

Multimedia Glossary

Acrobat	Adobe's system for producing documents to be displayed on the screen, with the correct fonts and layout.
ActiveMovie	Microsoft software component for handling and displaying digital video, including AVI, MPEG, and QuickTime. Incorporated into Windows 98 it is intended to replace Video for Windows. Renamed DirectShow in 1997.
ActiveX	Microsoft's object technology for the Web, will allow smooth animations and interactivity over the Internet.
Adaptive Compression	Data compression software that continually analyses and compensates its algorithm, depending on the type and content of the data and the storage medium.
Algorithm	In compression software refers to a specific formula used to compress or decompress video.
Analogue Video	A video signal that represents an infinite number of smooth gradations between given video levels. Contrast with a Digital Video signal which assigns a finite set of levels.
Anamorphic	A term used to describe the representation of a wide-screen video image by squeezing it horizontally to fit into a conventional 4:3 aspect ratio for purposes of storage and transmission.
Animated GIF	A file containing a series of GIF images that are displayed in rapid sequence by some Web browsers, giving an animated effect.
Animation Path	An editable line that objects follow during the course of an animation.
Applet	Small program that performs a limited range of tasks as part of a Web page.
Asset	Term for all the constituent media files (such as text, graphics, sounds, video) that make up a multimedia movie.
Authoring System	Software which helps developers design interactive courseware easily, without the painstaking detail of computer programming.
Avatar	Digital representation of yourself in a digital environment.
AVI	Audio Video Interleaved: Microsoft's file format for digital video and audio under Windows. Blocks of video and audio data are interspersed together in this format. It is cross-platform compatible, allowing *.AVI video files to be played under other operating systems.
AVK	Audio Video Kernel: DVI system software designed to play

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	<p>motion video and audio across hardware and operating system environments.</p>
AVSS	<p>Audio-Video Support System: DVI system software for DOS. It plays motion video and audio.</p>
A/V	<p>Audio/Visual or Audio/Video: refers to equipment used in audio and video applications, such as microphones, videotape machines (VCRs), sound systems and hard disk systems for storing digitised audio or video data.</p>
CCIR 601	<p>A recommendation developed by the International Radio Consultative Committee for the digitisation of colour video signals. The CCIR 601 recommendation deals with colour space conversion from RGB to VCrCb, the digital filters used for limiting the bandwidth, the sample rate (defined as 13.5 MHz), and the horizontal resolution (720 active pixels).</p>
CDTV	<p>Commodore Dynamic Total Vision: consumer multimedia system from Commodore that includes CD-ROM/CD audio player, Motorola 68000 processor, 1MB RAM, and 10-key infrared remote control.</p>
CGI	<p>Common Gateway Interface: a standard method of extending Web server functionality by executing programs or scripts on a Web server in response to Web browser requests. A common use of CGI is in form processing, where the browser sends the form data to a CGI script on the server, and the script integrates the data with a database and sends back a results page as HTML.</p>
CGM	<p>Computer Graphics Metafile: a standard format that allows for the interchanging of graphics images.</p>
Chapter	<p>Subdivisions of a video title (e.g. movie) on a DVD-Video disc, each chapter being a scene or other section as defined during authoring.</p>
CIF	<p>Common Image Format: the standardisation of the structure of the samples that represent the picture information of a single frame in digital HDTV, independent of frame rate and sync/blank structure. An image that is digitised to CIF format has a resolution of 352 x 288 or 352 x 240.</p>
Codec	<p>COmpression DECompression: any technology that converts analogue signals, such as video and voice signals, into digital form and compresses them to conserve bandwidth on a transmission path. Used by QuickTime and Video for Windows to make videos smaller for storage and to expand them for display.</p>
Color Cycling	<p>A means of simulating motion in a video by changing colours.</p>

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Color Keying	To superimpose one image over another for special effects.
Compression	The translation of data (video, audio, digital, or a combination) using a variety of computer compression algorithms and other techniques to reduce the amount of data required to accurately represent the content.
DCT	Discrete Cosine Transform: An algorithm, similar to Fast Fourier Transform, that converts data (pixels, waveforms, etc.) into sets of frequencies. The first frequencies in the set are the most meaningful; the latter, the least. For compression, latter frequencies are stripped away based on allowable resolution loss. The DCT method is used in the JPEG and MPEG compression.
Decompression	To reverse the procedure conducted by the compression software algorithm to return data to its original size and condition.
Delivery System	The equipment used by end users to run or 'play' an interactive program.
Delta Frame	Also called Difference Frame. Contains only the pixels different from the preceding Keyframe. Delta Frames reduce the overall size of the video clip to be stored on disk. See also Keyframe.
DTP	DeskTop Publishing: use of a personal computer to produce high-quality printed documents. A DTP system allows use of different typefaces, various margins and justifications, and embedded illustrations and graphs.
Digital Video	A video signal represented by computer-readable binary numbers that describe a finite set of colours and luminance levels.
Digitisation	Process of transforming analogue video signal into digital information.
DSP Solution	The use of a Digital Signal Processor in conjunction with mixed-signal devices and embedded software to collect, process, compress, transmit and display the analogue and digital data found in today's most popular multimedia applications.
DSS	Digital Satellite System, a network of satellites that broadcast digital data. An example of a DSS is DirecTV, which broadcasts digital television signals.
DV	A consumer digital video format endorsed by all major video equipment vendors. Using 1/4" (6.35mm) metal evaporated tape, DV is recorded at 25 Mbps (18.8mm/sec) on three-hour standard cassettes or one-hour MiniDV cassettes.

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Field	One-half of a complete video frame, consisting of every other analogue scan line.
Filtering	A process used in both analogue and digital image processing to reduce bandwidth. Filters can be designed to remove information content such as high or low frequencies, for example, or to average adjacent pixels, creating a new value from two or more pixels.
FPS	Frames Per Second: an expression of frame rate.
FPX	FlashPIX: an emerging WWW standard for images. The FPX file format is a single, interoperable digital imaging format which supports other file formats like JPEG, PCX, PICT and TIFF. It has multi-resolutions because it stores images in multiple sizes.
Frame	A single, complete picture in video or film recording. A video frame consists of two interlaced fields of either 525 lines (NTSC) or 625 lines (PAL/SECAM), running at 30 frames per second (NTSC) or 25 frames per second (PAL/SECAM).
Frame Grabber	A device that 'captures' and potentially stores one complete video frame. Also known as frame storer.
Frame Rate	How fast the source repaints the screen with a new frame. NTSC repaints the screen every 1/30th of a second for a frame rate for 30 frames per second. PAL is 25 frames per second. 'Full-motion' playback of compressed MPEG files is at 30 frames per second.
Full-Motion Video	FMV: video reproduction at 30 frames per second (NTSC-original signals), 25 frames per second (PAL-original signals) and 30 frames per second (compressed MPEG).
HDTV	High Definition TV: a television system with approximately twice the horizontal and twice the vertical resolution of current 525-line and 625-line systems, component colour coding (e.g. RGB or YCbCr) a picture aspect ratio of 16:9 and a frame rate of at least 24 Hz.
HTML	Hypertext Markup Language: an ASCII text-based, script-like language for creating hypertext documents like those on the Internet's World Wide Web.
HTTP	Hypertext Transfer Protocol: the way a Web browser and the server computer delivering Web pages communicate.
Hyperlink	A pointer from text or from an image map to a page or other type of file on the WWW. On Web pages, hyperlinks are the primary way to navigate between pages and among Web sites.

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H.261	<p>A video compression standard developed for video teleconferencing systems. It is DCT-based and resembles MPEG to some degree. It is hoped that this will be the standard that allows a videophone from one manufacturer to 'talk' to a videophone from another manufacturer, just as two different FAX machines can 'talk' to each other.</p>
IEEE 1394	<p>An international high-performance serial-bus standard that offers the real-time data transfer of video, audio and peripheral applications through a universal I/O interface. With this technology, digital cameras, CD-ROMs, printers, hard-disk drives and audio/stereo equipment can move data at high speeds to desktops and portable computers through a single cable. Also known as FireWire.</p>
IMA	<p>Interactive Multimedia Association: formed in 1991 (rooted in IVIA, Interactive Video Industry Association), an industry association chartered with creating and maintaining standard specifications for multimedia systems.</p>
Interactive Video	<p>The fusion of video and computer technology. A video program and a computer program running in tandem under the control of the user. In interactive video, the user's actions, choices, and decisions affect the way in which the program unfolds.</p>
Interframe Coding	<p>Compression techniques which track the differences between frames of video. Results in more compression over a range of frames than intraframe coding.</p>
Inverse Kinematics	<p>In an object hierarchy where there are parent and child objects, grabbing one child object at the end of a chain and automatically calculating the proper movements back to the first object, all according to a series of pre-programmed constraints. An example would be an articulated hand, where moving the tip of a finger causes all the other parts to move together in a properly jointed way.</p>
Java	<p>Sun Microsystems' object oriented programming language, designed for networked systems such as the Web.</p>
JavaScript	<p>Netscape's simple scripting language for Web pages which allows simple interactivity to be built into a page.</p>
Keyframe	<p>Most video compression schemes work by taking keyframes at certain intervals and working out the differences between that frame and the following frames. This means that only small pieces of information need to be stored about each frame in order to allow the whole frame to be reconstructed. See also Delta Frame.</p>
Laser Disc	<p>An optical disk used for full-motion video. In the 1970s, various videodisc systems were introduced, but only the</p>

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MCI	<p>Philips LaserVision survived. Began being superseded by DVD-ROM during 1998.</p> <p>Media Control Interface: the Windows component that allows multimedia devices such as CD-ROM drives and videodisk players to be programmed using high-level function calls that insulate the software from the nuances of the hardware. Use the MCI play command, for example, to play a song on an audio CD or a video clip on a video-disc player. MCI drivers provided with Windows translate the play command into low-level commands specific to the intended output device.</p>
MIME	<p>Multi-purpose Internet Mail Extension: the format for transferring multimedia type file transfers across the Internet. Since email messages are designed for text data, this format converts non-text data into a text-based format.</p>
Mixed-Signal Device	<p>Collects analogue signals and converts them into digital data to be processed. Once a DSP processes and compresses the digital data, a mixed-signal device decompresses, transmits and displays the digital data as either digital or analogue signals.</p>
Motion-JPEG	<p>A derivative of JPEG that includes some keyframe-based compression to make it suitable for video.</p>
Motion Video	<p>Video that displays real motion by displaying a sequence of images (frames) rapidly enough that the eyes see the image as a continuously moving picture.</p>
MPC	<p>Multimedia PC: a specification developed by the Multimedia Council. It defines the minimum platform capable of running multimedia software. PCs carrying the MPC logo will be able to run any software that also displays the MPC logo.</p>
MPEG	<p>Moving Picture Experts Group: a standards committee, supported by the ISO, formed to establish uniform methodologies and algorithms for digital audio and video compression.</p>
MPEG-1	<p>MPEG-1 video, used in VideoCDs, is defined for non-interlaced, computer-type data streams. It is the form normally used with PCs. Typical MPEG-1 video compression ranges up to 100:1 for images comprised of 352 pixels (picture elements) by 240 lines at a refresh rate of up to 30 frames per second with 24-bit colour and CD-quality sound.</p>
MPEG-2	<p>The newer MPEG-2 standard offers resolutions of 720x480 and 1280x720 at 60 fps, with full CD-quality audio. This is sufficient for all the major TV standards, including NTSC, and even HDTV. MPEG-2 is used by DVD-ROMs and is capable of compressing a 2 hour video into a few gigabytes.</p>

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MPEG-4	<p>A standard for video compression that is targeted at bit rates of tens of kilobytes and below to accommodate applications for digitally-encoded moving pictures and synchronised audio that can be enabled only at very low bit rates. The low bit rates targeted by MPEG-4 are the operating points for widespread communication channels, such as public switched telephone network and low-cost wired and wireless networks.</p>
Multimedia	<p>Refers to the delivery of information that combines different content formats (motion video, audio, still images, graphics, animation, text, etc.).</p>
NTSC	<p>National Television Standards Committee: the industry group that formulated the standards for American television. An NTSC signal is a composite video signal used by televisions and VCRs in North America and some other parts of the world. The NTSC system uses 525 lines per frame, a field frequency of 60 Hz, a 30-frame per second update rate, and the YIQ colour space. Modern NTSC encoders and decoders may also use the YUV colour space.</p>
Overlay	<p>The ability to superimpose computer graphics over a live or recorded video signal and store the resulting video image on videotape. It is often used to add titles to videotape.</p>
PAL	<p>Phase Alternating Line: video format - used in most of Western Europe, Australia and China as well as in various African, South American and Middle Eastern countries - with a 4:3 image format, 625 lines per frame, a field frequency of 50Hz and 4 MHz video bandwidth with a total 8 MHz of video channel width. PAL has a 25-frame per second update rate and uses YUV colour space.</p>
PDF	<p>Portable Document Format: Acrobat file format containing embedded fonts and graphics.</p>
PX64	<p>Similar to MPEG, but adapted to slower bit rate. Typically used for video conferencing over an ISDN phone line.</p>
QuickTime	<p>Apple Computer's video environment (like Microsoft's Video For Windows). QuickTime video files must be converted to .AVI format to run under Microsoft's Video For Windows.</p>
RIFF	<p>Resource Interchange File Format: platform-independent multimedia specification (published by Microsoft and others in 1990) that allows audio, image, animation, and other multimedia elements to be stored in a common format. See also Media Control Interface (MCI).</p>
RLE	<p>Run Length Encoding: Microsoft's video compression algorithm for base level multimedia PCs. Compresses 8-bit sequences only. Playback is also in 8 bit and isn't</p>

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RS170A	scaleable for higher power PCs. The EIA standard for the combination of signals required to form NTSC colour video.
RTV	Real Time Video: single step compression of video.
Scalability	The ability to vary the information content of a program by changing the amount of data that is stored, transmitted or displayed. In a video image, this translates into creating larger or smaller windows of video on screens (shrinking effect).
SECAM	Sequentiel Coleur A Memoire: European video standard, used in France and Eastern Europe, with image format 4:3, 819 lines per frame, 50 Hz and 6 MHz video bandwidth with a total 8 MHz of video channel width. Like the similar PAL standard, it has a 25-frame per second update rate. The major difference from PAL is that SECAM uses FM-modulated chrominance.
SIF	Standard Interchange Format: format for exchanging video images of 240 lines with 352 pixels each for NTSC, and 288 lines by 352 pixels for PAL and SECAM. At the nominal field rates of 60 and 50 fields/s, the two formats have the same data rate.
SMPTE Timecode	An 80-bit standardised edit time code adopted by SMPTE, the Society of Motion Picture and Television Engineers. See also Time Code, for measuring video duration. Each frame is identified in the form hours:minutes:seconds:frames.
SoHo	Small Office/Home Office: refers to the small business or business-at-home user. This market segment has benefited greatly from recent technological advances, allowing it to compete on a level playing ground with the bigger companies.
Standard RGB	A standard way of presenting colours on such devices as digital cameras, monitors, scanners, printers, and even the World Wide Web, adopted by The World Wide Web Consortium (W3C).
Subsampling	Bandwidth reduction techniques which reduce the amount of digital data used to represent an image. Part of a compression process.
S-Video	Type of video signal used in Hi8, S-VHS and some laserdisc formats. S-Video is a hardware standard for the way a signal is carried on the cable itself and also defines the physical cable jacks. It transmits luminance and colour portions separately, using multiple wires, and avoids composite video encoding (such as NTSC) and the resulting loss of picture quality. Also known as Y-C Video.

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Tearing	Video artefact in which portions of a video window are not updated in time for the next frame.
Teleconference	A general term for a meeting not held in person. Usually refers to a multi-party telephone call, set up by the phone company or private source, which enables more than two callers to participate in a conversation. The growing use of video allows participants at remote locations to see, hear, and participate in proceedings, or share visual data ('video conference').
Time Code	A frame-by-frame address code time reference recorded on the spare track of a videotape or inserted in the vertical blanking interval. It is an eight-digit number encoding time in hours, minutes, seconds, and video frames (e.g.:02:04:48:26).
URL	Uniform Resource Locator: a logical address that identifies a resource on the Internet.
VDI	Video Device Interface: a software driver interface that improves video quality by increasing playback frame rates and enhancing motion smoothness and picture sharpness. VDI was developed by Intel and will be broadly licensed to the industry.
VDRV	Variable Data Rate Video: in digital systems, the ability to vary the amount of data processed per frame to match image quality and transmission bandwidth requirements. DVI symmetrical and asymmetrical systems can compress video at variable data rates.
Video Capture	Performed by an expansion board that digitises full-motion video from a VCR, camera or other video source. The digital video is then stored in a compressed format on hard disk.
VfW	Video for Windows: a standard established by Microsoft for the integration of digital video, animation and sound which uses the .AVI file format. The necessary software drivers are incorporated into the Windows operating system.
VidCap	Microsoft's Video For Windows program to capture video input to RAM or hard disk memory.
VideoCD	Method of putting MPEG video onto CD-ROM, originally devised by Philips for CD-i.
Video Mapping	A powerful feature allowing the mapping of an AVI, MPEG movie or animation onto the surface of a 3D object.
Video1	The default video compression algorithm in Microsoft's Video for Windows. Can produce 8- or 16-bit video sequences.

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Virtual Reality	New technology that allows the user to experience 3D interaction with the computer. Some VR systems may incorporate special visors, helmets, gloves, and special 3D graphics technology to simulate the real world environment.
VRML	Virtual Reality Modelling Language: an open standard for 3-D imaging on the World-Wide Web that paves the way for virtual reality on the Internet. The way VRML code describes a 3-D scene is analogous to four points describing a square, or a centre point and radius describing a sphere. VRML viewers, similar to HTML Web browsers, interpret VRML data downloaded from the Web and render it on your computer. This allows the bulk of the processing to be performed locally, and drastically reduces the volume of information for transmittal from the Web.
YCrCb	The colour space used in the CCIR601 specification. Y is the luminance component, and the Cr and Cb components are colour difference signals. Cr and Cb are scaled versions of U and V in the YUV colour space.
YIQ	The colour space used in the NTSC colour system. The Y component is the black-and-white portion of the image. The I and Q parts are the colour components; these are effectively nothing more than a 'watercolour wash' placed over the black and white, or luminance, component.
YUV	The colour space used by the PAL colour system (it may also be used in the NTSC colour system). As with the YIQ colour space, the Y is the luminance component, while the U and V are colour components.
WAP	Wireless Application Protocol: a standard for providing cellular phones, pagers and other such handheld devices with secure access to e-mail and Web pages. The application via which WAP-enabled devices access Web content is referred to as a 'micro-browser'.
Watermark	A background image. Typically used to decorate and identify pages in a Web site, a watermark remains stationary as the page scrolls.
Web	Popular term for the World Wide Web.
Web Browser	A client application that fetches and displays Web pages and other WWW resources to the user. The most popular browsers are Microsoft's Internet Explorer and Netscape's Navigator.
WML	Wireless Markup Language: XML is a meta-language defined by the World Wide Web Consortium. This means that it is a series of rules for how to create other languages for specific applications. Content is not directly encoded in

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WWW

XML, but in a specific markup language defined using XML. WML is an example of a specific language for wireless applications that is fully compliant with XML's rules. WML is thus an XML application.

World Wide Web: a collection of richly formatted graphic/hypermedia documents located on computers around the world and logically linked together by the Internet. With a graphical Web browser users can 'surf' the Web by clicking highlighted words on the screen. Each click activates a hypertext link, connecting the user to another Web location identified by a URL.