



HP LaserJet 3050 All-in-One Reviewer/Evaluator's Guide



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Getting to know the All-in-One



HP's most compact, simple, and affordable laser all-in-one

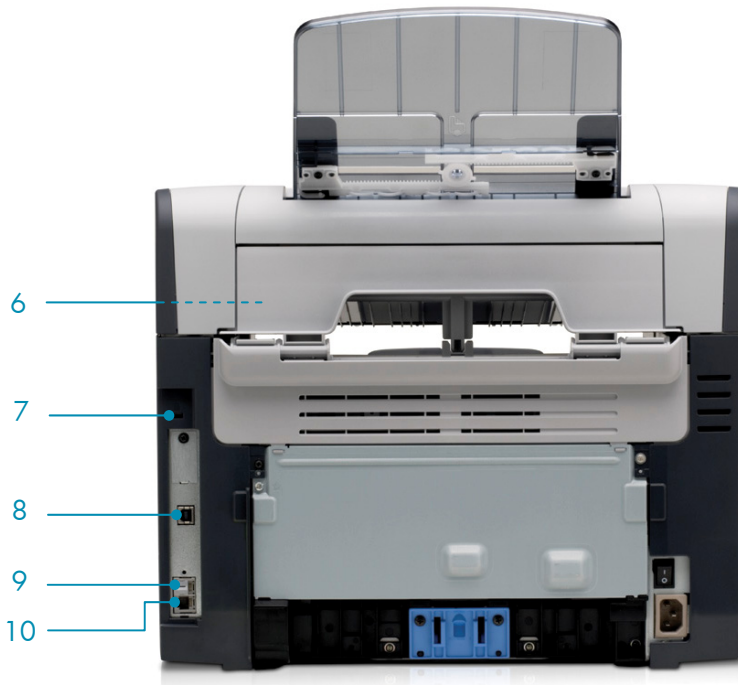
Welcome to the Reviewer/Evaluator's Guide for the new HP LaserJet 3050 All-in-One (AiO). This guide will introduce you to the product and help you to conduct a successful evaluation.

The HP LaserJet 3050 AiO is a compact device that meets your essential office printing, copying, faxing, and scanning needs. In an inventive design that fits on your desktop, the product combines laser quality and reliability with fast performance and versatile functionality. Easy to use for the whole office, the product features an intuitive control panel and simple management software to keep your business productive. With dependable HP cartridges, you get outstanding results—page after page. Enjoy integrated features for great all-in-one performance.



Features

- 1 30-sheet ADF scanner quickly processes documents
- 2 Easy-to-use control panel with 10-key number pad and 2-line by 16-character display provides effortless interaction with each of the All-in-One's functions
- 3 100-sheet face-down output bin
- 4 10-sheet priority slot
- 5 Adjustable 250-sheet input tray
- 6 64 MB device memory and a 264 MHz processor quickly and easily handle complex jobs
- 7 Security-lock slot for securing the All-in-One with a cable lock (available for purchase via a third-party vendor)
- 8 Hi-Speed USB 2.0 port
- 9 RJ-11 line-out telephone port
- 10 RJ-11 fax port



Space-saving simplicity

- **Enjoy easy office integration.** The product features built-in support for all popular print languages, including HP PCL5e, HP PCL6, and HP postscript level 3 emulation, so you don't have to worry about compatibility.
- **Depend on effortless interactions.** The control panel's intuitive, 2-line, 16-character backlit display makes the product easy to use and maintain—no training required.
- **Fits into your existing environment.** With its intelligent, ultra-compact design and easy-to-connect Hi-Speed USB 2.0 port, you can place this All-in-One performer where you need it and get started right away.

All-in-One versatility

- **Rely on one product to print, fax, copy, and scan.** Relax, knowing you can count on HP's proven reliability—trusted by millions of people every day.
- **Increase productivity.** To handle the demands of your business, the product comes standard with a 250-sheet input tray, a 10-sheet priority feed slot, and a 30-sheet automatic document feeder (ADF).
- **Send and receive high-quality faxes.** Fax documents at up to 33.6 kbps (v 34, Super G3) and enjoy digital storage for up to 110 pages.

Laser quality and reliability

- **Depend on fast, professional laser printing.** With speeds of up to 19 pages per minute (ppm) letter (18 ppm A4), you can get complete, great-looking documents in no time at all.
- **Stop waiting.** Instant-on Technology delivers fast first page out printing speeds of less than 8 seconds—so you won't waste time waiting for the device.
- **Maximize office efficiency.** With 64 MB RAM and a durable, long-lasting engine, this product easily handles your volume demands.
- **Print with confidence using genuine HP print cartridges.** The HP LaserJet Q2612A Black Print Cartridge delivers HP's legendary quality and reliability. The print cartridge, Ultraprecise toner, and imaging drum are integrated into one supply, so you refresh the entire printing system every time you replace a cartridge. Designed to work together with the printer, the cartridge is critical to achieving consistent, high-quality results.

New features

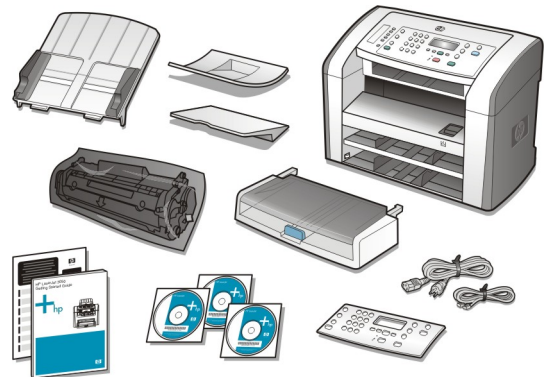
The following table highlights the new features of the HP LaserJet 3050 AiO.

HP LaserJet 3050 AiO	HP LaserJet 3015 AiO	Benefits
Print/copy speed: up to 19 ppm letter (up to 18 ppm A4)	Print/copy speed: up to 15 ppm letter (up to 14 ppm A4)	Delivers output faster
264 MHz processor	240 MHz processor	Handles complex documents better
64 MB device memory	32 MB device memory	Handles complex documents better
250-sheet input tray	150-sheet input tray	Provides greater paper input capacity to minimize user intervention

What ships with the All-in-One

The HP LaserJet 3050 AiO ships with the following:

- ADF input support
- ADF output support
- Output bin support
- HP LaserJet Q2612A Black Print Cartridge with Ultraprecise Toner
- 250-sheet input tray
- Getting Started Guide
- Support flyer
- Software and documentation CDs
- Control panel faceplate
- Power cord(s)
- Phone cord(s)



Device software

The HP LaserJet 3050 AiO includes a powerful suite of software that is easy to install and use. The printer drivers and utilities cover a range of operating systems and are localized in many languages. The device ships with the following components on the CDs:

- Installer/uninstaller
- HP ToolboxFX
- HP LaserJet Scan
- TWAIN 1.9, WIA scanner drivers
- HP LaserJet Fax
- HP Fax Setup Wizard
- Readiris PRO Text Recognition Software (not installed with other software, separate installation required)
- Printer drivers (HP PCL6, HP PCL5e, HP postscript level 3 emulation)
- HP All-in-One Setup Assistant (Macintosh)

Additional drivers, updated drivers, and other valuable software for the HP LaserJet 3050 AiO will be available on the HP Customer Care Web site after product introduction at: www.hp.com/support.

Evaluating laser all-in-one products

Based on extensive market research and customer feedback, HP has identified user needs in six key categories. These categories should be closely examined as you consider purchasing a laser all-in-one product. In this section, we will examine each of these and how the HP LaserJet 3050 AiO meets the criteria in each category.



- 1—Ease of use
- 2—Versatility
- 3—Reliability
- 4—Performance
- 5—Output quality
- 6—Total cost of ownership

The HP LaserJet 3050 AiO is ideal for individuals or small workgroups who want to increase office efficiency and expect professional results. The product provides fast, high-quality laser printing and copying, reliable faxing, and high-resolution color scanning from an inventive space-saving design—all at an exceptional price. HP features set this product apart from the competition:

- Instant-on Technology virtually eliminates warm-up time and enables a first-page-out speed of less than 8 seconds for printing.
- Developed with proven HP LaserJet technology, the product delivers business-quality imaging with up to 1200 by 1200 dpi output.
- Hi-Speed USB 2.0 direct connectivity makes it easy to get started with a versatile, high-value hardcopy solution.
- The powerful HP ToolboxFX software simplifies product configuration and management.
- By consolidating four devices into one you'll save valuable office space and simplify your environment.

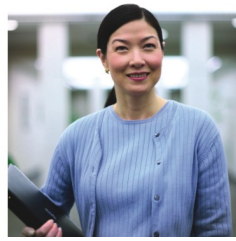
During your evaluation, we invite you to compare the HP LaserJet 3050 AiO to other competing products to see why it is the best choice for your workplace!

Evaluation guidelines

As you design tests and conduct your evaluation, remember the following guidelines:

- Consider the typical end-user's hardcopy needs.
- Simulate the end-user's environment.
- When testing more than one product, try to make a fair comparison between products by setting up in the same environment and testing similar device settings and configurations.
- Analyze each element of the document creation process, but remember that the elements work together as part of the whole solution. (For instance, performance claims mean very little if documents print incorrectly or with poor print quality.)

Ease of use



Save space and simplify with one device to print, copy, fax, and scan

Designed for easy use, the HP LaserJet 3050 AiO is simple to operate and maintain, a feature that is crucial for small businesses, which often do not have IT support. It integrates seamlessly into your business environment, allowing you to invest your time in other issues and reducing your day-to-day business concerns.

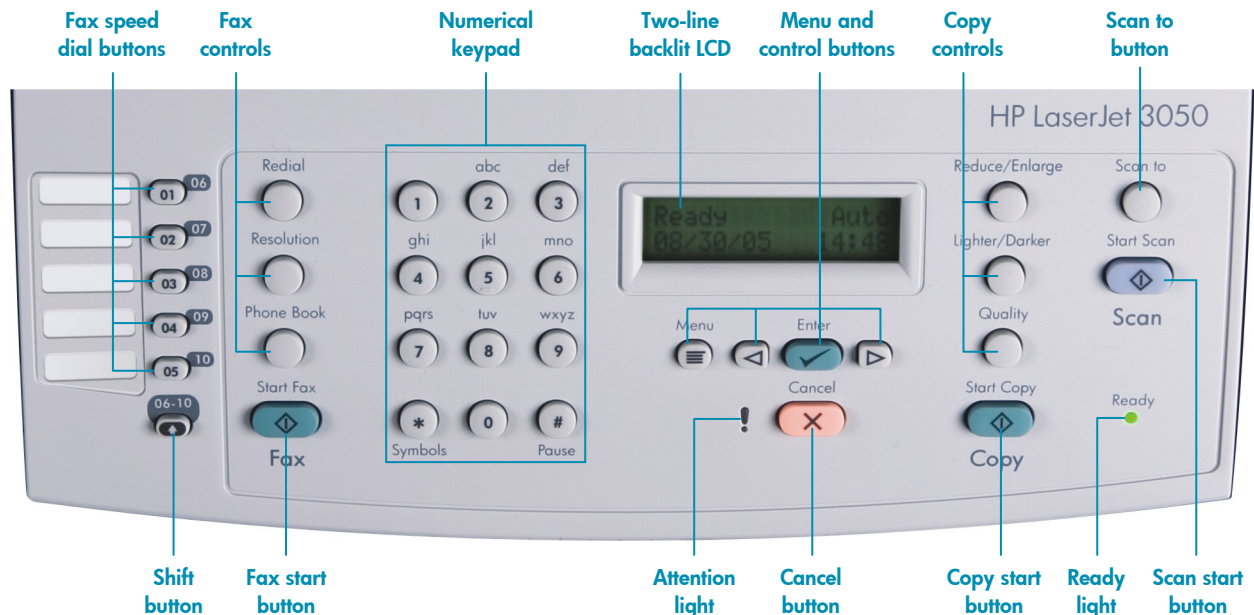
Fits into your business environment

The HP LaserJet 3050 AiO software features standardized drivers and interfaces, providing a look and feel that is familiar to users of HP products and a proven design that is simple for new users to understand. The HP LaserJet 3050 AiO is compatible with other HP LaserJet products and includes support for a range of systems and software, making it easy to integrate into your business environment.

Easy-to-use, intuitive control panel

The control panel has a two-line, backlit display and features controls for printing, copying, faxing, scanning, and electronic document and image sending and archiving capabilities.

In addition, the control panel menus allow you to set system defaults and customize settings for a particular job.



Convenient interaction

- HP productivity tools, such as HP ToolboxFX, allow you to manage the All-in-One simply. For example, the toolbox provides automatic e-mail alerts when an unexpected event occurs (such as Close Door/Covers or Unexpected Paper Size).
- The 30-sheet ADF enables efficient, unattended copying, faxing, and scanning.
- Use the control panel's **Scan to** button to easily archive and share your important business documents and images.
- Enjoy effortless interaction with a simple paper path, convenient, front door access, and an easy-to-use, all-in-one print cartridge that can be replaced with one hand.

Productivity tools and services

Powerful tools and services provide convenient access to product information, settings, and support. For more information, see Appendix A, "Productivity tools" on page 22.

HP ToolboxFX for Windows	For end users—support tools for an individual device. Provides one location to access all product settings and information, including documentation, self-help and troubleshooting tips, and status.
HP Embedded Web Server for Macintosh	For end users—support tools for an individual device. Provides one location to access all product settings and information, including documentation, self-help and troubleshooting tips, and status.
New print driver Services tab	For end users—support tools for an individual device. Offers simple links from the print driver to HP's online Instant Support tools, print driver updates, and supplies ordering.
HP Universal Print Driver Series for Windows	With the HP Universal Print Driver Series for Windows, finding and using devices unassisted is a snap for workers. The Universal Print Driver's compatibility across device platforms and its powerful manageability features make it IT's optimal choice for general office printing on devices like the HP LaserJet 3050 AiO. Advanced device discovery, simplified configuration, manageability, and fewer help desk calls are just some of the ways this driver and HP devices can benefit you.
HP Web Jetadmin	For IT and help desk professionals—manage fleets of peripherals. Available for the HP LaserJet 3050 AiO via optional HP Jetdirect external print servers, HP Web Jetadmin is a Web-based fleet management solution for remotely discovering, installing, monitoring, and troubleshooting network connected devices from anywhere using a standard Web browser. HP Web Jetadmin also provides advanced usage and assessment reporting functionality and can discover and report on devices directly connected to PCs on the network. You can download the software for free from www.hp.com/go/webjetadmin .
HP Instant Support Professional Edition	Integrated into HP's device management tools and available from www.hp.com . Connects you to the HP Web site to help you quickly solve problems and answer questions. This service analyzes your device and configuration to provide diagnostic and support information specific to your device.

Evaluation

Setting up the all-in-one product

Unbox and set up the product, using the product documentation and electronic device setup assistant. Consider the following:

- Is the user documentation and installation and setup software helpful?
- How does the overall product design contribute to ease of setup?
- How well are you able to install and interact with supplies?

Testing product software

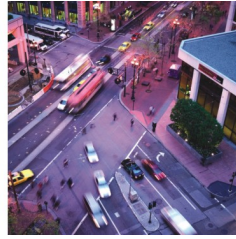
- 1 Note which platforms and printer languages the drivers support.
- 2 After you have installed drivers and other device software, print some test pages. Document any driver or software changes performed during testing.
- 3 Evaluate the product software:
 - Are the drivers easy-to-use?
 - What special software or tools are available?
 - What special features or utilities does each driver or tool include?

Interacting with the control panel

Try the various control panel functions. When comparing products, consider the following:

- In general, is the control panel easy to use?
- How easy is it to determine device, job, and print cartridge status?
- Can you easily make copies from the control panel?
- Can you electronically send documents and images from the control panel?

Versatility



Consolidate functions with this all-in-one device that fits on your desktop

Flexible paper handling

- The product includes a 250-sheet adjustable input tray, a 100-sheet face-down output bin, and a 10-sheet priority input slot, so you won't need to worry about removing your regular printing paper for special projects, and your office will stay productive.

Offering the utmost in versatility, the input trays support paper (plain, preprinted, prepunched, bond, color, glossy, letterhead, light, heavy, recycled, rough), envelopes, transparencies, labels, cardstock, and a variety of weights and sizes, including weights up to 43 lb (163 g/m²) and sizes from 3 by 5 in (76 by 127 mm) to 8.5 by 14 in (216 by 356 mm).

- The 30-sheet automatic document feeder (ADF) processes single-sheet and multi-page letter and A4-sized documents, allowing unattended copying, faxing, and scanning, so that you won't have to stand by the device and handle every page. The ADF supports a variety of sizes, from 5.8 by 4.1 in (147.3 by 104.1 mm) to 8.5 by 15 in (215.9 by 381 mm); letter, legal; A4, A5.

Easy copying

The device may be used as a standalone, walk-up copier—you do not need to be connected to a computer to make copies. You can adjust all copy settings at the control panel, including lightness/darkness of reproduction, reduce or enlarge from 25 to 400 percent, or even produce 2-up and 4-up copies to conserve resources.

Effortless faxing

Effortlessly and reliably send and receive faxes. The HP LaserJet 3055 AiO features a 120 fax number speed-dial capacity, with up to 119 group-dials, and five one-touch control panel buttons (plus five additional selections using the Shift button). The product also features fax forwarding, delayed sending, ring detection, fax polling, broadcasting to up to 119 locations, auto fax reduction, junk barrier, PC interface, and auto redialing. You can use the control panel or HP ToolboxFX to configure fax settings and program the Fax Phonebook speed-dial and group-dial entries. Two RJ-11 ports allow flexibility: the first connects the product to your telephone line, and the second connects a telephone, caller-ID box, or computer modem.

Full-featured scanning

Archive and share your important business documents and images at the touch of a button. With HP ToolboxFX and HP LaserJet Scan software, you can preconfigure the device to conveniently scan to a connected and supported destination, such as a PC desktop, PC folder, or a TWAIN/WIA compliant application. You also get the convenience and versatility of converting paper documents into editable electronic documents with Readiris PRO Text Recognition software.

Simple compatibility

The HP LaserJet 3050 AiO is designed to fit seamlessly into your existing office environment and is compatible with a range of operating systems. You can depend on effortless printing, every time, with support for HP PCL6, HP PCL5e, and HP postscript level 3 emulation with automatic language switching. For more information, see Appendix B, "Technical specifications," on page 28.

Evaluation

Evaluating paper handling

Produce the type of material typical for your day-to-day business, such as a report, high-quality brochure, or other professional document. While you perform your evaluation, consider the following:

- Does the range of supported paper and paper sizes meet your needs? Does the product support special paper, such as envelopes and transparencies?
- What are the product's input and output capacities? Is it easy to change paper sizes and types?

Evaluating copying

Copy the type of material you typically copy. While you perform your evaluation, consider the following:

- Can you make a quick copy by simply pressing a single button on the control panel?
- How easy is it to adjust image quality and select output options from the control panel?
- How quickly does the page copy?

Evaluating faxing

If faxing is available, fax some test documents. If the product has fax speed-dial capabilities, program some fax numbers. While you perform your evaluation, consider the following:

- Is the fax function easy to use? Does it provide advanced faxing capabilities like delayed fax send, fax forwarding, fax receive and send from your computer?
- Are there speed-dial, group dial, or frequently-used-number options?
- Do you encounter any problems sending or receiving faxes?

Evaluating scanning

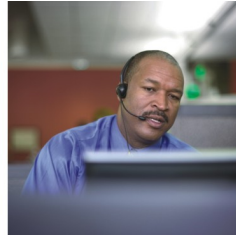
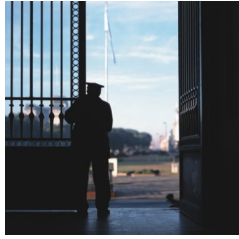
Scan several documents, images, and photos. While you perform your evaluation, consider the following:

- How easy is it to configure scanning options using the control panel or scanning software?
- Is the scanning software easy to use? Can you easily scan to destinations of your choice?

Evaluating compatibility

- Does the product support automatic print language switching?

Reliability



Produce quality business documents with this reliable laser all-in-one

The HP LaserJet 3050 AiO sets the standard for industry reliability, providing a worry-free all-in-one solution. And if you ever do need service and support, HP's Customer Care is one of the best. By ensuring a maximum uptime you'll boost productivity and end frustration.

Reliability matters

- HP prints millions of test pages with a variety of applications and file types, in multiple environments, with different paper types.
- The product comes standard with a one-year limited warranty. A variety of extended warranty options are available, which vary by region.
- The HP LaserJet 3050 AiO has HP's legendary reliability and ruggedness. With a robust duty cycle of up to 7,000 pages per month, the product is built to stand up to the demands of today's fast-paced business environments.

HP support

Experience excellent support with HP's Customer Care program. HP Customer Care includes all of HP's support programs and technologies, keeping commercial customers, small businesses, and individual consumers up and running. HP Customer Care offers full-service support through a broad range of services, including setup and installation, warranty upgrades, troubleshooting tools, repair and exchange services, phone and Web support, software updates, and self-maintenance services.

The HP Customer Care Web site (www.hp.com/go/support) provides customers with free, one-stop access to technical support for more than 600 HP products, including personal computers, printers, and imaging products. HP Customer Care call centers also provide technical support from numerous call centers worldwide.

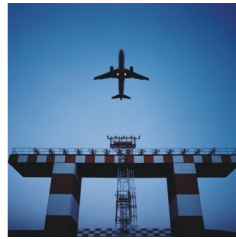
Evaluation

At HP, we typically test multiple products in various environmental conditions to evaluate engine reliability. We run the products to engine life and test and improve the jam rate, misfeed rate, and supplies' life.

This kind of extensive, long-term testing is beyond the limits of most companies' resources; however, it is possible to estimate their device engine reliability. One option is to compare other products' duty-cycle ratings, base warranty (make sure it is at least one-year), and three-year warranty costs. When comparing the HP LaserJet 3050 AiO with products from other manufacturers, consider the following:

- What is the product's duty cycle?
- How easy is it to maintain the product?
- Does the product perform consistently under various environmental conditions?
- Are there any paper jams or other failures during your evaluation?

Performance



Depend on fast performance and get more done in less time

Performance is more than maximum engine speed, measured in pages per minute (ppm). Rather, performance should be gauged by the speed at which the device can turn electronic files into printed pages or convert printed material into electronic information. In addition to engine speed, several factors affect the time it takes to print a job, including the use of special paper, computer download time, and device processing time. The time it takes for your computer to download a job to the device, and for the device to process a job, depends on the following variables:

- The complexity and size of graphics
- The product's I/O configuration (network or USB speed)
- The speed of your computer
- The amount of device memory installed
- The network operating system and configuration (if applicable)
- Printer personality or language (such as PCL or PostScript®)

Note Adding additional device memory may resolve memory problems, improve how the device handles complex graphics, and improve download times, but additional memory will not increase maximum engine speed (ppm rating).

A better performing product leads to higher productivity in your workplace. You spend less time waiting and output appears more quickly. The HP LaserJet 3050 AiO is optimized for performance, print quality, and affordability; it completes complex jobs quickly and without device failures.

Increase office efficiency

Fast print and copy speeds

Increase office efficiency with print and copy speeds up to 19 ppm letter (18 ppm A4). The product features Instant-on Technology which uses an inductive heat fuser to virtually eliminate warm-up time from both the Ready and PowerSave states.

The product delivers the first page in less than 8 seconds when printing and less than 14.5 seconds for letter-sized documents (14.7 seconds A4) when copying. The predictive ready-to-print algorithm processes jobs in parallel with printing and improves the first page out print speed over time. Because there is little warm-up time, the product consumes less energy and realizes less wear on the engine.

Productive faxing

Experience fast processing speeds of up to 33.6 kbps with the Super G3 V.34 fax modem and store up to 110 pages of important fax documents. HP LaserJet Fax software allows you to send and receive faxes directly from your computer—even from applications like Microsoft® Word or Excel—saving time, paper, and printing supplies.

Fast scanning

The 30-sheet ADF processes input at up to 19 images per minute (ipm) letter (18 ppm A4).

Evaluation

Creating samples

First, develop a group of sample documents that represent what the end-user typically prints. This is the best method for determining if a product is suited to your environment.

Note It is important to test files like those that a typical user will print. Most print samples included with a product have been optimized for that product and may not reflect the type of output you will receive.

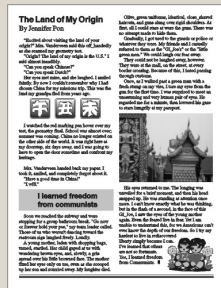
When evaluating performance, your print samples should include multiple documents and file types, each created in the applications that will be used by the end-user. The samples should have different elements (text, graphics, and photographic images) and should vary in complexity and page length. Some suggested content includes simple text documents, mixed text and graphics, and complex graphics containing photographic images.

CAUTION! Using only one application or file can skew test results. Use several types of files and applications to present a broad and realistic performance picture.

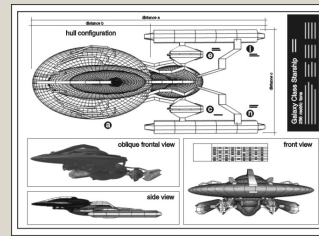
Simple—text only



Mixed—from complex text to a mixture of text and medium-complexity graphics



Complex—images and advanced graphics (using overlays or fill patterns)



Different manufacturers provide different print quality modes. Try to compare similar modes to achieve a fair comparison.

To evaluate the print quality and speed of text documents, such as those created in Microsoft® Word and Excel, you should print them in different print modes. Documents such as newsletters intended for circulation or image files, where photo quality is desired, are preferably printed in the best mode.

When evaluating more than one product, it is crucial that you make a fair comparison between products.

- Print from identical computer systems to ensure speed variations are not due to differences in processing power.
- Print the same files on all devices, using the same paper type and the same or equivalent settings. Print modes need to be tested separately for each device and compared respectively.
- Use the same operating system and software application and test comparable print drivers. (Each of these components interacts with the printing process and can affect performance.)

What to measure

Using the samples that you created, perform the following tests to gauge device performance.

First-page-out	The time from when the print command is issued to a device that is in PowerSave mode until the completion of the first page. This test measures the effect of Instant-on Technology and shows a device's true speed.
Click-to-drop	The time from when the print command is issued until the completion of the job.
Pick-to-drop	The time from when the first piece of media is picked up by the device until the completion of the print job.
Return-to-application	The time from when the print command is issued until the time when the computer is available for other tasks.

Running the tests

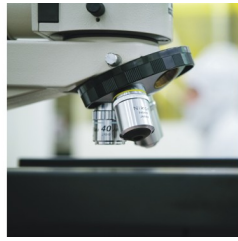
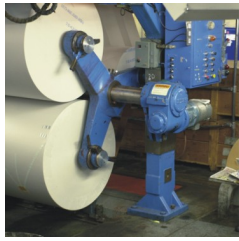
Follow the guidelines below when measuring printing performance:

- Be sure to measure the amount of time it takes to print a *complete* document. (For example, you might print an eight-page document with company letterhead on the first page.)

Note A professional printing product is designed to print multiple-page documents. We suggest that you print either multiple-page documents or multiple copies of a single page.

- Record any error messages.
- Perform each test three times to obtain an average. If the variances in the three tests are too much, discard the result, check the system, and redo the test.
- If the device offers more than one I/O port, perform tests using each port.
- Look at each page to make sure all text and graphics printed correctly. Files that print significantly faster on one device might not be printing correctly. Some devices drop complex graphics and images when they are unable to process the whole job. Examine output to ensure that the entire document printed and that it printed correctly.
- When comparing device performance, look beyond the speed trial data and consider the acceptability of the output. There are definitely tradeoffs in print quality, but as you review your results, look at the samples and consider whether the quality meets your standards. Also, make sure that toner adheres to the paper properly.

Output quality



Enjoy high-quality output for your office

There are many different factors to consider when evaluating the overall quality of a product's output. Output quality is more than the number of dots per inch (dpi) that the device places on a page; a higher dpi rating does not necessarily mean better output quality.

The HP LaserJet 3050 AiO features a number of HP technologies to consistently deliver impressive results with great-looking documents at an affordable price.

High-quality printing

Through innovative engineering, HP FastRes technology delivers outstanding print quality—at engine speed. This means you get the high-quality output you have come to expect from HP without degrading performance.

Because HP FastRes technology can represent each dot space as one of 256 levels of gray, the HP LaserJet 3050 AiO prints incredibly sharp text and graphics. As a result, the professional print quality obtained with HP FastRes rivals that of competitive printers with higher dpi specifications—but without the performance penalties.

HP FastRes is the default, out-of-the box print mode. However, for customers desiring the highest level of print quality, HP ProRes 1200 provides true 1200 by 1200 dpi.

HP Print Cartridges with Ultraprecise toner

The HP LaserJet Q2612A Black Print Cartridge features Ultraprecise toner to ensure consistent, top-quality output. Cartridges are designed to deliver quality and reliability over the life of each print cartridge, and from cartridge to cartridge. The HP print cartridge, product, and software are designed to work together to deliver optimal print quality.

Professional copying, scanning, and faxing

- The color scanner converts printed material to digital information at high fidelity, with up to 600 by 600 dpi optical resolution, 24-bit depth, or up to 19,200 dpi enhanced resolution. You can make impressive copies at up to 600 by 600 dpi, and send and receive faxes at up to 300 by 300 dpi.
- To ensure exceptional results, HP's LaserJet Scan software includes scan-to application, multi-photo scan with auto-detection of individual images, intelligent scanning to recognize the difference between text, lines, and images, with optical character recognition for text editing capability, automatic scan calibration, automatic image straightening, automatic cropping, and automatic image enhancement.

Ensured print quality with HP testing

Prior to its introduction, a new HP LaserJet All-in-One undergoes rigorous HP testing to ensure that it provides consistent high-quality output. Tests are performed with a large sample of products through each step of the design process, to be certain that the All-in-One measures up to HP standards. Throughout this testing, HP discovers and resolves any issues that would compromise output quality. The result is a solid, reliable product that produces consistent, excellent print throughout its life and the life of its supplies.

Evaluation

Printing samples

It is important to test files like those generated at your workplace. Most print quality files or print samples included with a product have been optimized for that product and may not reflect the type of output you will receive. You might want to use the print samples that you created for evaluating performance (see “Creating samples” on page 14). Follow these guidelines for creating sample documents:

- When evaluating more than one product’s output quality, it is crucial that you make a fair comparison between products. Print the same files on all products, using the same or equivalent settings. Use the same operating system and software application, and be sure to test comparable print drivers. (Each of these components interacts with the printing process and can affect output quality.)
- Use more than one software application to make sure software/driver conflicts are not affecting output quality.
- Plain papers vary among brands and the regions in which they are manufactured. Some plain papers have a preferred print side. You should also take into account storage conditions as well as how the papers handle toner.
- Temperature and humidity should be kept constant for each product tested. These factors can have an impact on final output quality.

Viewing samples

Ideally, output quality should be evaluated under a mix of fluorescent and incandescent lighting. Print quality should not be evaluated too close to windows, since natural light changes dramatically with variations in weather and time of day.

In addition, the color of the surrounding area can significantly affect quality perception. White surroundings may call undue attention to the color of the media. Medium or light gray is usually the best choice for the area surrounding where the sample documents will be evaluated.

Individuals may perceive print quality differently. HP suggests that you have several people evaluate your sample documents, in the same environment, with a consistent light source. Have them vote on the samples that they like by listing them in order from the best to the worst. Allow each person to rate the samples independently and then record the results. Also, have each person establish a *cut line* for acceptable print quality for the end-user environment.

Note This process is referred to as psychometric testing and should be performed on all of the sample documents that you are using to evaluate text, graphics, and image quality.

Evaluating output quality

When you evaluate output quality, avoid magnification, which can draw attention to insignificant differences. However, careful inspection is still necessary, and when doing this, look for the following characteristics:

Text quality—

- Text should be dark, not faded, and solid black, without hollow spots.
- Edges should be crisp and smooth, not jagged.
- There should be little or no toner scattered on the non-printed areas of the paper.
- Reverse text should be fully visible, with no filling lines. Portrait and landscape text should have the same print quality.

Hollow spots: edittext
Jagged edges: edittext
Toner scatter: edittext

Graphics quality—

- Fine lines should be distinct, not blending into each other or dropping out.
- Solid black areas should be consistent to the eye, with no lighter shades or lines.
- Solid black areas should not appear glossy. This reduces readability.
- There should be no bands across graphics.

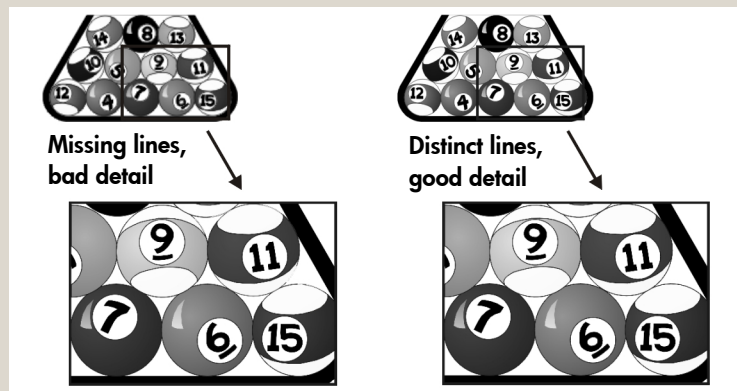
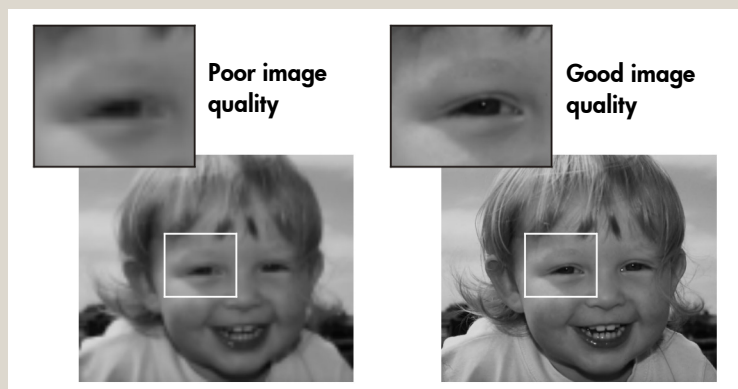


Image quality—

- Images should be clear and sharp.
- There should be no bands across images.
- There should be no graininess or visibility of dots.
- Gray shading should go from light to dark in many layers, giving detail and depth to the image.



Evaluating copy quality

Copy the type of material typical for your office.

- Does the copy quality meet your expectations?
- How easy is it to adjust image quality and select output options from the control panel?
- Does it take multiple adjustments and multiple copies to get good copy quality?

Evaluating scan quality

Scan the type of material typical for your office.

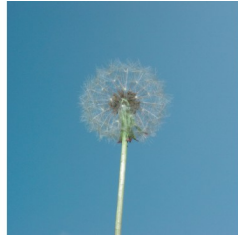
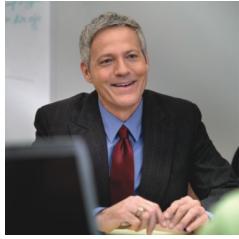
- Does the quality of the scanned image meet your expectations?
- Are there options for scanning specific document and image types?
- How easy is it to adjust image quality and select output options from the control panel?
- Does it take multiple adjustments and multiple scans to get good quality?

Evaluating document durability and usability

After you have finished evaluating the output quality of your samples, evaluate the documents' durability and usability. Test the following:

- Can the printed output be fed through a copier without being damaged?
- Will the printed output smear with moisture?
- Can the printed output be easily scratched, melted, or otherwise damaged?
- Is the printed output durable? Can it be folded?

Total cost of ownership



HP LaserJet quality and dependability in an affordable design

For many businesses, the total cost of ownership (TCO) is a critical part of the purchase decision. TCO takes into account everything from the initial investment, to support and maintenance costs, to the costs of supplies. The HP LaserJet 3050 AiO has a competitive overall purchase price and includes a number of features that add up to significant cost savings over time. The product provides a simple office solution at a great price, delivering fast, high-quality laser printing and copying and easy faxing and scanning.

Simplify, save time, and reduce costs

- By supporting one device rather than multiple devices, you can reduce costs by managing fewer supplies and minimizing storage requirements and service interruptions.
- Use less power—the product's PowerSave mode conserves energy during periods of device inactivity.
- With Instant-on Technology, fuser warm-up time is virtually eliminated. Because the fuser does not need to be kept warm and requires little warm-up time, the product consumes less energy and saves money, while performance remains unaffected.
- You can print in EconoMode to use less toner, extend the life of your print cartridge, and reduce the cost per page. EconoMode produces a lighter printed image that is suitable for drafts and proofs.
- HP printing supplies are designed to maintain a low cost of ownership and minimize user interaction, which saves time and improves productivity.
- The familiar HP interface is preferred by most office users and requires little or no training.
- Paper handling options, a low-maintenance design, and HP ToolboxFX save time and money and keep your office productive. HP ToolboxFX lets you check device status, configure settings, set up automatic alerts, order supplies online, and view self-help information, troubleshooting tips, and online documentation. For more information, see "HP ToolboxFX" on page 22.
- Use HP Web Jetadmin to efficiently manage fleets of network peripherals. HP Web Jetadmin provides network managers a single support tool to install, monitor, and troubleshoot a wide range of network-connected devices from an intuitive browser interface. For more information, see "HP Web Jetadmin" on page 26.

HP dependability

By far the biggest contributor to user productivity is the reliability of HP equipment, support, and service. Instead of experiencing frustration and downtime while waiting for repairs, users are getting their work done.

Evaluation

Total cost of ownership is more than just purchase price and cost per page. To calculate the *true* total cost of ownership, consider the following factors:

- Initial purchase price, including enough memory to process complex documents.

Note To ensure accurate comparisons between products, be sure to compare street prices (or what the customer actually pays) rather than list prices.

- Warranty and service costs.
- Energy consumption costs. (Some manufacturers require you to choose between fast warm-up times and energy efficiency, while HP offers both.)
- User productivity costs. (How easy is it to learn to use the product? How easy is it to print your documents correctly?)
- Special paper costs. (Does the product require special paper? Can recycled paper be used?)
- Supplies costs. (Do you have to purchase a starter kit? Does the product come with demonstration supplies that have a reduced life? What does it cost, in both expense and downtime, to replace supplies?)
- Cost per page.

It is difficult for end-users to calculate the cost per page due to many variables. Therefore, many manufacturers provide a cost per page calculation. When assessing cost per page, keep the following in mind:

- Make sure the cost per page associated with a product's print sample represents that sample. Some manufacturers may quote the cost of printing in a draft mode, when the sample they give you is printed in their best mode, which requires more toner or ink.
- Take note of whether special paper is required for the print sample.
- Make sure all the supplies are included in the cost per page calculation and not hidden as service items. Also, remember that supplies used during routine cleaning and warm-up cycles are not always included in the supply's yield, which directly affects cost.
- Watch for other hidden costs (such as unusable output, which wastes toner).

A—Productivity tools

Productivity tools provide convenient access to product information, settings, and support, and include the following:

- HP ToolboxFX
- HP Embedded Web Server for Macintosh
- HP Web Jetadmin
- HP Instant Support Professional Edition
- HP Universal Print Driver Series for Windows

HP ToolboxFX

HP ToolboxFX provides a single access point to all product information and settings. HP ToolboxFX is a Windows-based application that you can use to perform a wide variety of tasks, including:

- Set up speed dialing.
- Receive faxes at your computer.
- Manage fax logs.

You can view HP ToolboxFX when the device is directly connected to a computer or to a network.

Note You do not need Internet access to open and use HP ToolboxFX. However, if you click a link in the Other Links area, you must have Internet access to go to the site associated with the link.

Supported operating systems

HP ToolboxFX supports Windows 2000 and XP, and is available when you perform a complete software installation from the product software CD. (Installing the device via the Windows Printer Wizard will install the driver only.)

Accessing HP ToolboxFX

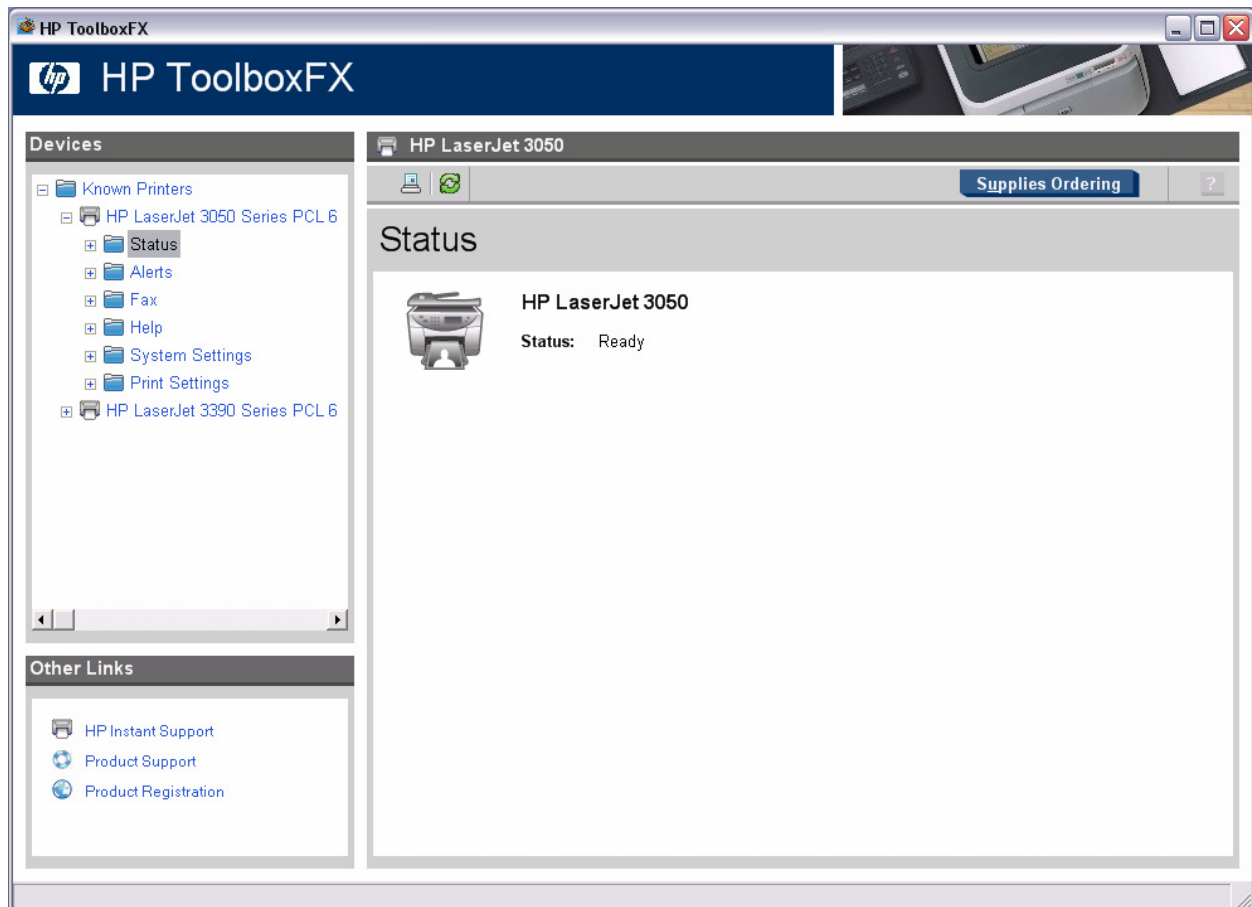
Open HP ToolboxFX in one of the following ways:

- On the desktop, double-click the HP ToolboxFX icon.
- Double-click the Status Client icon that is located in the Windows system tray, which is at the far right of the taskbar.
- Click **Start**, point to **Programs, Hewlett-Packard, hp LaserJet 3050 all-in-one**, and then click **HP ToolboxFX**.

HP ToolboxFX sections

HP ToolboxFX contains the following sections:

- Status
- Fax
- Help
- System settings
- Print settings



Status

The **Status** tab contains links to the following main pages:

Device Status	View device status information. This page indicates device conditions such as a jam or an empty tray. After you correct a problem with the device, click Refresh Status to update the device status.
Device Configuration	View a detailed description of the current device configuration.
Print Info Pages	Print the Configuration page and various other available information pages, such as the Demo page.
Event Log	View a history of device errors. The most recent error is at the top of the list.

Fax

Use the **Fax** tab to perform fax tasks from your computer. The Fax tab contains links to the following main pages:

Fax Tasks	Perform such tasks as sending a fax or clearing the fax memory, or set the fax receive mode.
Fax Phone Book	Add, edit, or delete entries in the fax phone book.
Fax Send Log	View all of the recent faxes that have been sent from the device.
Fax Receive Log	View all of the recent faxes that have been received by the device.
Fax Data Properties	Manage the space used to store faxes on your computer. These settings apply only if you have chosen to send or receive faxes remotely from your computer.

Help

The **Help** tab contains links to the following main pages:

Troubleshooting	Provides links to help you resolve problems with the device, such as paper jams, print quality issues, and control panel error messages.
How Do I?	View the How Do I? Help for help with specific tasks.
Animated demonstrations	View animated demonstrations for the device.
User Guide	View information about device usage, warranty, specifications, and support. The user guide is available in both HTML and PDF format.
Install Notes	View important information about the device that is not available in the user guide. The late-breaking Install Notes contain last-minute information about the device (in English only).

System settings

The **System Settings** tab contains links to the following main pages:

Device information	View information about the device, such as the device description and a contact person.
Paper handling	Change the device paper-handling settings, such as default paper size and default paper type.
Print quality	Change the device print-quality settings.
Paper types	Change the settings for a each media type, such as letterhead, prepunched, or glossy paper.
System setup	Change the device system settings, such as device language and jam recovery.
Service	Gain access to various procedures required to maintain the device.
Device polling	Change the device polling settings, which determine how often the toolbox collects data from the device.
Save/restore settings	Save the current settings for the device to a file on your computer. Use this file to load the same settings onto another device or to restore these settings to this device at a later time.

Print settings

The **Print Settings** tab contains links to the following main pages:

Printing	Change the default device print settings, such as number of copies and paper orientation.
PCL5e	View and change the PCL5e settings.
PostScript	View and change the PostScript settings.

HP Embedded Web Server for Macintosh

For Macintosh operating systems, the device features an embedded Web server, which allows access to information about device activities. A Web server provides an environment in which Web programs may run, much in the same way that an operating system, such as Macintosh, provides an environment for programs to run on your computer. The output from these programs can then be displayed by a Web browser, such as Microsoft Internet Explorer, Safari, or Netscape Navigator.

An *embedded* Web server resides on a hardware device (such as a printer) or in firmware, rather than as software that is loaded on a network server. The advantage of an embedded Web server is that it provides an interface to the device for Macintosh users connected via USB. There is no special software to install or configure, but you must have a supported Web browser on your computer.

The HP Embedded Web Server allows you to view device status and manage printing functions from your computer. With the HP Embedded Web Server, you can do the following:

- View device status information
- View and change tray configurations
- View and change some fields of the device control panel menu configuration
- View and print internal pages
- Add or customize links to other Web sites
- Select the language in which to display the embedded Web server pages
- View and change network configuration
- View support content that is device-specific and specific to the device's current state

Note For a complete explanation of the features and functionality of the HP Embedded Web Server, see the HP Embedded Web Server online Help.

Accessing the HP Embedded Web Server

You can access the HP Embedded Web Server in the following ways:

- From a Web browser

In a supported Web browser on your computer, type the IP address assigned to the device. For example, if the device's IP address is 123.456.789.123, you would type "http://123.456.789.123" into your Web browser's **Address** or **Go to** field. (The device IP address is listed on the Network Configuration page.)



- From HP Web Jetadmin
- From the **Device Configuration** application over USB

Note After you access the HP Embedded Web Server, you can bookmark it in your browser so that you can return to it quickly in the future.

HP Web Jetadmin

Available for the HP LaserJet 3050 AiO via an HP Jetdirect external print server, HP Web Jetadmin is a simple, Web-based peripheral management utility for remotely installing, configuring, and managing a wide variety of HP and non-HP network peripherals. With advanced security features, you can be assured that HP Web Jetadmin and your network-connected peripherals are well protected. HP Web Jetadmin increases business productivity by helping you manage supplies, proactively address potential printing problems, configure peripheral drivers, and update firmware. Best of all, HP Web Jetadmin provides all of the peripheral management capabilities you need in one easy-to-use Web browser interface.

Note This section is provided as a brief overview of HP Web Jetadmin features. HP Web Jetadmin is not included with the product installation software. To learn more about HP Web Jetadmin, or to download the software for free, visit the HP Web site at www.hp.com/go/webjetadmin.

Remote management

- Easily install and manage peripherals. Through a standard Web browser, you can configure devices, conduct remote diagnostics, update firmware, and organize devices into groups.
- Navigate quickly and easily. The tree-structured layout is easy to use thanks to an intuitive, task-oriented interface.
- Take advantage of complete management. Expandable functionality via optional plug-ins allows all printing needs to be easily managed. Firmware can be installed, configured, and updated simultaneously for all supported devices within a list or group.
- Employ time-saving autogrouping features. Autogrouping allows administrators to have newly discovered devices automatically placed into a group based on filter criteria.

Proactive management

- Solve problems preemptively. Management of HP and other standards-compliant devices allows you to solve potential problems before they impact user productivity.
- Automatically e-mail device alerts and real-time status reports. Configure which devices to monitor, the content of the message, and who receives the notification.
- Protect your investment. The intelligent update feature lets you download the latest device plug-ins, language packs, or application plug-ins without requalifying or reinstalling HP Web Jetadmin.

Advanced security

- Relax with secure network settings. HP Web Jetadmin supports Secure Socket Layer (SSL) and Simple Network Management Protocol (SNMP) v 3.0 for even greater security.
- Rely on simple, cost-effective administration with Windows NT user authentication. System administrators can associate each user's NT Domain account with a profile on the HP Web Jetadmin server.

HP Instant Support Professional Edition

HP Instant Support Professional Edition (ISPE) is a suite of Web-based troubleshooting tools that analyzes your HP product data as well as your Microsoft Windows operating system to provide automated solutions online. Working with information collected by the HP Embedded Web Server, HP ISPE delivers custom-tailored solutions to your printing issues and includes access to Windows-related functions, such as driver update checks and the ability to troubleshoot your complete HP desktop and peripherals environment.

HP expert help online

HP ISPE's Active Chat allows you to get personalized Web-based help from an HP support expert on demand. Simply submit a question or a description of your problem. Your recent history, system configuration, and the actions you have already taken are securely encrypted and, upon your approval, automatically forwarded to HP. An HP support expert will work to resolve your problem through a real-time chat session.

Knowledge at your fingertips

The HP ISPE knowledge database enables you to quickly find answers to your questions. Submit a query, and a powerful search engine responds with the information you need.

HP Universal Print Driver Series for Windows

With the HP Universal Print Driver Series for Windows, version 1.0, finding and using printers unassisted is a snap for workers. The Universal Print Driver's compatibility across printer platforms and its powerful manageability features make it IT's optimal choice for general office printing on devices like the HP LaserJet 3050 AiO. Advanced device discovery, simplified configuration, manageability, and fewer help desk calls are just some of the ways this driver and HP printing and imaging devices can benefit you. (The HP Universal Print Driver Series for Windows is available as a free download from www.hp.com.)

The screenshot shows a dialog box titled "Request for print properties:". Below the title is a message: "To view print properties, you must first specify the destination printer you want to use." The dialog is divided into two main sections. The first section, "Destination Printer", contains a "Location Profile:" dropdown menu currently set to "Default Location", with a "New" button to its right. Below this is a text input field with the instruction "Enter a printers network address or select a recently used printer from the list." The field contains the text "Bill's CLJ 3700" and has a dropdown arrow on its right. Below the input field is a "Search..." button. The second section, "Printer Information:", shows a "Nickname: (optional)" field with "Bill's CLJ 3700" entered. Below that, it displays "Model: hp color LaserJet 3700" and "Address: 123.456.789.123". At the bottom of this section is a checkbox labeled "Make a permanent instance of this printer in my Printers folder". A "NOTE:" at the bottom of the dialog states: "To add/remove location profiles, manage your recently used printers lists, or change other universal print settings go to [HP Universal Printing Settings](#)". At the very bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

B—Technical specifications

Print and copy speed¹	Up to 19 ppm letter (up to 18 ppm A4)
First page out	Printing: less than 8 seconds letter/A4 Copying: less than 14.5 seconds letter (less than 14.7 seconds A4)
Fax speed	3 seconds per page ²
Processor	264 MHz
Memory	64 MB RAM
Duty cycle	Up to 7,000 pages per month
Connectivity	Hi-Speed USB 2.0 port, RJ-11 fax port, RJ-11 line-out telephone port
Printer language	HP PCL6, HP PCL5e, HP postscript level 3 emulation, PostScript® Printer Description (PPD)
Print quality	Up to 1200 by 1200 dpi
Scan resolution	Up to 600 by 600 dpi 24 bit (up to 19,200 dpi enhanced)
Copy quality	Up to 600 by 600 dpi
Fax resolution	Up to 300 by 300 dpi
Scan interfaces	Walk-up scanning via front control panel with Scan-to button (software preconfiguration required) Remote scanning via HP LaserJet Scan and TWAIN- or WIA-compliant software
Scan file types supported	JPEG, TIF, BMP, GIF, PDF, PNG
Copy settings	Contrast (lighter/darker), resolution copy quality (draft, text, mixed, film photo, and picture), reduce/enlarge 25 to 400%, copy collation, number of copies, paper size
Fax features	V.34 fax modem fax speed: up to 33.6 kbps; digital storage for up to 110 pages, fax forwarding, delayed sending, ring detection, fax polling, broadcasting to up to 119 locations, speed-dial to up to 120 numbers (119 group dials), auto fax reduction, junk barrier, PC interface, and auto redialing supported
Paper handling	10-sheet priority slot, 250-sheet adjustable input tray, 30-sheet ADF, 100-sheet face-down output bin
Paper types	Paper (plain, preprinted, prepunched, bond, color, glossy, letterhead, light, heavy, recycled, rough), envelopes, transparencies, labels, cardstock
Paper sizes	Priority slot, 250-sheet tray: 3 by 5 in (76 by 127 mm) to 8.5 by 14 in (216 by 356 mm); letter, legal, envelopes (No. 5 1/2 Baronial through No. 11), index cards, postcards; A4, A5, ISO B5, ISO C5, ISO C5/6, ISO C6, ISO DL, 16K, European postcard, J postcard (Hagaki), J double postcard (Oufuku Hagaki) ADF: 5.8 by 4.1 in (147.3 by 104.1 mm) to 8.5 by 15 in (215.9 by 381 mm); letter, legal; A4, A5
Paper weights	Priority slot, 250-sheet tray: 16 to 43 lb (60 to 163 g/m ²) ADF: 13 to 28 lb (48 to 105 g/m ²)
Font capabilities	45 scalable TrueType, 35 PostScript
Security	Security-lock slot for securing the All-in-One with a cable lock (available for purchase via a third-party vendor)
Dimensions	16.9 by 17.3 by 18.1 in (429 by 443 by 459 mm)
Weight (with print cartridge)	22 lb (10 kg)
Client operating systems	Windows® 2000, XP® Home, XP Professional, Mac OS X v 10.3 and higher (full solution) Windows 98, 98 SE, ME, Server 2003 (print and scan only via USB port, print only via network)

Network operating systems³	Via optional HP Jetdirect external USB print servers (print only solution; HP Embedded Web Server, fax, and scan solutions not supported): Windows NT 4.0, 98, Me, 2000, XP, XP 64-bit, Server 2003; Novell NetWare NDPS services via TCP/IP only on 3.2, 4.2, 5.x, 6.x; HP Gateway (TCP/IP raw only) and Novell LPD gateway; Mac OS X v 10.3 and later; Bonjour discovery supported; Red Hat Linux 6.x and later; SuSE Linux 6.x and later; HP-UX 10.20, 11.x; Solaris 2.5x, 2.6, 7, 8, 9, 10 (SPARC systems only); IBM AIX 3.2.5 and later; MPE-iX; Citrix MetaFrame; Windows Terminal Services
Network protocols supported³	Via optional HP Jetdirect external USB print servers (print only): TCP/IP (IP Direct Mode, LPD, FTP, IPP, Telnet, SLP, Bonjour, BOOTP/ DHCP/ AutoIP, WINS, HTTP), IPX/SPX NDS, Bindery, DLC/LLC, AppleTalk, SNMP (v 1, 2c, 3)
Minimum system requirements	CD-ROM drive, USB or network port Windows 98 SE, Me, Server 2003: any Pentium II processor or greater, 64 MB RAM, 10 MB hard disk space, SVGA 800 x 600 with 16-bit color display (print driver, scan driver only) Windows 2000, XP (32-bit Home and Professional): any Pentium II processor (Pentium III or greater recommended), 128 MB RAM, 250 MB hard disk space, SVGA 800 x 600 with 16-bit color display, Internet Explorer 5.5 or greater (full install) Mac OS X v 10.3.x: G3, G4 or G5 processor, 32 MB RAM, 30 MB disk space
Environmental ranges	Maximum operating temperature: 59 to 90.5 degrees F (15 to 32.5 degrees C) Storage temperature: -4 to 104 degrees F (-20 to 40 degrees C) Non-operating relative humidity: 0 to 95% Operating relative humidity: 10 to 80% Altitude: 0 to 10,000 ft (0 to 3,040 m)
Acoustics⁴	Power: active (copying): 6.5 B(A); Ready: Inaudible Pressure (bystander): active (copying): 51 dB(A), Ready: Inaudible
Power requirements⁵	110 to 127 VAC (+/- 10%), 50/60 Hz (+/- 2 Hz), 4.5 amp 220 to 240 VAC (+/- 10%), 50/60 Hz (+/- 2 Hz), 2.3 amp
Power consumption	Active 290 watts Active copy 225 watts Ready 5 watts PowerSave 5 watts Off 0.03 watts Energy Star®, Blue Angel compliant
EMC	CISPR 22: 1993 +A1+A2/EN 55022:1994+A1+A2 - Class B; EN 61000-3-2: 1995/A14:2000; EN 61000-3-3: 1995+A1; EN 55024: 1998+A1+A2; FCC Title 47 CFR, Part 15 Class B 2/ICES-003, Issue 3; GB9254-1998
Safety	IEC 60950-1: 2001/EN 60950-1: 2001+A11; IEC 60825-1: 1993 + A1:1997 + A2: 2001/EN 60825-1: 1994 + A1: 2002 + A2: 2001 (Class 1 Laser/LED Product); GB4943-1995
Telecom	TBR-21: 1998; EG 201 121: 1998, FCC Part 68, Industry Canada CS03, NOM-151-SCTI-1999 (Mexico), PTC-200 (New Zealand), AS/ACIF S002: 2001 (Australia), IDA PSTN1 (Singapore), TPS002-01 (Malaysia), IG 0005-11 (Taiwan), HKTA 2011 (Hong Kong SAR), YD514, YD/T589, YD703, GB3382 (China)
Warranty (varies by region)	One-year limited warranty

C—Ordering information

Use accessories and supplies specifically designed for the product to ensure optimal performance. To order the products, accessories, and supplies listed here, go to the HP Web site at www.hp.com/ghp/buyonline.html. If you don't have access to the Internet, contact your qualified HP dealer, or call HP at (800) 613-2222 (U.S.).

HP LaserJet 3050 AiO		Q6504A
Supplies	HP LaserJet Black Print Cartridge with Ultraprecise Toner. Average cartridge yield 2,000 standard pages. ⁶	Q2612A
Print servers	HP Jetdirect ew2400 802.11b/g wireless and Fast Ethernet external print server (USB 2.0) HP Jetdirect en3700 Fast Ethernet external print server (USB 2.0, 10/100Base-TX)	J7951A J7942A
Extended warranties	2 year Return to Depot Service 3 year Return to Depot Service 2 year Next Business Day Exchange Service 3 year Next Business Day Exchange Service 2 year Next Business Day Onsite Service 3 year Next Business Day Onsite Service Hardware Installation Service (standard)	UD906E U9809E UD907E U9819E UD908E U9811E H4513E
Paper	North America: www.hp.com/go/everydaypapers Europe: www.hp.com/go/supplies Asia Pacific: www.hp.com/apac/printingsupplies Latin America: contact HP via phone: USA: 1-800-477-5010 Europe: +800 7644 7644 Asia: 65-6253-8500 Australia and New Zealand: 61-2997-2299LAR Brasil: sac 0800 70 300 70	

Endnotes

¹ Exact speed varies depending on the system configuration, software application, driver, and document complexity.

² Based on standard ITU-T test image #1 at standard resolution. More complicated pages or higher resolution will take longer and use more memory.

³ Not all protocol and operating system combinations are supported. For more information, go to: www.hp.com/support/net_printing.

⁴ Acoustic values are subject to change. See www.hp.com/support for current information. Configuration tested: base model, simplex printing, A4-size at average print speed of 19 ppm and average copy speed of 14 ppm.

⁵ Power requirements are based on the country/region where the printer is sold. Do not convert operating voltages. This will damage the printer and void the product warranty.

⁶ Declared yield value in accordance with ISO/IEC 19752.

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