The HP Printing and Imaging Advantage

Demand more.

HP's advanced technology delivers a better ROI:

- Legendary reliability

- Unparalleled print quality

- Superior performance

- Unsurpassed ease of use

- True 1: many management

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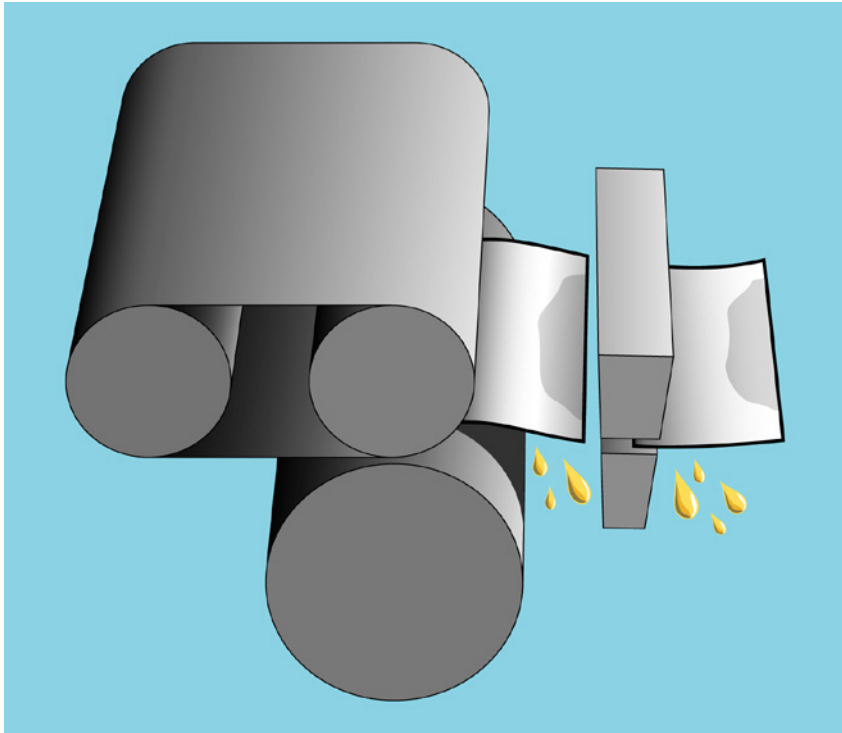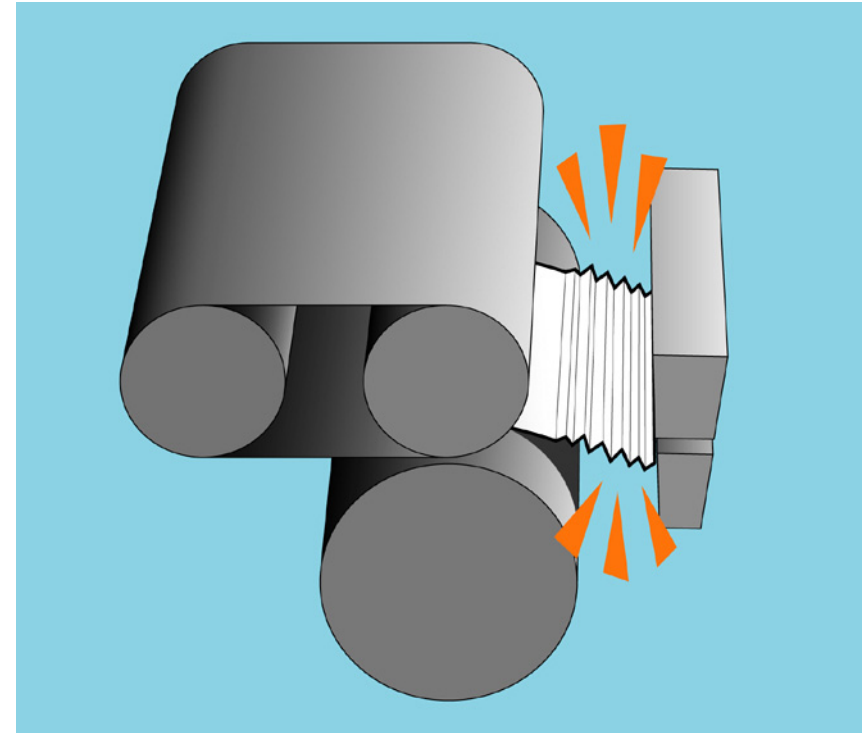- Unsurpassed ease of use

- True 1: many management

Oil-fusing technology has tradeoffs.

The Ricoh CL4000DN, CL7000, and CL7100 printers provide the fuser with the same amount of oil regardless of toner coverage.
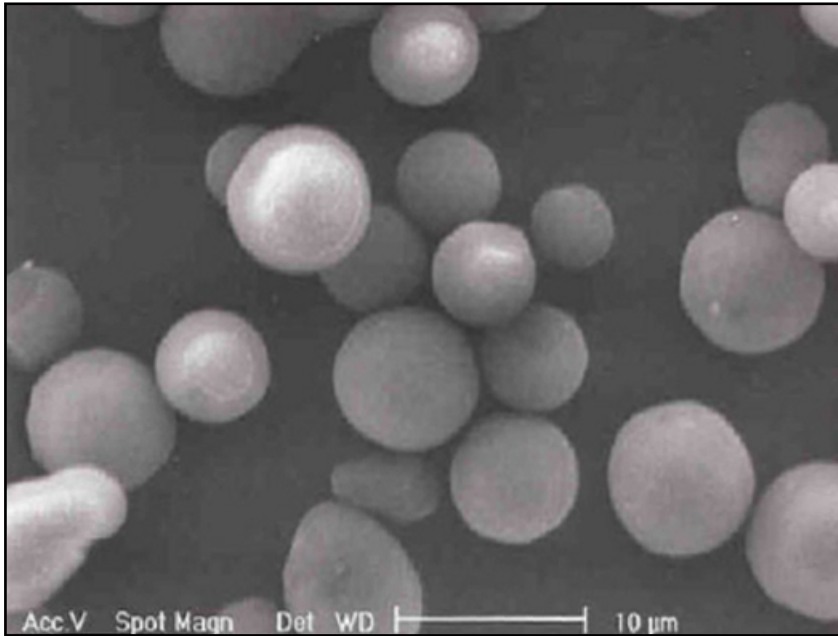

On low-coverage pages, excess fuser oil can noticeably stain Ricoh output, as well as contaminate the engine.


On high-coverage pages, there may not be enough oil for Ricoh's fuser to release media correctly, causing jams.

Innovative HP toner minimizes jams.

HP's innovative color spherical toner ensures worry-free printing:

- Release agent in toner minimizes jams
- Charge agents optimize particle distribution to ensure accurate line widths, sharp edges and text, smooth images, finer details, and precise color-plane registration and trapping
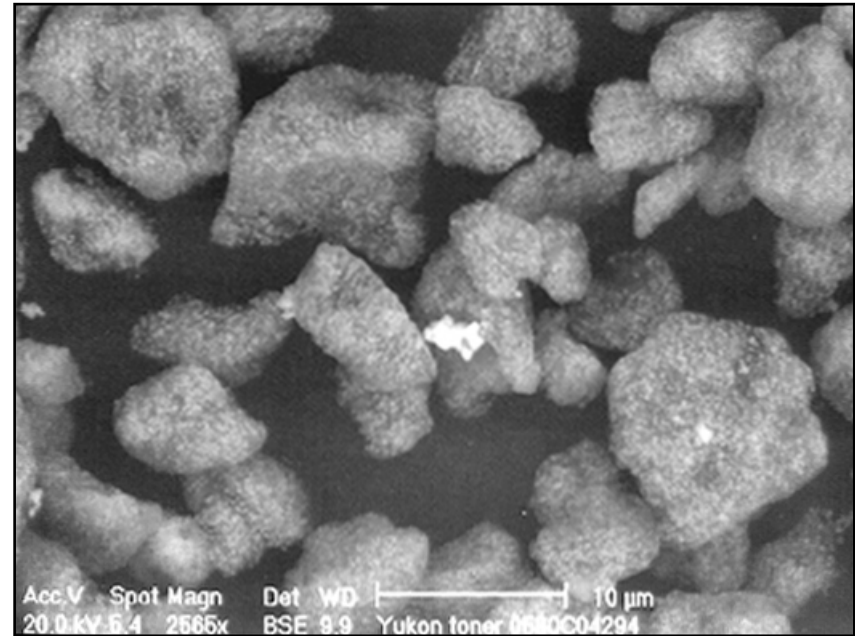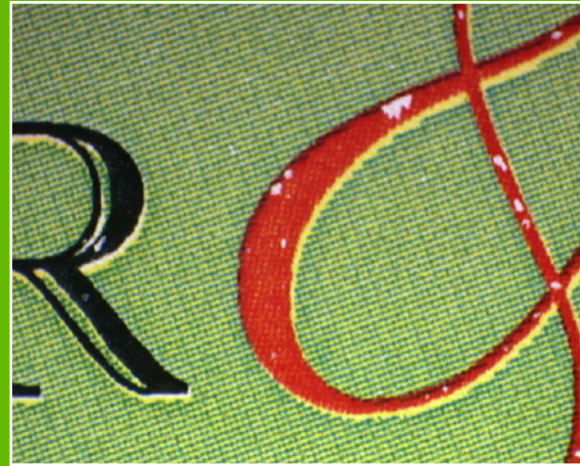
Ricoh uses granular toner and oil fusing, which can create numerous problems:

- Fuser jams on high-coverage pages
- Oil drips on low-coverage pages
- Engine contamination during low-coverage, transparency, or duplex printing, as well as when moving the printer or changing oil kit

Does Ricoh really deliver reliable RO?
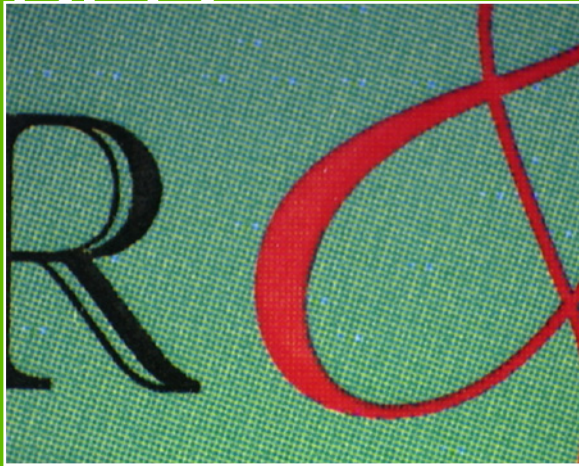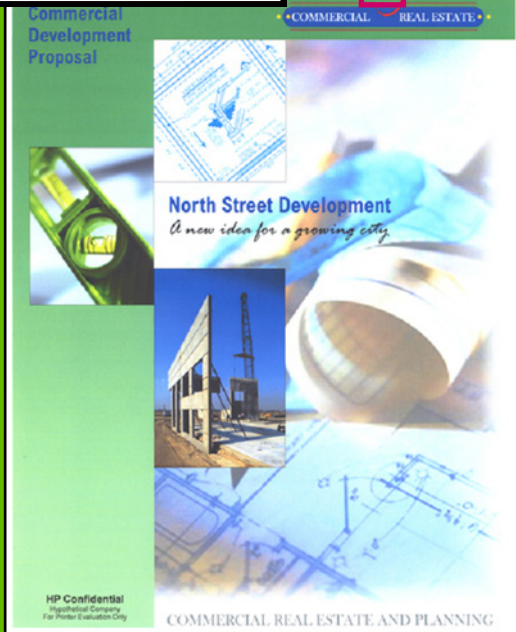

HP Color LaserJet 4650 ◀

Ricoh CL4000 DN ◀

Advanced fusing and toner technology in the HP Color LaserJet 4650 ensure it prints reliably on a wider array of media like this 53-lb./200-gsm stock.

Toner has not fused completely on this Ricoh CL4000DN output on 53-lb./200-gsm stock because the device uses older toner and fusing technology.
Also note the poor color-plane registration.
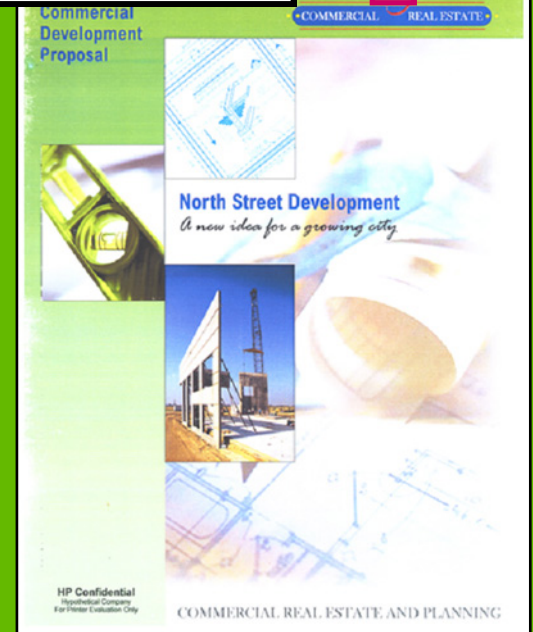
HP supports heavier media.

Matchup	Trays	MP tray	Duplex
HP Color LaserJet 5550	43 lbs.	53 lbs.	32 lbs.
Ricoh CL7000	28 lbs.	43 lbs.	28 lbs.
HP Color LaserJet 9500	53 lbs.	58 lbs.	58 lbs.
Ricoh CL7100	28 lbs.	43 lbs.	28 lbs.
HP LaserJet 9050	53 lbs.	58 lbs.	53 lbs.
Ricoh AP4510	28 lbs.	48 lbs.	28 lbs.

HP supports heavier media.

| Matchup	Trays	MP tray	Duplex
HP Color LaserJet 5550	163 gsm	200 gsm	120 gsm
Ricoh CL7000	105 gsm	163 gsm	105 gsm
HP Color LaserJet 9500	200 gsm	220 gsm	220 gsm
Ricoh CL7100	105 gsm	163 gsm	105 gsm
HP LaserJet 9050	200 gsm	216 gsm	200 gsm
Ricoh AP4510	105 gsm	176 gsm	105 gsm

PC Magazine Service & Reliability Survey

| VENDOR	2003	2002	2001	2000	1999	1998	1997	1996	1995
Brother	B	B	C	C	D	C	D	D	C
Canon	B–	D–	C	D	D	B	B	B	A
Dell	C	—	—	—	—	—	—	—	—
Epson	B	A	A	B	A	A	A	A	A
HP	A+	A+	A	A	A	A	A	A	A
Kyocera-Mita	—	—	—	—	—	—	—	—	—
Lexmark	D	D+	B	C	B	B	B	B	B
Minolta-QMS	C	—	—	—	D	D	D	D	C
Okidata	D	D	C	C	C	C	C	D	B
Panasonic	B	B	C	A	B	B	B	B	B
Ricoh	—	—	—	—	—	—	—	—	—
Samsung	A	—	—	—	—	—	—	—	—
Xerox/Tektronix	E	E	C/D	C/D	B/D	D	C	C/D	—/D

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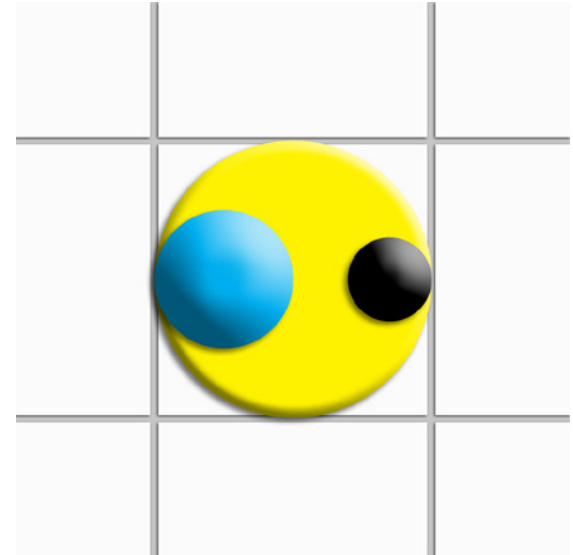
- True 1: many management

Get better imaging technology with HP.
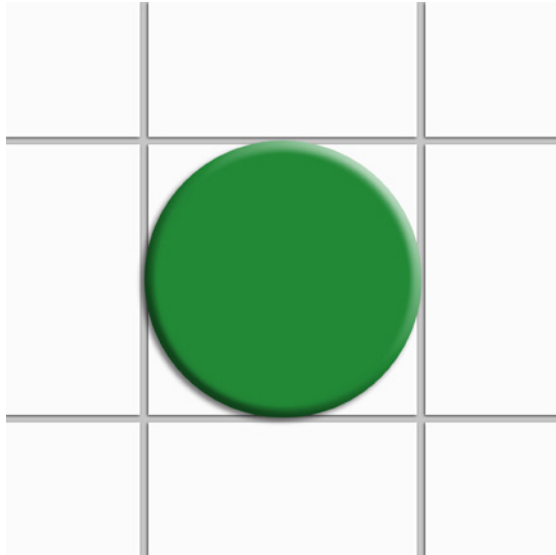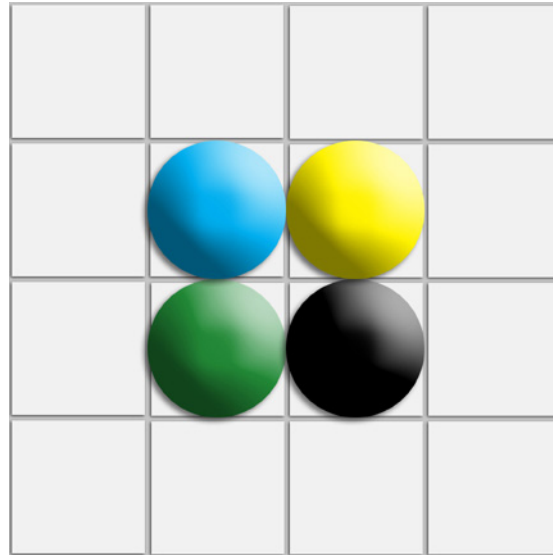
600-dpi binary   1,200-dpi binary (Ricoh)   600-dpi modulated (HP)

PQ is NOT just about dots per inch. Unlike Ricoh's binary laser imaging, HP uses laser technology to its full potential by modulating the laser to give unparalleled control over dot sizing and placement within single DPI cells. HP's laser modulation also yields countless more color combinations than Ricoh's seven such amalgamations – C, Y, M, K, C+Y, C+M, or Y+M.

HP technology yields superior results.

HP's modulated laser technology vs. Ricoh's binary laser technology
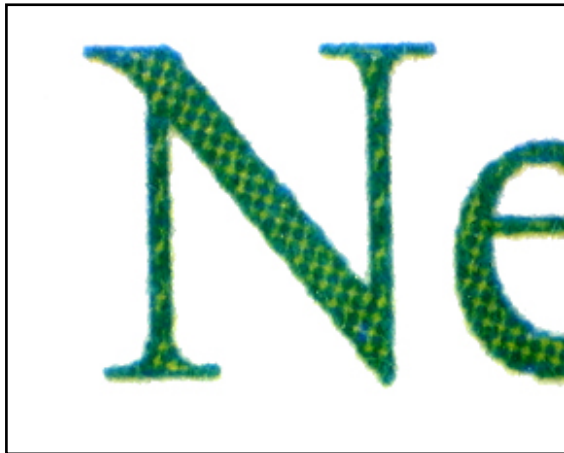
HP Color LaserJet 5550
modulated laser technology
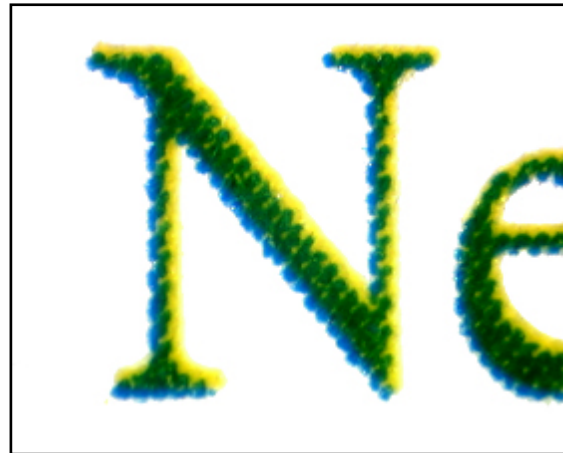
Ricoh CL7000
binary laser technology
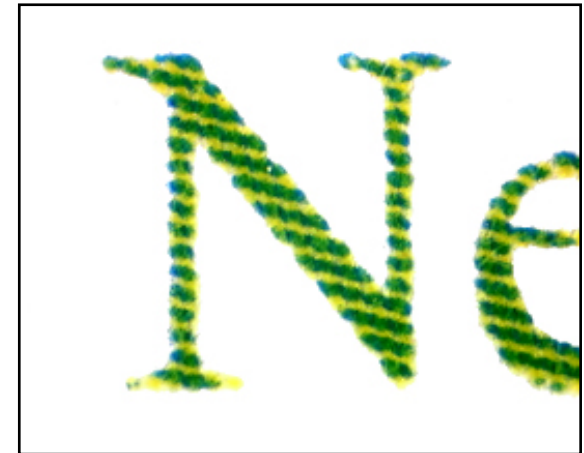
Brand X
LED technology

These enlargements of 12-point color text prove the HP Color LaserJet 5550 and its modulated laser technology deliver superior output quality. In fact, Ricoh's binary laser technology yields results that are more comparable to those of LED. The HP output was printed in default mode and the others were printed in best-PQ mode.

HP technology yields superior results.

HP Color LaserJet 4650 vs. Ricoh CL4000DN

HP Color LaserJet 4650

Ricoh CL4000DN

These enlargements of 12-point text in best-PQ modes clearly demonstrate HP ImageREt delivers superior color-plane registration and sharper text.

HP technology yields superior results.

HP Color LaserJet 9500 vs. Ricoh CL7100
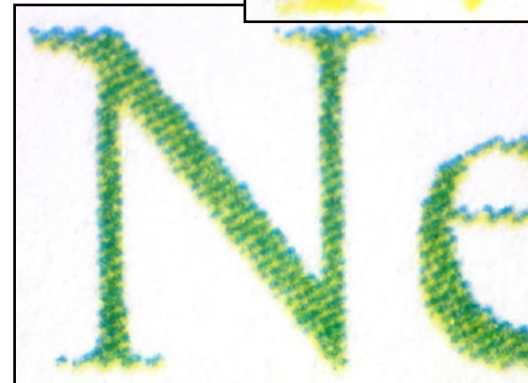
HP Color LaserJet 9500
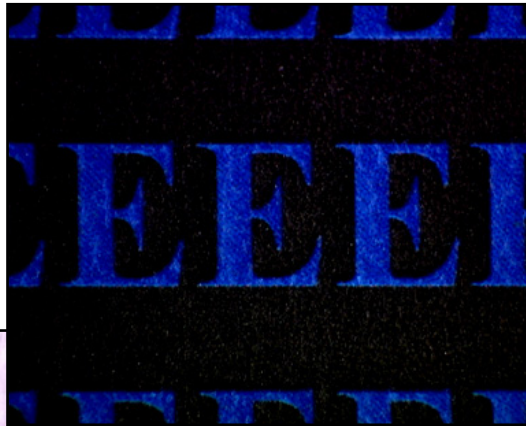
Ricoh CL7100
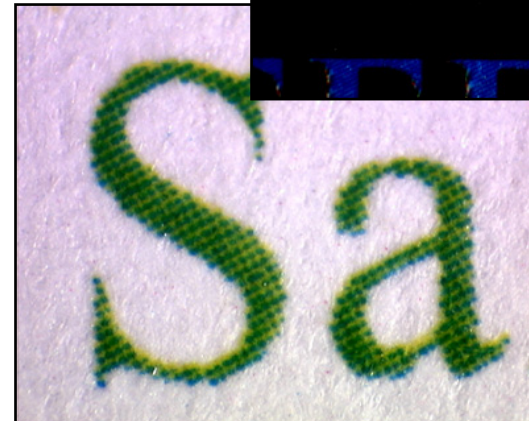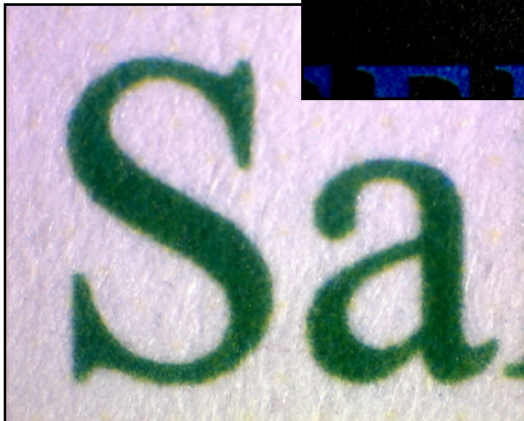
These enlargements of 12-point text in default print modes clearly demonstrate HP delivers superior text output quality.

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Get output faster with HP.

Time to first page out from powersave mode in seconds

Printer	Time
HP Color LaserJet 5550	40
Ricoh CL7000	154
HP Color LaserJet 4650	18
Ricoh CL4000DN	35
HP Color LaserJet 3700	26
Ricoh CL1000N	58
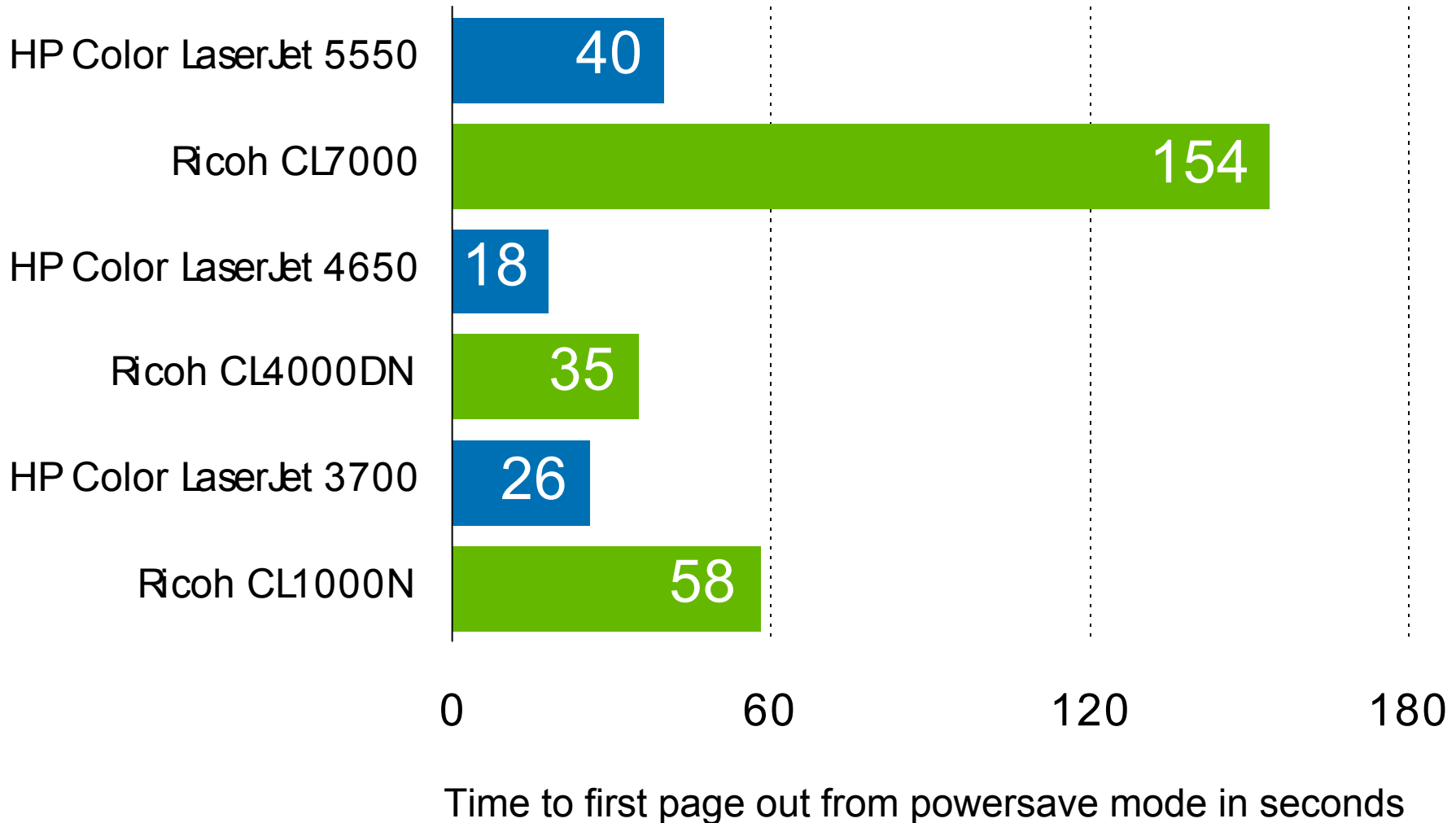
Process complex files faster with HP.

HP Color LaserJet printers possess superior processing technology that yields significantly faster actual performance – even compared to competing devices with higher engine print-speed specs.

❶ Fast data input from the network – Well-written protocol stack plus direct memory access.

❷ Efficient firmware – Experience in maximizing use of all processing resources and a dedication to continuous improvement.

❸ Innovative bus network – While competing devices employ only one bus, HP Color LaserJet printers utilize a unique network of buses to reduce contention in bottleneck areas.

❹ Parallel processors – Custom-designed HP ASICs offload the main processor by performing repeated tasks on large blocks of data (e.g., color-space conversion, compression, decompression, etc.) and efficiently perform extra processing needed for HP-exclusive print-quality enhancements like trapping and adaptive halftoning.

HP delivers fast real-world performance.

HP Color LaserJet 4650   **8.4**
Ricoh CL4000DN   **19.6**

Minutes to print a suite of 13 files totaling 121 pages in best-PQ mode

HP Color LaserJet 5550   **9.0**
Ricoh CL7000   **22.6**
HP Color LaserJet 9500   **9.9**
Ricoh CL7100   **32.7**

| 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |

Minutes to print a suite of 15 files totaling 121 pages in best-PQ mode
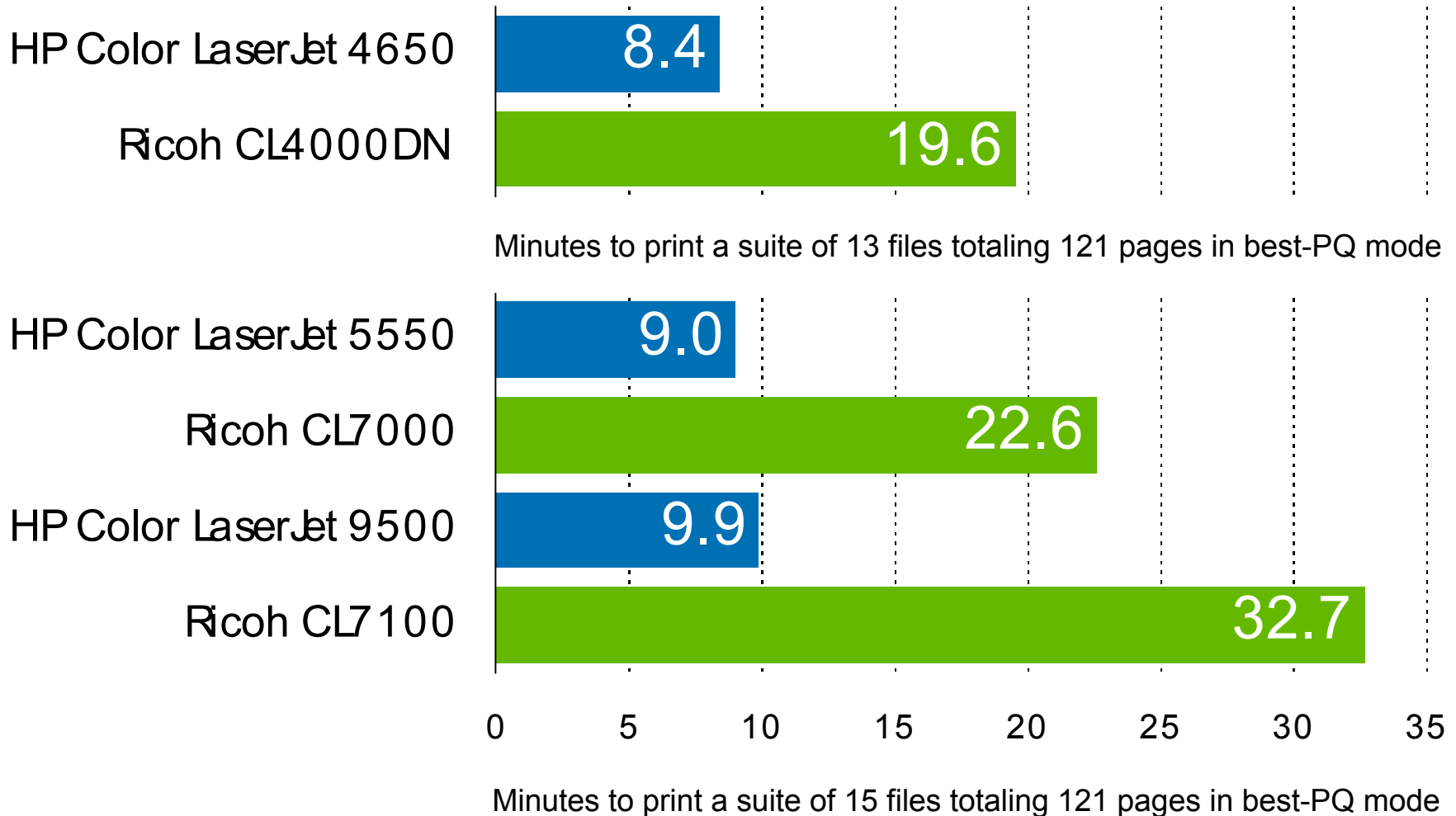
HP delivers fast real-world performance.
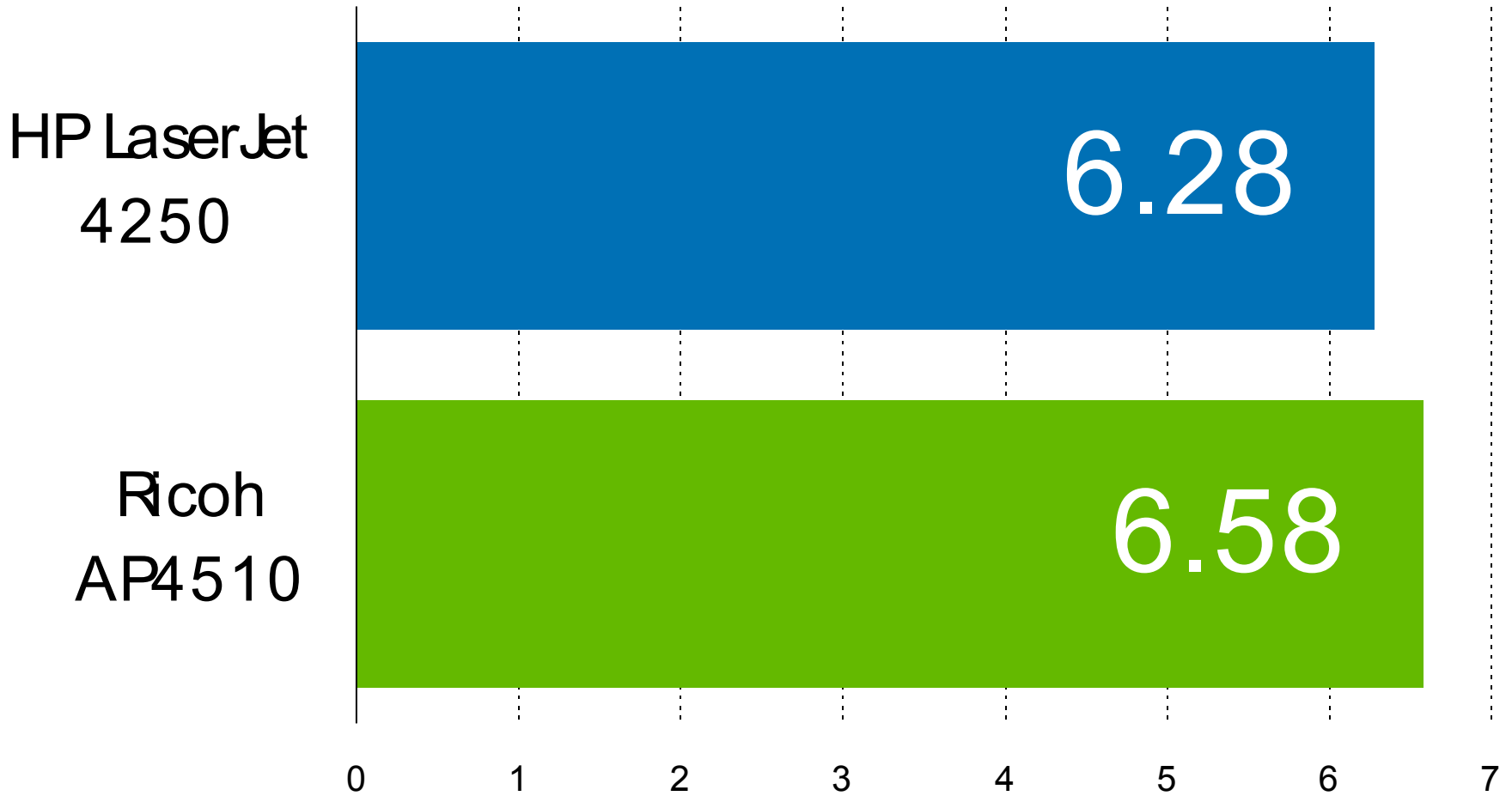
Minutes to print a suite of 14 files totaling 109 pages

HP LaserJet 4250: 6.28
Ricoh AP4510: 6.58

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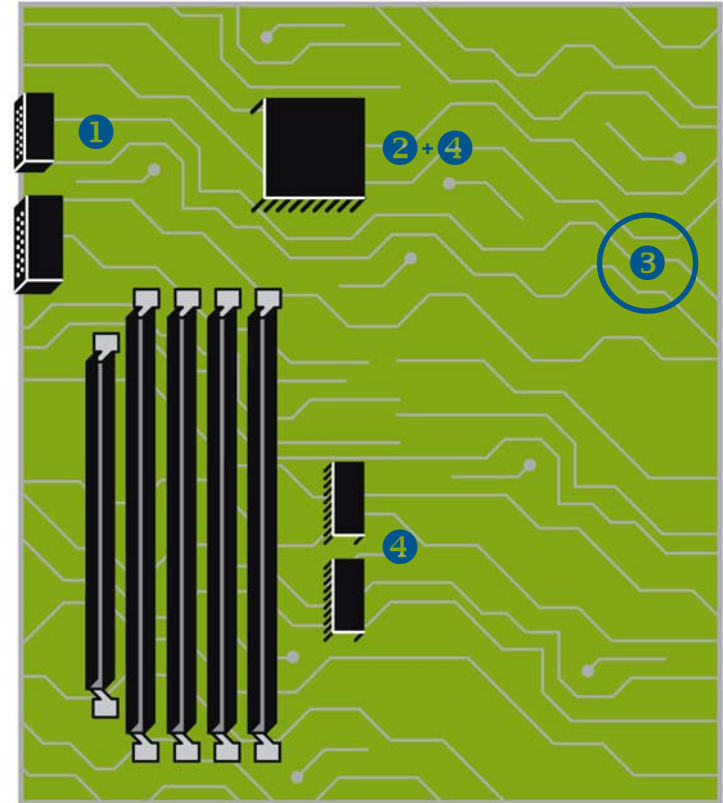- True 1: many management

Simplify operation with HP.

- ## Fewer consumables to manage.
  - The HP Color LaserJet 5550 has only 6 vs. 11 for the Ricoh CL7000.
  - The HP Color LaserJet 4650 has only 6 vs. 9 for Ricoh's CL4000DN.
  - The HP Color LaserJet 3700 has only 6 vs. 7 + 1 maintenance kit for the Ricoh CL1000n.

- ## Fewer interventions.
  - The HP Color LaserJet 9500's standard toner cartridge capacities – 25,000 CMYK pages – are substantially greater than Ricoh's – only 10,000 CMY and 20,000 K pages.

- ## No gotchas.
  - The Ricoh CL7000 and CL7100 require special tools.
  - CL7000 and CL7100 users also must replace messy oil-supply kits.
  - The Ricoh CL1000n cannot print legal-size media from the tray and has no MP tray.

HP delivers more toner in the box.
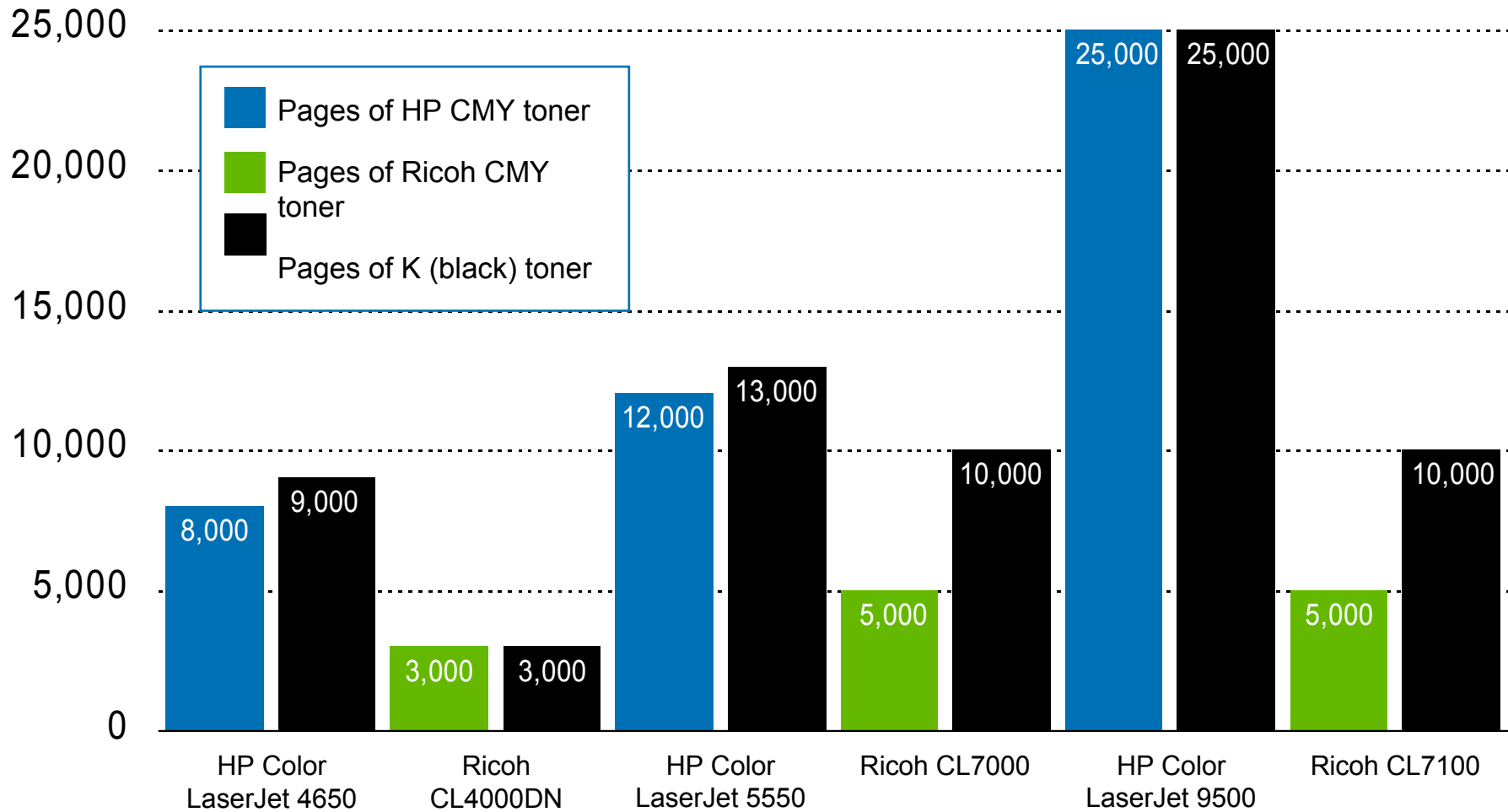
Toner shipped with the printer (pages at 5% per color)

Legend:
- Pages of HP CMY toner
- Pages of Ricoh CMY toner
- Pages of K (black) toner

Printer	CMY	K (black)
HP Color LaserJet 4650	8,000	9,000
Ricoh CL4000DN	3,000	3,000
HP Color LaserJet 5550	12,000	13,000
Ricoh CL7000	5,000	10,000
HP Color LaserJet 9500	25,000	25,000
Ricoh CL7100	5,000	10,000

Replace fewer parts with HP.
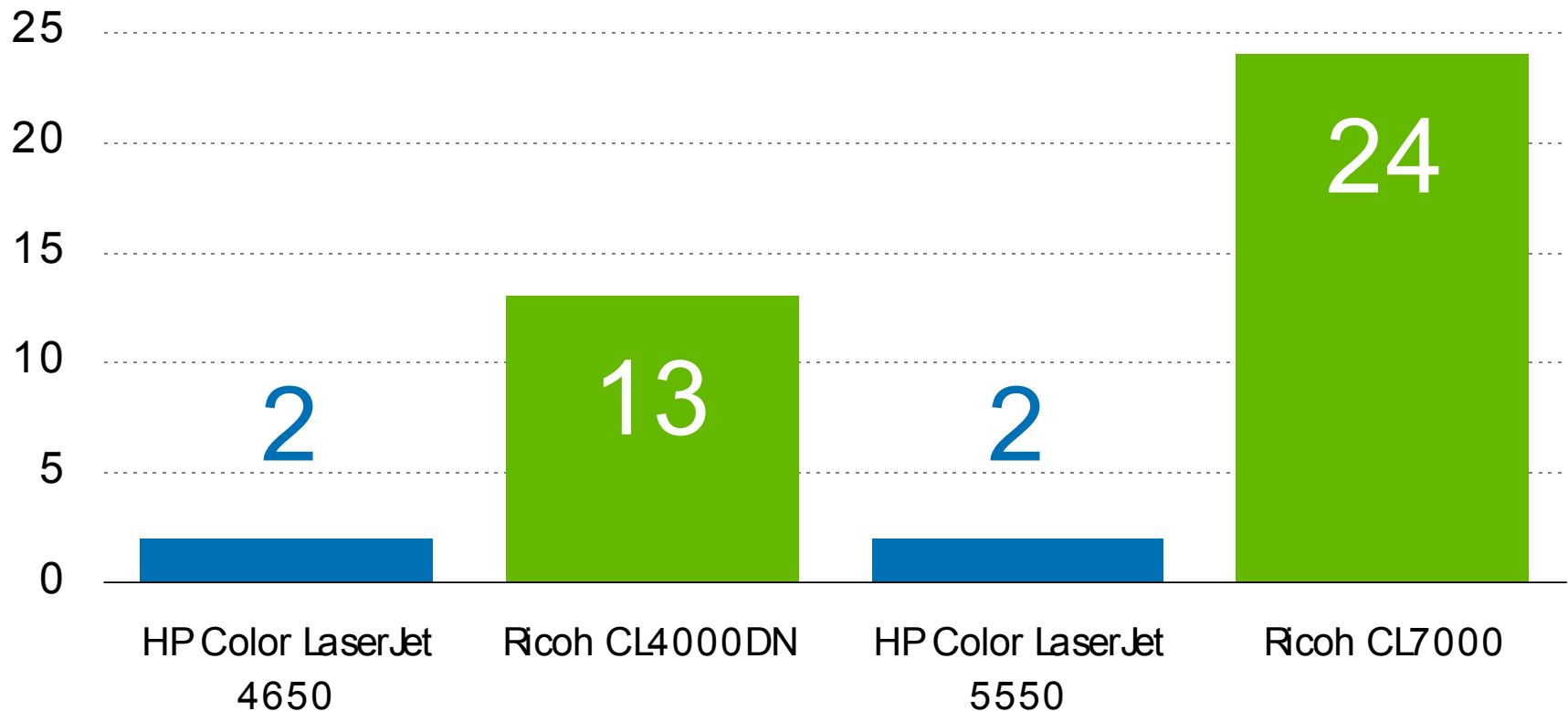
HP Color LaserJet printers have fewer replacement parts beyond toner in the first 200,000 pages than their Ricoh counterparts.

Simplify troubleshooting with HP.

- ## Intuitive graphical control panel.
  - HP provides context-sensitive help.
  - HP displays up to 4 lines of text and animation simultaneously.
  - HP toner gauges provide an easy-to-see snapshot of supplies levels.
  - Ricoh doesn't offer this type of advanced control panel.

- ## Consistent interfaces.
  - HP's driver interface and embedded Web server interface and functionality are common across our entire printer and MFP lineup.

- ## Fewer paper-path access points to troubleshoot.
  - The HP LaserJet 9050 has 2 access points vs. 5 for Ricoh's AP4510.

- ## No knobs to turn when clearing jams.
  - When clearing paper jams, Ricoh users often have to turn knobs, which can create confusion because some must be turned clockwise and others counterclockwise.

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HP is easier to connect and configure.

- ## Advanced discovery and assessment.

    - HP Web Jetadmin gives you 11 methods of discovery vs. only 2-3 for Ricoh SmartNetMonitor. This feature is especially useful for finding devices on remote subnets.

    - A report-generation plug-in for HP Web Jetadmin captures usage statistics by device.

    - You can combine discovery information with usage reporting to get a complete picture of your printing and imaging environment.

- ## Batch driver configuration.

    - HP Web Jetadmin lets you configure drivers on all end-users' devices in one easy step – allowing you to control access to color if needed.

    - With Ricoh, you must configure each client's driver one at a time.

HP's sophisticated alerts capabilities make printer management a snap.

Does the vendor let you…	HP	Ricoh
Set proactive alerts via the management utility or the device's embedded Web server?	✓	🚫
Route specific alerts to the appropriate people and multiple destinations?	✓	🚫
Filter duplicate alerts?	✓	🚫
Set early thresholds for long-life consumables?	✓	🚫
Set device wake-up times?	✓	🚫
Automate supplies reordering via the Internet?	✓	🚫

HP delivers the best architecture for enterprise fleet management.

- ## Modular architecture.
  - Unlike Ricoh's SmartNetMonitor, HP Web Jetadmin is a modular application that supports plug-ins, which are a convenient way to extend functionality.

- ## Enterprise integration.
  - Unlike Ricoh's SmartNetMonitor, HP Web Jetadmin easily integrates with enterprise-management tools like Tivoli, OpenView, Toptools, and Unicenter.

- ## Tighter security.
  - HP Web Jetadmin enables secure management via SSL and SNMPv3 that allows for encryption of usernames and passwords – a feature Ricoh's SmartNetMonitor does not support.

RE Ricoh's plug-in for Web Jetadmin:

Ricoh offers a plug-in that allows customers to manage their Ricoh devices via HP Web Jetadmin. Sure, it sounds good, but if you take a close look, it may not give you what you need.

- ## What the Ricoh plug-in gives you:
  - Status, including a graphical display of the Ricoh printer with status issues highlighted.
  - Limited diagnostics.
  - The ability to configure the Ricoh network card.

- ## What you don't get (but what you can with an HP printer using Web Jetadmin):
  - Alerts.
  - The ability to configure print paths and device settings, such as media types assigned to trays, finishing options, etc.
  - The ability to deploy pre-configured drivers.
  - The ability to manage device storage (i.e., hard-disk drives) via an HP plug-in.
  - Advanced diagnostics (beyond what's supported in the standard MIB).
  - Usage reporting via an HP plug-in.
  - A remote control panel.

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HP delivers a solid technology ROI.

- HP delivers a tangible return on your technology investment.
  - HP develops solutions that are not only competitively priced, but also deliver superior long-term value due to their advanced capabilities, ease of use, real-world performance, manageability, and reliability.
  - HP can help transform your business processes into assets that can increase employee productivity – and reduce hardcopy costs – by as much as 30%.

- HP isn't just a printer maker or a copier maker, but an IT solutions provider that understands…
  - the impact imaging and printing has on the overall IT and business landscape.
  - the benefits of centralized, decentralized, and balanced environments.

- HP utilizes technology to increase capabilities and boost efficiency (via simplicity and automation) in areas like…
  - network management.
  - office color.