

Anamorphic

The process of optically squeezing images into a smaller area and then optically un-squeezing it to create a wider field of view than capable by the original recording medium by using non-square pixels. Commonly used to achieve wider than 16:9 imagery.

Aspect ratio

The ratio of image width to height. 4:3 refers to standard definition television, whereas 16:9 commonly refers to widescreen. It can also be expressed in decimal form such as 2.35:1 or 1.78:1.

Advanced Authoring Format (AAF)

File interchange format designed to allow easy transport of multimedia data between software through open standards. Expands upon limitations in the Open Media Framework Interchange (OMF) by allowing larger files to be contained.

Alpha channel

A channel in an image or movie clip that controls the opacity regions of the image.

Bit Rate

Determines the amount of data being used per unit of time. Usually expressed as kbps (kilobits per second) or Mbits (megabits per second). This number determines the overall size of a file.

Codec

A piece of software designed to encode and/or decode video data into a form readable by a computer or display system. A codec is usually wrapped in a container file. Common video codecs can include Apple ProRes, Avid DNX, and H.264. Audio Codecs can include LPCM, AAC, or MP3. However, a codec might need to be installed on a computer to enable playback. The open source [VLC project](#) is a useful tool to playback files of different codec types.

Container

The actual file format of a video file for playback. Common containers for video will include Quicktime (.mov), MXF (.mxf), AVI (.avi), WMV (.wmv), MP4 (.mp4) Common containers for audio formats include AIFF (.aiff) or WAV (.wav) Containers can usually include any number of codecs.

Compression

The removal of redundant information from a file or video signal in order to reduce its file size or transmission rate.

Conversion

Can also be referred to as transcoding. The process of converting from one video standard to another. This can include changing frame-rate, codec, or resolution.

Digital Cinema Initiatives (DCI)

Standards established by major studios for the encoding and display of motion pictures in theatrical presentations.

DCI Specs listed below:

2K at 1.90 aspect ratio, the resolution should be 2048x1080

2K at 2.39 aspect ratio, the resolution should be 2048x858

2K at 1.85 aspect ratio, the resolution should be 1998x1080

4K at 1.90 aspect ratio, the resolution should be 4096x2160

4K at 2.39 aspect ratio, the resolution should be 4096x1716

4K at 1.85 aspect ratio, the resolution should be 3996x2160

Digital Imaging Technician (DIT)

A person that works with a digital cinematographer on technical aspects such as workflow and image manipulation to achieve the desired result.

Dialogue-Music-Effects (DME)

Dialogue, Music and Effects. A file with dialogue, music and effects split into separate stems for foreign language dubbing or trailer editing allowing individual manipulation of those elements.

Multi-Channel Audio

Digital audio separated out across six-channels (5.1) or 8 channels (7.1) which can include, Left, Center, Right, Rear Surround options and a subwoofer.

Drop-frame timecode

Timecode that is modified to remain in sync when 29.97 fps NTSC video is broadcast at 30 fps. In order to retain accuracy, the first two timecode frames of every minute are dropped, with the exception of every tenth minute. Note that only the timecode references are skipped; not the actual frames themselves. Drop-frame timecode is indicated with a semicolon before the frame component (01:00:00;00) or between every component (01;00;00;00).

Field

Interlaced video is split into two fields: one comprising the odd-numbered scan lines, and the other comprising the even lines. There are 60 fields for every second of NTSC video.

Frames per second (fps)

The number of frames played every second. The standard film frame rate is 24 fps. Integer frame rates are used when recording and playing back in a video based environment with NTSC video at 29.97 fps and PAL video at 25 fps. Other common frame rates for distribution include 23.976 for film-like video shoots, 59.94, and 60. Shooting higher than these rates will result in slow-motion footage and shooting lower will result in fast-motion.

Please note that 23.976 does not equal 24 frames per second as is the case for other frame rates. There are important subtle distinctions to the timing of integer and non-integer frame rates.

Frame

One of the many still images that make up an entire movie. When several of these images are played in sequence, they give the impression of motion. See also frame rate.

Frame rate

The rate at which frames are played or recorded. See also fps.

Full field

A complete frame of video that is comprised of two fields.

Handle

Extra material beyond the in and out points to allow a clip to be extended and provide additional material for transitions.

Interlace

An image that consists of two half-height fields that combine to create a full image. This is the opposite of progressive scanning, in which the image is comprised of single frames.

Letterbox

The process of fitting a widescreen image into a smaller aspect ratio by placing black bars at the top and bottom of the frame. Often used to fit 2.35 images in a 16:9 frame or a 16:9 image in a 4:3 frame.

Music and Effects (M & E)

Music and Effects. An audio stem file with music and effects split into separate stems for foreign language dubbing.

Non-drop frame timecode (NDF)

Timecode that counts every frame and does not compensate for the inaccuracies that occur when 29.97 fps is converted to 30 for NTSC broadcast. See also drop frame timecode.

Open Media Framework Interchange (OMF)

Open Media Framework. A file format intended for transferring media between different software applications on different platforms. It is commonly used for transferring audio from a video editing system to a DAW such as ProTools or Logic

Pan and Scan

A method of converting widescreen images to a 4:3 or 1:1 aspect ratio. The video is cropped so that it fills the entire screen and is moved into position to show most essential parts of the scene.

Pillarbox

The black bars displayed on the left and right sides of an image. Often used to fit a 4:3 or 1:1 image in a 16:9 frame.

Pixel

Picture element. The smallest unit of a digital image.

Resolution

The amount of data used to make up a digital video or audio file, specified as the number of pixels (for video) or the number of sample bits (for audio). The ratio of pixel width and height can also determine the aspect ratio.

Common Video Resolutions include:

- Standard Definition (4:3) 640x480 or 720x480
- High Definition (16x9) 1920x1080, 1280x720
- Ultra High Definition aka Broadcast 4K (16x9) – 3840x2160

Sample Rate

Typically seen in reference to audio. It is the measure of a sound wave by means of a sequence of samples over a discrete amount of time. The higher the sample rate the better quality delivered at a consequence of file size.

For video productions, common sample rates seen will be:

- 44,100 hertz (44.1kHz) which is used by Audio CDs and some distribution platforms.
- 48,000 hertz (48kHz) typical acquisition and delivery rate for video productions.
- 96,000 hertz (96kHz) - Uncommon but frequently used in higher end production work.

Shoot and Protect

A technique where widescreen footage is shot with the main action centered so as to provide easier conversion for formats or display which might be not as wide such as 4:3 or 1:1.

Stem

A stem is a separate audio output for a group of tracks which can either include a separate audio element (dialogue, music, sound effects) or a specific speaker channel in multi-channel audio configurations.

Stereo

Two-channel audio combined into a single track with outputs for the left and right speakers.

Timecode

Basic measurement of video file separated into 8 digits representing hours, minutes, seconds, and frames.