



DIGITAL VIDEO FORMATS

CATEGORY DEFINITIONS

USE (COLOR SQUARES) The definition of what a codec is often used for. "Acquisition" implies that it is used in cameras, "Intermediate" for use in a post-production environment, and "Distribution / Deliverable" for getting content to the audience.

RESOLUTION The measure of pixels in the image, defined in width x height. Relative to display size, this determines image sharpness.

TARGET BIT RATE The amount of data stored per second. Generally Speaking, the higher the bit rate, the higher quality your image within the same codec; AVC-Intra at 100 mbps will look better than AT 50 mbps, but that same 50 mbps AVC-Intra will look better than DVCPRO HD (A 100 mbps codec), because AVC-Intra is a newer, more efficient codec.

FRAME RATE The number of discrete frames recorded per second. Higher rates can achieve slow motion effects, or reduce motion blur and judder. Lower rates can do the opposite. Certain rates may also be preferable to achieve certain looks, such as 24 or 23.98 emulating the look of film.

PIXEL ASPECT RATIO The aspect ratio of the individual pixels inside a frame. Most digital and HD systems use square (1.0) pixels, but older SD systems do not, leading to a loss of resolution (resolution subsampling).

FIELD ORDER In interlaced video, this determines which of the two fields is displayed first.

BIT DEPTH The measure of how finely distinct levels of color can be shown. The higher bit depth, the more color definition is possible, and the more freedom you have to color correct and grade.

CHROMA SAMPLING The reduction of color resolution, since the human eye is less sensitive to chroma (color) than luma (light). 4:4:4 would be full resolution, 4:2:2 would contain half the color resolution of the original, and so on. This can be especially important for color key applications (blue/green screen), and color correction/grading considerations-- the better the chroma sampling, the better keying and more extensive grading you can achieve.

ALPHA A transparency channel; often necessary for creating graphics, animations, titles, etc.

COLOR SPACE How colors are represented and stored. YUV stores the luma information separately from the chroma, allowing for chroma subsampling. RGB necessitates 4:4:4 sampling.

AUDIO CHANNELS The number of audio channels possible at a given bit depth.

FILE SIZE ESTIMATION How much space, in gigabytes, an hour-long movie will take up. Higher-quality codecs often generate large file sizes, but as is the case with bit rate, a modern codec can offer the same quality as an older one for less.

MPEG PROFILE The classification of a codec's compression scheme, if it uses MPEG compression.

COMPRESSION Intra-frame compresses each frame independently of the others around it. Inter-frame (or "long GOP") references nearby frames to reduce duplication of the picture from one frame to the next. Inter-frame compression reduces the file size and bit rate, but makes it much more processor-intensive, potentially slowing down editing/rendering/exporting processes considerably.

ALGORITHM How the image data is compressed; generally speaking, wavelet is more efficient and looks better at smaller sizes than DCT.

MEDIA The native or most common container for a codec (in either the digital or physical sense).