OLYMPUS

THE VISIBLE DIFFERENCE

A-Z

OF DIGITAL PHOTOGRAPHY

A

AC adapter Mains adapter.
Enables the connection of the digital camera to the mains electricity supply.

ADC **A**nalog-**D**igital **C**onverter.
Hardware that converts analog information into digital data. (→AD-Conversion)

AD conversion **A**nalog-**D**igital conversion.
In order to process an →analog signal (e.g. a photo) in a computer, it must first be digitised (converted into a specific mathematical format of binary code). Pictures are usually digitised with the help of a digital camera or a scanner.

Additive colour mixing Describes a colour system that is based upon the addition of the three additive primary colours (red, green, and blue). For example, colour televisions and computer monitor displays use the principle of additive colour mixing.

Add-on / Add-in →Extension to a program such as Excel or Word that increases the available functions. These add-ons/add-ins are developed and distributed by the respective software company or other firms.

AE **A**utomatic **e**xposure.

Algorithm A set of processing or working instructions that, because of their high precision, can be carried out independently by a mechanical or electronic device. Algorithms are, for example, the set rules for addition and subtraction etc. However, they are also the instructions that are established in a programming language. Algorithms simply allow the computer to solve particular problems. In image editing, algorithms are used to alter images, e.g. 3 D Cubic Algorithm. (→TruePic)

Aliasing Pixel-shaped curves on the diagonal edges of objects. This can sometimes occur since all graphics consist of individual →pixels. Anti-aliasing reduces this unwelcome effect by recalculating the contrast values of the neighbouring pixels and matching them up with each other.

Altavista Well-known →search engine in the →internet.

Analog Opposite of →digital.
Analog data merges continuously into each other without clearly defined steps (e.g. the colours of a rainbow are not obviously separable from one another).

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Aperture Mechanism behind the lens that controls the amount of light entering the camera. The aperture not only influences picture brightness but also regulates →depth of focus. Most cameras are equipped with an iris aperture that can be freely adjusted or set according to pre-selected values.

AppleTalk A network protocol used by Macintosh computers.

APS **A**dvanced **P**hoto **S**ystem. Developed together by five companies, this film system is distinguished by simple operation, a new picture format (16 x 30 mm) as well as a choice of three picture formats. Additional information (such as exposure, aperture and date) can be recorded on the magnetic strip of the APS film. However, APS is not digital photography.

Aqua Case Waterproof plastic casing for →OLYMPUS →CAMEDIA digital cameras.

ASCII **A**merican **S**tandard **C**ode for **I**nformation **I**nterchange.
The commonly used →binary code for a total of 128 symbols (letters, numbers, punctuation and special symbols, however, not for umlauts) enables the correct data transfer between software and hardware. The ASCII-code employs the first seven →bits of a →byte. The first 32 symbols are used as control symbols, e.g. to control a printer.

ATA **AT A**ttachment. →Interface for →hard drives.

ATA-Flash-Cards Space-saving integrated →plug-in memory cards.

Autofocus (AF) Automatic focus adjustment. There are basically two main AF methods: the focus detecting method, or passive auto focus usually employs a CCD and works by evaluating the amount of contrast or the phase difference in a scene. Distance metering or active autofocus utilises an (infrared) light emitter and receiver in a triangular surveying system. Alternatively, the camera uses ultrasound (sonar) and measures the time taken for the sound signal to return. This data is converted by a microprocessor into information about distance and thereby enables the automatic focusing of the lens.

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Average metering A special →exposure metering technique that measures the average light intensity across the entire frame.

B

Baud A unit of measurement for data transmission rates, named after the French engineer, Baudot.

Binary This is the name given to the representation system of numbers consisting solely of the figures 0 and 1. Just like the ten-figure decimal system (0-9), in the binary system, larger numbers are made up by combining the numbers 0 and 1.

Bios Stands for **B**asic **I**nput / **O**utput **S**ystem and describes the basic program of a computer.

Bit **Bi**nary digi**t**. The smallest →digital unit that can show only two states 0 or 1. 8 bits produce one →byte.

Bit-depth →Colour depth.

Bitmap A representational form for a digital image in which each →bit in the computer's memory corresponds to one →dot on the screen or printer.

Blooming The opposite of →noise; an image error that has been more or less eradicated in the newer digital cameras. It describes the "overflow" of electrical charges between the individual sensors on a →CCD element.

Bluebox A process known from television and movie productions. Actors stand in front of a coloured wall, usually painted blue. Later, a different background is put in for the blue areas on the recorded image, giving the impression that the actors are e.g. on top of a mountain, although they never left the studio.

bps →**B**its **p**er **s**econd. Refers to the number of bits transferred in one second. The bps notation is often found on →modems and →serial interfaces.

Browser Describes a program used to display information, especially on the →internet.

Bug Describes a programming error. This can be removed by correction or rewriting the program codes. (→Patch)

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Bug-Fix Removing a software error by means of a small additional program.

Byte →Binary data packet made up of 8 →bits. A byte can represent values between 0 and 255. It can depict 256 symbols, numbers or colours. In the computer field, larger byte size is described using the prefix letter for the abbreviation of the exponent of 2. Therefore:
1 Kilobyte = 1 KB = 1,024 bytes
1 Megabyte = 1 MB = 1,048,576 bytes
1 Gigabyte = 1 GB = 1,073,741,824 bytes
1 Terabyte = 1 TB = 1,099,511,627,776 bytes.

C

Calendar card →SmartMedia-function card.

Calibration The reciprocal balancing or tuning of input and output devices, in order to receive a matching value. In this way, the colours on a monitor can be matched with the printer's colours. (→colour management)

CAMEDIA The name given to the →OLYMPUS Digital Imaging products.

Candela Unit of illumination (cd). 1 cd is 1/683W per steradian.

CCD **C**harge-**C**oupled **D**evice.
A light sensitive semiconductor that converts received light into voltage according to the level of brightness. It is used as a →chip or line sensor in digital cameras and →scanners. (→progressive CCD, →video CCD)

CD-ROM **C**ompact-**D**isc-**R**ead-**O**nly-**M**emory. A "read only" CD-ROM can hold up to approximately 700 MB of programs, pictures, text, or other data.

Centre-weighted average metering This method of →exposure metering is often used for subjects with an even contrast distribution. (→Digital ESP (selective multi zone metering); →reflected-light metering; →light metering, →spot metering)

Charger Battery-charger.

Chip General description for →integrated circuits whose components (e.g. transistors, diodes, resistors) are mounted on a small plate of the semiconducting material silicon.

CIE **C**ommission **I**nternationale de l´**E**clairage. An international standard commission for colour metric measurements. The set standards are the basis for the colour definition in →DTP standards.

CISC **C**omplex **I**nstruction **S**et **C**omputer. A type of →processor that recognises and processes a large number of complex and powerful instructions without the need for additional software.

CMYK **C**yan, **M**agenta, **Y**ellow, and **K**ey/Black. These are the printer colours used to create colour prints. (→subtractive colour mixing)

Colour depth This refers to the maximum number of colours that can be recorded by digital cameras and scanners or can be displayed by graphics cards. A true colour representation can be achieved at a colour depth of 8 bits per primary colour, that is a 24 bit colour depth. In this case, 256 bits are available for one pixel. With an RGB signal, this value is then multiplied by a factor of three so that a total of 256 x 256 x 256 = 16,777,216 colours can be displayed. High-end scanners, graphic cards etc. provide a minimum colour depth of 24 bit.

Colour management The calibration of all peripheral devices that feature in the production of colour images (monitors, scanners, colour printers etc.). For example, by using a colour management system, the data from a scanner is converted into values for a standard colour range. The data is then arranged so that the printer can produce good colour prints.

Colour noise The incorrect reproduction of colour on an image (e.g. dots on an area which is supposed to be pure white). (→Noise)

Colour temperature Describes the spectral energy distribution and thereby the colour quality of a light source. The temperature of a colour is given in →Kelvin (K). It is important to choose the correct temperature so that a subject can be photographed in its true colours. The spectrum that can be seen by the human eye lies between approx. 2,790 K and 11,000 K. The international norm for average sunlight is 5,500 K.

Compact digital camera Smaller dimensions and reduced weight make these easy to handle models ideal for travel and everyday use.

CompactFlash card Rewritable removable memory or function card developed by

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SanDisk in 1994. In contrast with →SmartMedia technology, it has a built-in controller. The newer CF type II (CF/2) cards are 5 mm thick, the CF type I are only 3.3 mm thick. (→PCMCIA-Cards/PC Cards)

Compatibility The ability of data, programs (software), and equipment (hardware) to run and/or work together. This allows for the individual components to be put together to form a system.

COM port Describes the →serial interface of a computer. Often used to connect devices such as digital cameras to a computer. (→USB)

Compression Data may be compressed to reduce storage (memory) space or transmission times (= reducing the amount of data). Well-known compression standards include →JPEG and →MPEG.

CompuServe Commercial data service that offers countless information and discussion panels about an unlimited variety of subjects. A computer, a →modem, and a telephone line are required.

Computer controlled flash Almost all compact or grip-type flashes are computer controlled. They set their intensity by directing a →sensor at the subject, thus gathering the information from which the →flash duration can be attained. The light sensor often gathers the data through the cameras lens. (→TTL)

Converter/ Lens converter Lens extension that increases or shortens the focal distance. (→Macro-converter, →tele-converter, →wide-angle-converter)

CPU **C**entral **P**rocessing **U**nit. The main processor of a PC (personal computer).

Cross-button Special operating element. By altering the point of pressure, a single button is all that is needed to choose various menus or select and activate functions.

CRT **C**athode **R**ay **T**ube. Electron guns inside the tube send beams onto the front surface of the tube, causing it to glow and creating a display. (→LCD)

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D

Data security A collective term used for any measure to protect and store files as well as programs for an extended period of time.

Data transmission The exchange of →digital information between two or more computers. Data is usually transmitted via a direct cable connection, a computer network or telephone lines.

DCF **D**esign Rule for **C**amera **F**ile System – an industry standard for saving digital images. This not only determines the file type, but also sets the rule for naming the folder and file structure. It allows the conversion of uncompressed TIFF files into compressed JPEG files. This JPEG file is of the Exif type and can contain camera information such as the date.) (→Exif, →DPOF)

Digital Opposite of →analog. Digital information is made up of a limited number of gradations (e.g. 256 colours, 8 →bit). The change from one digital element to the next is always "step by step" and not continuous.

Digital camera Usually captures images with the help of a →CCD chip. The image data received is then saved to special memory cards or other storage media. (→SmartMedia, →CompactFlash)

Digital ESP Digital **E**lectro-**S**elective **P**attern. The employment of a selective multi zone metering system ensures an optimal exposure even in difficult light conditions. (→Exposure metering, →spot metering, →reflected-light metering, →light metering)

Digital flash →Computer controlled flash. (→Flash)

Digital Imaging Software →Image editing software. (→MediaSuite Pro)

Digitalisation →AD-conversion.

Digital tele Thanks to special →algorithms, some digital cameras are able to provide a zoom effect by re-calculating the captured image data. However, enlarging an image in this way also means reducing its picture quality.

DIMO **D**igital **I**maging **M**agneto **O**ptical. A camera MO communicator developed by OLYMPUS allowing fast and mobile archiving of image data directly from the camera to an MO disk (without the need of a computer). (→MO)

Diode →Photodiode.

Dioptric adjustment The adjustment of the →viewfinder to the photographer's eyesight (unit: dpt).

Direct print function The ability to print digital pictures without the need for a computer.

Diskette Adapter →FlashPath Adapter.

Display →LCD.

DOS **D**isc **O**perating **S**ystem. Usually DOS describes the →operating system developed by Microsoft for personal computers. (→MS-DOS)

Dot The smallest raster element of an image. Many dots together produce one →pixel. For example, in the specification "8 →bit →colour depth", three "layers" of 256 dots each are on top of one another to produce one pixel.

Dot pitch Used with monitors, it indicates the distance between individual →dots. The smaller the distance between dots, the sharper the image. Good monitors usually have a dot pitch of between 0.25 and 0.27 mm.

Download Describes the process of receiving data, usually via either a →mailbox, the →internet or from another device like a digital camera to a PC. (→data transmission)

dpi →**d**ots **p**er **i**nch (1 inch = approx. 2.54 cm). A measuring unit in printing to describe the geometric →resolution of an image.

DPOF **D**igital **P**rint **O**rder **F**ormat.
A format introduced by the photo industry that enables images stored on SmartMedia cards to be accessed directly by certain printers and copiers as well as allowing the more simple professional treatment by photo labs.

DRAM **D**ynamic **RAM**. A type of memory chip that is used in most personal computers as the main storage medium. (→RAM)

Driver A small program that allows the communication between the application program and a certain device, for example a →printer or digital camera.

DTP **D**esk**t**op **P**ublishing. This refers to the design and illustration of texts and graphics directly on the monitor screen.

DVD-ROM **D**igital **V**ersatile **D**isc. A standard for →CD-ROM with a much greater capacity (e.g. 9.4 GB) than a regular CD-ROM.

Dye-sublimation Describes a printing method for half-tone images or pictures. This process uses heat to transfer colour from a printer foil into paper. The picture quality is exceptional. The CAMEDIA photo printer P-330E from →OLYMPUS produces postcard sized colour prints with a resolution of 306 →dpi.

E

Email A world-wide **e**lectronic **mail** system. Digitised data can be sent almost immediately throughout the world via telephone lines using only a PC. Every email user has his or her own internationally distinct address where he or she can be reached electronically. Files, such as digital pictures, can be sent with any email message.

EPS **E**ncapsulated **P**ost**S**cript. A computer →file format based on the →PostScript standard. It is supported by most graphic design and page layout programs. In addition to the PostScript code, the EPS file also contains a low resolution →PICT.

Exif **Ex**changeable **i**mage **f**ormat. A standard for image files created with digital cameras and other input devices. Exif files can contain either uncompressed TIFF or compressed JPEG images and may contain many comment fields of various types.

Explorer Microsoft →internet-→browser.

Exposure correction (compensation/ control) Conscious deviation from the value ascertained by the →light meter. The change can be made manually (under and over exposure) or through the →programmed auto exposure control.

Exposure time The length of time for which the shutter is open.

Extension Hardware or software module that adds new functions to an existing system. →PhotoGenetics is an example of an extension of the →OLYMPUS MediaSuite Pro software.

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F

FAQ **F**requently **A**sked **Q**uestions.

FDD **F**lexible or **F**loppy **D**isc **D**rive. A storage medium with a capacity of 1.44 →megabytes (MB).

File A set of data that has been arranged according to specific rules. Files are managed in the computer by the →operating system and can be stored long-term on an external storage medium.

File format Describes the contents of files. Common file formats include <txt> for a text file, →<eps> (**E**ncapsulated **P**ost**S**cript) for →PostScript, and <tif> for →"TIFF"-images.

Film scanner Hardware for digitising negatives and slides. (→Flash Film Scanner)

Film sensitivity The information is given in →ISO value, which has replaced the earlier DIN and ASA (American Standard Association).

Filter 1. A transparent, mostly coloured sheet of glass or plastic that can be placed in front of a lens to create a certain effect. 2. An option in an →image editing program that enables certain adjustments to the picture, e.g. colour and brightness or foreshortening.

Firmware Software contained in →ROM that manages the camera's operation.

Flash Produces a large amount of light for a brief moment to illuminate the subject. Modern flashes work with glass discharge tubes. Computerised camera flashes can measure and automatically control their intensity by means of a →sensor directed at the subject. (→Guide number)

Flash duration The camera's →flash synchronisation ensures the flash is emitted while the →shutter is open.

Flash Film Scanner Attachment for certain digital cameras that digitises 35 mm, →APS negatives, and slides. (→Film scanner)

FlashPath Adapter Permits the trouble-free transfer of digital images saved on →SmartMedia cards to a PC. The storage cards need only be inserted into the adapter and then in the computer's disk drive.

Flash range The distance needed to be covered by the flash to give the subject optimal illumination. This can be calculated using Lambert's law. As the distance from the light source is doubled only a quarter of the original amount of light will reach the subject. (→Guide number)

Flash-ROM A type of memory storage that can retain information even after the power has been switched off. Unlike conventional →ROM, the contents of a Flash-ROM can be deleted and rewritten with the help of a pre-programmed electrical current. Therefore, a Flash-ROM is a combination of →RAM and ROM.

Flash synchronisation Co-ordinates the opening of the camera's shutter with the time and duration of the flash. Some cameras allow you to synchronise the beginning or end of the shutter ("sync1" and "sync2" respectively).

Focal length The distance between the centre of the lens system and the film or CCD sensor, i.e. where the image is in focus. Normal focal length gives an image impression roughly corresponding to that of the human eye (about 50 mm in conventional film cameras and about 7 mm in digital cameras with 1/3" CCD).

FreeHand Popular graphics program from Macromedia.

G

GB →**G**iga**b**yte.

GIF **G**raphic **I**nterchange **F**ormat. A popular →file format for computer graphics.

Gigabyte 1 Gigabyte = 1,024 →Megabytes.

Glass lens →Lens

GPS **G**lobal **P**ositioning **S**ystem. The GPS receiver uses satellites to let you determine the exact longitude, latitude, and height above sea level anywhere on earth.

Graphics card Component of a computer that is necessary to display an image on the monitor screen.

Grey scale A scale of shades ranging from white to black. Devices that can only display data in black and white translate colour differences into various shades of grey.

GSM **G**lobal **S**ystem for **M**obile Telecommunications. Standard for the transfer of data by mobile phone.

Guide Number Value for the maximum power of a camera flash based on a film with an →ISO of 100. Built-in camera flashes have a guide number (GN) of approx. 10 – 20, compact flashes between 20 – 40, and the GN for grip-type flashes is between 45 – 60.

H

Hand-held exposure meter External →exposure meter. (→exposure meter, →reflected-light metering)

Hard drive /disk Device for the permanent storage of programs and information that remain after a computer has been turned off.

HDD **H**ard **D**isc **D**rive. (→Hard drive)

Hi Colour Describes an image having at least 32,000 colours. (→True Colour)

Homepage First page of an →internet site.

Hot plugging The connection and uncoupling of external devices while the PC is running. Restarting the computer is unnecessary. Requirements: →USB, and the relevant →operating system. (→Plug and Play)

HQ-resolution **H**igh **Q**uality-resolution. Description for high digital photo quality.

html **H**yper**t**ext **m**arkup **l**anguage, a →file format used in the →World Wide Web.

http **H**yper**t**ext **t**ransfer **p**rotocol: transmission format and communication basis for the exchange of data in the internet.

I

IC-Card →PC-Card.

iD Photo MO Disk The smallest rewritable optical storage medium for digital cameras. A joint development from Olympus, Sanyo and Hitachi Maxell. It features an amazing capacity of 730 MB. This means about 2,000 photos can be taken before the media needs to be changed.

Illustrator Popular graphics program from Adobe.

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Image capacity The number of images that can be taken before the storage medium needs to be replaced.

Image compression In order to store digital pictures economically, the image data is compressed. However, compression often causes a reduction in picture quality.

Image converter Semiconductor-image converter (CCD chip).

Image editing software Describes software which allows the user to view and alter digital images. An commonly used image editing program is Adobe Photoshop.

Image plane The area inside the camera where the object is focused clearly. The image plane can be compared to the film plane in analog cameras; the difference being that the film is replaced by the →CCD chip.

Imaging software Software for the administration and editing of digital images (as well as other multimedia files). (→MediaSuite Pro)

Image transmission/ transfer The →digitisation of images means they can be transmitted via data carriers or networks without the loss of quality or copied an infinite number of times. (→Data transmission)

Index print Reduced display of several photos on one print.

Ink jet printer A printer that by spraying tiny black or coloured ink dots onto paper produces a hardcopy image.

Integrated Circuit **I**ntegrated **C**ircuit = IC. (→Chip)

Interface Connecting point between the computer and an external device, e.g. mouse, →scanner, →modem, digital camera. (→Serial interface, →parallel interface)

Internet Worldwide →network of computers that allows for the global exchange of information.

ISDN **I**ntegrated **S**ervices **D**igital **N**etwork. Digital network for the fast transmission of voice, data, pictures, etc. between uniformly standardised user interfaces.

ISO Norm **I**nternational **S**tandard **O**rganization. (→Film sensitivity)

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J

Jaggies Slang term for the stair-stepped appearance of a curved or angled line in digital imaging. The smaller the pixels, and the greater their number, the less apparent the "jaggies". Also known as pixelisation.

JAVA A programming language developed by SUN. Among its features is the possibility to program interactive software for the →internet.

JEIDA **J**apan **E**lectronics **I**ndustry **D**evelopment **A**ssociation. Japanese standards committee for storage cards.

JPEG **J**oint **P**hotographic **E**xperts **G**roup. The de facto standard for image compression in digital imaging devices which enables different levels of compression to be selected. Because brightness information is more important than colour data, most pixels only store the brightness information. When the JPEG file is opened, the missing colour data is automatically calculated from the existing information. (→MPEG)

K

KB →Kilobyte.

KBit/s **K**ilo**bits** per second. The number of →kilobits transmitted per second. (→Baud)

Kbyte →**K**ilo**byte**.

Kelvin scale Temperature scale beginning at absolute zero (approx. -273° Celsius = 0 Kelvin). Celsius values can easily be converted into Kelvin by adding 273 degrees to the Celsius value. (→Colour temperature)

Kilobit 1 Kilobit = 1,000 →bits.

Kilobyte 1 Kilobyte = 1,024 →bytes.

L

Laser printer A printer that uses a laser beam to project characters and graphics onto a drum, which then electrographically transfers the image onto paper. Laser printers are known for their high quality reproduction and printing speed.

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LCD **L**iquid **C**rystal **D**isplay. LCDs are commonly used in calculators, watches, digital cameras, and notebook computers.

LED A **L**ight **E**mitting **D**iode is often used as an indicator lamp.

LED printer As opposed to →laser printers, the printed image is not brought on to a drum by a laser beam, but by a row of densely located light diodes.

Lens Transparent glass or plastic that has been formed and polished to form a certain shape, usually spherical. When a beam of light reaches the area between the air and the lens, a part of this light is always reflected. The remaining light passes into the lens and alters its propagation direction, i.e. the light is refracted. The incorporation of various lenses (converging and diverging lenses) creates a →lens system. When optimally arranged, they allow the subject to be presented correctly on the →image plane.

Lens system Group of →lenses (sometimes just one lens) that enable the sharpest and brightest pictures to be taken. Often simply referred to as the lens or objective. There are various lenses available such as wide-angle, normal, macro, and tele with fixed focal distances as well as zoom lenses with adjustable focal distances.

Light intensity 1. Relationship of the maximum diameter of an →objective to its →focal distance. It is equal to the smallest →aperture value (i.e. the largest opening). Whereas the zoom lenses on analog cameras have a light intensity of F4, good digital cameras have lenses with a value of F2.
2. The light intensity from sources of light measured in →Candela. (→Flash)

Light meter To ensure correct exposure, most analog and digital cameras feature automatic light metering. (→Digital ESP/selective multi zone metering), →centre weighted average metering, →spot metering, →reflected-light metering, →light metering)

Light metering Method of →exposure metering by measuring the amount of light reaching an object. (→reflected-light metering, →Digital ESP/selective multi-spot metering, →centre-weighted average metering, →spot metering)

Light sensitivity →Film sensitivity.

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Lithium battery An accumulator type battery with a high energy density making it ideal for mobile phones, still and video cameras. Generally, the lithium battery is the main battery and the lithium ion battery is a secondary, rechargeable battery.

lpi **l**ines **p**er **i**nch. Unit of measurement for the →resolution of printed images. (→Dots per inch)

Lycos Well-known →internet →search engine.

LZW Developed by **L**empel, **Z**if, and **W**elsh: a special kind of compression reducing required storage capacity for →Bitmap formats without loss in quality.

M

Mac Abbreviated name of the Apple Macintosh computer. This computer is often used for graphics applications and →image processing.

Mac OS The Apple Macintosh computer's →operating system.

Macro converter Lens attachment that permits fascinating detailed shots. (→Tele converter, →wide-angle converter)

Mailbox Or **E**lectronic **Mail**box. Either an answering machine or a computer service that enables the user to leave voice announcements, text messages, digital images or any other type of file. Ordinarily, mailboxes are accessed via telephone lines through the use of a →modem.

MB →**M**ega**b**yte.

MediaSuite Pro Developed by →Olympus, this professional document manager software enables perfect control over the continually increasing amount of multimedia data. This program makes editing, presenting, archiving, and retrieving files – even if they are on external media – amazingly simple. The modular concept means tailor-made solutions can also be developed while a template editor allows the production of business cards and personalised calendars. Password protection delivers enhanced security while innovative short-cut management techniques ensure simple operation and efficiency. The MediaSuite Pro →extension →PhotoGenetics

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makes possible the trouble-free optimisation of pictures.

Megabyte 1 MB = 1,024 →kilobytes.

Megapixel digital camera Digital camera equipped with a CCD that can record images with over 1,000,000 pixels.

Memory Stick A memory medium developed by Sony.

Microprocessor The programmable →chip controlling the computer. It is composed of either one or more integrated circuits.

MiniCards Small memory cards that are manufactured by Intel (Miniature Cards) or Toshiba (SSFDC).

MO Disk Abbreviation for **M**agneto-**O**ptical **Disk**. An MO Disk can be rewritten as often as desired and features high storage capacity (up to 1.3 GB in 3.5" format) and data security.

MO Drive Device used for the reading of information from, and the writing of information to, an →MO Disk. →OLYMPUS is among the companies that produces these devices.

Modem Word derived from **Mo**dulation and **De-m**odulation. A device which transforms digital data into analog signals in order to send the information through a telephone line. A modem is necessary to access the →internet or online services.

Moiré An interference pattern brought about when images of differing →resolution are superimposed. (This problem may occur, for example, if small diamond shapes are to be reproduced on a television screen).

Motion JPEG Some digital cameras such as the C-2020ZOOM from Olympus can record a fast sequence of images in QuickTime Motion JEPG format.

MPEG **M**otion **P**icture **E**xpert **G**roup. The abbreviation is used to describe a compression format for →digitised video images. (→JPEG)

MPU **M**athematical **P**rocessing **U**nit. Either an integrated or separate component of a →processor, which carries out the mathematical calculations, e.g. for certain image processing tasks.

MS-DOS **M**icro**s**oft **D**isc **O**perating **S**ystem. (→DOS)

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N

Navigator →Netscape →internet →browser.

Negative Film coated with a light sensitive emulsion that after exposure and processing produces the images taken with the camera in complementary values. (→Slide)

Net Shortened form of →network or →internet.

Netscape →Navigator.

Network The connection of several individual computers to aid data exchange and communication.

NiCd battery **N**ickel-**C**admium battery.

Ni-MH battery **N**ickel-**M**etal **H**ydride battery. Rechargeable batteries that have an energy density 100% higher than →NiCd batteries and can supply high energy levels when required, e.g. when using the flash in quick succession. They can be recharged more than 300 times and are environmentally-friendly (free of cadmium and mercury). Among other devices, Ni-MH are used to power digital cameras.

Noise A term used in the field of audio engineering to describe interference that can lead to impure sounds and distortion. Noise may occur, for example, as a result of faulty microphones or recording equipment. (→Colour noise)

NTSC **N**ational **T**elevision **S**tandards **C**ommittee. American television standard for the coding/encoding of colours. Developed in 1953 this US TV norm is defined by an image size of 640 x 480 pixels and a frequency of 60 Hz (interlaced, i.e. 2 x 30 half images per second). (→PAL, →SECAM)

O

Offline Describes the state when no data connection exists. (→Online)

OLE **O**bject **L**inking and **E**mbedding: Enables "objects" (graphics, tables, etc.) to be embedded into different files/documents in order to create, for example, a report.

OLYMPUS One of the worldwide leaders in the optic-electronic field. Since "photokina '96" very active in the field of digital photography. Just

one year later, the company's top-of-the-range →CAMEDIA digital cameras, photographic scanners, photo printers, and software made it to number one in the European Digital Imaging market. Olympus has been able to maintain its leading position ever since.

Online Describes the state when two or more devices are directly connected and are communicating efficiently. (→Offline)

Operating system The basic program needed by a computer for operation. Well-known operating systems include →MS-DOS from Microsoft and →Mac OS from Apple.

Optical real image viewfinder Shows the actual area that can be photographed.

P

PageMaker Popular →DTP program.

PAL **P**hase **A**lternating **L**ine.
A colour television standard developed in Germany in 1967 and used in many European and non-European countries. The image size is 786 x 576 pixels with a frequency of 50 Hz interlaced (2 x 25 half images are generated each second). (→NTSC, →SECAM)

Panorama card →SmartMedia function card.

Pantone A colour scale consisting of about 3,000 gradations in tone that is used in editing digital images.

Parallel Simultaneous but independent execution of individual tasks.

Parallel interface Allows external devices to be connected to the computer such as printer, external storage media and digital cameras. The data is transmitted →parallel, that is, byte by byte (8 →bits at once).

Patch A piece of programming code that can be "patched" into an already existing program to correct a →bug. (→Bug-Fix)

PC-Card Also referred to as a →PMCIA-Card. It is a small card that stores information and is often used with notebooks. A PC-Card may function as a →modem, or act as a connection between a mobile phone and a notebook.

PCMCIA **P**ersonal **C**omputer **M**emory **C**ard **I**nternational **A**ssociation. Committee for the standardisation of storage cards.

PCMCIA-Card →PC-Card.

Photo CD A process developed by Kodak and Philips that enables the digital storage of conventional photographs and slides on a →CD-ROM. As such, the digitised picture may be loaded into a computer and viewed or edited like other digital images.

Photocell →Photodiode.

Photodiode A semiconductor which measures or converts light into an electrical current. Photodiodes are commonly used in →scanners, →CCD sensors, and →exposure meters.

PICT file A →file format developed by Apple.

PhotoGenetics The software PhotoGenetics, was distributed exclusively with →MediaSuite Pro 1.0 and included as the first →extension. The uniqueness of this program is based on a revolutionary concept: for the first time evolutionary strategies and processes have been used as a model to allow whole image optimisation at the click of a mouse. After opening an image file, the software offers the user an improved version of the picture. By means of a simple "better/ worse" evaluation, users new to using image editing can find the perfect result in a matter of minutes.

Photoshop Popular →image processing program.

Picture resolution →Resolution.

Pixel The pixel is the smallest element of a raster display or digital image and contains information about intensity and colour. A pixel can be either square or rectangular. Generally, monitors or →ink-jet printers consist of a pixel with up to 256 dots per colour. Exception: →dye-sublimation printer.

Pixel modulation A process used in printing which changes the brightness of →individual pixels by changing the pixel size.

PKZIP →.ZIP.

Plug and Play Developed by Intel, this standard allows the installation of extension cards into a computer without the subsequent need to alter the configuration. This is directly supported by →Windows 95 and all newer Windows versions. (→USB)

Plug-In Additional program for a →browser to extend its functionality. With a plug-in, file formats that are not in →HTML such as music and video files, can be run. Well-known plug-ins are: "QuickTime", "Flash" (for video), "Shockware" (for multimedia), "PhotoGenetics" (for whole-image optimisation), "RealAudio/RealVideo" (for music/video through the Internet), and "Acrobat Reader" (for PDF files).

Postscript A standard format for the printing or reproduction of text and graphical documents.

ppi Printing term for →**p**ixel **p**er **i**nch. Indicates the number of pixels a →scanner or digital camera can process per inch.

Printer Some types of printers include: →dot-matrix, →ink jet, →laser, →LED or →dye-sublimation.

Processor The "heart" of a computer. All programs and user commands are executed here.

Progressive CCD Describes a →CCD specially developed for digital cameras. (→Video CCD)

.PSD →Photoshop file.

Q

Quark XPress Popular →DTP-program.

Quick shooting mode This function allows a number of photos to be taken in quick succession (usually with one to two seconds between each shot). With a large memory (→D-RAM) it is even possible to take high resolution shots with only a tenth of a second between them. The images are then later saved onto the cards.

QuickTime Developed by Apple, this is a standard for digital videos and streaming media. More than half of all internet videos are in QuickTime format.

R

RAM **R**andom **A**ccess **M**emory. The user can read and write data from/onto this type of memory. RAM is used to temporarily store both data and programs. As opposed to →ROM, all memory stored in RAM is lost when the power is turned off and is therefore called volatile memory. (→SIMM)

A-Z

Raster length The number of raster points that can be displayed per inch. Given in lines per centimetre (L/cm) or per inch (→lpi). A 60 raster is 60 L/cm or 152 lpi.

Real image viewfinder →Optical real image viewfinder.

Reflected light metering Method of →exposure metering by which the amount of light reflected from the subject is measured. (→Digital ESP/selective multi zone metering, →light metering, →spot metering, →centre-weighted average metering)

Resolution Measurement of the image detail (dots per inch/centimetre) that a device can capture or reproduce. With a monitor or printer, the resolution describes the number of pixels that can be shown. When used for devices for image capture, such as digital cameras or scanners, the resolution refers to the number of pixels that can be captured. The result is given in dpi ("dots per inch" 1 inch = 2.54 cm), the horizontal and vertical total of pixels (e.g. 1,712 x 1,368 or 1,280 x 1,024) or in lpmm (line pairs per millimetre, which describes the highest number of thin black and white lines that can be displayed per millimetre). A good small image film has, for example, a resolution of approximately 150 lpmm (300 dpi rounded out to 118 dots per centimetre). In general, it can be said that the higher the resolution, the better the quality.

RGB **R**ed, **G**reen, **B**lue – the three basic colours for →additive colour mixing.

RISC **R**educed **I**nstruction **S**et **C**omputer. A →processor or system that has extremely fast processing times, but recognises only a small number of commands.

ROM **R**ead **O**nly **M**emory. This type of memory storage only allows the user to "read" the information it contains, i.e. the user cannot store (write) any information on the ROM. Once written, the contents of the ROM cannot be changed. (→Flash ROM,→CD-ROM,→RAM)

S

Scan The process of reading information through the use of a →scanner.

Scanner A device used to →digitise printed information (pictures, graphics, and text).

A-Z

SCSI **S**mall **C**omputer **S**ystem **I**nterface. A general interface standard used, for example, to connect external storage devices or scanners with a computer. It is necessary to differentiate between SCSI I, SCSI II, and SCSI III.

Search engine Helps catalogue and find the huge amount of information available on the →internet. (→Altavista, →Lycos and →Yahoo)

SECAM **SE**quential **C**ouleur **A**vec **M**emoire. French television standard. Also used in former East Bloc countries. (→PAL, →NTSC)

Selective multi zone metering →Digital ESP. (→Exposure metering, →spot metering, →reflected-light metering, →light metering)

Self-timer A function that delays the opening of the shutter. This ensures vibration-free operation during long exposure times and enables the photographer to get into the picture.

Sequence mode Several shots are taken automatically in a row. (→Quick shooting mode)

Serial interface Also called RS232C or RS422 interface. An →interface which allows peripheral devices such as a mouse, →modem, and certain digital cameras to be connected to the computer. Data is transferred serially, which means →bit by bit, one piece after another, via a connection cable.

Server The main computer in a →network, responsible for the management/ regulation of all other computers

Shooting range The range in which a camera is able to capture sharp, focused images.

SHQ-resolution **S**uper **H**igh **Q**uality-resolution. A very high resolution digital photo.

SIMM **S**ingle **I**n-line **M**emory **M**odule. A common type of plug-in →RAM memory module for personal computers.

Single lens reflex camera Camera type that directs the image coming in through the lens up into the viewfinder by means of a mirror. When the shutter is released the mirror swings up to allow light on the image plane. For fast sequence shooting and to reduce vibrations, some SLR optical systems use a beam splitter (prism) instead of the quick return swinging mirror. The picture seen through the viewfinder is almost 100% identical to the resulting photo.

Slot Expansion interface in computers, notebooks and other devices. Expansion cards, e.g. →PC Cards, can be plugged or built in here to increase performance, capacity or the capabilities of the device.

SLR →**S**ingle **L**ens **R**eflex.

SmartMedia storage card SmartMedia cards are small (45 mm x 37 mm x 0.76 mm) and light (approximately 2 g) storage media. The controller is located in the drive instead of being incorporated in the card to allow simple construction. SmartMedia cards are very affordable and ideal for the storage of digital photos and music. All →Olympus digital cameras use SmartMedia cards for data storage. (→SSFDC)

SmartMedia function cards Olympus offers various SmartMedia cards with additional functions for compact and compact zoom digital cameras: a template function that allows photos to be combined with 12 different templates, a panorama card which together with a PC permits up to 10/20 images to be fused to create a panoramic photo, and a calendar function card that enables the production of personalised calendars whereas a title function card is suited to designing birthday and greetings cards.

Spot metering →Exposure metering method whereby the exposure reading is taken from the centre of the frame. This is often used when working with backlight. (→Digital ESP/selective multi zone metering, →reflected-light metering, →light metering)

SQ-resolution **S**tandard **Q**uality resolution.

SRAM **S**tatic **RAM**. A special type of →RAM that, due to its speed, is particularly suited to tasks where time is a critical factor.

SSFDC **S**olid **S**tate **F**loppy **D**isc **C**ard.

Standard interface (→SmartMedia memory card) Standard interfaces include serial, parallel, and monitor interfaces. (→Interface)

Streamer Internal or external drive for →data security involving a so-called Streamer Band.

Subtractive colour mixing A special method for the production of colour prints that involves layering the colours cyan, magenta, yellow, and black in appropriate proportions, to produce the required colours. (→additive colour mixing)

A-Z

SVGA **S**uper **V**ideo **G**raphics **A**rray. Refers to a display screen →resolution of more than 800 x 600 →pixels. (→SXGA, →VGA, →UXGA, →XGA)

SXGA **S**uper E**x**tended **G**raphics **A**rray. Describes a →resolution from 1,280 x 1,024 image →pixels. (→SVGA, →VGA, →UXGA, →XGA,)

T

Tele converter Lens attachment that extends the focal length. (→Macro-converter, →wide-angle-converter)

Template card →SmartMedia function card.

TFT **T**hin **f**ilm **t**echnology. Currently the highest quality of colour LC-Displays. TFT-displays are used in notebooks as well as in digital cameras from →OLYMPUS.

Thumbnail The miniature representation of a digital image that usually serves as a preview function in →image editing programs.

TIFF **T**agged **I**mage **F**ile **F**ormat. A specific, high quality →file format used for the storage of →digitised images.

Title function card →SmartMedia function card.

True Colour Describes the colour output on a monitor or printer. Requires at least 16 million colour nuances.

TruePic Developed by Olympus and introduced in autumn 1999, the TruePic technology optimises the image information captured on the CCD before the data is saved. Employing the algorithm 3 D Cubic, it uses the brightness and colour information of the neighbouring pixels when processing the pixel data. These calculations, only possible with the super-fast Risc and Olympus Asic processor, lead to digital pictures that set standards for picture sharpness, contrast, true colours, and gradation.

TTL metering **T**hrough **T**he **L**ens metering.

TWAIN driver Allows the transfer of →scans or digital photos into →image editing programs. (TWAIN: **T**echnology **W**ithout **A**n **I**nteresting **N**ame.)

A-Z

U

UART **U**niversal **A**synchronous **R**eceiver-**T**ransmitter. Set of chips in a computer regulating data flow over the serial interface.

Unsharp Masking Often abbreviated **USM**. Describes an image focusing process. The quality of the result depends on the characteristics of the →algorithm used.

Update An updated version of a software program.

Upgrade A new improved version of hardware or software that is already available.

URL **U**nified **R**esource **L**ocator. Address system for →internet sites.

USB The **U**niversal **S**erial **B**us is probably going to replace the →serial and →parallel interfaces. USB enables the effortless connection of peripheral devices without the need to install cards into the computer or reconfigure parts of the operating system. The most important advantages are: the support of Plug and Play, →hot plugging, automatic configuration of external devices upon connection (no re-start necessary), faster data transfer (up to 12 →Mbps), and the possible operation of up to 127 devices from a single port.

Utility A program that performs special tasks for the operating system, for example: file administration, controlling a digital camera, a CD-ROM drive or printer.

UXGA **U**ltra **E**xtended **G**raphics **A**rray. This refers to images with a →resolution of 1,600 x 1,280 →pixels. (→SVGA, →SXGA, →VGA, →XGA)

V

VGA **V**ideo **G**raphics **A**rray. Refers to a display screen with a →resolution of 640 x 480 pixels. (→SVGA, →SXGA, →UXGA, →XGA)

Video output Interface that connects a digital camera with a TV or video recorder.

Video CCD Describes a →CCD specially developed for television and video, also used in digital still cameras. (→Progressive CCD)

Virus Describes a part of a computer program that usually causes damage or destruction of software and/or data.

A-Z

W

White balance The adjustment of a digital camera to the respective type of light. In addition to the automatic white balance, it is often possible to choose between "daylight", "overcast", "tungsten", and "neon light" for even truer colours or – on the other hand – create a different, striking effect.

Wide-angle converter Lens attachment that reduces the focal length. (→Macro converter, →tele converter)

Windows (95/98/ 2000/NT) Graphic-based operating environment developed by Microsoft. Enables the user to utilise a mouse in order to activate or "click" on "windows" and work with pictures or images.

World Wide Web Currently the most popular service offered through the →internet. The →WWW provides the possibility to transmit files with multimedia contents (texts, sounds, pictures).

WWW →**W**orld **W**ide **W**eb.

X

XGA E**x**tended **G**raphics **A**rray. A graphics standard developed by IBM, which allows the display of 1,024 x 768 →pixels with up to 65,535 colours. (→SVGA, →SXGA, →UXGA, →VGA)

Y

Yahoo! Well-known →internet →search engine.

Z

.ZIP →File format used for data compression.

ZIP-Drive A device that allows the storage of up to 250 MB of data.

Zoom lens Lens with a manually or a mechanically adjustable focal length. (→Digital tele)

A-Z