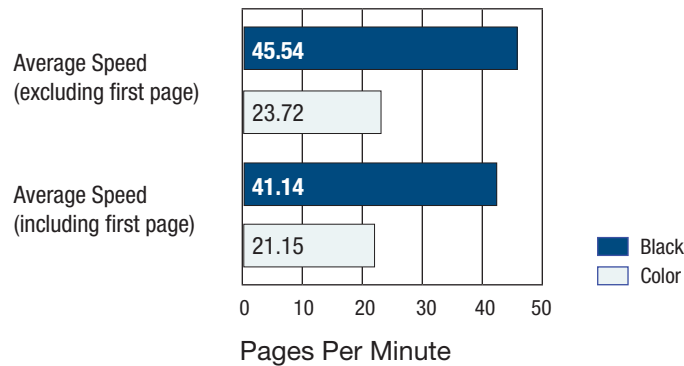
Windows XP	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File Type	Black Text	Color Graphic/Text	Color Graphic	Black Graphic/Text	Color Graphic
File Extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	245 KB
Post-Raster File Size	10.3 KB	42.6 KB	15.8 MB	1.19 MB	851 KB
First-Print Time (Seconds)	23.5	25.28	26.59	23.59	24.15

The Canon Color imageRUNNER C1022i's print speeds were tested at the default mode using the PCL 6 driver.

First-print time indicates the time it took to RIP, image and deliver the first page of the test document set to the output tray.

Canon Color imageRUNNER C1022i's rated speed:  
22 ppm for black and color

BLI's Tested Print Speeds



Print speed is tested using BLI's Monochrome Test Original (with 6% page coverage) and BLI's Color Test Original with 10% coverage for each color (cyan, magenta, yellow and black). 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 print speeds were tested using the PCL 6 driver.

Black first-copy time:  
13.44 seconds from the platen.  
17.42 seconds from the document feeder.

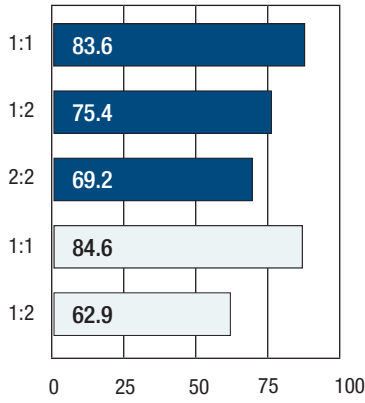
Color first-copy time:  
13.35 seconds from the platen.  
17.62 seconds from the document feeder.

Copies per minute; black:  
21.6, excluding first copy.  
19.6, including first copy.

Copies per minute; color:  
20.4, excluding first copy.  
17.4, including first copy.

Black Copy/Print Efficiency for Multiple Sets

Overall Efficiency



Percent

BLI obtains the overall efficiency for each copy/print 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 in both copy and print modes).

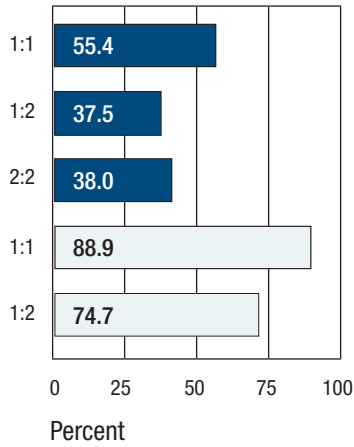
■ Copy  
 □ Print

Sets	Time	PPM	Efficiency	Overall Efficiency
<b>COPY 1:1</b>				
1	00:50.2	12	54.3%	54.3%
5	2:36.15	19.2	87.3%	70.8%
10	4:49.12	20.8	94.3%	78.6%
20	9:15.15	21.6	98.3%	83.6%
<b>COPY 1:2</b>				
1	1:9.28	8.7	39.4%	39.4%
5	2:55.00	17.1	77.9%	58.7%
10	5:7.06	19.5	88.8%	68.7%
20	9:31.75	21	95.4%	75.4%
<b>COPY 2:2</b>				
1	2:51.12	7	31.9%	31.9%
5	6:28.85	15.4	70.1%	51.0%
10	11:1.85	18.1	82.4%	61.5%
20	19:41.78	20.3	92.3%	69.2%
<b>PRINT 1:1 PCL 6</b>				
1	0:48.85	12.3	55.8%	55.8%
5	2:34.25	19.4	88.4%	72.1%
10	4:46.16	21	95.3%	79.8%
20	9:11.75	21.7	98.9%	84.6%
<b>PRINT 1:2 PCL 6</b>				
1	0:57.32	10.5	47.6%	47.6%
5	3:28.82	14.4	65.3%	56.5%
10	6:37.85	15.1	68.6%	60.5%
20	12:56.91	15.4	70.2%	62.9%

Efficiency is tested using a 10-page document in black mode. In print mode, the document is printed using the PCL 6 driver at 600 dpi.

Color Copy/Print Efficiency for Multiple Sets

Overall Efficiency



BLI obtains the overall efficiency for each copy/print 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 in both copy and print modes).

■ Copy  
□ Print

Sets	Time	PPM	Efficiency	Overall Efficiency
<b>COPY 1:1</b>				
1	01:03.9	9.4	44.7%	44.7%
5	4:9.53	12	57.3%	51.0%
10	8:2.12	12.4	59.3%	53.8%
20	15:47.47	12.7	60.3%	55.4%
<b>COPY 1:2</b>				
1	1:34.35	6.4	30.3%	30.3%
5	6:8.76	8.1	38.7%	34.5%
10	11:51.79	8.4	40.1%	36.4%
20	23:16.78	8.6	40.9%	37.5%
<b>COPY 2:2</b>				
1	3:0.76	6.6	31.6%	31.6%
5	12:12.82	8.2	39.0%	35.3%
10	23:38.94	8.5	40.3%	37.0%
20	46:31.41	8.6	40.9%	38.0%
<b>PRINT 1:1 PCL 6</b>				
1	0:41.60	14.4	65.6%	65.6%
5	2:27.35	20.4	92.5%	79.1%
10	4:39.53	21.5	97.6%	85.2%
20	9:5.91	22	99.9%	88.9%
<b>PRINT 1:2 PCL 6</b>				
1	1:9.85	8.6	39.0%	39.0%
5	2:55.63	17.1	77.6%	58.3%
10	5:14.94	19.1	86.6%	67.7%
20	9:30.82	21	95.6%	74.7%

Efficiency is tested using a 10-page document, consisting of six black pages and four pages containing black text and color, with the unit in full-color mode. In print mode, the document is printed using the PCL 6 driver at 600 dpi.

### Job Stream

**Job Stream in Black Mode:**

The unit completed the job stream using the PCL 6 driver in 2 minutes 18.62 seconds, running at 8.2 ppm, which translates to an efficiency rate of 37.4%.

**Job Stream in Black Mode:**

The unit completed the job stream using the UFR II LT driver in 2 minutes 27.06 seconds, running at 7.8 ppm, which translates to an efficiency rate of 36.9%.

**Problems encountered:**

None

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 printer 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 unit operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the unit.



## PRINT DRIVERS

### Canon Color imageRUNNER C1022i Print Driver Features

Windows XP	PCL 6	UFR II
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes	Yes
Consumables Gauge	No	No
Collate Sets	Yes	Yes
Max paper sources per job	3	3
Mirror Image	No	No
Negative Image	No	No
N-up Printing	2 to 16	2 to 16
Overlay	Yes	Yes
Paper Gauge	No*	No*
Print and Hold	Yes	Yes
Proof Print	No	No
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	25% to 400%	25% to 200%
Resolution Modes	600 x 600	600 x 600
Save Settings	Yes	Yes
Secure Printing	No	No
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes

\* Although it appears as though the drivers indicate current paper supply, the information is inaccurate unless the user updates the information, which is an impractical multi-step procedure.

Yes. When printing multiple collated sets—regardless of whether collate is selected from the driver or from the Windows print screen within an application—the file size does not increase. Output was properly collated.



### SCAN FUNCTION

Scan speed (monochrome)

1:1 mode: 12.9 originals per minute

2:2 mode: 6.5 originals, or 13.0 images, per minute

Scan speed (color)

1:1 mode: 14.9 originals per minute

2:2 mode: 6.9 originals, or 13.8 images, per minute



### FAX FUNCTION

Fax scanning speed:

The average speed is obtained from scanning into memory three originals using standard resolution and normal contrast setting; timing begins when the “start” button is pressed and continues until the last page exits onto the exit tray.

Fax scanning speed with 4% page coverage original:

4.72 seconds per page.

Fax scanning speed with 12% page coverage original:

4.74 seconds per page.



### TONER YIELD

#### Tested Toner Yield and Supplies Cost Per Page (ISO Color)

Color (5%)	Net Weight (Grams)	Manufacturer's Rated Yield	Toner Yield (Impressions) <sup>1</sup>	Impressions Per Gram	Toner Cost Per Page <sup>1</sup>	Total Toner Cost Per Page	Supplies Cost Per page
Black	104.8	6,000	8,793	83.93	1.8¢	8.2¢	8.2¢
Cyan	92.8	6,000	9,471	102.09	2.2¢		
Magenta	93.6	6,000	9,336	99.78	2.2¢		
Yellow	90.9	6,000	10,550	116.1	2.0¢		

<sup>1</sup> Toner cost per page is based on Canon UK's Web pricing for the toner cartridges and BLI's tested toner yields using the ISO 24712 five-page color toner yield test original.

# CERTIFICATE OF RELIABILITY

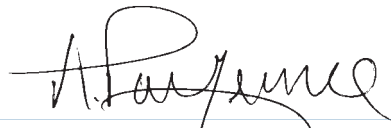
Awarded to

**CANON U.S.A., INC.**

for the performance of the

Canon Color imageRUNNER C1022i

in BLI's in-house durability test.



ANTHONY F. POLIFRONE  
MANAGING DIRECTOR



MAY 2009

DATE

This is to certify that when subjected to a 65,000-impression Buyers Lab durability test in a networked environment, the Canon Color imageRUNNER C1022i proved to be a highly reliable product.

**BUYERS LABORATORY INC.**

THE LEADING INDEPENDENT OFFICE PRODUCTS TEST LAB AND BUSINESS CONSUMER ADVOCATE

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