Multimedia Glossary

8-, 16-, & 24-bit graphics A unit of measure that indicates the number of colors displayed. An 8-bit video card is capable of displaying 256 colors out of a palette of 16.7 million colors. A 16-bit video card is capable of displaying over 64,000 colors out of a palette of 16.7 million colors. A 24-bit video card is capable of displaying 16.7 million colors, which is approximately what the human eye can see.

8- & 16-bit audio A unit of measure that indicates the resolution of a digitized sound sample. The higher the resolution, the better the audio fidelity. Audio that is digitized using 8 bits of resolution is slightly better in fidelity than normal AM radio. 16-bit audio is the standard used for standard audio CDs.

A

Access time Length of time required for a hard disk, CD-ROM drive, or other similar device to find the data stored on it. Generally measured in milliseconds (ms).

Aliasing A term used to describe the unpleasant jaggy appearance of unfiltered angled lines. Aliasing is the "beating" effects caused by sampling frequencies being too low to faithfully reproduce an image. There are several types of aliasing that can affect a video image include temporal aliasing (for example, wagon wheel spokes apparently reversing) and raster scan aliasing (for example, flickering effects on sharp horizontal lines).

Analog A continuous signal that takes time to make a transition from one level to another. Standard audio and video signals are analog. This signal has an infinite number of levels between its highest and lowest value. (Not represented by bits, such as with digital.).

Analog video The method in which data (usually audio or video) is recorded. Also known as composite, NTSC, baseband, or linear video. It is created from such devices as camcorders, VCRs, and scan converters.

Analog digital conversion The method of converting analog data to digital data.

Animated GIF (Graphics Interchange Format) An animated GIF is a graphic image on a Web page that moves. It also contains within the single file a set of images that are presented in a specified order. An animated GIF can loop endlessly or it can present one or a few sequences and then stop the animation.

Anti-aliasing Anti-aliasing is the manipulation of the edges of a graphic or other image or text, to make the edges appear smoother to the eye. On close inspection, anti-aliased edges appear blurred, but at normal viewing distance, the apparent smoothing is dramatic.

Authoring software A software package that allows a user to create interactive media and multimedia presentations.

AVI Audio-Video Interleaved is the file format that Microsoft specifies for video for Windows. Blocks of video and audio data are interspersed together in this format.

ASCII The standard character set for text files. It stands for American Standard Code for Information Interchange.

B

Badge A symbol in the corner of a QuickTime movie window which is clicked to bring the standard QuickTime movie controller into view.

Bandwidth The frequency range of a video signal, measured in MHz. The bandwidth is directly related to horizontal resolution. The higher number of picture elements defined, the higher the frequency required. The bandwidth describes "how much" information is being transferred.

Betacam Portable camera/recorder system using 1/2-inch tape originally developed by Sony.

Binhex Mac OS encoding scheme which converts normal computer files into ASCII (text) characters for transmission over the Internet. Binhexed files normally end with ".hqx" and must be returned to their binary format prior to use.

Bit A binary digit, a unit of measure for computer data. A bit is a single computer digit (either a "1" or a "0"). Eight bits make a Byte, which holds a single character of most languages.

Bit depth (1-bit, 8-bit, 24-bit) The amount of information (black and white or color) that a computer can discern for each bit of an image. 1-bit is black and white (off or on); 8-bit is 256 "shades," "values," or "levels" of gray or 256 colors; 24-bit is millions of colors.

Bitmap An image composed of dots or pixels on a grid, also referred to as a two-dimensional pixel graphic.

BMP A Microsoft Windows bitmapped graphic file format.

Brightness The luminance of the video signal, or the level of brightness on the scale from black to maximum white. One of the three determinants (with hue and saturation) of the color of an image, and the only one of the three that affects a monochrome image.

Broadcast Refers to signals intended for delivery over the television system, as well as network delivery to a wide audience.

Broadcast quality An NTSC composite video signal conforming to FCC rules concerning signal properties like video and sync levels, timing, and blanking. Devices providing NTSC signals do not necessarily meet FCC broadcast standards. This is important if the video signal or videotape being recorded is going to be used in a broadcast situation.

Browser Application that lets you manage and view files. The term is frequently used to refer to software that allows you to view Web sites.

C

CAV Acronym for *component analog video,* component video signals in which an analog voltage or current represents the value of the pixel.

CD or compact disc An optical read-only disc that is used to store digital audio, data, or video. CD-ROMs provide about 600 MB of storage space.

CDs A generic term used to represent all optical laser compact disc formats including, but not limited to CD-DA, CD-i, CD-ROM, Video CD, and CD+G. Typically, a CD is 4.72" in diameter.

CD-audio Sounds that have been digitized at a sampling rate almost high enough to duplicate reality. CD-audio is the same format and quality as the discs played on a CD player.

CD-DA Compact Disc Digital Audio, or CD-DA, contains musical or audio information that is encoded digitally. CD-DA is the standard format used by the music industry.

CD+G Compact Disc plus Graphics is a format that includes limited video graphics capabilities in a CD-DA format. Mostly used in Karaoke (sing-along) devices.

CD-ROM Compact Disc-Read Only Memory is a laser-encoded optical memory storage medium on which digital data is stored.

CGI Acronym for *computer graphic imagery.*

Chrominance A color component of an image.

Cinepak A codec used for digitizing video.

Clip A segment of a larger movie, defined by an in point and an out point, usually containing a single scene or take.

Clipping The process of cutting off the peaks of either the white or the black portions of a video signal.

CMYK Cyan Magenta Yellow Black; color space commonly used for images which will be printed with 4-color ink on offset presses.

CODEC An acronym for *Compressor/Decompressor,* an algorithm or scheme used when recording digital video. Many CODEC schemes are available, depending on image quality and file size.

Color bars (See NTSC color bars.)

Color space A mathematical model that describes colors. Common models include RGB, CMYK, HSV, and YUV.

Color burst A portion of the composite video signal used for decoding its color information. Burst is several cycles of 3.58 MHz pulses recorded during the horizontal blanking interval and used to establish phase relationships for determining the hue.

Color depth A possible range of colors that can be used in a movie or image. There are generally four choices with video: grayscale, 8-bit, 16-bit, and 24-bit. Higher color depths provide a wider range of colors, but require more space for a given image size.

Component video A term given to a recording system that does not require NTSC encoding of RGB signals, but uses a means of recording and routing the luminance and color signals separately. This method does not reduce bandwidth or compromise the RGB components. It results in images of higher resolution and better color quality than composite video.

Composite video A composite video signal is one in which the luminance, chrominance, and sync information have been combined into a single signal using one of the coding standards: NTSC, PAL, SECAM, and so on. This is the form the signal must take before it can be broadcast or recorded by standard means.

Compositing Combining two or more video or electronic images into a single frame or display.

Compression A process that allows data to be stored or transmitted using less than the normal number of bits.

Contrast The range of light and dark values in a picture or the ratio between the maximum and the minimum brightness values.

CPU Central processing unit, the processor chip in a computer.

Crop To select out an area of an image. Once an image is cropped, save the cropped version with a different name, retaining the original image.

Cross-platform Usable on different types of computers.

D

Data rate The amount of information per second used to represent a movie, often expressed in Kbps (Kilobytes/sec). A single-speed CD-ROM movie is usually made at a data rate of 100 Kbps, and a double-speed CD-ROM movie at about 200 Kbps. The data rate of uncompressed NTSC video is about 27 megabytes per second.

Decode In multimedia, this term refers to decompressing a compressed (encoded) file so that it may be displayed. Codecs do this decoding while the video/audio is played.

Dessimation The loss of lines of data in a movie window as the size of the frame is reduced. Lack of data for certain lines causes undesirable artifacts during movie playback.

Digital The method in which data (usually computer data or audio CDs) is recorded. A digital signal is an electronic signal that is defined by a series of binary numbers (0's and 1's). Common digital devices are the audio CD player and the computer.

Digital image A computer file which, when used in conjunction with the proper software, displays a picture on the computer screen or prints to a digital device such as a laser printer or imagesetter.

Digital video A video signal represented by binary numbers describing a finite set of colors and luminance levels. Digital video refers to the capturing, manipulation, and storage of video in digital formats. A digital video (DV) camcorder, for example, is a video camera that captures and stores images on a digital medium.

Digitize The process of converting analog data to digital data.

Dithering A technique for alternating the values of adjacent dots or pixels to create the effect of intermediate values. In printing color or displaying color on a computer screen, the technique of making adjacent dots or pixels different colors to give the illusion of a third color.

Dither pattern The matrix of color or gray-scale values used to represent colors gray shades in a display system with a limited color palette.

Dot pitch A measure of the distance between dots on the screen. The closer the dots, the sharper and clearer the image.

Dot space The horizontal distance between dot centers. This distance depends on the character pitch in effect.

Download To copy a file from a server or network to your machine.

Downsize To reduce the file size of an image, by lowering the resolution and/or reducing the square measurement of the file.

dpi (dots per inch) Measure of resolution for a laser printer or imagesetter.

Drag and drop The technique of grabbing an object onscreen with the pointer and keeping the mouse button held down while moving it to another position. When the target is reached, the mouse button is released and the object is dropped.

Dragging Holding the mouse button down while moving the mouse to move the pointer on the screen.

Dubbing Making a copy from one recording medium to another.

Duration The length or persistence of a signal in time.

DVD A standards-based media format, which is intended to replace CD-ROM, VHS, and audio CDs. DVD discs look much like CD-ROM or audio discs, but use higher density storage methods to significantly increase their capacity. (The DVD acronym doesn't have a specific meaning anymore. It was originally short for *Digital Video Disc,* but then DVD expanded beyond just video. It is sometimes called *Digital Versatile Disc.*)

DVD-ROM A version of the DVD disc format for computers which is expected to replace CD-ROMs. Similar to a fast (8x), large (4.7 to 17 gigabytes) CD-ROM, DVD-ROM can hold any type of computer data, and does not require MPEG.

DVD-Video A version of the DVD disc format used for storage of prerecorded movies which is expected to replace VHS. The DVD-Video specification uses MPEG.

Dynamic range The span of volume between the loudest and softest sounds in an audio recording. Sample size affects dynamic range. 16-bit audio yields a dynamic range of 96 dB, and 8-bit audio yields 48 dB.

Dynamic tracking The ability for a video head to "bend" back and forth enough to find an adjacent track and follow it. This allows true freeze-frame rather than only freeze-field display. It also allows for variable speed playback, including playing in reverse, which otherwise is not possible.

E

Effects Effects involve any manipulation or processing of the video or audio signal.

EIA Electronic Industries Association. The organization which determines recommended audio and video standards in the United States.

Electronic display Showing images through the computer.

Electronic media Any of the media used to publish information electronically (as opposed to print).

Electronic publishing Composition of text (and frequently graphic images) using a computer for display in a computer presentation program or on the Web.

Encoded video The encoded video signal is formed by starting with an RGB signal from the color television camera. This RGB signal is then processed through an encoder, known as the I and Q encoder, which converts the RGB into a composite NTSC signal. The encoded signal has all of the elements of the composite video signal: sync, burst, chroma, and luminance.

Encoder A device which transforms NTSC timed red, green, and blue signals into a single NTSC composite signal combining luminance, chrominance, and sync information.

Embed tag HTML code that specifies how a graphic or movie will be included within your Web page.

External CD-ROM drive A CD-ROM drive that is installed outside the computer and connected by a cable to the computer.

F

FCC Federal Communications Commission. A federal bureau that regulates radio and television broadcast standards.

Field One complete vertical scan of the picture, containing 262.5 lines. Two fields make up a complete television frame; the lines of field 1 are vertically interlaced with field 2 for 525 lines of resolution in the NTSC standard.

File format The specific way digital information is made and stored by the computer. Not all software applications can read and/or manipulate all file formats. (See BMP, GIF, JPEG, PICT, TIFF.)

Firewall A subsystem of computer software and hardware that intercepts data. A firewall is used to prevent unauthorized access to a network.

FireWire (IEEE 1394) FireWire is a high-speed data transfer technology that uses a think cable to support the integration of AV equipment, personal computers, and other peripherals. Originally developed by Apple, FireWire is now an official industry standard also called IEEE 1394 and i.Link.

First generation The first time the signal is recorded on tape, that tape is called a first generation tape. Each time the tape is dubbed, a generation is added. (See Generation loss.)

Frame One single still image among the many that make up a movie. A video frame is made up of two fields. A film frame is a single photographic image, and does not have separate fields.

Frame rate The number of frames per second of a movie.

Frequency The number of complete cycles transmitted per second. Frequency is usually expressed in hertz (cycles per second), kilohertz (kilocycles per second), or megahertz (megacycles per second). In acoustics, frequency of vibration determines musical pitch.

FTP Acronym for *File Transfer Protocol,* a common Internet protocol used for transferring files between computers. Often used for downloading files.

G

Generation loss The number of times a video clip is copied or processed.

Gigabyte A billion bytes.

GIF (Graphics Interchange Format) A common graphics file format on the Web. Used by online services and Web browsing software, GIFs contain information compressed into a relatively small file size.

Grayscale A system of displaying images in gray tones (or "levels of gray"), simulating the continuous gray tones of a photograph. To achieve grayscale, a monitor must be able to display 2 to 16 bits of information per pixel. This allows the monitor to display a black or white pixel as well as several values between black and white.

H

Hard disk An internal or external device for your computer for storage of data.

HDTV High Definition Television.

Horizontal resolution The smallest increment of a television picture that can be discerned in the horizontal plane. This increment is dependent upon the video bandwidth and is measured in frequency or lines.

HSI An acronym for the Hue-Saturation-Intensity color representation. A mathematical conversion from RGB. Often used for machine vision analysis.

HSI conversion A mathematical conversion from the color RGB space to hue, saturation, and intensity values.

Hue One of the three properties of HIS color perception. A color attribute used to express the amount of red, green, blue, or yellow a certain color possesses. White, gray, and black do not exhibit any hue.

HTML Hypertext markup language, the language the Web uses to display pages, links to other pages, and so on.

HTTP Hypertext Transfer Protocol, the most common transfer protocol used on the Web.

I

IEEE The Institute of Electrical and Electronic Engineers, an organization that sets many of the standards in the electronics industry.

Image file size The amount of computer storage space a file requires; usually measured in kilobytes (K) or megabytes (MB).

Image size The physical dimensions of the image as measured in the small squares (pixels) of a computer screen; an image filling a "typical" computer screen (13-inch diagonal) would be 640 x 480 pixels; compare to "Image file size" above.

Internal CD-ROM drive A CD-ROM drive that is installed inside the computer.

Internet Decentralized global computer network. The term "Internet" is often erroneously used to refer to the World Wide Web, which is one specific application of the Internet. The Internet encompasses much more than just the Web, including e-mail, newsgroups, chat rooms, and more.

Intranet Large private network.

IP Acronym for *Internet protocol,* a commonly used protocol for transferring data over the Internet. Most networks combine IP with a higher-level protocol called Transport control protocol (TCP).

ISDN Moderate speed connection to the Internet. Theoretical throughput is either approximately 8 Kbps or 16 Kbps depending on configuration.

ISP Acronym for *Internet service provider,* a company which provides Internet-related services, often including connectivity, e-mail accounts, and Web hosting. Increasingly, ISPs are offering video hosting.

J

JPEG (Joint Photographic Experts group) Pronounced "JAY-peg," a graphics file format that compresses information about many colors (up to 16 million) in the image into a smaller file.

K

Kilohertz (KHz) One thousand hertz, or cycles per second.

L

LAN Local area network.

LCD panel (Liquid Crystal Display) A device used to present computer images to a class or audience. The LCD panel, connected to the computer, sits on an overhead projector and displays the computer monitor's image onto a movie screen or wall.

Luminance The aspect of the video signal carrying information about the brightness of an image.

M

Mac OS The Apple Macintosh operating system.

Marquee tool The selection tool in some software applications that looks like a box of dotted lines and is used to select a rectangular part of an image for scanning or manipulation.

Matte A film term sometimes used in video production work to denote a keyed effect; an insert of video signal information keyed from one source into a second video signal. Also, the term is used to refer to an opaque piece of art or a model that leaves a selected area unexposed to be filled on a subsequent pass or in composite. It is also referred to as a mask.

Megahertz (MHz) One million hertz, or cycles per second.

MIDI Acronym for *Musical Instrument Digital Interface.* It is a standard communications protocol used by electronic music equipment allowing device control from personal computers.

MIDI time code A time code system allowing timed device control through MIDI protocols.

MIME An acronym for *Multipurpose Internet Mail Extensions,* a specification originally used for non-ASCII e-mail messages so that they can be sent over the Internet. Web browsers also support various MIME types which enable the browsers and the installed plug-ins to handle non-HTML files, such as movies and audio.

Monitor A particular type of television that receives a composite and/or component video signal (as opposed to an RF signal) directly from a VCR, camera, or separate TV tuner for high-quality picture reproduction. It does not contain a channel selector.

Monochrome signal A single color video signal; usually a black and white signal or, sometimes, the luminance portion of a composite or component color signal.

MPEG - Moving Picture Experts Group Often used to refer to the standard file format and set of compression algorithms jointly developed by the Moving Picture Experts Group to handle video and audio. The various forms of MPEG are used for a wide range of video and audio applications, from desktop computer presentations and games to consumer DVD-video players and satellite video systems.

MPEG-1 The format which produces high-quality video and audio streams at approximately 2x CD-ROM data rates. Standard MPEG-1 is full frame rate (24 to 30 fps, depending on the source) with a quarter size image (352x240), and is useful for playback on most new desktop computers.

MPEG-2 The format which produces high data rate, full broadcast quality files. MPEG-2 playback requires an extremely fast computer and video card, or a hardware accelerator card. MPEG-2 is the format for DVD-video and many home satellite dish systems. Standard MPEG-2 is full frame rate (24 to 30 fps) and full screen resolution (720x480).

MPEG Layer-2 audio Generally used for high bandwidth MPEG audio at near CD quality. Used for audio with both MPEG-1 and MPEG-2.

MPEG Layer-3 audio (MP3) MPEG audio format which is very popular on the Internet. Generally used in audio-only files (.mp3 files), this is a lower-bandwidth format than MPEG Layer-2 audio, but still not ideal for modem streaming.

Multimedia Combination of different communication tools such as text, graphics, sound, video, and animation.

Multiscan A term taken by a particular manufacturer often used to refer to any multisync device.

Multisync monitors (and projectors) Video displays which accept a wide variety of horizontal and vertical timings, from NTSC to computer video signals. Multisync monitors and projectors often automatically adjust to the appropriate timing. Since the horizontal frequency range varies among different models, product specifications should be checked to assure a monitor or projector will support the Macintosh connected to it. Multisync monitors manufactured by Apple are called multiple scan displays.

N

Nanosecond One billionth of a second. It is commonly used to measure the speed of memory chips.

Neutral colors The range of gray levels, from black to white, but without color. For neutral areas in the image, the RGB signals will all be equal. In color difference formats, the color difference signals will be zero.

NTSC Acronym for *National Television Standards Committee* which defines North American broadcast standards. The term "NTSC video" refers to the video standard defined by the committee. It is also used to describe the television signal used in North America and several other parts of the world.

O

Output resolution The detail and clarity (achieved by tightness of dots) with which the image will be displayed or printed (depending on the capability of the display or printing device).

Overscan A method by which the video image is scanned beyond the normal viewing area of the screen.

P

PAL Acronym for *Phase Alternative Line,* systems that are used in most countries outside the United States. The system in the U.S. is called NTSC.

PICT A type of Macintosh graphics file format. A PICT is a bitmapped image in which each bit or pixel contains information.

Pixel One dot in a video or still image. A typical low-resolution computer screen is 640 pixels wide and 480 pixels tall.

Pixelization Pixels that make up an image get exaggerated or enlarged. This makes the image look jagged and is often the result of compression artifacts.

Plug-in Separate add-on which is integrated into the main application upon opening and is then used from within the main application. Plug-ins are not normally autonomous, that is, they do not work outside an application.

Posters A single frame of a QuickTime movie that is designated as a static substitute for the movie's video data. The poster is typically the frame that would be printed if a movie was pasted into a document.

Primary colors Colors, usually three, that are combined to produce the full range of other colors within the limits of a color system. All non-primary colors are mixtures of two or more of the primary colors. In television, the primary colors are a specific set of red, green, and blue.

Pulse A current or voltage which changes abruptly from one value to another and back to the original value in a finite length of time. Used to describe one particular variation in a series of wave motions.

Q

QuickTime Apple's cross-platform multimedia architecture. It is widely used for a range of applications including CD-ROM, video, editing, the Web, and more.

QuickTime streaming Apple's streaming media addition to the QuickTime architecture.

QuickTime Virtual Reality An application from Apple that offers tools create panorama, objects, and scenes.

Radio-frequency (RF) modulator A device that makes your television set work as a monitor.

R

RAM Random-access memory is the temporary memory a computer uses to store data and process information. The more RAM a computer has, the more data a computer can manipulate. The contents of RAM are cleared when you turn off the computer.

Raster The rectangular, repeating pattern of lines scanned in a video monitor or camera pickup tube creating the video image. The scan is a continuous cycle regardless of the image content.

Real time The actual passage of time. Any event that occurs in real time indicates that the event is happening, as we would see it, in actual time. Recording video in real time would require about 30 frames per second.

ROM Read-only memory is memory with data permanently stored on it. Vital system instructions are stored in ROM, which is retained even with the computer turned off.

RGB The color model Red/Green/Blue. Mixing varying parts of these three colors produces the intermediate colors.

Removable media drive A computer file storage device with media (tapes, optical discs, magnetic cartridges, and so on.) that can be inserted and removed.

Resize To change the size of an image by reducing or increasing the resolution and/or the square measurement of the file.

Resolution A measure that shows to what extent details can be distinguished on the TV screen. It is generally called horizontal resolution when it refers to a video image.

RF Radio frequency refers to a composite video signal superimposed on a very high (radio) frequency capable of being broadcast through the atmosphere. Standard television sets receive these signals, separate the composite signal from the RF, and then decode and display the composite signal.

RGB Red, Green, Blue. This refers to three monochrome signals representing the primary colors of the image. RGB signals are provided on individual outputs with composite sync available either on a fourth output or combined with the green signal. RGB signals can be interlaced (timed to NTSC standards) or non-interlaced (at higher sync frequencies).

RGB monitor A type of color monitor that receives separate signals for each color (red, green, and blue).

RTV *Real Time Video.* A form of interframe compression that allows for compression rates of up to 150 to 1.

RTP Stands for *realtime transfer protocol,* a transport protocol created to deliver live media to one or more viewers simultaneously. RTP is used as the transfer protocol for RTSP streaming.

RTSP Stands for *realtime streaming protocol,* a standard now commonly used to transmit true streaming media to one or more viewers simultaneously. RTSP provides for viewers randomly accessing the stream, and uses RTP as the transport protocol.

S

S-video A type of video signal that transfers light and color separately, using multiple wires. S-video delivers a higher quality picture than formats such as NTSC which encodes the data. A consumer form of component video (Y/C) used primarily with Hi8 and S-VHS equipment.

Scan converter A device that changes the scan rate of a video signal and may also convert it from non-interlaced to interlaced mode. A scan converter allows computer graphics to be recorded on videotape or displayed on a standard video monitor.

Scanner A device that takes a picture of an image, breaks it down into dots and records it as a digital file for use with a computer. Two types of scanners are flatbed scanners which converting paper images (photographs, drawings, and printed images) into computer graphics files, and slide scanners which convert 35mm slides into computer graphic files.

Scanning The rapid movement of the election beam in a pickup device of a camera or in the CRT of a television receiver. It is formatted in a line-for-line manner across the photo-sensitive surface which produces or reproduces the video picture.

SCSI-Small Computer System Interface An industry standard connection for hardware devices prior to USB and FireWire.

Selection tool A tool in some software programs that allows you to target a specific area of an image for some type of manipulation; this can be displayed as a pointer arrow, crosshairs, a lasso, or a box surrounded by dotted lines.

Server A computer on a network that can be accessed by other computers on the same network; a server can hold software for several people to use and space for people to save and access files.

SIMMs Single Inline Memory Modules are a type of memory that is commonly used today. SIMMs are actually small printed circuit boards on which RAM chips are placed.

Single speed A CD-ROM drive that accesses data at a speed of 150KB/sec. This is the speed at which standard audio CDs can be read. Single speed is the standard speed for CD-ROM drives.

SMPTE Society of Motion Picture and Television Engineers, pronounced "simptee." An organization which studies and proposes standards for the film and television industry.

Snow Random noise on the display screen, often resulting from dirty videotape heads or TV signal breakup caused by weak or no video reception.

Sound digitizer A device for recording natural sounds and voices and storing them as computer files.

Split screen A special effect utilizing two or more video sources so that two or more scenes are visible simultaneously on each part of the screen. It is often used to make window-dubs of multi-camera shoots. This is a useful means for comparing two sources simultaneously. It permits a fast visual check of the phase and sync timing between two inputs.

Storyboard A series of panels of pictures (usually sketches) designed to show how a production will look. Comic books are essentially storyboards.

Streaming Refers to network delivery of media. It may refer to technologies that match the bandwidth of the media signal to the viewer's connection, so that the media is always seen in realtime "true streaming." Also used to mean media which can be viewed over a network prior to being fully downloaded "http streaming."

T

T1 A fast network connection. The theoretical limit is 150 Kbps, but the realities of the Internet usually cut the throughput down dramatically.

TCP Stands for *Transfer Control Protocol,* a common network transfer protocol used widely on the Internet.

Television receiver A device capable of accepting video signals broadcast as RF. Also capable of producing a demodulated video signal output from an off-air input signal.

TIFF *Tagged Image File Format.* A type of graphic file format developed for scanning. TIFFs are bitmapped graphics that can contain lots of information about each bit or pixel. TIFFs can be read by both Macintosh and Windows applications.

Track A grouping of homogeneous data within a movie file. Typical track types might include video, sound, transitional effects, text, MIDI data, and so on.

Tracking The angle and speed at which the tape passes the video heads.

Transfer rate The time required for data to be transferred from the hard disk (or CD-ROM drive) to the computer's CPU.

True streaming Refers to technologies which match the bandwidth of the media signal to the viewer's connection, so that the media is always seen in realtime. The word "true" is added to differentiate this type of streaming from "http streaming." Specialized media servers and streaming protocols such as RTSP are required to enable true streaming.

Triple speed A CD-ROM drive that accesses data at 450KB/sec. This is three times as fast as a standard audio CD player or single speed CD-ROM drive.

TTL RGB A type of video monitor that can accept only a limited number of digital values and display only a correspondingly limited number of colors.

U

Upload To move a file from your computer to a server.

URL Stands for *Uniform Resource Locator,* the global address of documents, pages, and other resources on the Web.

User interface Appearance of a program allowing interaction with the user. It includes all graphical elements, such as menus, buttons, and so on.

USB Universal Serial Bus. The technology that features one universal plug type for all USB peripheral to computer connections. USB replaces all the different kinds of serial and parallel port connections with one standardized plug and port.

Underscan A mode available on certain video monitors which decreases the raster size H and V so that all four edges of the picture are visible on the monitor. Allows viewing of skew and tracking which would not be visible in normal (overscanned) mode.

V

Value The lightness or darkness of a gray or of a color. The darkest level or value of gray is black and the lightest level of gray is white.

VCR Video cassette recorder.

Vector In multimedia, vector refers to formats which store graphical information in terms of mathematical algorithms, instead of as pixels. Because these images don't have any pixels, but are rather equations describing the objects portrayed, vector images scale perfectly to larger and smaller sizes. Illustrator files, Flash, and QuickTime curve media are vector formats.

Video A means for reproducing moving visual images by representing them with an analog electronic signal. The images are decomposed into a series of horizontal scan lines. In this way the signal can be stored, transmitted, and reproduced.

Video CD A format that allows the viewing of MPEG 1 video on CD-ROM. Playback of these CDs requires a computer with MPEG hardware and software and a video CD player.

Video format A standard determining how a video signal is recorded onto videotape.

Video monitor A display device that can receive video signals by direct connection only and cannot receive broadcast signals such as commercial television. It can be connected directly to the computer.

Video recording Any image, still or moving, can be converted into a video signal, most often through a video camera.

Video signal A dynamic signal which represents the varying levels of a video image but does not contain the sync pulses for its display. The video signal can be combined with sync pulses into a composite signal.

Videotape A magnetic medium capable of storing an electronic signal and consisting of backing, binder, and coating. The coating usually consists of iron oxide; however, metal particle or metal evaporated coatings are also used.

Virtual reality A technology that allows the user to experience 3D interaction with the computer. (See QuickTime Virtual Reality.)

VRAM Memory chips designed specifically for use with computer video displays. Increasing VRAM in a computer system or graphics card increases the color depth viewable as well as increases the number of pixels that can be displayed.

VTR *Video Tape Recorder.* An electro-mechanical device capable of recording, storing, and reproducing an electronic signal which contains audio, video, and control information. The term VTR includes reel-to-reel and cassette type (VCR) recorders.

W

WAN Wide area network.

Web Short for "World Wide Web."

Web page Files on the World Wide Web that contain text, graphics and links to other files integrated into visually interesting pages much like electronic magazine pages.

Wipe A visual transition between images during which the edge of one image moves across the screen revealing the next image.

WYSIWYG Stands for "What You See Is What You Get."

WWW Short for "World Wide Web."

World Wide Web Hyperlinked, graphical application of the Internet.

Z

Zoom Zoom is a type of image scaling. Zooming is making the picture larger so that you can see more detail.