

## NUMBER OF IMAGES STORED ON A DIGITAL CARD

The number of pictures you can take varies depending on your camera model and complexity of the scene being photographed. To calculate how many pictures your card can hold, divide the capacity of your card by the average file size of your images. For example, if you have a 256MB card, and use a camera that has an average file size of 1.2MB, then 256 divided by 1.2 gives you approximately 213 pictures. As you change modes on your camera, the number of images will increase if you shoot in a lower resolution mode, and decrease if you shoot in a higher resolution mode.

## APPROXIMATE NUMBER OF IMAGES PER CAPACITY OF CARD

Camera Type	File Size*	16MB	32MB	64MB	128MB	256MB	512MB	1GB	2GB
<b>2 Megapixel</b>	900KB	17	35	71	142	284	568	1137	2275
<b>3 Megapixel</b>	1.2MB	13	26	53	106	213	426	853	1706
<b>4 Megapixel</b>	2.0MB	8	16	32	64	128	256	512	1024
<b>5 Megapixel</b>	2.5MB	6	12	25	51	102	204	409	819
<b>6 Megapixel</b>	3.2MB	5	10	20	40	80	160	320	640
<b>8 Megapixel</b>	3.5MB	3	9	18	36	73	146	292	585

MB = megabytes GB= gigabytes

\* Average file size using cameras highest resolution JPEG mode. The actual number of images per card will vary and depends on the camera model and compatibility of the scene being photographed.

## MEGAPIXELS AND PHOTO PRINT SIZE



The photo print quality of your images depends on the camera's "megapixel rating." The higher number of pixels your camera has, the higher the resolution (or sharpness) of your images---and the larger your prints can be without quality loss.

### APPROXIMATE PRINT SIZE BY MEGAPIXEL

Print Size	Megapixel Rating
<b>3 x 5 inches</b>	<b>1 to 1.9</b>
<b>5 x 7 inches</b>	<b>2 to 2.9</b>
<b>8 x 10 inches</b>	<b>3 to 3.9</b>
<b>11 x 14 inches</b>	<b>4 to 5</b>
<b>18 x 24 inches</b>	<b>6 to 8</b>

## A

### **Acrobat**

A series of programs developed by Adobe Systems. The most-used components allow users to create portable document format (PDF) files and then view and print those documents using Acrobat Reader.

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### **Adaptive demosaic**

An HP Real Life technology that intelligently estimates missing color information to produce a high-quality image.

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### **Adaptive Lighting Technology**

An HP Real Life technology that automatically adjusts high-contrast photos to bring faces out of shadows and details out of backgrounds.

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### **All-in-one**

A term that generally defines a class of printers that do more than just print. Typically, an all-in-one device will provide some combination of printing, scanning, copying, and faxing.

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### **Aperture**

A term that relates to how much light enters the camera through the shutter. Measured in f-stops, the smaller the f-stop number, the more light that is admitted.

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### **Autofocus**

A lens system that automatically focuses before the exposure is made. A delay of a second or so is required before the shutter opens, enabling the camera to gauge the distance to the subject and focus the lens.

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### **Automatic flash**

A flash system that automatically determines whether an image requires a flash and provides the correct amount of light; a typical feature on most digital cameras.

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### **Automatic white balance**

An HP Real Life technology that automatically adjusts white balance (the color of light) to an optimal level.

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## B

### **Backlighting**

A photographic environment in which the main source of light is behind the subject.

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### **Bitmap**

An uncompressed image format used within the Windows® operating system; bitmaps offer excellent image quality but often require a large amount of disk space.

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### **Borderless printing**

This is a printing technique, offered on specific photo printers, that allows prints to be generated without the frame (or nonphotographic dead space) that is often associated with print developing. It enables more photo surface area.

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### **Bracketing**

A trick used by photographers to ensure proper exposure without a meter, or to ensure a more precise exposure when a meter is used. The photographer takes a series of images, one at the estimated or metered exposure, one slightly over, and one slightly under.

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## **C**

### **CCD**

Charge-coupled device; the most common form of photosensitive cells used to convert incoming light into electrical signals in digital cameras.

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### **CD writer**

A drive that allows you to burn photos, data, and music onto compact discs.

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### **CMYK**

Cyan, magenta, yellow, black; often called process colors; a color model used to optimize images for printing in which all colors are described as a mixture of these four colors.

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### **Color intensity**

A feature found on most inkjet printers that controls the brightness of an image by varying the amount of ink applied to the page; lighter images use less ink and darker images use more.

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### **CompactFlash memory**

Based on Personal Computer Memory Card International Association (PCMCIA) PC card specifications CompactFlash measures 43 x 36 mm and is available with storage capacities up to 1GB.

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### **Compression**

A generic term to describe one of the numerous processes whereby data or details are removed from an image to make the overall image size smaller.

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### **Continuous shutter**

A feature found on more expensive digital cameras that enables you to take several images in quick succession; the images are saved to the memory card after the multiple exposures have been taken.

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### **Contrast enhancement**

Automatically brightens images that appear dark or hazy, and applies appropriate tone correction to deliver optimal quality and clarity.

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## **Cropping**

An image-editing technique whereby a portion of a photograph is removed, usually from the outside of the image, to eliminate unwanted details.

## **D**

### **Demosaic, Adaptive**

An HP Real Life technology that intelligently estimates missing color information to produce a high-quality image.

### **Depth of field**

The area in front of and behind the main subject of a photograph that remains in focus; can be affected by aperture, distance to the subject, and focal length.

### **Depth-of-field scale**

A device used by photographers to estimate the distance range where objects are in sharp focus.

### **Digital camera**

A camera that saves images as digital files on some type of digital media rather than capturing images on film.

### **Digital flash**

Applies image enhancement to improve detail in shadow areas or areas that are too light and overexposed.

### **Digital zoom**

A feature that enlarges the subject within an image to fill more of the frame; using a digital zoom reduces the resolution of an image.

### **Direct photo printing**

A feature of some photo printers that allows users to transfer a memory card from a camera directly to a printer, enabling the images on that card to be printed without a PC.

### **Downloading**

The process of transferring images from a digital camera to a computer (using any type of connection); once an image has been downloaded it is saved to the computer's hard drive for later use.

### **Dpi**

Dots per inch; standard of measurement for the resolution of images. The higher the DPI, the higher the resolution.

### **DVD writer**

A computer drive that allows you to make your own DVD movies, transfer home videotapes to DVD, and safely store music, photos, data, and more.

## E

### **Eight-ink printing**

HP's new generation of photo quality color inkjet printers gives you a versatile printing system with options for eight-ink printing. This allows you to optimize print quality based on your specific printing task.

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### **Exposure**

Admitting light into the body of a camera for a specific amount of time. With a digital camera, the light strikes an array of photosensitive receptors, which convert varying levels of light into electrical current.

## F

### **Filter**

A mathematical formula applied to a digital image. Most image editors offer filters that can make dramatic changes in the appearance of a photograph.

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### **FireWire (IEEE 1394)**

Developed by Apple Computer, an IEEE 1394 standard-based interface that allows easy connection of one type of electronics device to another. It shares most of the features of USB, although it transfers data much faster.

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### **Fish-eye lens**

An extremely wide-angle lens that can take in a huge panoramic view but distorts the edges of the image.

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### **Fixed focus**

A lens system that doesn't require focusing. Most point-and-shoot automatic cameras have a fixed-focus lens.

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### **Focal length**

The distance between the surface of the camera lens and the sensor array at the back of the camera. The focal length of the camera determines how large the subject appears.

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### **Formatting**

Completely erasing and resetting a camera's memory card. This is usually done as a quick way to erase a full card that you want to reuse or to attempt to fix a card that can't be recognized by the digital camera.

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### **Focusing**

Adjusting a camera's lens system to bring the subject into sharp view.

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**Focus lock**

Also called an infinity lock, this camera feature sets a camera to focus to a certain distance (ignoring closer objects, if present).

**G****GIF**

Graphics Interchange Format; a compressed image format. GIF was the first commonly used image format on the Web, but it has been largely replaced by JPEG.

**Gigabyte (GB)**

A unit of data equal to 1,024 megabytes.

**H****Hard drive**

A computer's permanent storage device; you can both read data from and write data to a hard drive.

**I****Image advice**

An in-camera HP Real Life technology that analyzes photos and then provides tips on how to adjust settings to improve future shots.

**Image editor**

A program that enables you to edit and modify digital images. With an image editor, you can add special effects and fix certain composition problems, as well as add new elements to the image.

**Image Zone**

A comprehensive photo and imaging package from HP that allows you to do almost anything with your photos: back up, organize, recover, edit, and more.

**In-camera panorama preview**

An HP Real Life technology that allows you to take up to five pictures to be combined in a panoramic picture and reviewed in-camera.

**In-camera red-eye removal**

An HP Real Life technology that instantly removes red-eye from photos right on the camera without using a PC. This feature is unprecedented: an industry first.

**Infrared (IR)**

An interface design that requires no wires or cables; data is sent from the digital camera to an infrared receiver typically on a laptop computer, a palmtop computer, or a printer; uses the same technology as a television remote control.

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**Instant Share**

A feature of many HP digital cameras that allows the user to choose the ultimate destination for a photo (such as an email address) directly from the camera.

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**Interpolation**

Used by some digital cameras, interpolation is a method for increasing the size of a digital image.

**J****JPEG1**

Joint Photographic Experts Group; the most common image compression format used by digital cameras.

**L****Landscape photo composition**

An orientation where the width is greater than the height.

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**LCD**

A liquid crystal display is one of the most prevalent technologies used on digital cameras to view and preview digital photos.

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**Lithium-ion batteries**

A popular, long-lasting, rechargeable battery technology often used in digital cameras; lithium is the lightest metal and features the highest electromechanical potential.

**M****Macro lens**

A lens especially made for extreme close-up photography; lets you focus on a subject a few inches or less from the lens surface.

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**Megapixel**

The number of pixels per inch that a digital camera can produce in an image; one megapixel is 1,000 pixels per inch. The higher the megapixel value, the higher the image resolution.

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**Memories Disc Creator**

Digital photography software from HP that allows you to create image archives, photo slideshows, picture CDs, and more.

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**Memory card**

The system used to store images by most digital cameras. Unlike a computer memory card, this card retains data even without electricity. Four main types of memory cards are in use today: CompactFlash, SmartMedia, Secure Digital, and Memory Stick.

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**Memory card reader**

An external unit that accepts a memory card and connects directly to a computer, enabling you to download images from the card much more quickly than downloading from the camera.

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**Metering**

The process of measuring the available light reflected from the subject to calculate the proper exposure time or aperture.

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**My Mode**

An HP Real Life technology defines the way a camera operates based on a user's specific needs.

**N****NiCad batteries**

Nickel cadmium batteries are losing favor as a power source for personal electronics because of the frequent need for recharging.

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**NiMH batteries**

Rechargeable Nickel metal hydride batteries can store up to 50 percent more power than NiCad batteries, making them ideal for digital cameras.

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**Noise filter**

An HP Real Life technology that reduces image "noise" (an unwanted bumpy or granular look) with minimal loss of detail.

**O****OCR software**

Optical character recognition software, included with some modern scanning and all-in-one devices, allows text to be read from paper documents and then be converted into text that a computer can understand and manipulate in a word processing program.

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**Optical zoom**

A feature that alters a camera's focal length, filling more of the frame with the subject.

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**Optimized 4800 dpi printing**

An HP printing innovation that can greatly improve image quality. Using a 4800 optimized-dpi mode, one of the industry's highest output resolutions, HP printers are capable of precisely positioning drops of ink so that the unwanted visual artifacts that can have an impact on image quality can be virtually eliminated.

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**Orientation**

The direction that the length of an image (or a printed page) faces; portrait is where the length is positioned vertically and landscape is where the length is positioned horizontally.

## P

### **Panorama Preview, In-Camera**

An HP Real Life technology that allows you to take up to five pictures to be combined in a panoramic picture and reviewed in-camera.

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### **Parallax**

A focusing error introduced in a typical optical rangefinder at extremely close range; caused by the discrepancy between the optical viewfinder and the camera lens.

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### **PCMCIA cards**

Personal Computer Memory Card International Association cards are used to add functionality, such as an external hard drive or wireless capability, to desktop or notebook computers.

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### **PDF**

Portable document format; allows users to send formatted documents to be easily viewed and printed.

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### **Photo composition**

The art of arranging lighting and the elements in a scene (as well as control of focus and exposure) to produce a great photograph.

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### **Photo paper**

A heavy paper with a glossy finish specifically made for printing high-resolution color photographs with an inkjet printer.

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### **Photo printing, direct**

A feature of some photo printers that allows users to transfer a memory card from a camera directly to a printer, enabling the images on that card to be printed without a PC.

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### **Photo proof sheet**

Available on select HP all-in-ones, this feature lets you select and print photos without using a PC, simply by filling in a form.

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### **PhotoREt IV**

HP PhotoREt IV color layering technology uses six-ink color printing to deliver a significantly broader range of colors. This HP advantage produces virtually grain-free images; an extensive range of lighter tones for realistic skin tones; truer, more accurate color reproduction; and more vibrant colors and glossier blacks.

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### **PictBridge**

PictBridge allows digital cameras, camcorders, and other image-capture devices to connect and print directly to photo printers and other output devices; no PC is required.

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**Pixel**

A single dot within a digital photograph. The typical photograph is made up of thousands of pixels.

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**Plug-in**

A third-party software module that you can buy and install into many image editors. A plug-in provides a new filter or effect that you can apply to your images.

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**Portrait photo composition**

An orientation where the height is greater than the width.

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**PostScript level 3 emulation**

A popular language from Adobe Systems for printing documents on laser printers. Level 3 supports many fonts and improves graphics quality as well as print speeds.

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**Preferred photographic reproduction**

An HP Real Life technology that turns an image captured by a digital camera's sensor into a pleasing, or "preferred," photo that's ready to be printed or shared.

**R****RAM**

Random access memory; a computer's RAM holds data needed to run programs.

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**Real Life technologies**

A series of innovative and user-friendly technologies designed by HP that makes it virtually impossible to take a bad photo.

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**Resizing**

Changing the dimensions of an image (measured in pixels) to make it larger or smaller.

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**Red-eye removal**

Corrects the appearance of "red eye" and is applied on a case-by-case (picture-by-picture) basis.

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**Red-Eye Removal, In-Camera**

An HP Real Life technology that instantly removes red-eye from photos right on the camera without using a PC. This feature is unprecedented: an industry first.

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**Resolution**

In terms of digital cameras, resolution is usually quoted as the dimension of an image measured in pixels. The figure is expressed as the number of pixels measured in rows (left to right) and columns (up and down).

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**Retina**

The area at the back of the human eye that converts incoming light into electrical impulses sent to the brain.

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**RGB color space**

Red, green, blue; the additive color model used in digital images and displayed on a monitor.

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**Rotation**

Turning an image. For example, you might use an image editor to rotate an image to change its orientation from portrait to landscape.

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**Rule of asymmetry**

A photo-composition rule that calls for objects of different shapes to be included in the frame, often with a sharp contrast between light and dark.

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**Rule of thirds**

A photo-composition rule that divides the frame into nine equal areas. Subjects could be aligned along one of the lines or appear at an intersection.

**S****SDRAM**

Synchronous dynamic random access memory; often used in digital cameras and other computing devices. SDRAM is a relatively new type of memory that runs at higher clock speeds than traditional memory.

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**Secure Digital memory**

Memory card about the size of a postage stamp that weighs approximately two grams; available with storage capacities as high as 128MB. Secure Digital memory is gaining favor in all types of personal electronics devices.

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**See-thru Scanjet scanner**

A breakthrough in scanner design, the extra-thin see-thru scanners are versatile, portable, and transparent.

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**Serial port**

A port that enables you to connect external devices such as digital cameras and modems to your computer. A serial connection is a slow method of downloading images from a camera to a computer.

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**Sharpness**

Detail areas are sharper and crisper for realistic, photo-quality output.

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**Shutter**

The device at the front of the camera that opens when you press the shutter release button. It admits a specified amount of light into the body of the camera for a specified amount of time.

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**Shutter speed**

Shutter speed is how long the shutter stays open; it controls the amount of time light is allowed to reach the film. Short shutter speeds are good for action and sunny-day photos. Slow shutter speed is good for low-light situations.

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**Six- and seven-ink printing**

HP's new generation of photo quality color inkjet printers gives you a versatile printing system with options for six- and seven-ink printing. This allows you to optimize print quality based on your specific printing task.

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**SmartMedia memory**

A memory card developed by Toshiba that uses flash memory to store data. It measures 45 x 37 mm and is less than 1 mm thick. Available in capacities to 128MB, SmartMedia is portable and can easily be transferred between electronics devices.

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**Smoothing**

Gives digital images a smoother, more uniform appearance for realistic, true-to-life photo quality.

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**Super JPEG**

An HP Real Life technology that produces the highest-quality JPEG possible.

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**T****Telephoto**

A lens with a longer focal length and a smaller field of view than a standard primary camera lens. A telephoto is useful for enlarging distant subjects.

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**Temperature**

In photography, the specific hue of color (as measured in degrees Kelvin).

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**Thumbnail**

A much smaller version of a digital photograph (usually about the size of a postage stamp). The software provided with a digital camera typically uses thumbnails to display the images stored on a memory card.

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**TIFF**

Tagged Image File Format; an image format popular among Apple Macintosh owners, graphic artists, and the publishing industry.

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**Tripod**

A portable, three-legged stand that photographers use to provide a steady base for a camera.

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## **TWAIN**

Technology Without An Interesting Name; the standard interface between software applications and image-capturing devices such as scanners.

## **U**

### **USB**

Universal Serial Bus; a popular interface for connecting all sorts of external devices, including digital cameras, to most PC and Apple Macintosh computers. A USB device can be plugged in and used without restarting a computer.

## **V**

### **Vignetting**

An HP Real Life technology that minimizes the appearance of "vignetting" (darkening of an image in the corners), producing a bright and clear image right up to the corners.

## **W**

### **White balance**

Digital cameras have the ability to adjust the color based on the lighting situation where they are used. This is known as white balance. The cameras use white as a reference and adjust the color balance to give as true as possible a white, correcting all the other colors by doing this. HP color scientists have developed a family of algorithms to automatically adjust white balance under a wide range of conditions and with remarkable accuracy.

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### **White Balance, Automatic**

An HP Real Life technology that automatically adjusts white balance (the color of light) to an optimal level.

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### **Wide-angle lens**

A lens with a shorter focal length and a larger field of view than a standard primary camera lens. Wide-angle lenses are great for shooting scenic photographs.

## **Z**

### **Zoom, digital**

A feature that enlarges the subject within an image to fill more of the frame; using a digital zoom reduces the resolution of an image.

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### **Zoom, optical**

A feature that alters a camera's focal length, filling more of the frame with the subject.

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### **Zoom lens**

A lens with an adjustable focal length that lets you see a scene from a narrow to a wide field of view.