



BUYERS LABORATORY INC.

Lab Test Report

A Comprehensive BLI Laboratory Evaluation

RISO RZ220UI 60 to 130 CPM Digital Duplicator



Test duration: Two months, including a 500,000-imp
impression durability test.

PERFORMANCE RATINGS



Click rating for details. Click ▲ and ▼ to move through document.

Reliability	Excellent
Copy Quality	Good
Ease of Use	Good
Feature Set	Good
Ink Yield	Excellent
Value	Excellent

Rating Scale: Excellent, Very Good, Good, Fair, Poor

Manufacturer's maximum recommended monthly volume: 500,000 impressions.
BLI's recommended monthly volume for optimum performance: Up to 400,000 impressions.
More information on the RISO RZ220UI is available through bliQ (www.buyerslab.com/bliQ).

BLI RECOMMENDATION

Offering strong reliability and good overall output quality for a low price, the RISO RZ220UI digital duplicator gave a commendable overall performance in BLI's rigorous laboratory evaluation. While digital duplicators are used to make copies, unlike copiers, they do so by first creating an imaged thermal intermediate master of the scanned original and producing the desired number of copies using liquid ink. Capable of supporting high speeds and high volumes at much lower cost than would be possible for a copier with the same volume and speed, digital duplicators are extremely economical compared to copiers when reproducing many copies from each original, and thus are very well suited for this type of application. Conversely, they are not well-suited to producing sets of multiple-page originals in smaller quantities. To help maximize the unit's economy, an administrator can set the minimum print quantity allowed from a single master by the unit (default is zero; can be set from zero to 50, in increments of ten) to deter an operator from making too few copies from the master. Although they require somewhat more operator attention, they also tend to be highly reliable. The reliability and economy that are hallmarks of digital duplicator technology were both demonstrated in BLI's test of RISO's RZ220UI.

The unit, which supports 8-1/2" x 14" imaging and printing, also proved to be easy to use. In addition to demonstrating good overall performance, the RZ220UI offers a competitive feature set that includes a speed of 60 to 130 ppm. Combined with its good overall performance, the RZ220UI's aggressive pricing and low per-page supplies costs make it an excellent value. BLI recommends the RZ220UI as a reliable and economical choice for offices in need of a digital duplicator for monthly volumes of up to 400,000 impressions.

LAB TEST





Performance Overview

Reliability

EXCELLENT

- + Impressively, the test unit demonstrated flawless reliability, logging 500,000 impressions in its durability test without any service calls or even a misfeed occurring.
- + Further contributing to high uptime for this model is a preventive maintenance interval that, at 500,000 impressions, is higher than that of most digital duplicators.

Copy Quality

GOOD

- + When compared with other digital duplicators tested, output of the RISO RZ220UI was rated “Good” for text, solids and halftone range.
- + Density of copies produced by the RISO RZ220UI was higher than the average for digital duplicators tested to date.
- Line art output displayed inconsistent line thickness.
- Halftone output was clearly visible from the 15% dot-fill level, which is the minimum coverage level on the original, to the 100% dot-fill, level, but fill was very grainy.
- o Copy quality is rated at the unit’s default speed. Different speeds may affect image quality.
- o It should be noted that, since digital duplicators use ink to produce documents, unlike laser printers, copiers and MFPs, which use toner, the pages must be handled carefully (for example, the copies produced on a digital duplicator are subject to smudging before the ink dries, and to image bleed onto the other side of low-weight paper). Documents requiring the highest image quality may not be best suited to a digital duplicator.

Ease of Use

GOOD

- + The control panel, which spans the length of the unit and is well laid out, presents the user with all setting options available for the unit, both for routine and for more advanced functions.

+ , - and o represent positive, negative and neutral attributes, respectively.





Riso RZ220UI Control Panel

- The “main” panel consists of hard keys for functions including mode selection (i.e. master making and printing), quantity selection, proof print and adjustments to speed, print density and print position. It also features a graphical representation of the unit with numbered areas where problems could occur.
- The “sub” panel, which is inset on the left portion of the control panel, features soft keys for functions including reduction/enlargement, image type (i.e., line, photo, text/photo), ink-save mode and confidential mode.
- + The RISO RZ220UI earned good marks for its ease of loading paper, adjusting the paper feed table and removing misfeeds.
- + Similarly, the procedures for replacing the ink cartridge, master roll and master waste container were all found to be clean and simple.
- + Total counters are offered for the number of copies and number of masters.
- An optional Key Card Counter enables administrators to limit duplicator access to card holders and to set minimum and maximum usage per user. In addition, the unit can track the number of copies produced and number of masters consumed within a given period of time.
- Unlike many other duplicators, which offer a text display for error messages, the RZ220UI offers only a four-character error code display, and the user will need to keep the User’s Guide handy to interpret the codes.

Feature Set

GOOD

- The RZ220UI offers the features that would be expected of a digital duplicator, including a flatbed scanner; standard non-upgradable paper capacity of 1,000 sheets; the ability to accommodate up to 110-lb. index; and reduction/enlargement from 50 to 200 percent (via preset magnification modes).





- + The speed of the RZ220UI is adjustable from 60 to 130 ppm, while most digital duplicators offer a top speed of 120 ppm.
- Unlike many other duplicators, the unit does not offer copy control codes to allow administrators to track usage by individual operators.
- o Other features include a proof copy mode that enables users to check and adjust image quality as needed; vertical and horizontal print position adjustments; and confidential print (whereby the master created of an original will automatically be discarded to prevent unauthorized use).
- o This unit also features RISO's i Quality System, through which the duplicator and i Quality-equipped supplies (i.e., ink bottles and master rolls) communicate real-time data, including shortages of remaining supplies, to help optimize performance.
- o Options for this device, while not configured on the test unit, include a variety of color ink drums that can be inserted by the user into the unit's drum assembly (separate drums are required for each color), allowing copies in a choice of up to 70 colors (one color at a time); a network interface card, which connects the unit to the network and comes bundled with RISO-MONITOR remote printer-monitoring software; and a printer control board, which directly connects the duplicator to a computer.

Ink Yield

EXCELLENT

- + Tested ink yield at most volumes compared (25, 500 and 5,000 impressions per master) was competitive to well above average, while yield at 1,000 impressions per master was only slightly below average.

Value

EXCELLENT

- + The RZ220UI is the lowest-priced among digital duplicators tested to date, even with pricing for print and network options included. Indeed, it's more than \$8,000 less than the average. Moreover, the unit's estimated cost per page for ink and estimated cost per page for supplies are better than the average. The RZ220UI's good overall performance in the tests combined with its good feature set and low acquisition and supplies costs, make it an excellent value.





Supporting Test Data

Test Environment

This product was 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

This product was tested as a stand-alone device. Network-enabled devices are tested on BLI's dedicated test network, consisting of Windows NT 4.0, 2000 and Microsoft Exchange servers, Windows 98 and 2000 workstations, 10BaseT/100BaseTX network switches and CAT5 cabling.

Test Duration

Products are tested for two months, one month of which consists of a durability test during which the product is run at its manufacturer-rated maximum monthly volume, with daily volumes evenly divided over the course of the test.

Tested Configuration

Base 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. In addition to a number of proprietary test documents, BLI uses an industry-standard Katun test original for evaluating black image quality.

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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		500,000	
Total misfeeds/misfeed rate	0 / Not applicable		
Service calls	0		
PMs	0		
Total service calls (including PMs)	0		
M.I.B.F. ¹	Not applicable		
M.I.B.S. ²	Not applicable		

¹ Mean Impressions Between Failures (To obtain this number, BLI divides the total number of impressions produced during the test period by the number of service calls required. In actuality, it reflects the average number of impressions produced without a malfunction.)

² Mean Impressions Between Service (To obtain this number, BLI divides the total number of impressions produced during the test period by the number of service calls, including preventive maintenance calls, required. In actuality, it reflects the average number of impressions produced without a service call.)





Copy Quality

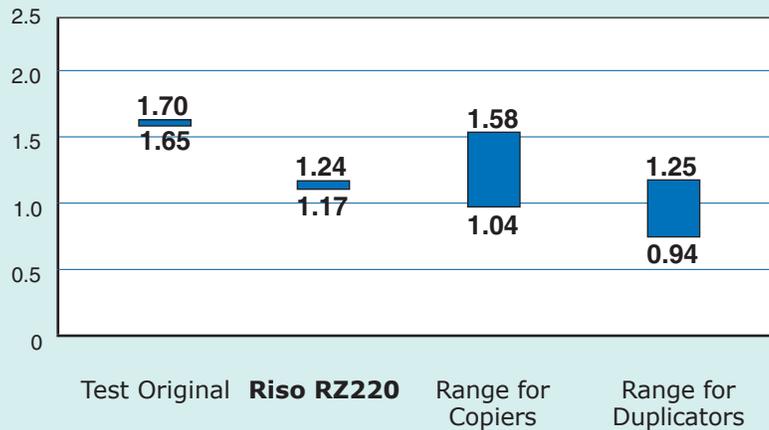
Density of original:
1.65 to 1.70.

Density for duplicators tested to date:
0.94 to 1.25.

Density of copy:
1.17 to 1.24.

Density for copiers tested to date:
1.04 to 1.58.

COPY DENSITY



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





Productivity

First-copy time:

27.8 seconds (master time from the platen , 8-1/2" x 11" copies).

Copies per minute:

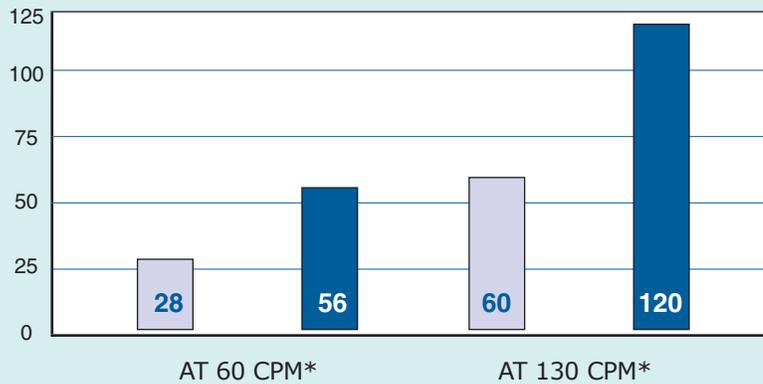
At 60 cpm:

28, including first copy with master.
56, including first copy without master.

At 130 cpm:

60, including first copy with master.
120, including first copy without master.

COPIES PER MINUTE



■ Including first copy with master
■ Including first copy without master

**There are five print-speed settings: 60, 80, 100, 120 and 130 cpm.*





Ink Yield

TESTED INK YIELD / SUPPLIES COST PER PAGE

Impressions Per Master	Net Weight of Ink	Ink Yield (Impressions) ¹	Impressions Per Gram	Ink Cost Per Page	Supplies Cost Per Page ¹
25 impressions	909.4 grams	6,650	7.31	0.435¢	1.235¢
50 impressions	907.3 grams	10,863	11.97	0.267¢	0.667¢
100 impressions	930.8 grams	17,760	19.08	0.163¢	0.363¢
500 impressions	906.0 grams	32,260	35.61	0.090¢	0.130¢
1,000 impressions	929.7 grams	33,000	35.50	0.088¢	0.108¢
5,000 impressions	911.2 grams	40,567	44.52	0.071¢	0.075¢

¹ The supplies cost per page is based on estimated retail pricing, BLI's tested ink yields at six volumes (based on BLI's ink yield test original with 6% coverage) and the manufacturer's rated yield for the master roll using 8-1/2" x 11" paper.

Ability to manually duplex:

Good. However, as with all digital ink duplicators, users must be sure to allow the ink on the copies to dry for several minutes and they must jog and fan the copies before reinserting them into the machine for duplexing. If this is not done, copies may stick together and set-off and/or jamming may occur.

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Specifications

BACKGROUND INFO

Dataquest Segment NA
SRP (USA; Canada): \$5,995; \$7,995
Manufacturing Status: New
Domestic Intro Date: October 2004
OEM: RISO, Inc. (China)
Also Sold As: None

Distribution: Dealers and branches
Mfr's Rec Mo Vol: Up to 500,000+ copies

TYPE

Digital duplicator, MF
Configuration/Scanner: Console, digital
Toner: Ink technology

GENERAL SPECIFICATIONS/PAPER HANDLING

First-Copy Time: 16 sec
Multicopy (Ltr/Lg/Ldgr): 60 to 130/60 to 130 cpm/Info not avail
Warm-Up Time: None
Std Paper Source(s): Single tray
Std Paper Capacity: 1,000 sheets
Paper Weights: 13-lb bond to 110-lb index
Bypass/Paper Weights: None
Max Paper Sources/Capacity: 1/1,000 sheets
Max Original Size: 10 x 14
Min/Max Output Size: 3-1/2 x 5/11 x 17
Scan/Copy Resolution: 300 x 300 dpi/300 x 300 dpi
Std/Max Copier Memory: Not applicable
Duplex: Manual
Capacity/Paper Sizes: Not applicable
Document Feeder: Opt ADF
Speed/Capacity: Info not avail/50 orig
Paper Weights: 15 to 28 lbs
Sorter (Bins/Capacity): None
Stapler Sorter: None
Bins/Stapling Capacity: Not applicable
Stapling Positions: Not applicable
Finisher: None
Tray/Stapling/Position(s): Not applicable
Other: Copies on NCR, envelopes, post cards and card stock; precision stacking tray; 5 adjustable copy speeds (60, 80, 100, 120, 130)

CONTROL PANEL

LED keypad w/indicators
Quantity Selector: 1 to 9,999 (0 to 9 keypad)
Message Display: Yes
Help Key: No

OPTIONS

ADF: \$1,550
 Separator: \$385
 Key counter: \$1,050
 Print (color) cylinder: \$1,295
 TC5100 off-line collator: \$6,295
 Paper feed kit: \$175

MAINTENANCE

Fuser Rollers: Not applicable
 Yield: Not applicable
 Cleaning Blades: Not applicable
 Yield: Not applicable
 Other: Not applicable
 Yield: Not applicable
 Fuser Oil: Not required
 PM Schedule: 500,000

COPIER FEATURES

Automatic Features: AES, ASO
Book Copy: Yes
Booklet Mode: No
Color: Opt, 70
Copy Control: Opt
Covers: No
Editing: No
Energy-Save: Yes
Erase: Std
Image Insert: No
Image Overlay: No
Image Repeat: No
Image Rotate: Opt
Interrupt: No
Job Build: No
Job Programs: 2
Job Time: No
Language: Std
Margin Shift: Yes
Neg/Pos: No
OHP Interleaving: No
Photo Mode: Yes
Poster Mode: No
Preset R/E: 4R, 3E
Program Ahead: Std
Sheet Insertion: No
Stamping: No
Timer: No
2-in-1: Std
XY Zoom: No
Zoom Range: 50 to 200 (1%)

Other Features:

RISO i Quality System to ensure optimum print quality; line, photo & duo modes; ink save mode, book/center erase w/adjustable erasure width; manual scanning contrast adjust; 2-up copying; auto paper size detection; 70 colors; confidential mode; integrated stand

ADDITIONAL INFORMATION

Dimensions (H x W x D): 54" x 25" x 40"
Weight: 220 lbs
Power Requirements: 120 V, 3.5 A
Dedicated Outlet: Not required
Energy Star-Compliant: No
Operating Noise Level: 63 dB

COMMENTS

8-1/2 x 14 imaging; PM indicator; flatbed scanner; proof print auto process on/off allows user to determine whether or not the job will print automatically after the proof print comes out. *250 masters per roll

SUPPLIES

Photoconductor: Intermediate masters
 Yield: 5,000/master*
 Price: Priced by dealer
 Toner: 1,000-cc ink ctrdrg
 Yield: Info not avail
 % Coverage: Info not avail
 Price: Priced by dealer
 Developer: Not applicable
 Yield: Not applicable
 Price: Not applicable





MULTIFUNCTION MODES

Table with 4 columns: Feature, Option 1, Option 2, Option 3. Includes Copier, Internet Fax, Network Printer, and Printer.

CONNECTIVITY SPECIFICATIONS

Table with 2 columns: Feature, Value. Includes Operating System Support, Parallel Interface, Serial Interface, USB Interface, Network Interface, LAN Fax/Print/Scan, and Networks Supported.

FACSIMILE SPECIFICATIONS

Table with 4 columns: Feature, Value 1, Value 2, Value 3. Includes Scanner Technology, Compression Method, Modem Speed, Max TX Resolution, Gray Scale/Halftones, Std/Max Fax Memory, Min/Max Orig Size, Max Paper/Print Width, Effective Scanning Width, Correct-Order Output, Batch Files, Battery Backup, Confid TX/RX, Dual Lines, Multi Access, Dialing Capabilities, and Other.

CONNECTIVITY/MF OPTIONS

GDI integrated system controller: \$1,100
Network interface card: \$550

INTERNET FAX SPECIFICATIONS

Table with 2 columns: Feature, Value. Includes TX/RX and Fax-To-E-Mail.

PC/NETWORK FAX SPECIFICATIONS

Table with 2 columns: Feature, Value. Includes Connection Type, Type, and TX/RX.

PRINTER SPECIFICATIONS

Table with 2 columns: Feature, Value. Includes Engine Mfr/Model, Compatibility, Speed, Max Print Area, Enhanced Resolution, Unenhanced Resolution, Std/Max Printer Memory, Controller Mfr/Model, Processor/Bits/MHz, PDL/PCL, and Other.

SCANNER AND IMAGE MANAGEMENT SPECIFICATIONS

Table with 2 columns: Feature, Value. Includes Connection Type, Technology/Speed, Max Resolution, TWAIN/ISIS Compatible, and Scan/Image Software.

Table with 2 columns: Feature, Value. Includes OCR Software, File Mgmt Software, Scan-To-E-Mail, and Other.

COMMENTS

Minimum print quantity control sets the minimum quantity that can be printed from a single master to deter an operator from making too few copies from a master

Info not avail = Info not provided by MFR. Specs were obtained from manufacturer/distributor and not confirmed by BLI testing. (FAD IMAGE #13156)

