FIRST NATIONS MEDIA ARCHIVES
Definitions

576i. A standard definition video mode used for terrestrially transmitted television. It consists of 576 vertical lines and is interlaced.

625. A standard definition video mode for terrestrially transmitted television. It consists of 625 vertical lines and 50 fields.

720p. Standard High Definition. A 720p signal is a progressive signal with 720 horizontal lines, an aspect ratio of 16:9 and resolution of 1280 x 720 pixels.

1080i (or Full High Definition (HD)). Describes a frame resolution (that is 1080 lines on screen) as well as the scan type (interlacing where a frame's even lines are "drawn" first followed by the odd lines fast enough for the human eye not to notice). 1080i is widescreen (16:9 aspect ratio).

1080p (or Full High Definition (HD)). As for 1080i but using progressive interlacing where lines are drawn in sequence.

Access copy. See Derivatives

Aspect ratio. The ratio of width to height usually expressed as two figures separated by a colon. For example 4:3, 16:9. The figures are a ratio not a size. In video standards, standard definition has an aspect ratio of 4:3, with high definition having an aspect ratio of 16:9. In still photography, 35mm film cameras and full frame DSLRs shoot in

3:2, whilst most point and shoot digital cameras use a 4:3 aspect ratio. Photographic slides use a 1:1 aspect ratio.

Bit rate. Is the number of bits used per unit of playback time to the data throughput per second in continuous media such as audio or video. In general terms, the higher the bit rate, the better the quality of the media file (sound and image). Bit rate is measured in kilobits (and megabits per second). For example 25 Mbits per second.

Bit depth. Is the size an audio sample (the waveform). The bit depth sets the quality of the sound resolution for audio. Too low a bit depth means that some sound is lost with low quality recordings the result. Bit depth is also relevant to the resolution of images; the higher the bit depth the better the image.

Checksum. A sequence of letters and numbers generated by a computer function to identify the digital characteristics of a file. The sequence is used to identify errors in a file that may come about when a file is copied. By running the checksum function over the copied file, any file errors will be indicated by a checksum sequence different to that of the original file. An online tool for generating chcecksums is available at http://onlinemd5.com/. The SHA-256 function is considered more secure and robust than MD5.

Codec. A codec is a computer program for encoding or decoding a digital data stream or signal. It creates the digital format and also is able to read the digital format. Codec is an abbreviation of coder and decoder. A coder encodes a data stream or a signal for transmission or storage, possibly in encrypted form, and the decoder function reverses the encoding for playback or editing. A codec can also be a device. When a media file is edited and exported, the editing software contains codec options for creating the file in a one or more digital formats.

Conservation. Conservation are actions taken to repair/rectify damaged media. See also Preservation.

Derivatives. A derivative is a digital file created in a compressed format for the purpose of being used for day to day access. The format used varies according to the viewing/listening platform/technology. Derivatives are initially produced from the preservation master.

Digital formats (also Digital container formats or Wrapper). A digital format (or digital container format or wrapper format) describes how different elements of data and metadata exist in a computer file so that applications are able to read and display the file. Typically, the digital format of a file is described by the file extension. For example .wav indicates that the file is an audio file. This means that software such as Word cannot read or play a .wav file. When digital files are created within a specific format, editing software will generally allow for variations in how the file is configured (its settings) for elements such as frame rate (for video), bit rate, resolution and so on.

Dropped frame. Literally this means that a video frame has been dropped in digitisation for reasons such as unstable connections or lack of capacity of software or hardware to manage the bit rate of the media stream. Dropped frames result in jerky movements in the digitised file. Digitising software have settings to halt digitisation in the case of a dropped frame.

High Definition (HD). Describes video resolution. Resolution is the number of pixels in a video (or image). High Definition includes 1280 x 720, with full High Definition having 1920 x 1080 . The aspect ratio for High Definition is 16:9.

Interlacing. A technique for reducing the bandwidth needed to display video. Each frame of an interlaced video signal “draws every “even” horizontal line in one sequence and then alternates with drawing every “odd” line of an image. When this is done at around 60 frames per second, the image looks smooth. However, it can appear blurry when the video contains fast motion.

Lossless and lossy compression. Lossless compression is a class of data compression algorithm (or codecs) that allow the original data to be perfectly

reconstructed from the compressed data. The digital formats and codecs associated with Preservation masters are lossless, and hence have very large file sizes. By contrast, lossy compression permits reconstruction only of an approximation of the original data, and therefore has reduced file sizes. The digital formats and codecs associated with derivatives are generally lossy.

Mezzanine level file. See Production master.

PAL (Phase Alternating Line (PAL). A colour coding system used in Australia for analogue television broadcasting as 625-line/50 field (25 frames) per second. When transferred into digital the coding system is usually referred to as 576i (vertical resolution of 576 lines and interlaced).

PCM (Pulse Code Modulation). The process used to convert analogue audio signals (represented in waveforms) to digital signals. A PCM audio file is a digital interpretation of an analogue sound wave. **LCPM** (Linear Pulse Code Modulation) is an enhanced process for converting analogue audio signals to uncompressed digital approximating a very large set of audio values.

Preservation. Actions, policies, procedures and arrangements involved in protecting media against damage or loss now and into the future.

Preservation master. An uncompressed, best version of a digital file (either born digital or digitised). The preservation master is in a recommended archival format (and settings). It is not used for access. It is recommended that it be stored in 3 locations, with each location having appropriate backup and digital storage maintenance procedures in place.

Production master. A high quality digital file used for purposes other than the Archive. For example for broadcast. Generally, this file is in formats specified for its purpose, such as the broadcast technical standards set by a broadcaster.

Progressive scan. "Draws" every line in sequence (line by line, top to bottom)with the result that the vision is relatively smooth. This is in contrast to interlaced video used in traditional analogue television systems where only the odd lines, then the even lines of each frame are drawn alternately. The disadvantage of the progressive scan is that it requires higher bandwidth compared to interlaced video.

Standard Definition (SD). Describes video resolution. Resolution is the number of pixels in a video (or image). Standard Definition includes 352 x 240, 480 x 360, and 858 x 480 (480p). The aspect ratio for standard definition is 4:3.

Time based correction. Time base correction is a technique to reduce or eliminate errors caused by mechanical instability in analogue media players.